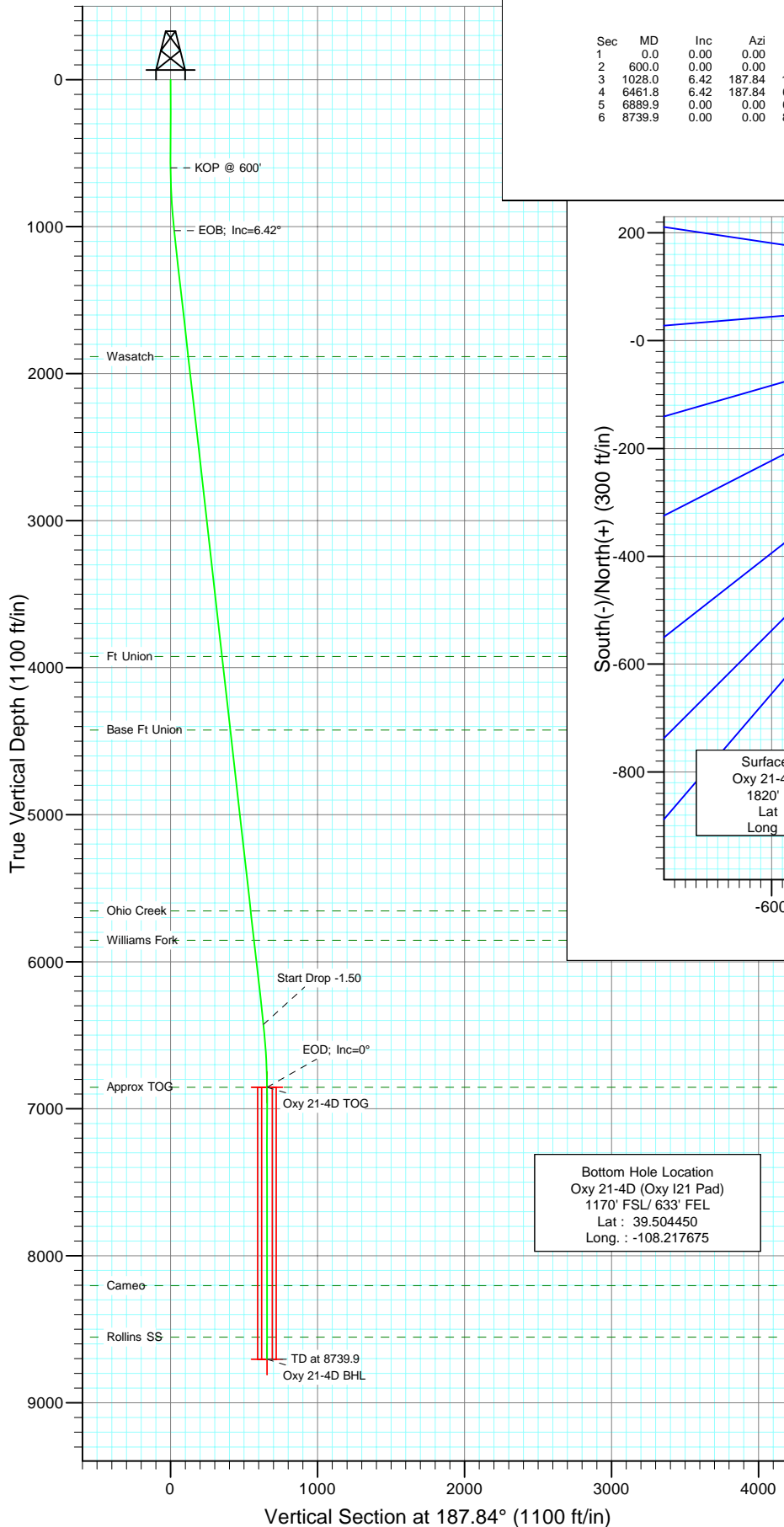




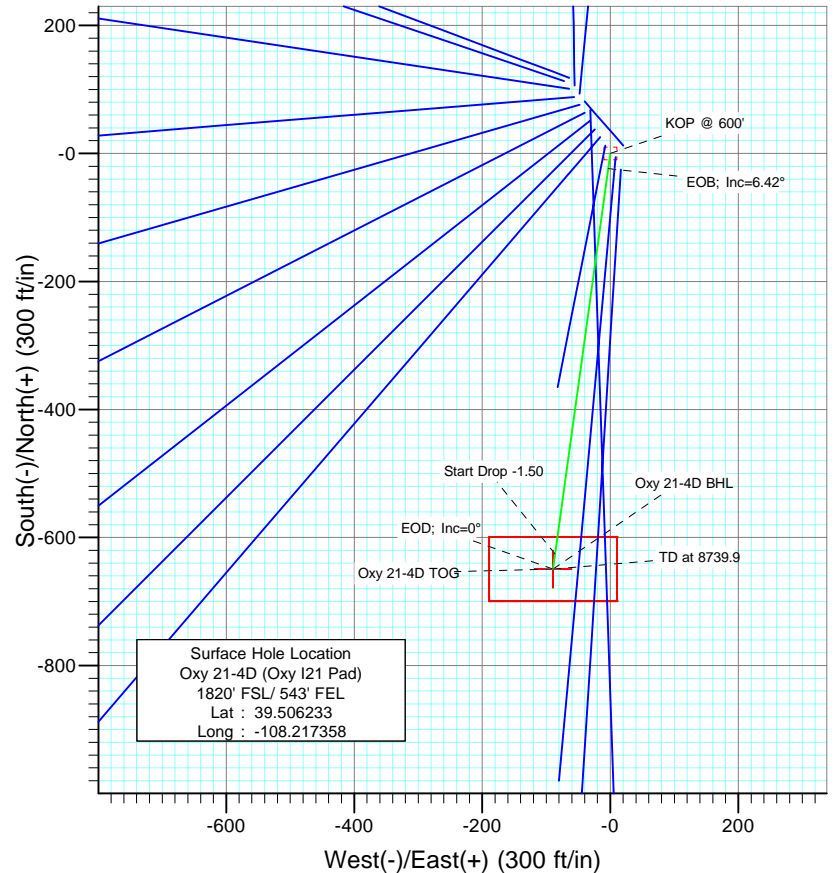
Berry Petroleum Company

Project: Garfield County
Site: NESE S21-T6S-R97W (Oxy I21 pad)
Well: Oxy 21-4D (Oxy I21 Pad)
Wellbore: DD
Design: Plan #1



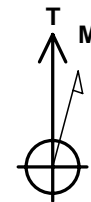
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.0	
3	1028.0	6.42	187.84	1027.2	-23.7	-3.3	1.50	187.84	24.0	
4	6461.8	6.42	187.84	6426.8	-625.7	-86.2	0.00	0.00	631.6	
5	6889.9	0.00	0.00	6854.0	-649.4	-89.4	1.50	180.00	655.6	Oxy 21-4D TOG
6	8739.9	0.00	0.00	8704.0	-649.4	-89.4	0.00	0.00	655.6	Oxy 21-4D BHL



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1884.0	1890.3	Wasatch
3924.0	3943.2	Ft Union
4424.0	4446.3	Base Ft Union
5654.0	5684.1	Ohio Creek
5854.0	5885.4	Williams Fork
6854.0	6889.9	Approx TOG
8204.0	8239.9	Cameo
8554.0	8589.9	Rollins SS



Azimuths to True North
Magnetic North: 10.65°

Magnetic Field
Strength: 52405.3snT
Dip Angle: 65.76°
Date: 10/5/2009
Model: IGRF200510

DESIGN DETAILS: Plan #1

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

Target	Azimuth	Origin	N/S	E/W	From TVD
Oxy 21-4D BHL	187.84	Slot	0.0	0.0	0.0

Planning Report

Database:	EDM 2003.21 US Multi User DB	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site:	NESE S21-T6S-R97W (Oxy I21 pad)	North Reference:	True
Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Project	Garfield County		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site		NESE S21-T6S-R97W (Oxy I21 pad)			
Site Position:		Northing:	1,620,717.92 ft	Latitude:	39.506164
From:	Lat/Long	Easting:	2,233,406.18 ft	Longitude:	-108.217300
Position Uncertainty:	0.0 ft	Slot Radius:	in	Grid Convergence:	-1.71 °

Well	Oxy 21-4D (Oxy I21 Pad)					
Well Position	+N/-S	0.0 ft	Northing:	1,620,743.52 ft	Latitude:	39.506233
	+E/-W	0.0 ft	Easting:	2,233,390.58 ft	Longitude:	-108.217358
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	8,366.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	10/5/2009	10.65	65.76	52,405

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	187.84

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,028.0	6.42	187.84	1,027.2	-23.7	-3.3	1.50	1.50	0.00	187.84	
6,461.8	6.42	187.84	6,426.8	-625.7	-86.2	0.00	0.00	0.00	0.00	
6,889.9	0.00	0.00	6,854.0	-649.4	-89.4	1.50	-1.50	0.00	180.00	Oxy 21-4D TOG
8,739.9	0.00	0.00	8,704.0	-649.4	-89.4	0.00	0.00	0.00	0.00	Oxy 21-4D BHL

Planning Report

Database:	EDM 2003.21 US Multi User DB	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site:	NESE S21-T6S-R97W (Oxy I21 pad)	North Reference:	True
Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
30.0	0.00	0.00	30.0	0.0	0.0	0.0	0.00	0.00	
60.0	0.00	0.00	60.0	0.0	0.0	0.0	0.00	0.00	
90.0	0.00	0.00	90.0	0.0	0.0	0.0	0.00	0.00	
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	
150.0	0.00	0.00	150.0	0.0	0.0	0.0	0.00	0.00	
180.0	0.00	0.00	180.0	0.0	0.0	0.0	0.00	0.00	
210.0	0.00	0.00	210.0	0.0	0.0	0.0	0.00	0.00	
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	
270.0	0.00	0.00	270.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
330.0	0.00	0.00	330.0	0.0	0.0	0.0	0.00	0.00	
360.0	0.00	0.00	360.0	0.0	0.0	0.0	0.00	0.00	
390.0	0.00	0.00	390.0	0.0	0.0	0.0	0.00	0.00	
420.0	0.00	0.00	420.0	0.0	0.0	0.0	0.00	0.00	
450.0	0.00	0.00	450.0	0.0	0.0	0.0	0.00	0.00	
480.0	0.00	0.00	480.0	0.0	0.0	0.0	0.00	0.00	
510.0	0.00	0.00	510.0	0.0	0.0	0.0	0.00	0.00	
540.0	0.00	0.00	540.0	0.0	0.0	0.0	0.00	0.00	
570.0	0.00	0.00	570.0	0.0	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	KOP @ 600'
630.0	0.45	187.84	630.0	-0.1	0.0	0.1	1.50	1.50	
660.0	0.90	187.84	660.0	-0.5	-0.1	0.5	1.50	1.50	
690.0	1.35	187.84	690.0	-1.1	-0.1	1.1	1.50	1.50	
720.0	1.80	187.84	720.0	-1.9	-0.3	1.9	1.50	1.50	
750.0	2.25	187.84	750.0	-2.9	-0.4	2.9	1.50	1.50	
780.0	2.70	187.84	779.9	-4.2	-0.6	4.2	1.50	1.50	
810.0	3.15	187.84	809.9	-5.7	-0.8	5.8	1.50	1.50	
840.0	3.60	187.84	839.8	-7.5	-1.0	7.5	1.50	1.50	
870.0	4.05	187.84	869.8	-9.4	-1.3	9.5	1.50	1.50	
900.0	4.50	187.84	899.7	-11.7	-1.6	11.8	1.50	1.50	
930.0	4.95	187.84	929.6	-14.1	-1.9	14.2	1.50	1.50	
960.0	5.40	187.84	959.5	-16.8	-2.3	17.0	1.50	1.50	
990.0	5.85	187.84	989.3	-19.7	-2.7	19.9	1.50	1.50	
1,020.0	6.30	187.84	1,019.2	-22.9	-3.1	23.1	1.50	1.50	
1,028.0	6.42	187.84	1,027.2	-23.7	-3.3	24.0	1.50	1.50	EOB; Inc=6.42°
1,050.0	6.42	187.84	1,049.0	-26.2	-3.6	26.4	0.00	0.00	
1,080.0	6.42	187.84	1,078.8	-29.5	-4.1	29.8	0.00	0.00	
1,110.0	6.42	187.84	1,108.6	-32.8	-4.5	33.1	0.00	0.00	
1,140.0	6.42	187.84	1,138.4	-36.1	-5.0	36.5	0.00	0.00	
1,170.0	6.42	187.84	1,168.2	-39.5	-5.4	39.8	0.00	0.00	
1,200.0	6.42	187.84	1,198.0	-42.8	-5.9	43.2	0.00	0.00	
1,230.0	6.42	187.84	1,227.8	-46.1	-6.4	46.5	0.00	0.00	
1,260.0	6.42	187.84	1,257.6	-49.4	-6.8	49.9	0.00	0.00	
1,290.0	6.42	187.84	1,287.5	-52.8	-7.3	53.3	0.00	0.00	
1,320.0	6.42	187.84	1,317.3	-56.1	-7.7	56.6	0.00	0.00	
1,350.0	6.42	187.84	1,347.1	-59.4	-8.2	60.0	0.00	0.00	
1,380.0	6.42	187.84	1,376.9	-62.7	-8.6	63.3	0.00	0.00	
1,410.0	6.42	187.84	1,406.7	-66.0	-9.1	66.7	0.00	0.00	
1,440.0	6.42	187.84	1,436.5	-69.4	-9.6	70.0	0.00	0.00	
1,470.0	6.42	187.84	1,466.3	-72.7	-10.0	73.4	0.00	0.00	
1,500.0	6.42	187.84	1,496.1	-76.0	-10.5	76.7	0.00	0.00	

Planning Report

Database:	EDM 2003.21 US Multi User DB	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site:	NESE S21-T6S-R97W (Oxy I21 pad)	North Reference:	True
Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	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	6.42	187.84	1,526.0	-79.3	-10.9	80.1	0.00	0.00	
1,560.0	6.42	187.84	1,555.8	-82.7	-11.4	83.4	0.00	0.00	
1,590.0	6.42	187.84	1,585.6	-86.0	-11.8	86.8	0.00	0.00	
1,620.0	6.42	187.84	1,615.4	-89.3	-12.3	90.2	0.00	0.00	
1,650.0	6.42	187.84	1,645.2	-92.6	-12.8	93.5	0.00	0.00	
1,680.0	6.42	187.84	1,675.0	-96.0	-13.2	96.9	0.00	0.00	
1,710.0	6.42	187.84	1,704.8	-99.3	-13.7	100.2	0.00	0.00	
1,740.0	6.42	187.84	1,734.6	-102.6	-14.1	103.6	0.00	0.00	
1,770.0	6.42	187.84	1,764.5	-105.9	-14.6	106.9	0.00	0.00	
1,800.0	6.42	187.84	1,794.3	-109.3	-15.0	110.3	0.00	0.00	
1,830.0	6.42	187.84	1,824.1	-112.6	-15.5	113.6	0.00	0.00	
1,860.0	6.42	187.84	1,853.9	-115.9	-16.0	117.0	0.00	0.00	
1,890.0	6.42	187.84	1,883.7	-119.2	-16.4	120.3	0.00	0.00	
1,890.3	6.42	187.84	1,884.0	-119.3	-16.4	120.4	0.00	0.00	Wasatch
1,920.0	6.42	187.84	1,913.5	-122.5	-16.9	123.7	0.00	0.00	
1,950.0	6.42	187.84	1,943.3	-125.9	-17.3	127.1	0.00	0.00	
1,980.0	6.42	187.84	1,973.1	-129.2	-17.8	130.4	0.00	0.00	
2,010.0	6.42	187.84	2,002.9	-132.5	-18.3	133.8	0.00	0.00	
2,040.0	6.42	187.84	2,032.8	-135.8	-18.7	137.1	0.00	0.00	
2,070.0	6.42	187.84	2,062.6	-139.2	-19.2	140.5	0.00	0.00	
2,100.0	6.42	187.84	2,092.4	-142.5	-19.6	143.8	0.00	0.00	
2,130.0	6.42	187.84	2,122.2	-145.8	-20.1	147.2	0.00	0.00	
2,160.0	6.42	187.84	2,152.0	-149.1	-20.5	150.5	0.00	0.00	
2,190.0	6.42	187.84	2,181.8	-152.5	-21.0	153.9	0.00	0.00	
2,220.0	6.42	187.84	2,211.6	-155.8	-21.5	157.3	0.00	0.00	
2,250.0	6.42	187.84	2,241.4	-159.1	-21.9	160.6	0.00	0.00	
2,280.0	6.42	187.84	2,271.3	-162.4	-22.4	164.0	0.00	0.00	
2,310.0	6.42	187.84	2,301.1	-165.8	-22.8	167.3	0.00	0.00	
2,340.0	6.42	187.84	2,330.9	-169.1	-23.3	170.7	0.00	0.00	
2,370.0	6.42	187.84	2,360.7	-172.4	-23.7	174.0	0.00	0.00	
2,400.0	6.42	187.84	2,390.5	-175.7	-24.2	177.4	0.00	0.00	
2,430.0	6.42	187.84	2,420.3	-179.0	-24.7	180.7	0.00	0.00	
2,460.0	6.42	187.84	2,450.1	-182.4	-25.1	184.1	0.00	0.00	
2,490.0	6.42	187.84	2,479.9	-185.7	-25.6	187.4	0.00	0.00	

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Oxy 21-4D BHL	0.00	0.00	8,704.0	-649.4	-89.4	1,620,097.06	2,233,281.75	39.504450	-108.217675
- plan misses target center by 6241.6ft at 2490.0ft MD (2479.9 TVD, -185.7 N, -25.6 E)									
- Rectangle (sides W100.0 H200.0 D0.0)									
Oxy 21-4D TOG	0.00	0.00	6,854.0	-649.4	-89.4	1,620,097.06	2,233,281.75	39.504450	-108.217675
- plan misses target center by 4399.0ft at 2490.0ft MD (2479.9 TVD, -185.7 N, -25.6 E)									
- Point									

Planning Report

Database:	EDM 2003.21 US Multi User DB	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site:	NESE S21-T6S-R97W (Oxy I21 pad)	North Reference:	True
Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	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	6.42	187.84	2,489.9	-186.8	-25.7	188.6	0.00	0.00	
2,600.0	6.42	187.84	2,589.2	-197.9	-27.3	199.7	0.00	0.00	
2,700.0	6.42	187.84	2,688.6	-209.0	-28.8	210.9	0.00	0.00	
2,800.0	6.42	187.84	2,788.0	-220.0	-30.3	222.1	0.00	0.00	
2,900.0	6.42	187.84	2,887.4	-231.1	-31.8	233.3	0.00	0.00	
3,000.0	6.42	187.84	2,986.7	-242.2	-33.4	244.5	0.00	0.00	
3,100.0	6.42	187.84	3,086.1	-253.3	-34.9	255.7	0.00	0.00	
3,200.0	6.42	187.84	3,185.5	-264.3	-36.4	266.8	0.00	0.00	
3,300.0	6.42	187.84	3,284.9	-275.4	-37.9	278.0	0.00	0.00	
3,400.0	6.42	187.84	3,384.2	-286.5	-39.5	289.2	0.00	0.00	
3,500.0	6.42	187.84	3,483.6	-297.6	-41.0	300.4	0.00	0.00	
3,600.0	6.42	187.84	3,583.0	-308.7	-42.5	311.6	0.00	0.00	
3,700.0	6.42	187.84	3,682.3	-319.7	-44.0	322.8	0.00	0.00	
3,800.0	6.42	187.84	3,781.7	-330.8	-45.6	333.9	0.00	0.00	
3,900.0	6.42	187.84	3,881.1	-341.9	-47.1	345.1	0.00	0.00	
3,943.2	6.42	187.84	3,924.0	-346.7	-47.7	350.0	0.00	0.00	Ft Union
4,000.0	6.42	187.84	3,980.5	-353.0	-48.6	356.3	0.00	0.00	
4,100.0	6.42	187.84	4,079.8	-364.1	-50.1	367.5	0.00	0.00	
4,200.0	6.42	187.84	4,179.2	-375.1	-51.7	378.7	0.00	0.00	
4,300.0	6.42	187.84	4,278.6	-386.2	-53.2	389.9	0.00	0.00	
4,400.0	6.42	187.84	4,378.0	-397.3	-54.7	401.0	0.00	0.00	
4,446.3	6.42	187.84	4,424.0	-402.4	-55.4	406.2	0.00	0.00	Base Ft Union
4,500.0	6.42	187.84	4,477.3	-408.4	-56.2	412.2	0.00	0.00	
4,600.0	6.42	187.84	4,576.7	-419.4	-57.8	423.4	0.00	0.00	
4,700.0	6.42	187.84	4,676.1	-430.5	-59.3	434.6	0.00	0.00	
4,800.0	6.42	187.84	4,775.4	-441.6	-60.8	445.8	0.00	0.00	
4,900.0	6.42	187.84	4,874.8	-452.7	-62.3	457.0	0.00	0.00	
5,000.0	6.42	187.84	4,974.2	-463.8	-63.9	468.1	0.00	0.00	
5,100.0	6.42	187.84	5,073.6	-474.8	-65.4	479.3	0.00	0.00	
5,200.0	6.42	187.84	5,172.9	-485.9	-66.9	490.5	0.00	0.00	
5,300.0	6.42	187.84	5,272.3	-497.0	-68.5	501.7	0.00	0.00	
5,400.0	6.42	187.84	5,371.7	-508.1	-70.0	512.9	0.00	0.00	
5,500.0	6.42	187.84	5,471.1	-519.1	-71.5	524.0	0.00	0.00	
5,600.0	6.42	187.84	5,570.4	-530.2	-73.0	535.2	0.00	0.00	
5,684.1	6.42	187.84	5,654.0	-539.5	-74.3	544.6	0.00	0.00	Ohio Creek
5,700.0	6.42	187.84	5,669.8	-541.3	-74.6	546.4	0.00	0.00	
5,800.0	6.42	187.84	5,769.2	-552.4	-76.1	557.6	0.00	0.00	
5,885.4	6.42	187.84	5,854.0	-561.8	-77.4	567.1	0.00	0.00	Williams Fork
5,900.0	6.42	187.84	5,868.5	-563.5	-77.6	568.8	0.00	0.00	
6,000.0	6.42	187.84	5,967.9	-574.5	-79.1	580.0	0.00	0.00	
6,100.0	6.42	187.84	6,067.3	-585.6	-80.7	591.1	0.00	0.00	
6,200.0	6.42	187.84	6,166.7	-596.7	-82.2	602.3	0.00	0.00	
6,300.0	6.42	187.84	6,266.0	-607.8	-83.7	613.5	0.00	0.00	
6,400.0	6.42	187.84	6,365.4	-618.8	-85.2	624.7	0.00	0.00	
6,461.8	6.42	187.84	6,426.8	-625.7	-86.2	631.6	0.00	0.00	Start Drop -1.50
6,500.0	5.85	187.84	6,464.8	-629.7	-86.7	635.7	1.50	-1.50	
6,600.0	4.35	187.84	6,564.4	-638.5	-87.9	644.6	1.50	-1.50	
6,700.0	2.85	187.84	6,664.2	-644.8	-88.8	650.8	1.50	-1.50	
6,800.0	1.35	187.84	6,764.1	-648.4	-89.3	654.5	1.50	-1.50	
6,889.9	0.00	0.00	6,854.0	-649.4	-89.4	655.6	1.50	-1.50	EOD; Inc=0° - Approx TOG - Oxy 21-4D TOG
6,900.0	0.00	0.00	6,864.1	-649.4	-89.4	655.6	0.00	0.00	
7,000.0	0.00	0.00	6,964.1	-649.4	-89.4	655.6	0.00	0.00	

Planning Report

Database:	EDM 2003.21 US Multi User DB	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site:	NESE S21-T6S-R97W (Oxy I21 pad)	North Reference:	True
Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	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	7,064.1	-649.4	-89.4	655.6	0.00	0.00	
7,200.0	0.00	0.00	7,164.1	-649.4	-89.4	655.6	0.00	0.00	
7,300.0	0.00	0.00	7,264.1	-649.4	-89.4	655.6	0.00	0.00	
7,400.0	0.00	0.00	7,364.1	-649.4	-89.4	655.6	0.00	0.00	
7,500.0	0.00	0.00	7,464.1	-649.4	-89.4	655.6	0.00	0.00	
7,600.0	0.00	0.00	7,564.1	-649.4	-89.4	655.6	0.00	0.00	
7,700.0	0.00	0.00	7,664.1	-649.4	-89.4	655.6	0.00	0.00	
7,800.0	0.00	0.00	7,764.1	-649.4	-89.4	655.6	0.00	0.00	
7,900.0	0.00	0.00	7,864.1	-649.4	-89.4	655.6	0.00	0.00	
8,000.0	0.00	0.00	7,964.1	-649.4	-89.4	655.6	0.00	0.00	
8,100.0	0.00	0.00	8,064.1	-649.4	-89.4	655.6	0.00	0.00	
8,200.0	0.00	0.00	8,164.1	-649.4	-89.4	655.6	0.00	0.00	
8,239.9	0.00	0.00	8,204.0	-649.4	-89.4	655.6	0.00	0.00	Cameo
8,300.0	0.00	0.00	8,264.1	-649.4	-89.4	655.6	0.00	0.00	
8,400.0	0.00	0.00	8,364.1	-649.4	-89.4	655.6	0.00	0.00	
8,500.0	0.00	0.00	8,464.1	-649.4	-89.4	655.6	0.00	0.00	
8,589.9	0.00	0.00	8,554.0	-649.4	-89.4	655.6	0.00	0.00	Rollins SS
8,600.0	0.00	0.00	8,564.1	-649.4	-89.4	655.6	0.00	0.00	
8,700.0	0.00	0.00	8,664.1	-649.4	-89.4	655.6	0.00	0.00	
8,739.9	0.00	0.00	8,704.0	-649.4	-89.4	655.6	0.00	0.00	TD at 8739.9 - Oxy 21-4D BHL

Targets										
Target Name										
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting			
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	Latitude	Longitude	
Oxy 21-4D BHL	0.00	0.00	8,704.0	-649.4	-89.4	1,620,097.06	2,233,281.75	39.504450	-108.217675	
- plan hits target center										
- Rectangle (sides W100.0 H200.0 D0.0)										
Oxy 21-4D TOG	0.00	0.00	6,854.0	-649.4	-89.4	1,620,097.06	2,233,281.75	39.504450	-108.217675	
- plan hits target center										
- Point										

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,890.3	1,884.0	Wasatch		0.00		
3,943.2	3,924.0	Ft Union		0.00		
4,446.3	4,424.0	Base Ft Union		0.00		
5,684.1	5,654.0	Ohio Creek		0.00		
5,885.4	5,854.0	Williams Fork		0.00		
6,889.9	6,854.0	Approx TOG		0.00		
8,239.9	8,204.0	Cameo		0.00		
8,589.9	8,554.0	Rollins SS		0.00		

Planning Report

Database:	EDM 2003.21 US Multi User DB	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site:	NESE S21-T6S-R97W (Oxy I21 pad)	North Reference:	True
Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
600.0	600.0	0.0	0.0	KOP @ 600'
1,028.0	1,027.2	-23.7	-3.3	EOB; Inc=6.42°
6,461.8	6,426.8	-625.7	-86.2	Start Drop -1.50
6,889.9	6,854.0	-649.4	-89.4	EOD; Inc=0°
8,739.9	8,704.0	-649.4	-89.4	TD at 8739.9

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

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

Survey Tool Program		Date	10/7/2009		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	8,739.9	Plan #1 (DD)	MWD	Geolink MWD	

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
NESE S21-T6S-R97W (Oxy I21 pad)						
Oxy 21-10D (Oxy I21 Pad) - DD - Plan #1	467.0	467.2	43.7	42.1	27.126	CC
Oxy 21-10D (Oxy I21 Pad) - DD - Plan #1	500.0	500.1	43.8	42.0	25.223	ES
Oxy 21-10D (Oxy I21 Pad) - DD - Plan #1	800.0	797.1	57.6	54.6	19.542	SF
Oxy 21-11D (Oxy I21 Pad) - DD - Plan #1	511.9	512.0	59.7	57.9	34.144	CC
Oxy 21-11D (Oxy I21 Pad) - DD - Plan #1	600.0	599.8	60.0	57.9	28.895	ES
Oxy 21-11D (Oxy I21 Pad) - DD - Plan #1	1,000.0	995.3	85.8	82.0	22.542	SF
Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	75.3	74.3	75.680	CC
Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1	400.0	399.8	75.4	74.1	56.070	ES
Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1	1,000.0	992.6	109.0	105.2	28.870	SF
Oxy 21-13D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	90.0	89.0	90.445	CC, ES
Oxy 21-13D (Oxy I21 Pad) - DD - Plan #1	1,100.0	1,084.9	149.3	145.1	35.442	SF
Oxy 21-14D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	104.7	103.7	105.206	CC, ES
Oxy 21-14D (Oxy I21 Pad) - DD - Plan #1	1,100.0	1,078.9	175.1	171.0	42.445	SF
Oxy 21-15D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	120.0	119.0	120.589	CC, ES
Oxy 21-15D (Oxy I21 Pad) - DD - Plan #1	1,100.0	1,071.8	201.5	197.5	50.130	SF
Oxy 21-16D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	134.7	133.7	135.429	CC, ES
Oxy 21-16D (Oxy I21 Pad) - DD - Plan #1	1,000.0	973.2	200.3	196.7	56.717	SF
Oxy 21-17D (Oxy I21 pad) - DD - Plan #1	200.0	200.0	134.3	133.7	208.044	CC, ES
Oxy 21-17D (Oxy I21 pad) - DD - Plan #1	1,000.0	966.7	216.2	212.6	60.752	SF
Oxy 21-1D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	30.0	29.0	30.143	CC, ES
Oxy 21-1D (Oxy I21 Pad) - DD - Plan #1	600.0	597.5	40.0	37.9	19.511	SF
Oxy 21-2D (Oxy I21 Pad) - DD - Plan #1	1,073.8	1,079.5	24.4	19.7	5.274	CC
Oxy 21-2D (Oxy I21 Pad) - DD - Plan #1	1,100.0	1,105.6	24.5	19.7	5.167	ES, SF
Oxy 21-3D (Oxy I21 Pad) - DD - Plan #1	500.0	500.0	10.3	8.6	6.070	CC, ES
Oxy 21-3D (Oxy I21 Pad) - DD - Plan #1	700.0	699.6	12.7	10.3	5.308	SF
Oxy 21-5D (Oxy I21 Pad) - DD - Plan #1	600.0	600.0	14.7	12.6	7.194	CC
Oxy 21-5D (Oxy I21 Pad) - DD - Plan #1	900.0	900.8	15.2	12.0	4.870	ES
Oxy 21-5D (Oxy I21 Pad) - DD - Plan #1	1,000.0	1,000.8	16.7	13.2	4.797	SF
Oxy 21-6D (Oxy I21 Pad) - DD - Plan #1	857.4	1,162.4	63.3	60.3	21.166	CC, ES
Oxy 21-6D (Oxy I21 Pad) - DD - Plan #1	1,500.0	1,802.6	98.0	92.5	17.905	SF
Oxy 21-7D (Oxy I21 Pad) - DD - Plan #1	500.0	500.0	104.9	103.2	61.939	CC, ES
Oxy 21-7D (Oxy I21 Pad) - DD - Plan #1	8,740.5	8,711.3	933.6	903.2	30.701	SF
Oxy 21-8D (Oxy I21 Pad) - DD - Plan #1	500.0	500.0	120.1	118.4	70.963	CC, ES
Oxy 21-8D (Oxy I21 Pad) - DD - Plan #1	1,000.0	987.1	164.0	160.6	47.870	SF
Oxy 21-9D (Oxy I21 Pad) - DD - Plan #1	462.8	463.0	28.6	27.0	17.930	CC
Oxy 21-9D (Oxy I21 Pad) - DD - Plan #1	500.0	500.1	28.7	27.0	16.565	ES
Oxy 21-9D (Oxy I21 Pad) - DD - Plan #1	600.0	599.5	31.0	28.9	14.645	SF

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-10D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	-32.89	37.5	-24.3	44.7					
100.0	100.0	100.0	100.0	0.1	0.1	-32.89	37.5	-24.3	44.7	44.4	0.30	150.588		
200.0	200.0	200.0	200.0	0.3	0.3	-32.89	37.5	-24.3	44.7	44.0	0.65	69.189		
300.0	300.0	300.2	300.2	0.5	0.5	-34.55	36.6	-25.2	44.4	43.4	1.00	44.543		
400.0	400.0	400.3	400.2	0.7	0.7	-39.61	33.8	-28.0	43.9	42.5	1.36	32.307		
467.0	467.0	467.2	467.0	0.8	0.8	-44.97	30.9	-30.9	43.7	42.1	1.61	27.126 CC		
500.0	500.0	500.1	499.8	0.8	0.9	-48.16	29.2	-32.6	43.8	42.0	1.73	25.223 ES		
600.0	600.0	599.5	598.8	1.0	1.1	-59.75	22.8	-39.0	45.2	43.1	2.12	21.276		
700.0	700.0	698.5	697.1	1.2	1.4	100.69	14.6	-47.2	49.8	47.2	2.54	19.616		
800.0	799.9	797.1	794.7	1.4	1.7	91.71	4.6	-57.2	57.6	54.6	2.95	19.542 SF		
900.0	899.7	895.4	891.5	1.6	2.0	85.52	-7.1	-68.9	68.0	64.6	3.37	20.151		
1,000.0	999.3	993.2	987.5	1.8	2.4	81.51	-20.5	-82.3	80.3	76.5	3.83	20.992		
1,100.0	1,098.7	1,090.4	1,082.4	2.0	2.8	78.79	-35.5	-97.4	94.5	90.2	4.31	21.940		
1,200.0	1,198.0	1,187.0	1,176.1	2.2	3.2	76.05	-52.1	-114.0	110.7	105.9	4.79	23.114		
1,300.0	1,297.4	1,282.8	1,268.3	2.5	3.7	73.36	-70.2	-132.1	129.1	123.8	5.27	24.506		
1,400.0	1,396.8	1,377.6	1,359.0	2.7	4.2	70.82	-89.7	-151.7	149.7	144.0	5.74	26.088		
1,500.0	1,496.1	1,471.4	1,448.0	3.0	4.7	68.49	-110.6	-172.6	172.6	166.4	6.20	27.835		
1,600.0	1,595.5	1,565.6	1,536.8	3.2	5.3	66.36	-133.1	-195.0	197.6	191.0	6.65	29.711		
1,700.0	1,694.9	1,662.1	1,627.5	3.5	5.9	64.61	-156.3	-218.3	223.3	216.2	7.11	31.423		
1,800.0	1,794.3	1,758.6	1,718.2	3.7	6.5	63.22	-179.5	-241.6	249.1	241.5	7.56	32.955		
1,900.0	1,893.6	1,855.0	1,808.9	4.0	7.1	62.10	-202.7	-264.8	275.0	267.0	8.01	34.330		
2,000.0	1,993.0	1,951.5	1,899.5	4.2	7.7	61.16	-226.0	-288.1	300.9	292.5	8.46	35.568		
2,100.0	2,092.4	2,047.9	1,990.2	4.5	8.3	60.38	-249.2	-311.3	327.0	318.1	8.91	36.688		
2,200.0	2,191.8	2,144.4	2,080.9	4.7	8.9	59.71	-272.4	-334.6	353.1	343.7	9.36	37.705		
2,300.0	2,291.1	2,240.9	2,171.6	5.0	9.5	59.13	-295.7	-357.9	379.2	369.4	9.82	38.632		
2,400.0	2,390.5	2,337.3	2,262.3	5.2	10.1	58.63	-318.9	-381.1	405.4	395.1	10.27	39.480		
2,500.0	2,489.9	2,433.8	2,353.0	5.5	10.7	58.18	-342.1	-404.4	431.6	420.8	10.72	40.259		
2,600.0	2,589.2	2,530.2	2,443.7	5.8	11.4	57.79	-365.4	-427.6	457.8	446.6	11.17	40.976		
2,700.0	2,688.6	2,626.7	2,534.3	6.0	12.0	57.44	-388.6	-450.9	484.0	472.4	11.62	41.639		
2,800.0	2,788.0	2,723.2	2,625.0	6.3	12.6	57.13	-411.8	-474.1	510.2	498.2	12.08	42.254		
2,900.0	2,887.4	2,819.6	2,715.7	6.5	13.2	56.85	-435.1	-497.4	536.5	524.0	12.53	42.824		
3,000.0	2,986.7	2,916.1	2,806.4	6.8	13.8	56.59	-458.3	-520.7	562.8	549.8	12.98	43.356		
3,100.0	3,086.1	3,012.5	2,897.1	7.1	14.4	56.36	-481.5	-543.9	589.0	575.6	13.43	43.852		
3,200.0	3,185.5	3,109.0	2,987.8	7.3	15.0	56.14	-504.8	-567.2	615.3	601.4	13.88	44.317		
3,300.0	3,284.9	3,205.5	3,078.4	7.6	15.6	55.95	-528.0	-590.4	641.6	627.3	14.34	44.752		
3,400.0	3,384.2	3,301.9	3,169.1	7.8	16.2	55.77	-551.2	-613.7	667.9	653.1	14.79	45.161		
3,500.0	3,483.6	3,398.4	3,259.8	8.1	16.8	55.60	-574.4	-637.0	694.2	679.0	15.24	45.546		
3,600.0	3,583.0	3,494.8	3,350.5	8.4	17.5	55.45	-597.7	-660.2	720.5	704.8	15.69	45.909		
3,700.0	3,682.3	3,591.3	3,441.2	8.6	18.1	55.30	-620.9	-683.5	746.8	730.7	16.15	46.252		
3,800.0	3,781.7	3,687.8	3,531.9	8.9	18.7	55.17	-644.1	-706.7	773.1	756.5	16.60	46.576		
3,900.0	3,881.1	3,784.2	3,622.6	9.1	19.3	55.04	-667.4	-730.0	799.5	782.4	17.05	46.884		
4,000.0	3,980.5	3,880.7	3,713.2	9.4	19.9	54.93	-690.6	-753.3	825.8	808.3	17.50	47.175		
4,100.0	4,079.8	3,977.1	3,803.9	9.7	20.5	54.82	-713.8	-776.5	852.1	834.1	17.96	47.452		
4,200.0	4,179.2	4,073.6	3,894.6	9.9	21.1	54.71	-737.1	-799.8	878.4	860.0	18.41	47.715		
4,300.0	4,278.6	4,170.1	3,985.3	10.2	21.7	54.61	-760.3	-823.0	904.8	885.9	18.86	47.966		
4,400.0	4,378.0	4,266.5	4,076.0	10.4	22.4	54.52	-783.5	-846.3	931.1	911.8	19.32	48.205		
4,500.0	4,477.3	4,363.0	4,166.7	10.7	23.0	54.44	-806.8	-869.5	957.4	937.7	19.77	48.433		
4,600.0	4,576.7	4,459.4	4,257.4	11.0	23.6	54.35	-830.0	-892.8	983.8	963.6	20.22	48.651		
4,700.0	4,676.1	4,555.9	4,348.0	11.2	24.2	54.28	-853.2	-916.1	1,010.1	989.4	20.67	48.859		
4,800.0	4,775.4	4,652.4	4,438.7	11.5	24.8	54.20	-876.4	-939.3	1,036.5	1,015.3	21.13	49.059		
4,900.0	4,874.8	4,748.8	4,529.4	11.7	25.4	54.13	-899.7	-962.6	1,062.8	1,041.2	21.58	49.250		
5,000.0	4,974.2	4,845.3	4,620.1	12.0	26.0	54.06	-922.9	-985.8	1,089.1	1,067.1	22.03	49.433		

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

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-11D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	-32.43	50.6	-32.2	60.0					
100.0	100.0	100.0	100.0	0.1	0.1	-32.43	50.6	-32.2	60.0	59.7	0.30	202.165		
200.0	200.0	200.0	200.0	0.3	0.3	-32.43	50.6	-32.2	60.0	59.3	0.65	92.886		
300.0	300.0	300.0	300.0	0.5	0.5	-32.43	50.6	-32.2	60.0	59.0	0.99	60.295		
400.0	400.0	400.1	400.1	0.7	0.7	-33.68	49.8	-33.2	59.9	58.5	1.35	44.490		
500.0	500.0	500.1	500.0	0.8	0.9	-37.44	47.4	-36.3	59.7	58.0	1.70	35.032		
511.9	511.9	512.0	511.9	0.9	0.9	-38.06	47.0	-36.8	59.7	57.9	1.75	34.144 CC		
600.0	600.0	599.8	599.5	1.0	1.1	-43.68	43.4	-41.4	60.0	57.9	2.08	28.895 ES		
700.0	700.0	699.2	698.5	1.2	1.3	121.03	37.8	-48.6	62.2	59.8	2.47	25.191		
800.0	799.9	798.3	796.9	1.4	1.5	114.14	30.6	-57.7	67.4	64.5	2.89	23.356		
900.0	899.7	897.0	894.6	1.6	1.8	108.37	21.9	-68.8	75.3	72.0	3.33	22.635		
1,000.0	999.3	995.3	991.5	1.8	2.1	103.88	11.7	-81.9	85.8	82.0	3.80	22.542 SF		
1,100.0	1,098.7	1,093.1	1,087.4	2.0	2.5	100.33	0.1	-96.8	98.3	94.0	4.31	22.802		
1,200.0	1,198.0	1,190.3	1,182.3	2.2	2.9	96.66	-13.0	-113.5	112.7	107.9	4.84	23.313		
1,300.0	1,297.4	1,286.7	1,275.8	2.5	3.3	93.00	-27.5	-132.0	129.1	123.8	5.36	24.074		
1,400.0	1,396.8	1,382.3	1,367.8	2.7	3.8	89.49	-43.3	-152.1	147.6	141.7	5.89	25.073		
1,500.0	1,496.1	1,477.4	1,458.8	3.0	4.3	86.21	-60.3	-173.9	168.4	162.0	6.40	26.304		
1,600.0	1,595.5	1,574.6	1,551.6	3.2	4.8	83.42	-78.3	-196.8	190.1	183.2	6.91	27.527		
1,700.0	1,694.9	1,671.8	1,644.4	3.5	5.3	81.20	-96.2	-219.7	212.3	204.9	7.41	28.653		
1,800.0	1,794.3	1,769.1	1,737.1	3.7	5.9	79.41	-114.1	-242.6	234.7	226.8	7.91	29.683		
1,900.0	1,893.6	1,866.3	1,829.9	4.0	6.4	77.93	-132.0	-265.5	257.2	248.8	8.40	30.622		
2,000.0	1,993.0	1,963.5	1,922.7	4.2	6.9	76.68	-150.0	-288.4	279.9	271.0	8.89	31.480		
2,100.0	2,092.4	2,060.7	2,015.5	4.5	7.5	75.62	-167.9	-311.3	302.7	293.3	9.38	32.265		
2,200.0	2,191.8	2,157.9	2,108.2	4.7	8.0	74.71	-185.8	-334.2	325.6	315.7	9.87	32.984		
2,300.0	2,291.1	2,255.2	2,201.0	5.0	8.6	73.92	-203.8	-357.1	348.6	338.2	10.36	33.645		
2,400.0	2,390.5	2,352.4	2,293.8	5.2	9.1	73.23	-221.7	-380.0	371.6	360.7	10.85	34.253		
2,500.0	2,489.9	2,449.6	2,386.5	5.5	9.6	72.62	-239.6	-402.9	394.6	383.3	11.34	34.815		
2,600.0	2,589.2	2,546.8	2,479.3	5.8	10.2	72.07	-257.6	-425.8	417.7	405.9	11.82	35.335		
2,700.0	2,688.6	2,644.1	2,572.1	6.0	10.7	71.59	-275.5	-448.7	440.9	428.5	12.31	35.817		
2,800.0	2,788.0	2,741.3	2,664.9	6.3	11.3	71.15	-293.4	-471.6	464.0	451.2	12.79	36.266		
2,900.0	2,887.4	2,838.5	2,757.6	6.5	11.8	70.75	-311.4	-494.5	487.2	473.9	13.28	36.684		
3,000.0	2,986.7	2,935.7	2,850.4	6.8	12.4	70.39	-329.3	-517.4	510.4	496.6	13.77	37.074		
3,100.0	3,086.1	3,033.0	2,943.2	7.1	12.9	70.06	-347.2	-540.3	533.6	519.3	14.25	37.440		
3,200.0	3,185.5	3,130.2	3,035.9	7.3	13.5	69.76	-365.1	-563.2	556.8	542.1	14.74	37.783		
3,300.0	3,284.9	3,227.4	3,128.7	7.6	14.0	69.48	-383.1	-586.1	580.1	564.9	15.22	38.105		
3,400.0	3,384.2	3,324.6	3,221.5	7.8	14.5	69.22	-401.0	-609.0	603.3	587.6	15.71	38.409		
3,500.0	3,483.6	3,421.9	3,314.3	8.1	15.1	68.99	-418.9	-631.9	626.6	610.4	16.19	38.695		
3,600.0	3,583.0	3,519.1	3,407.0	8.4	15.6	68.77	-436.9	-654.8	649.9	633.2	16.68	38.965		
3,700.0	3,682.3	3,616.3	3,499.8	8.6	16.2	68.56	-454.8	-677.7	673.2	656.0	17.16	39.220		
3,800.0	3,781.7	3,713.5	3,592.6	8.9	16.7	68.37	-472.7	-700.6	696.5	678.8	17.65	39.462		
3,900.0	3,881.1	3,810.8	3,685.3	9.1	17.3	68.19	-490.7	-723.5	719.8	701.6	18.13	39.692		
4,000.0	3,980.5	3,908.0	3,778.1	9.4	17.8	68.02	-508.6	-746.5	743.1	724.4	18.62	39.910		
4,100.0	4,079.8	4,005.2	3,870.9	9.7	18.4	67.86	-526.5	-769.4	766.4	747.3	19.10	40.117		
4,200.0	4,179.2	4,102.4	3,963.7	9.9	18.9	67.72	-544.4	-792.3	789.7	770.1	19.59	40.315		
4,300.0	4,278.6	4,199.7	4,056.4	10.2	19.5	67.58	-562.4	-815.2	813.0	792.9	20.07	40.503		
4,400.0	4,378.0	4,296.9	4,149.2	10.4	20.0	67.44	-580.3	-838.1	836.3	815.8	20.56	40.683		
4,500.0	4,477.3	4,394.1	4,242.0	10.7	20.6	67.32	-598.2	-861.0	859.7	838.6	21.04	40.854		
4,600.0	4,576.7	4,491.3	4,334.7	11.0	21.1	67.20	-616.2	-883.9	883.0	861.5	21.53	41.018		
4,700.0	4,676.1	4,588.5	4,427.5	11.2	21.7	67.09	-634.1	-906.8	906.3	884.3	22.01	41.175		
4,800.0	4,775.4	4,685.8	4,520.3	11.5	22.2	66.98	-652.0	-929.7	929.7	907.2	22.50	41.326		
4,900.0	4,874.8	4,783.0	4,613.1	11.7	22.7	66.88	-670.0	-952.6	953.0	930.0	22.98	41.470		
5,000.0	4,974.2	4,880.2	4,705.8	12.0	23.3	66.78	-687.9	-975.5	976.4	952.9	23.47	41.608		

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

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-11D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
5,100.0	5,073.6	4,977.4	4,798.6	12.3	23.8	66.69	-705.8	-998.4	999.7	975.8	23.95	41.741		
5,200.0	5,172.9	5,074.7	4,891.4	12.5	24.4	66.60	-723.8	-1,021.3	1,023.1	998.6	24.43	41.869		
5,300.0	5,272.3	5,171.9	4,984.1	12.8	24.9	66.52	-741.7	-1,044.2	1,046.4	1,021.5	24.92	41.992		
5,400.0	5,371.7	5,269.1	5,076.9	13.0	25.5	66.44	-759.6	-1,067.1	1,069.8	1,044.4	25.40	42.110		
5,500.0	5,471.1	5,366.3	5,169.7	13.3	26.0	66.36	-777.5	-1,090.0	1,093.1	1,067.2	25.89	42.224		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-32.15	63.7	-40.1	75.3					
100.0	100.0	100.0	100.0	0.1	0.1	-32.15	63.7	-40.1	75.3	75.0	0.30	253.749		
200.0	200.0	200.0	200.0	0.3	0.3	-32.15	63.7	-40.1	75.3	74.6	0.65	116.587		
300.0	300.0	300.0	300.0	0.5	0.5	-32.15	63.7	-40.1	75.3	74.3	0.99	75.680 CC		
400.0	400.0	399.8	399.8	0.7	0.7	-33.14	63.1	-41.2	75.4	74.1	1.35	56.070 ES		
500.0	500.0	499.5	499.4	0.8	0.9	-36.07	61.4	-44.7	75.9	74.2	1.70	44.609		
600.0	600.0	598.9	598.6	1.0	1.1	-40.82	58.4	-50.5	77.2	75.1	2.07	37.283		
700.0	700.0	697.9	697.2	1.2	1.3	125.74	54.3	-58.5	80.6	78.2	2.46	32.749		
800.0	799.9	796.6	795.2	1.4	1.5	120.55	49.1	-68.8	87.2	84.3	2.87	30.353		
900.0	899.7	894.8	892.4	1.6	1.8	116.11	42.7	-81.2	96.7	93.4	3.31	29.234		
1,000.0	999.3	992.6	988.8	1.8	2.1	112.56	35.2	-95.8	109.0	105.2	3.78	28.870 SF		
1,100.0	1,098.7	1,089.7	1,084.0	2.0	2.5	109.71	26.7	-112.5	123.8	119.5	4.28	28.934		
1,200.0	1,198.0	1,186.0	1,178.1	2.2	2.9	106.75	17.2	-131.2	140.3	135.5	4.80	29.242		
1,300.0	1,297.4	1,281.6	1,270.9	2.5	3.3	103.76	6.6	-151.8	158.7	153.4	5.33	29.788		
1,400.0	1,396.8	1,376.6	1,362.4	2.7	3.8	100.83	-4.9	-174.3	179.2	173.4	5.86	30.584		
1,500.0	1,496.1	1,473.9	1,455.9	3.0	4.2	98.24	-17.1	-198.1	200.8	194.4	6.39	31.413		
1,600.0	1,595.5	1,571.1	1,549.4	3.2	4.7	96.15	-29.3	-222.0	222.7	215.8	6.92	32.182		
1,700.0	1,694.9	1,668.4	1,642.9	3.5	5.2	94.44	-41.5	-245.9	244.8	237.4	7.44	32.888		
1,800.0	1,794.3	1,765.7	1,736.4	3.7	5.7	93.01	-53.7	-269.8	267.1	259.1	7.97	33.533		
1,900.0	1,893.6	1,863.0	1,829.9	4.0	6.2	91.80	-65.9	-293.7	289.5	281.0	8.49	34.123		
2,000.0	1,993.0	1,960.3	1,923.4	4.2	6.7	90.76	-78.1	-317.6	312.1	303.1	9.00	34.662		
2,100.0	2,092.4	2,057.6	2,016.9	4.5	7.2	89.87	-90.4	-341.5	334.7	325.2	9.52	35.157		
2,200.0	2,191.8	2,154.8	2,110.5	4.7	7.7	89.08	-102.6	-365.4	357.4	347.3	10.04	35.611		
2,300.0	2,291.1	2,252.1	2,204.0	5.0	8.2	88.39	-114.8	-389.3	380.1	369.6	10.55	36.028		
2,400.0	2,390.5	2,349.4	2,297.5	5.2	8.7	87.78	-127.0	-413.2	402.9	391.8	11.06	36.414		
2,500.0	2,489.9	2,446.7	2,391.0	5.5	9.2	87.24	-139.2	-437.1	425.7	414.2	11.58	36.770		
2,600.0	2,589.2	2,544.0	2,484.5	5.8	9.7	86.75	-151.4	-461.0	448.6	436.5	12.09	37.101		
2,700.0	2,688.6	2,641.3	2,578.0	6.0	10.3	86.30	-163.6	-484.9	471.5	458.9	12.60	37.407		
2,800.0	2,788.0	2,738.5	2,671.5	6.3	10.8	85.90	-175.9	-508.8	494.4	481.3	13.12	37.693		
2,900.0	2,887.4	2,835.8	2,765.0	6.5	11.3	85.53	-188.1	-532.7	517.3	503.7	13.63	37.960		
3,000.0	2,986.7	2,933.1	2,858.5	6.8	11.8	85.20	-200.3	-556.6	540.3	526.2	14.14	38.210		
3,100.0	3,086.1	3,030.4	2,952.0	7.1	12.3	84.89	-212.5	-580.4	563.3	548.6	14.65	38.443		
3,200.0	3,185.5	3,127.7	3,045.5	7.3	12.8	84.61	-224.7	-604.3	586.3	571.1	15.16	38.663		
3,300.0	3,284.9	3,225.0	3,139.0	7.6	13.3	84.34	-236.9	-628.2	609.3	593.6	15.67	38.869		
3,400.0	3,384.2	3,322.2	3,232.6	7.8	13.8	84.10	-249.1	-652.1	632.3	616.1	16.19	39.064		
3,500.0	3,483.6	3,419.5	3,326.1	8.1	14.3	83.87	-261.4	-676.0	655.3	638.6	16.70	39.247		
3,600.0	3,583.0	3,516.8	3,419.6	8.4	14.8	83.66	-273.6	-699.9	678.3	661.1	17.21	39.421		
3,700.0	3,682.3	3,614.1	3,513.1	8.6	15.3	83.47	-285.8	-723.8	701.3	683.6	17.72	39.585		
3,800.0	3,781.7	3,711.4	3,606.6	8.9	15.8	83.28	-298.0	-747.7	724.4	706.2	18.23	39.741		
3,900.0	3,881.1	3,808.7	3,700.1	9.1	16.4	83.11	-310.2	-771.6	747.4	728.7	18.74	39.888		
4,000.0	3,980.5	3,905.9	3,793.6	9.4	16.9	82.94	-322.4	-795.5	770.5	751.2	19.25	40.029		
4,100.0	4,079.8	4,003.2	3,887.1	9.7	17.4	82.79	-334.6	-819.4	793.6	773.8	19.76	40.162		
4,200.0	4,179.2	4,100.5	3,980.6	9.9	17.9	82.65	-346.9	-843.3	816.6	796.4	20.27	40.289		
4,300.0	4,278.6	4,197.8	4,074.1	10.2	18.4	82.51	-359.1	-867.2	839.7	818.9	20.78	40.411		
4,400.0	4,378.0	4,295.1	4,167.6	10.4	18.9	82.38	-371.3	-891.1	862.8	841.5	21.29	40.527		
4,500.0	4,477.3	4,392.4	4,261.2	10.7	19.4	82.26	-383.5	-915.0	885.9	864.1	21.80	40.637		
4,600.0	4,576.7	4,489.6	4,354.7	11.0	19.9	82.14	-395.7	-938.9	908.9	886.6	22.31	40.743		
4,700.0	4,676.1	4,586.9	4,448.2	11.2	20.4	82.03	-407.9	-962.7	932.0	909.2	22.82	40.844		
4,800.0	4,775.4	4,684.2	4,541.7	11.5	20.9	81.92	-420.1	-986.6	955.1	931.8	23.33	40.942		
4,900.0	4,874.8	4,781.5	4,635.2	11.7	21.5	81.82	-432.4	-1,010.5	978.2	954.4	23.84	41.035		
5,000.0	4,974.2	4,878.8	4,728.7	12.0	22.0	81.73	-444.6	-1,034.4	1,001.3	977.0	24.35	41.124		
5,100.0	5,073.6	4,976.0	4,822.2	12.3	22.5	81.64	-456.8	-1,058.3	1,024.4	999.5	24.86	41.210		

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

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error: 0.0 ft
Survey Program: 0-MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis			Distance						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	
5,200.0	5,172.9	5,073.3	4,915.7	12.5	23.0	81.55	-469.0	-1,082.2	1,047.5	1,022.1	25.37	41.293	
5,300.0	5,272.3	5,170.6	5,009.2	12.8	23.5	81.47	-481.2	-1,106.1	1,070.6	1,044.7	25.88	41.372	
5,400.0	5,371.7	5,267.9	5,102.7	13.0	24.0	81.39	-493.4	-1,130.0	1,093.7	1,067.3	26.39	41.449	

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-13D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)				Between Centres (ft)	Between Ellipses (ft)	
0.0	0.0	0.0	0.0	0.0	0.0	-32.21	76.1	-48.0	90.0					
100.0	100.0	100.0	100.0	0.1	0.1	-32.21	76.1	-48.0	90.0	89.7	0.30	303.257		
200.0	200.0	200.0	200.0	0.3	0.3	-32.21	76.1	-48.0	90.0	89.3	0.65	139.334		
300.0	300.0	300.0	300.0	0.5	0.5	-32.21	76.1	-48.0	90.0	89.0	0.99	90.445 CC, ES		
400.0	400.0	399.3	399.3	0.7	0.7	-33.00	75.8	-49.2	90.3	89.0	1.34	67.223		
500.0	500.0	498.5	498.4	0.8	0.9	-35.32	74.7	-52.9	91.6	89.9	1.70	53.889		
600.0	600.0	597.4	597.1	1.0	1.1	-39.02	72.9	-59.1	93.9	91.8	2.06	45.495		
700.0	700.0	696.0	695.3	1.2	1.3	128.84	70.4	-67.7	98.6	96.2	2.45	40.250		
800.0	799.9	794.2	792.8	1.4	1.5	124.88	67.3	-78.6	106.7	103.8	2.85	37.417		
900.0	899.7	891.8	889.4	1.6	1.8	121.49	63.5	-91.9	117.9	114.7	3.27	36.018		
1,000.0	999.3	988.7	985.0	1.8	2.1	118.76	59.0	-107.5	132.3	128.6	3.73	35.485		
1,100.0	1,098.7	1,084.9	1,079.4	2.0	2.5	116.57	53.9	-125.2	149.3	145.1	4.21	35.442 SF		
1,200.0	1,198.0	1,180.3	1,172.6	2.2	2.8	114.29	48.2	-145.0	168.1	163.4	4.72	35.645		
1,300.0	1,297.4	1,276.1	1,265.6	2.5	3.3	111.96	41.8	-167.0	188.8	183.5	5.23	36.096		
1,400.0	1,396.8	1,373.6	1,360.1	2.7	3.7	109.95	35.2	-189.8	210.0	204.2	5.75	36.525		
1,500.0	1,496.1	1,471.1	1,454.7	3.0	4.1	108.32	28.7	-212.6	231.4	225.1	6.27	36.914		
1,600.0	1,595.5	1,568.6	1,549.2	3.2	4.6	106.96	22.1	-235.4	252.9	246.2	6.79	37.265		
1,700.0	1,694.9	1,666.1	1,643.8	3.5	5.0	105.81	15.5	-258.2	274.6	267.3	7.31	37.583		
1,800.0	1,794.3	1,763.5	1,738.3	3.7	5.5	104.83	8.9	-281.0	296.4	288.6	7.83	37.871		
1,900.0	1,893.6	1,861.0	1,832.9	4.0	5.9	103.99	2.4	-303.8	318.2	309.9	8.34	38.133		
2,000.0	1,993.0	1,958.5	1,927.4	4.2	6.4	103.25	-4.2	-326.6	340.1	331.2	8.86	38.372		
2,100.0	2,092.4	2,056.0	2,022.0	4.5	6.8	102.60	-10.8	-349.4	362.0	352.7	9.38	38.590		
2,200.0	2,191.8	2,153.5	2,116.5	4.7	7.3	102.03	-17.4	-372.2	384.0	374.1	9.90	38.791		
2,300.0	2,291.1	2,251.0	2,211.1	5.0	7.7	101.52	-23.9	-395.0	406.0	395.6	10.42	38.975		
2,400.0	2,390.5	2,348.5	2,305.7	5.2	8.2	101.06	-30.5	-417.9	428.1	417.1	10.94	39.145		
2,500.0	2,489.9	2,445.9	2,400.2	5.5	8.6	100.65	-37.1	-440.7	450.1	438.7	11.45	39.302		
2,600.0	2,589.2	2,543.4	2,494.8	5.8	9.1	100.27	-43.6	-463.5	472.2	460.3	11.97	39.447		
2,700.0	2,688.6	2,640.9	2,589.3	6.0	9.5	99.93	-50.2	-486.3	494.3	481.8	12.49	39.583		
2,800.0	2,788.0	2,738.4	2,683.9	6.3	10.0	99.62	-56.8	-509.1	516.4	503.4	13.01	39.709		
2,900.0	2,887.4	2,835.9	2,778.4	6.5	10.4	99.33	-63.4	-531.9	538.6	525.0	13.52	39.827		
3,000.0	2,986.7	2,933.4	2,873.0	6.8	10.9	99.07	-69.9	-554.7	560.7	546.7	14.04	39.937		
3,100.0	3,086.1	3,030.9	2,967.5	7.1	11.4	98.82	-76.5	-577.5	582.9	568.3	14.56	40.041		
3,200.0	3,185.5	3,128.4	3,062.1	7.3	11.8	98.60	-83.1	-600.3	605.0	589.9	15.07	40.138		
3,300.0	3,284.9	3,225.8	3,156.6	7.6	12.3	98.39	-89.7	-623.1	627.2	611.6	15.59	40.229		
3,400.0	3,384.2	3,323.3	3,251.2	7.8	12.7	98.19	-96.2	-645.9	649.4	633.3	16.11	40.315		
3,500.0	3,483.6	3,420.8	3,345.7	8.1	13.2	98.01	-102.8	-668.7	671.6	654.9	16.62	40.397		
3,600.0	3,583.0	3,518.3	3,440.3	8.4	13.6	97.84	-109.4	-691.5	693.7	676.6	17.14	40.474		
3,700.0	3,682.3	3,615.8	3,534.8	8.6	14.1	97.67	-116.0	-714.3	715.9	698.3	17.66	40.547		
3,800.0	3,781.7	3,713.3	3,629.4	8.9	14.5	97.52	-122.5	-737.1	738.1	720.0	18.17	40.616		
3,900.0	3,881.1	3,810.8	3,724.0	9.1	15.0	97.38	-129.1	-759.9	760.3	741.7	18.69	40.681		
4,000.0	3,980.5	3,908.3	3,818.5	9.4	15.5	97.25	-135.7	-782.7	782.6	763.3	19.21	40.744		
4,100.0	4,079.8	4,005.7	3,913.1	9.7	15.9	97.12	-142.3	-805.5	804.8	785.0	19.72	40.803		
4,200.0	4,179.2	4,103.2	4,007.6	9.9	16.4	97.00	-148.8	-828.4	827.0	806.7	20.24	40.860		
4,300.0	4,278.6	4,200.7	4,102.2	10.2	16.8	96.89	-155.4	-851.2	849.2	828.4	20.76	40.914		
4,400.0	4,378.0	4,298.2	4,196.7	10.4	17.3	96.78	-162.0	-874.0	871.4	850.2	21.27	40.966		
4,500.0	4,477.3	4,395.7	4,291.3	10.7	17.7	96.68	-168.6	-896.8	893.6	871.9	21.79	41.015		
4,600.0	4,576.7	4,493.2	4,385.8	11.0	18.2	96.58	-175.1	-919.6	915.9	893.6	22.30	41.062		
4,700.0	4,676.1	4,590.7	4,480.4	11.2	18.7	96.49	-181.7	-942.4	938.1	915.3	22.82	41.108		
4,800.0	4,775.4	4,688.1	4,574.9	11.5	19.1	96.40	-188.3	-965.2	960.3	937.0	23.34	41.151		
4,900.0	4,874.8	4,785.6	4,669.5	11.7	19.6	96.31	-194.9	-988.0	982.6	958.7	23.85	41.193		
5,000.0	4,974.2	4,883.1	4,764.0	12.0	20.0	96.23	-201.4	-1,010.8	1,004.8	980.4	24.37	41.233		
5,100.0	5,073.6	4,980.6	4,858.6	12.3	20.5	96.16	-208.0	-1,033.6	1,027.0	1,002.2	24.89	41.271		

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

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-13D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error: 0.0 ft
Survey Program: 0-MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis			Distance						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	
5,200.0	5,172.9	5,078.1	4,953.1	12.5	20.9	96.08	-214.6	-1,056.4	1,049.3	1,023.9	25.40	41.308	
5,300.0	5,272.3	5,175.6	5,047.7	12.8	21.4	96.01	-221.1	-1,079.2	1,071.5	1,045.6	25.92	41.344	
5,400.0	5,371.7	5,273.1	5,142.3	13.0	21.9	95.94	-227.7	-1,102.0	1,093.8	1,067.3	26.43	41.378	

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-14D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							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	-32.63	88.1	-56.4	104.7					
100.0	100.0	100.0	100.0	0.1	0.1	-32.63	88.1	-56.4	104.7	104.4	0.30	352.750		
200.0	200.0	200.0	200.0	0.3	0.3	-32.63	88.1	-56.4	104.7	104.0	0.65	162.074		
300.0	300.0	300.0	300.0	0.5	0.5	-32.63	88.1	-56.4	104.7	103.7	0.99	105.206 CC, ES		
400.0	400.0	398.7	398.7	0.7	0.7	-33.24	88.0	-57.7	105.3	103.9	1.34	78.410		
500.0	500.0	497.3	497.2	0.8	0.9	-35.03	87.7	-61.5	107.2	105.5	1.69	63.241		
600.0	600.0	595.6	595.3	1.0	1.0	-37.87	87.2	-67.8	110.6	108.5	2.05	53.833		
700.0	700.0	693.5	692.8	1.2	1.3	131.04	86.5	-76.6	116.6	114.2	2.43	47.942		
800.0	799.9	791.0	789.6	1.4	1.5	128.11	85.6	-87.8	126.3	123.4	2.82	44.746		
900.0	899.7	887.8	885.5	1.6	1.8	125.64	84.5	-101.4	139.3	136.1	3.23	43.141		
1,000.0	999.3	983.8	980.1	1.8	2.1	123.66	83.2	-117.3	155.8	152.1	3.66	42.517		
1,100.0	1,098.7	1,078.9	1,073.5	2.0	2.4	122.12	81.8	-135.3	175.1	171.0	4.13	42.445 SF		
1,200.0	1,198.0	1,173.2	1,165.6	2.2	2.8	120.49	80.2	-155.5	196.3	191.7	4.61	42.622		
1,300.0	1,297.4	1,269.3	1,259.0	2.5	3.2	118.82	78.4	-177.8	219.1	214.0	5.10	42.977		
1,400.0	1,396.8	1,366.4	1,353.5	2.7	3.6	117.42	76.5	-200.5	242.0	236.4	5.59	43.264		
1,500.0	1,496.1	1,463.6	1,448.0	3.0	4.1	116.27	74.7	-223.2	265.1	259.0	6.09	43.506		
1,600.0	1,595.5	1,560.8	1,542.4	3.2	4.5	115.30	72.9	-245.9	288.3	281.7	6.59	43.715		
1,700.0	1,694.9	1,658.0	1,636.9	3.5	4.9	114.48	71.1	-268.5	311.5	304.4	7.10	43.897		
1,800.0	1,794.3	1,755.1	1,731.4	3.7	5.3	113.77	69.2	-291.2	334.8	327.2	7.60	44.058		
1,900.0	1,893.6	1,852.3	1,825.9	4.0	5.8	113.15	67.4	-313.9	358.1	350.0	8.10	44.200		
2,000.0	1,993.0	1,949.5	1,920.3	4.2	6.2	112.61	65.6	-336.6	381.5	372.9	8.61	44.328		
2,100.0	2,092.4	2,046.7	2,014.8	4.5	6.7	112.13	63.8	-359.3	404.9	395.8	9.11	44.443		
2,200.0	2,191.8	2,143.8	2,109.3	4.7	7.1	111.70	61.9	-382.0	428.3	418.7	9.61	44.547		
2,300.0	2,291.1	2,241.0	2,203.7	5.0	7.5	111.32	60.1	-404.7	451.7	441.6	10.12	44.642		
2,400.0	2,390.5	2,338.2	2,298.2	5.2	8.0	110.98	58.3	-427.4	475.2	464.6	10.62	44.729		
2,500.0	2,489.9	2,435.3	2,392.7	5.5	8.4	110.66	56.4	-450.0	498.7	487.5	11.13	44.809		
2,600.0	2,589.2	2,532.5	2,487.1	5.8	8.8	110.38	54.6	-472.7	522.1	510.5	11.63	44.882		
2,700.0	2,688.6	2,629.7	2,581.6	6.0	9.3	110.12	52.8	-495.4	545.6	533.5	12.14	44.950		
2,800.0	2,788.0	2,726.9	2,676.1	6.3	9.7	109.88	51.0	-518.1	569.1	556.5	12.64	45.013		
2,900.0	2,887.4	2,824.0	2,770.6	6.5	10.2	109.66	49.1	-540.8	592.6	579.5	13.15	45.072		
3,000.0	2,986.7	2,921.2	2,865.0	6.8	10.6	109.46	47.3	-563.5	616.2	602.5	13.65	45.126		
3,100.0	3,086.1	3,018.4	2,959.5	7.1	11.0	109.27	45.5	-586.2	639.7	625.5	14.16	45.178		
3,200.0	3,185.5	3,115.6	3,054.0	7.3	11.5	109.10	43.7	-608.9	663.2	648.6	14.66	45.226		
3,300.0	3,284.9	3,212.7	3,148.4	7.6	11.9	108.93	41.8	-631.5	686.8	671.6	15.17	45.270		
3,400.0	3,384.2	3,309.9	3,242.9	7.8	12.3	108.78	40.0	-654.2	710.3	694.6	15.68	45.313		
3,500.0	3,483.6	3,407.1	3,337.4	8.1	12.8	108.64	38.2	-676.9	733.8	717.7	16.18	45.353		
3,600.0	3,583.0	3,504.2	3,431.8	8.4	13.2	108.51	36.3	-699.6	757.4	740.7	16.69	45.390		
3,700.0	3,682.3	3,601.4	3,526.3	8.6	13.7	108.38	34.5	-722.3	780.9	763.7	17.19	45.426		
3,800.0	3,781.7	3,698.6	3,620.8	8.9	14.1	108.26	32.7	-745.0	804.5	786.8	17.70	45.460		
3,900.0	3,881.1	3,795.8	3,715.3	9.1	14.5	108.15	30.9	-767.7	828.1	809.9	18.20	45.492		
4,000.0	3,980.5	3,892.9	3,809.7	9.4	15.0	108.05	29.0	-790.4	851.6	832.9	18.71	45.522		
4,100.0	4,079.8	3,990.1	3,904.2	9.7	15.4	107.95	27.2	-813.0	875.2	856.0	19.21	45.551		
4,200.0	4,179.2	4,087.3	3,998.7	9.9	15.9	107.85	25.4	-835.7	898.7	879.0	19.72	45.578		
4,300.0	4,278.6	4,184.5	4,093.1	10.2	16.3	107.76	23.5	-858.4	922.3	902.1	20.22	45.605		
4,400.0	4,378.0	4,281.6	4,187.6	10.4	16.8	107.68	21.7	-881.1	945.9	925.2	20.73	45.630		
4,500.0	4,477.3	4,378.8	4,282.1	10.7	17.2	107.60	19.9	-903.8	969.5	948.2	21.24	45.654		
4,600.0	4,576.7	4,476.0	4,376.5	11.0	17.6	107.52	18.1	-926.5	993.0	971.3	21.74	45.676		
4,700.0	4,676.1	4,573.2	4,471.0	11.2	18.1	107.45	16.2	-949.2	1,016.6	994.4	22.25	45.698		
4,800.0	4,775.4	4,670.3	4,565.5	11.5	18.5	107.38	14.4	-971.8	1,040.2	1,017.4	22.75	45.719		
4,900.0	4,874.8	4,767.5	4,660.0	11.7	19.0	107.31	12.6	-994.5	1,063.8	1,040.5	23.26	45.739		
5,000.0	4,974.2	4,864.7	4,754.4	12.0	19.4	107.25	10.8	-1,017.2	1,087.4	1,063.6	23.76	45.759		
5,100.0	5,073.6	4,961.8	4,848.9	12.3	19.8	107.19	8.9	-1,039.9	1,110.9	1,086.7	24.27	45.777		

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

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-15D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-32.43	101.3	-64.3	120.0					
100.0	100.0	100.0	100.0	0.1	0.1	-32.43	101.3	-64.3	120.0	119.7	0.30	404.329		
200.0	200.0	200.0	200.0	0.3	0.3	-32.43	101.3	-64.3	120.0	119.3	0.65	185.773		
300.0	300.0	300.0	300.0	0.5	0.5	-32.43	101.3	-64.3	120.0	119.0	0.99	120.589 CC, ES		
400.0	400.0	398.0	398.0	0.7	0.7	-32.88	101.4	-65.6	120.8	119.5	1.34	90.089		
500.0	500.0	495.8	495.7	0.8	0.8	-34.19	102.0	-69.3	123.4	121.7	1.69	73.009		
600.0	600.0	593.4	593.1	1.0	1.0	-36.25	102.9	-75.5	127.8	125.8	2.04	62.547		
700.0	700.0	690.6	689.9	1.2	1.3	133.58	104.2	-84.1	135.2	132.7	2.41	56.026		
800.0	799.9	787.2	785.9	1.4	1.5	131.55	105.8	-95.0	146.3	143.6	2.79	52.504		
900.0	899.7	883.0	880.8	1.6	1.8	129.91	107.8	-108.3	161.3	158.1	3.18	50.759		
1,000.0	999.3	977.9	974.4	1.8	2.1	128.62	110.1	-123.7	179.8	176.2	3.59	50.131		
1,100.0	1,098.7	1,071.8	1,066.6	2.0	2.4	127.71	112.7	-141.2	201.5	197.5	4.02	50.130 SF		
1,200.0	1,198.0	1,164.7	1,157.4	2.2	2.8	126.69	115.6	-160.7	225.2	220.7	4.47	50.397		
1,300.0	1,297.4	1,258.7	1,248.8	2.5	3.2	125.56	118.9	-182.5	250.7	245.8	4.93	50.874		
1,400.0	1,396.8	1,355.2	1,342.5	2.7	3.6	124.57	122.2	-205.2	276.6	271.2	5.40	51.235		
1,500.0	1,496.1	1,451.7	1,436.2	3.0	4.0	123.75	125.6	-227.9	302.5	296.7	5.87	51.525		
1,600.0	1,595.5	1,548.2	1,529.9	3.2	4.5	123.06	129.0	-250.6	328.5	322.2	6.35	51.761		
1,700.0	1,694.9	1,644.7	1,623.7	3.5	4.9	122.47	132.4	-273.3	354.6	347.7	6.82	51.957		
1,800.0	1,794.3	1,741.2	1,717.4	3.7	5.3	121.96	135.8	-296.0	380.6	373.3	7.30	52.122		
1,900.0	1,893.6	1,837.7	1,811.1	4.0	5.7	121.52	139.1	-318.7	406.7	398.9	7.78	52.264		
2,000.0	1,993.0	1,934.2	1,904.8	4.2	6.2	121.12	142.5	-341.4	432.8	424.6	8.26	52.387		
2,100.0	2,092.4	2,030.7	1,998.5	4.5	6.6	120.78	145.9	-364.1	458.9	450.2	8.74	52.494		
2,200.0	2,191.8	2,127.2	2,092.3	4.7	7.1	120.47	149.3	-386.8	485.1	475.9	9.22	52.588		
2,300.0	2,291.1	2,223.7	2,186.0	5.0	7.5	120.19	152.7	-409.5	511.2	501.5	9.71	52.672		
2,400.0	2,390.5	2,320.2	2,279.7	5.2	7.9	119.94	156.0	-432.2	537.4	527.2	10.19	52.748		
2,500.0	2,489.9	2,416.6	2,373.4	5.5	8.4	119.71	159.4	-454.9	563.6	552.9	10.67	52.815		
2,600.0	2,589.2	2,513.1	2,467.2	5.8	8.8	119.51	162.8	-477.6	589.7	578.6	11.15	52.876		
2,700.0	2,688.6	2,609.6	2,560.9	6.0	9.3	119.32	166.2	-500.3	615.9	604.3	11.64	52.932		
2,800.0	2,788.0	2,706.1	2,654.6	6.3	9.7	119.14	169.6	-523.0	642.1	630.0	12.12	52.983		
2,900.0	2,887.4	2,802.6	2,748.3	6.5	10.1	118.98	172.9	-545.7	668.3	655.7	12.60	53.030		
3,000.0	2,986.7	2,899.1	2,842.1	6.8	10.6	118.84	176.3	-568.4	694.5	681.4	13.09	53.073		
3,100.0	3,086.1	2,995.6	2,935.8	7.1	11.0	118.70	179.7	-591.1	720.7	707.1	13.57	53.112		
3,200.0	3,185.5	3,092.1	3,029.5	7.3	11.5	118.57	183.1	-613.8	746.9	732.9	14.05	53.149		
3,300.0	3,284.9	3,188.6	3,123.2	7.6	11.9	118.45	186.5	-636.5	773.1	758.6	14.54	53.183		
3,400.0	3,384.2	3,285.1	3,216.9	7.8	12.4	118.34	189.8	-659.2	799.3	784.3	15.02	53.215		
3,500.0	3,483.6	3,381.6	3,310.7	8.1	12.8	118.24	193.2	-681.9	825.6	810.1	15.51	53.245		
3,600.0	3,583.0	3,478.1	3,404.4	8.4	13.2	118.14	196.6	-704.6	851.8	835.8	15.99	53.273		
3,700.0	3,682.3	3,574.6	3,498.1	8.6	13.7	118.05	200.0	-727.3	878.0	861.5	16.47	53.299		
3,800.0	3,781.7	3,671.0	3,591.8	8.9	14.1	117.96	203.4	-750.0	904.2	887.3	16.96	53.323		
3,900.0	3,881.1	3,767.5	3,685.6	9.1	14.6	117.88	206.7	-772.7	930.4	913.0	17.44	53.346		
4,000.0	3,980.5	3,864.0	3,779.3	9.4	15.0	117.80	210.1	-795.4	956.7	938.7	17.93	53.368		
4,100.0	4,079.8	3,960.5	3,873.0	9.7	15.5	117.73	213.5	-818.1	982.9	964.5	18.41	53.389		
4,200.0	4,179.2	4,057.0	3,966.7	9.9	15.9	117.66	216.9	-840.8	1,009.1	990.2	18.89	53.409		
4,300.0	4,278.6	4,153.5	4,060.5	10.2	16.3	117.59	220.2	-863.5	1,035.4	1,016.0	19.38	53.427		
4,400.0	4,378.0	4,250.0	4,154.2	10.4	16.8	117.53	223.6	-886.2	1,061.6	1,041.7	19.86	53.445		
4,500.0	4,477.3	4,346.5	4,247.9	10.7	17.2	117.47	227.0	-908.9	1,087.8	1,067.5	20.35	53.461		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-16D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-28.52	118.4	-64.3	134.7					
100.0	100.0	100.0	100.0	0.1	0.1	-28.52	118.4	-64.3	134.7	134.4	0.30	454.085		
200.0	200.0	200.0	200.0	0.3	0.3	-28.52	118.4	-64.3	134.7	134.1	0.65	208.634		
300.0	300.0	300.0	300.0	0.5	0.5	-28.52	118.4	-64.3	134.7	133.7	0.99	135.429 CC, ES		
400.0	400.0	397.4	397.4	0.7	0.7	-28.86	118.8	-65.5	135.7	134.4	1.34	101.282		
500.0	500.0	494.6	494.6	0.8	0.8	-29.86	120.1	-69.0	138.6	136.9	1.69	82.192		
600.0	600.0	591.6	591.4	1.0	1.0	-31.43	122.3	-74.7	143.6	141.6	2.04	70.516		
700.0	700.0	688.2	687.6	1.2	1.3	138.95	125.3	-82.8	151.7	149.3	2.40	63.240		
800.0	799.9	784.2	782.9	1.4	1.5	137.42	129.2	-93.0	163.9	161.1	2.76	59.296		
900.0	899.7	879.2	877.0	1.6	1.8	136.17	133.8	-105.4	180.1	177.0	3.14	57.361		
1,000.0	999.3	973.2	969.8	1.8	2.1	135.21	139.2	-119.7	200.3	196.7	3.53	56.717 SF		
1,100.0	1,098.7	1,066.1	1,060.9	2.0	2.4	134.56	145.3	-136.0	223.8	219.9	3.94	56.798		
1,200.0	1,198.0	1,157.9	1,150.7	2.2	2.8	133.83	152.1	-154.1	249.4	245.1	4.36	57.170		
1,300.0	1,297.4	1,248.7	1,239.0	2.5	3.1	132.99	159.6	-174.1	277.0	272.2	4.79	57.830		
1,400.0	1,396.8	1,344.5	1,331.8	2.7	3.6	132.16	167.9	-196.0	305.6	300.4	5.24	58.363		
1,500.0	1,496.1	1,440.2	1,424.7	3.0	4.0	131.47	176.1	-218.0	334.3	328.6	5.68	58.800		
1,600.0	1,595.5	1,536.0	1,517.5	3.2	4.4	130.89	184.4	-239.9	363.0	356.8	6.14	59.157		
1,700.0	1,694.9	1,631.7	1,610.3	3.5	4.9	130.40	192.6	-261.9	391.7	385.1	6.59	59.455		
1,800.0	1,794.3	1,727.4	1,703.1	3.7	5.3	129.97	200.9	-283.8	420.4	413.4	7.04	59.706		
1,900.0	1,893.6	1,823.2	1,795.9	4.0	5.7	129.60	209.1	-305.8	449.1	441.6	7.50	59.921		
2,000.0	1,993.0	1,918.9	1,888.8	4.2	6.2	129.27	217.4	-327.7	477.9	470.0	7.95	60.108		
2,100.0	2,092.4	2,014.6	1,981.6	4.5	6.6	128.98	225.6	-349.7	506.7	498.3	8.41	60.270		
2,200.0	2,191.8	2,110.4	2,074.4	4.7	7.1	128.72	233.9	-371.7	535.5	526.6	8.86	60.413		
2,300.0	2,291.1	2,206.1	2,167.2	5.0	7.5	128.49	242.1	-393.6	564.3	555.0	9.32	60.540		
2,400.0	2,390.5	2,301.9	2,260.1	5.2	8.0	128.28	250.4	-415.6	593.1	583.3	9.78	60.654		
2,500.0	2,489.9	2,397.6	2,352.9	5.5	8.4	128.09	258.6	-437.5	621.9	611.7	10.24	60.756		
2,600.0	2,589.2	2,493.3	2,445.7	5.8	8.9	127.91	266.9	-459.5	650.7	640.0	10.69	60.848		
2,700.0	2,688.6	2,589.1	2,538.5	6.0	9.3	127.75	275.1	-481.4	679.5	668.4	11.15	60.931		
2,800.0	2,788.0	2,684.8	2,631.3	6.3	9.8	127.61	283.4	-503.4	708.4	696.8	11.61	61.007		
2,900.0	2,887.4	2,780.6	2,724.2	6.5	10.2	127.47	291.6	-525.3	737.2	725.1	12.07	61.077		
3,000.0	2,986.7	2,876.3	2,817.0	6.8	10.7	127.35	299.9	-547.3	766.0	753.5	12.53	61.141		
3,100.0	3,086.1	2,972.0	2,909.8	7.1	11.1	127.23	308.1	-569.2	794.9	781.9	12.99	61.200		
3,200.0	3,185.5	3,067.8	3,002.6	7.3	11.6	127.13	316.4	-591.2	823.7	810.3	13.45	61.255		
3,300.0	3,284.9	3,163.5	3,095.5	7.6	12.0	127.03	324.7	-613.2	852.6	838.6	13.91	61.305		
3,400.0	3,384.2	3,259.3	3,188.3	7.8	12.5	126.93	332.9	-635.1	881.4	867.0	14.37	61.353		
3,500.0	3,483.6	3,355.0	3,281.1	8.1	12.9	126.84	341.2	-657.1	910.2	895.4	14.83	61.397		
3,600.0	3,583.0	3,450.7	3,373.9	8.4	13.4	126.76	349.4	-679.0	939.1	923.8	15.29	61.438		
3,700.0	3,682.3	3,546.5	3,466.7	8.6	13.8	126.68	357.7	-701.0	967.9	952.2	15.75	61.476		
3,800.0	3,781.7	3,642.2	3,559.6	8.9	14.3	126.61	365.9	-722.9	996.8	980.6	16.20	61.512		
3,900.0	3,881.1	3,738.0	3,652.4	9.1	14.7	126.54	374.2	-744.9	1,025.7	1,009.0	16.66	61.546		
4,000.0	3,980.5	3,833.7	3,745.2	9.4	15.2	126.48	382.4	-766.8	1,054.5	1,037.4	17.12	61.578		
4,100.0	4,079.8	3,929.4	3,838.0	9.7	15.6	126.42	390.7	-788.8	1,083.4	1,065.8	17.58	61.608		

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

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-17D (Oxy I21 pad) - DD - Plan #1													Offset Site Error: 0.0 ft	
Survey Program: 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	-32.52	113.3	-72.2	134.3					
100.0	100.0	100.0	100.0	0.1	0.1	-32.52	113.3	-72.2	134.3	134.1	0.30	452.802		
200.0	200.0	200.0	200.0	0.3	0.3	-32.52	113.3	-72.2	134.3	133.7	0.65	208.044	CC, ES	
300.0	300.0	297.3	297.3	0.5	0.5	-32.85	113.7	-73.4	135.3	134.4	0.99	136.617		
400.0	400.0	394.5	394.4	0.7	0.7	-33.81	114.9	-76.9	138.4	137.0	1.34	103.436		
500.0	500.0	491.4	491.1	0.8	0.9	-35.31	116.8	-82.8	143.5	141.8	1.69	85.016		
600.0	600.0	588.0	587.3	1.0	1.1	-37.23	119.6	-90.9	150.7	148.7	2.04	73.903		
700.0	700.0	684.0	682.7	1.2	1.3	132.94	123.1	-101.2	161.2	158.8	2.41	66.797		
800.0	799.9	779.3	777.1	1.4	1.6	131.36	127.3	-113.8	175.7	172.9	2.78	63.135		
900.0	899.7	873.6	870.1	1.6	1.9	130.18	132.3	-128.3	194.1	190.9	3.16	61.355		
1,000.0	999.3	966.7	961.6	1.8	2.3	129.34	137.9	-144.9	216.2	212.6	3.56	60.752	SF	
1,100.0	1,098.7	1,058.6	1,051.4	2.0	2.6	128.88	144.1	-163.2	241.6	237.7	3.97	60.798		
1,200.0	1,198.0	1,149.3	1,139.6	2.2	3.0	128.36	150.9	-183.4	269.2	264.7	4.40	61.144		
1,300.0	1,297.4	1,238.9	1,226.2	2.5	3.5	127.74	158.3	-205.2	298.7	293.9	4.84	61.748		
1,400.0	1,396.8	1,327.3	1,311.0	2.7	3.9	127.06	166.2	-228.6	330.3	325.0	5.28	62.564		
1,500.0	1,496.1	1,414.3	1,393.9	3.0	4.4	126.35	174.6	-253.5	363.8	358.1	5.72	63.559		
1,600.0	1,595.5	1,500.0	1,475.0	3.2	4.9	125.64	183.5	-279.8	399.3	393.1	6.17	64.701		
1,700.0	1,694.9	1,584.2	1,554.1	3.5	5.5	124.93	192.8	-307.2	436.8	430.1	6.62	65.947		
1,800.0	1,794.3	1,666.9	1,631.1	3.7	6.1	124.24	202.5	-335.8	476.1	469.0	7.07	67.301		
1,900.0	1,893.6	1,748.1	1,706.1	4.0	6.7	123.57	212.5	-365.4	517.3	509.8	7.52	68.749		
2,000.0	1,993.0	1,827.8	1,779.0	4.2	7.3	122.92	222.8	-395.8	560.3	552.4	7.97	70.278		
2,100.0	2,092.4	1,900.0	1,844.4	4.5	7.9	122.35	232.6	-424.7	605.2	596.8	8.40	72.027		
2,200.0	2,191.8	1,982.5	1,918.5	4.7	8.6	121.72	244.2	-459.1	651.7	642.8	8.86	73.519		
2,300.0	2,291.1	2,057.5	1,985.1	5.0	9.2	121.16	255.3	-491.7	699.9	690.6	9.31	75.205		
2,400.0	2,390.5	2,130.8	2,049.6	5.2	9.9	120.63	266.4	-524.7	749.8	740.1	9.75	76.939		
2,500.0	2,489.9	2,200.0	2,109.9	5.5	10.6	120.15	277.4	-557.0	801.3	791.1	10.17	78.774		
2,600.0	2,589.2	2,272.7	2,172.5	5.8	11.3	119.65	289.2	-592.0	854.3	843.7	10.61	80.501		
2,700.0	2,688.6	2,341.3	2,230.9	6.0	12.0	119.20	300.7	-626.0	908.8	897.8	11.04	82.329		
2,800.0	2,788.0	2,417.5	2,295.2	6.3	12.8	118.73	313.9	-664.8	964.6	953.1	11.48	83.989		
2,900.0	2,887.4	2,500.1	2,364.9	6.5	13.7	118.26	328.1	-706.9	1,020.5	1,008.6	11.94	85.433		
3,000.0	2,986.7	2,582.8	2,434.5	6.8	14.5	117.85	342.4	-749.0	1,076.5	1,064.1	12.40	86.780		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-1D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		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	146.92	-25.1	16.4	30.0					
100.0	100.0	100.0	100.0	0.1	0.1	146.92	-25.1	16.4	30.0	29.7	0.30	101.068		
200.0	200.0	200.0	200.0	0.3	0.3	146.92	-25.1	16.4	30.0	29.3	0.65	46.437		
300.0	300.0	300.0	300.0	0.5	0.5	146.92	-25.1	16.4	30.0	29.0	0.99	30.143 CC, ES		
400.0	400.0	399.4	399.3	0.7	0.7	148.35	-26.4	16.3	31.0	29.7	1.34	23.105		
500.0	500.0	498.6	498.5	0.8	0.9	152.08	-30.3	16.0	34.3	32.6	1.69	20.238		
600.0	600.0	597.5	597.2	1.0	1.1	156.90	-36.7	15.6	40.0	37.9	2.05	19.511 SF		
700.0	700.0	696.2	695.5	1.2	1.3	-26.80	-45.6	15.1	47.1	44.7	2.40	19.647		
800.0	799.9	794.7	793.3	1.4	1.5	-23.95	-57.1	14.4	54.4	51.7	2.75	19.790		
900.0	899.7	893.0	890.6	1.6	1.8	-21.96	-71.0	13.5	61.9	58.8	3.10	19.930		
1,000.0	999.3	991.0	987.3	1.8	2.1	-20.56	-87.3	12.5	69.4	65.9	3.46	20.048		
1,100.0	1,098.7	1,088.9	1,083.3	2.0	2.5	-19.44	-106.1	11.3	77.6	73.8	3.82	20.300		
1,200.0	1,198.0	1,186.3	1,178.3	2.2	2.9	-18.16	-127.3	10.0	88.2	84.0	4.18	21.090		
1,300.0	1,297.4	1,283.0	1,272.2	2.5	3.3	-16.84	-150.7	8.6	101.3	96.8	4.54	22.325		
1,400.0	1,396.8	1,379.1	1,364.8	2.7	3.7	-15.59	-176.3	7.0	116.9	112.0	4.89	23.911		
1,500.0	1,496.1	1,476.5	1,458.2	3.0	4.2	-14.47	-204.0	5.3	134.4	129.2	5.24	25.661		
1,600.0	1,595.5	1,574.9	1,552.4	3.2	4.7	-13.58	-232.2	3.5	152.2	146.6	5.59	27.219		
1,700.0	1,694.9	1,673.3	1,646.7	3.5	5.2	-12.88	-260.4	1.8	169.9	164.0	5.94	28.600		
1,800.0	1,794.3	1,771.7	1,740.9	3.7	5.7	-12.31	-288.6	0.0	187.7	181.4	6.29	29.831		
1,900.0	1,893.6	1,870.1	1,835.2	4.0	6.3	-11.85	-316.8	-1.7	205.5	198.8	6.64	30.935		
2,000.0	1,993.0	1,968.5	1,929.4	4.2	6.8	-11.45	-345.0	-3.5	223.3	216.3	6.99	31.931		
2,100.0	2,092.4	2,066.9	2,023.7	4.5	7.3	-11.11	-373.1	-5.2	241.1	233.8	7.34	32.834		
2,200.0	2,191.8	2,165.3	2,117.9	4.7	7.8	-10.82	-401.3	-7.0	258.9	251.2	7.69	33.656		
2,300.0	2,291.1	2,263.7	2,212.2	5.0	8.3	-10.57	-429.5	-8.7	276.7	268.7	8.04	34.407		
2,400.0	2,390.5	2,362.0	2,306.4	5.2	8.8	-10.35	-457.7	-10.5	294.6	286.2	8.39	35.097		
2,500.0	2,489.9	2,460.4	2,400.7	5.5	9.3	-10.15	-485.9	-12.2	312.4	303.6	8.74	35.732		
2,600.0	2,589.2	2,558.8	2,494.9	5.8	9.9	-9.98	-514.1	-14.0	330.2	321.1	9.09	36.318		
2,700.0	2,688.6	2,657.2	2,589.2	6.0	10.4	-9.82	-542.2	-15.7	348.1	338.6	9.44	36.862		
2,800.0	2,788.0	2,755.6	2,683.4	6.3	10.9	-9.68	-570.4	-17.5	365.9	356.1	9.79	37.367		
2,900.0	2,887.4	2,854.0	2,777.7	6.5	11.4	-9.55	-598.6	-19.2	383.7	373.6	10.14	37.837		
3,000.0	2,986.7	2,952.4	2,872.0	6.8	11.9	-9.43	-626.8	-21.0	401.6	391.1	10.49	38.277		
3,100.0	3,086.1	3,050.8	2,966.2	7.1	12.4	-9.32	-655.0	-22.7	419.4	408.6	10.84	38.688		
3,200.0	3,185.5	3,149.2	3,060.5	7.3	13.0	-9.23	-683.2	-24.5	437.3	426.1	11.19	39.074		
3,300.0	3,284.9	3,247.6	3,154.7	7.6	13.5	-9.14	-711.4	-26.2	455.1	443.6	11.54	39.436		
3,400.0	3,384.2	3,346.0	3,249.0	7.8	14.0	-9.05	-739.5	-28.0	472.9	461.1	11.89	39.778		
3,500.0	3,483.6	3,444.4	3,343.2	8.1	14.5	-8.97	-767.7	-29.7	490.8	478.6	12.24	40.100		
3,600.0	3,583.0	3,542.8	3,437.5	8.4	15.0	-8.90	-795.9	-31.5	508.6	496.0	12.59	40.404		
3,700.0	3,682.3	3,641.1	3,531.7	8.6	15.6	-8.83	-824.1	-33.2	526.5	513.5	12.94	40.692		
3,800.0	3,781.7	3,739.5	3,626.0	8.9	16.1	-8.77	-852.3	-35.0	544.3	531.0	13.29	40.964		
3,900.0	3,881.1	3,837.9	3,720.2	9.1	16.6	-8.71	-880.5	-36.7	562.2	548.5	13.64	41.223		
4,000.0	3,980.5	3,936.3	3,814.5	9.4	17.1	-8.66	-908.7	-38.5	580.0	566.0	13.99	41.469		
4,100.0	4,079.8	4,034.7	3,908.7	9.7	17.6	-8.60	-936.8	-40.2	597.9	583.5	14.34	41.703		
4,200.0	4,179.2	4,133.1	4,003.0	9.9	18.2	-8.55	-965.0	-42.0	615.7	601.0	14.69	41.926		
4,300.0	4,278.6	4,231.5	4,097.2	10.2	18.7	-8.51	-993.2	-43.7	633.6	618.6	15.04	42.139		
4,400.0	4,378.0	4,329.9	4,191.5	10.4	19.2	-8.46	-1,021.4	-45.4	651.4	636.1	15.39	42.342		
4,500.0	4,477.3	4,428.3	4,285.7	10.7	19.7	-8.42	-1,049.6	-47.2	669.3	653.6	15.73	42.536		
4,600.0	4,576.7	4,526.7	4,380.0	11.0	20.3	-8.38	-1,077.8	-48.9	687.1	671.1	16.08	42.721		
4,700.0	4,676.1	4,625.1	4,474.2	11.2	20.8	-8.35	-1,106.0	-50.7	705.0	688.6	16.43	42.899		
4,800.0	4,775.4	4,723.5	4,568.5	11.5	21.3	-8.31	-1,134.1	-52.4	722.8	706.1	16.78	43.069		
4,900.0	4,874.8	4,821.9	4,662.8	11.7	21.8	-8.28	-1,162.3	-54.2	740.7	723.6	17.13	43.233		
5,000.0	4,974.2	4,920.2	4,757.0	12.0	22.3	-8.24	-1,190.5	-55.9	758.6	741.1	17.48	43.389		
5,100.0	5,073.6	5,018.6	4,851.3	12.3	22.9	-8.21	-1,218.7	-57.7	776.4	758.6	17.83	43.540		

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

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-1D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
5,200.0	5,172.9	5,117.0	4,945.5	12.5	23.4	-8.18	-1,246.9	-59.4	794.3	776.1	18.18	43.685		
5,300.0	5,272.3	5,215.4	5,039.8	12.8	23.9	-8.16	-1,275.1	-61.2	812.1	793.6	18.53	43.825		
5,400.0	5,371.7	5,313.8	5,134.0	13.0	24.4	-8.13	-1,303.3	-62.9	830.0	811.1	18.88	43.959		
5,500.0	5,471.1	5,412.2	5,228.3	13.3	24.9	-8.10	-1,331.4	-64.7	847.8	828.6	19.23	44.089		
5,600.0	5,570.4	5,510.6	5,322.5	13.6	25.5	-8.08	-1,359.6	-66.4	865.7	846.1	19.58	44.214		
5,700.0	5,669.8	5,609.0	5,416.8	13.8	26.0	-8.05	-1,387.8	-68.2	883.5	863.6	19.93	44.334		
5,800.0	5,769.2	5,707.4	5,511.0	14.1	26.5	-8.03	-1,416.0	-69.9	901.4	881.1	20.28	44.450		
5,900.0	5,868.5	5,805.8	5,605.3	14.4	27.0	-8.01	-1,444.2	-71.7	919.2	898.6	20.63	44.563		
6,000.0	5,967.9	5,904.2	5,699.5	14.6	27.5	-7.99	-1,472.4	-73.4	937.1	916.1	20.98	44.672		
6,100.0	6,067.3	6,022.0	5,812.6	14.9	28.1	-7.97	-1,505.4	-75.5	954.4	933.0	21.36	44.677		
6,200.0	6,166.7	6,154.2	5,940.6	15.1	28.7	-7.96	-1,538.4	-77.5	968.5	946.7	21.77	44.486		
6,300.0	6,266.0	6,287.6	6,070.8	15.4	29.3	-7.97	-1,567.3	-79.3	979.2	957.0	22.18	44.141		
6,400.0	6,365.4	6,421.8	6,202.7	15.7	29.7	-8.00	-1,591.8	-80.8	986.4	963.8	22.60	43.649		
6,500.0	6,464.8	6,556.5	6,336.0	15.9	30.1	-8.05	-1,611.6	-82.1	990.3	967.3	23.01	43.045		
6,600.0	6,564.4	6,691.4	6,470.0	16.1	30.4	-8.09	-1,626.8	-83.0	992.8	969.4	23.39	42.447		
6,700.0	6,664.2	6,826.4	6,604.6	16.3	30.6	-8.12	-1,637.3	-83.7	994.3	970.6	23.76	41.851		
6,800.0	6,764.1	6,961.5	6,739.6	16.5	30.8	-8.14	-1,643.0	-84.0	994.9	970.8	24.12	41.257		
6,900.0	6,864.1	7,086.1	6,864.1	16.6	30.9	179.69	-1,644.2	-84.1	994.8	970.3	24.45	40.686		
7,000.0	6,964.1	7,186.1	6,964.1	16.7	31.0	179.69	-1,644.2	-84.1	994.8	970.0	24.80	40.116		
7,100.0	7,064.1	7,286.1	7,064.1	16.8	31.0	179.69	-1,644.2	-84.1	994.8	969.6	25.15	39.561		
7,200.0	7,164.1	7,386.1	7,164.1	17.0	31.1	179.69	-1,644.2	-84.1	994.8	969.3	25.49	39.021		
7,300.0	7,264.1	7,486.1	7,264.1	17.1	31.2	179.69	-1,644.2	-84.1	994.8	968.9	25.84	38.496		
7,400.0	7,364.1	7,586.1	7,364.1	17.2	31.3	179.69	-1,644.2	-84.1	994.8	968.6	26.19	37.984		
7,500.0	7,464.1	7,686.1	7,464.1	17.4	31.3	179.69	-1,644.2	-84.1	994.8	968.2	26.54	37.486		
7,600.0	7,564.1	7,786.1	7,564.1	17.5	31.4	179.69	-1,644.2	-84.1	994.8	967.9	26.88	37.001		
7,700.0	7,664.1	7,886.1	7,664.1	17.6	31.5	179.69	-1,644.2	-84.1	994.8	967.5	27.23	36.528		
7,800.0	7,764.1	7,986.1	7,764.1	17.8	31.6	179.69	-1,644.2	-84.1	994.8	967.2	27.58	36.067		
7,900.0	7,864.1	8,086.1	7,864.1	17.9	31.6	179.69	-1,644.2	-84.1	994.8	966.8	27.93	35.618		
8,000.0	7,964.1	8,186.1	7,964.1	18.0	31.7	179.69	-1,644.2	-84.1	994.8	966.5	28.28	35.179		
8,100.0	8,064.1	8,286.1	8,064.1	18.2	31.8	179.69	-1,644.2	-84.1	994.8	966.1	28.62	34.752		
8,200.0	8,164.1	8,386.1	8,164.1	18.3	31.9	179.69	-1,644.2	-84.1	994.8	965.8	28.97	34.334		
8,300.0	8,264.1	8,486.1	8,264.1	18.4	32.0	179.69	-1,644.2	-84.1	994.8	965.4	29.32	33.926		
8,400.0	8,364.1	8,586.1	8,364.1	18.6	32.0	179.69	-1,644.2	-84.1	994.8	965.1	29.67	33.528		
8,500.0	8,464.1	8,686.1	8,464.1	18.7	32.1	179.69	-1,644.2	-84.1	994.8	964.7	30.02	33.139		
8,600.0	8,564.1	8,786.1	8,564.1	18.9	32.2	179.69	-1,644.2	-84.1	994.8	964.4	30.37	32.759		
8,700.0	8,664.1	8,886.1	8,664.1	19.0	32.3	179.69	-1,644.2	-84.1	994.8	964.0	30.71	32.388		
8,713.0	8,677.1	8,899.1	8,677.1	19.0	32.3	179.69	-1,644.2	-84.1	994.8	964.0	30.76	32.340		
8,740.5	8,704.6	8,906.0	8,684.0	19.1	32.3	179.69	-1,644.2	-84.1	995.0	964.2	30.82	32.284		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-2D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		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			
0.0	0.0	0.0	0.0	0.0	0.0	-24.81	67.7	-31.3	74.6					
100.0	100.0	100.0	100.0	0.1	0.1	-24.81	67.7	-31.3	74.6	74.3	0.30	251.555		
200.0	200.0	200.0	200.0	0.3	0.3	-24.81	67.7	-31.3	74.6	74.0	0.65	115.580		
300.0	300.0	301.8	301.8	0.5	0.5	-25.22	66.4	-31.3	73.4	72.4	1.00	73.513		
400.0	400.0	403.5	403.4	0.7	0.7	-26.54	62.3	-31.1	69.8	68.4	1.35	51.509		
500.0	500.0	504.9	504.5	0.8	0.9	-29.07	55.6	-30.9	63.8	62.1	1.72	37.145		
600.0	600.0	605.8	605.0	1.0	1.1	-33.49	46.2	-30.6	55.7	53.6	2.09	26.573		
700.0	700.0	706.3	704.9	1.2	1.4	132.11	34.3	-30.2	46.8	44.3	2.48	18.873		
800.0	799.9	806.6	804.1	1.4	1.7	123.08	19.7	-29.7	38.4	35.5	2.93	13.103		
900.0	899.7	906.6	902.5	1.6	2.0	109.96	2.6	-29.1	31.1	27.6	3.49	8.917		
1,000.0	999.3	1,006.2	1,000.3	1.8	2.4	90.75	-17.0	-28.4	25.9	21.7	4.16	6.215		
1,073.8	1,072.6	1,079.5	1,071.8	1.9	2.7	71.55	-33.0	-27.9	24.4	19.7	4.62	5.274 CC		
1,100.0	1,098.7	1,105.6	1,097.1	2.0	2.8	64.53	-39.0	-27.7	24.5	19.7	4.73	5.167 ES, SF		
1,200.0	1,198.0	1,204.8	1,193.6	2.2	3.2	39.30	-61.9	-26.9	28.7	23.8	4.92	5.838		
1,300.0	1,297.4	1,304.0	1,290.2	2.5	3.6	22.83	-84.9	-26.1	36.9	31.9	5.01	7.373		
1,400.0	1,396.8	1,403.2	1,386.7	2.7	4.1	12.80	-107.8	-25.3	47.0	41.8	5.16	9.102		
1,500.0	1,496.1	1,502.5	1,483.3	3.0	4.5	6.42	-130.8	-24.5	58.0	52.6	5.39	10.755		
1,600.0	1,595.5	1,601.7	1,579.8	3.2	4.9	2.10	-153.7	-23.7	69.4	63.8	5.66	12.258		
1,700.0	1,694.9	1,700.9	1,676.3	3.5	5.3	-0.98	-176.6	-22.9	81.2	75.2	5.97	13.604		
1,800.0	1,794.3	1,800.1	1,772.9	3.7	5.8	-3.28	-199.6	-22.2	93.1	86.8	6.29	14.805		
1,900.0	1,893.6	1,899.4	1,869.4	4.0	6.2	-5.05	-222.5	-21.4	105.1	98.5	6.62	15.879		
2,000.0	1,993.0	1,998.6	1,965.9	4.2	6.6	-6.47	-245.5	-20.6	117.2	110.3	6.96	16.842		
2,100.0	2,092.4	2,097.8	2,062.5	4.5	7.1	-7.61	-268.4	-19.8	129.4	122.1	7.31	17.710		
2,200.0	2,191.8	2,197.1	2,159.0	4.7	7.5	-8.56	-291.3	-19.0	141.6	134.0	7.66	18.494		
2,300.0	2,291.1	2,296.3	2,255.5	5.0	7.9	-9.36	-314.3	-18.2	153.9	145.9	8.01	19.207		
2,400.0	2,390.5	2,395.5	2,352.1	5.2	8.4	-10.04	-337.2	-17.4	166.1	157.8	8.37	19.857		
2,500.0	2,489.9	2,494.7	2,448.6	5.5	8.8	-10.63	-360.1	-16.6	178.4	169.7	8.72	20.452		
2,600.0	2,589.2	2,594.0	2,545.1	5.8	9.2	-11.14	-383.1	-15.9	190.7	181.6	9.08	20.998		
2,700.0	2,688.6	2,693.2	2,641.7	6.0	9.7	-11.59	-406.0	-15.1	203.0	193.6	9.44	21.501		
2,800.0	2,788.0	2,792.4	2,738.2	6.3	10.1	-11.98	-429.0	-14.3	215.4	205.6	9.80	21.966		
2,900.0	2,887.4	2,891.6	2,834.8	6.5	10.5	-12.34	-451.9	-13.5	227.7	217.5	10.17	22.397		
3,000.0	2,986.7	2,990.9	2,931.3	6.8	11.0	-12.66	-474.8	-12.7	240.1	229.5	10.53	22.798		
3,100.0	3,086.1	3,090.1	3,027.8	7.1	11.4	-12.94	-497.8	-11.9	252.4	241.5	10.89	23.171		
3,200.0	3,185.5	3,189.3	3,124.4	7.3	11.9	-13.20	-520.7	-11.1	264.8	253.5	11.26	23.520		
3,300.0	3,284.9	3,288.5	3,220.9	7.6	12.3	-13.44	-543.7	-10.4	277.1	265.5	11.62	23.846		
3,400.0	3,384.2	3,387.8	3,317.4	7.8	12.7	-13.66	-566.6	-9.6	289.5	277.5	11.99	24.152		
3,500.0	3,483.6	3,487.0	3,414.0	8.1	13.2	-13.86	-589.5	-8.8	301.9	289.5	12.35	24.440		
3,600.0	3,583.0	3,586.2	3,510.5	8.4	13.6	-14.04	-612.5	-8.0	314.2	301.5	12.72	24.710		
3,700.0	3,682.3	3,685.5	3,607.0	8.6	14.0	-14.21	-635.4	-7.2	326.6	313.5	13.08	24.966		
3,800.0	3,781.7	3,784.7	3,703.6	8.9	14.5	-14.37	-658.3	-6.4	339.0	325.5	13.45	25.207		
3,900.0	3,881.1	3,883.9	3,800.1	9.1	14.9	-14.51	-681.3	-5.6	351.4	337.6	13.81	25.435		
4,000.0	3,980.5	3,983.1	3,896.6	9.4	15.3	-14.65	-704.2	-4.8	363.8	349.6	14.18	25.651		
4,100.0	4,079.8	4,082.4	3,993.2	9.7	15.8	-14.78	-727.2	-4.1	376.1	361.6	14.55	25.856		
4,200.0	4,179.2	4,181.6	4,089.7	9.9	16.2	-14.90	-750.1	-3.3	388.5	373.6	14.91	26.051		
4,300.0	4,278.6	4,280.8	4,186.3	10.2	16.6	-15.01	-773.0	-2.5	400.9	385.6	15.28	26.236		
4,400.0	4,378.0	4,380.0	4,282.8	10.4	17.1	-15.11	-796.0	-1.7	413.3	397.7	15.65	26.412		
4,500.0	4,477.3	4,479.3	4,379.3	10.7	17.5	-15.21	-818.9	-0.9	425.7	409.7	16.02	26.581		
4,600.0	4,576.7	4,578.5	4,475.9	11.0	17.9	-15.30	-841.9	-0.1	438.1	421.7	16.38	26.741		
4,700.0	4,676.1	4,677.7	4,572.4	11.2	18.4	-15.39	-864.8	0.7	450.5	433.7	16.75	26.895		
4,800.0	4,775.4	4,776.9	4,668.9	11.5	18.8	-15.48	-887.7	1.4	462.9	445.8	17.12	27.042		
4,900.0	4,874.8	4,876.2	4,765.5	11.7	19.3	-15.55	-910.7	2.2	475.3	457.8	17.48	27.182		
5,000.0	4,974.2	4,975.4	4,862.0	12.0	19.7	-15.63	-933.6	3.0	487.7	469.8	17.85	27.317		

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

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-2D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error: 0.0 ft	
Survey Program: 0-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)				
5,100.0	5,073.6	5,074.6	4,958.5	12.3	20.1	-15.70	-956.5	3.8	500.1	481.8	18.22	27.446		
5,200.0	5,172.9	5,173.9	5,055.1	12.5	20.6	-15.77	-979.5	4.6	512.5	493.9	18.59	27.570		
5,300.0	5,272.3	5,273.1	5,151.6	12.8	21.0	-15.83	-1,002.4	5.4	524.9	505.9	18.96	27.689		
5,400.0	5,371.7	5,372.3	5,248.1	13.0	21.4	-15.90	-1,025.4	6.2	537.3	517.9	19.32	27.803		
5,500.0	5,471.1	5,471.5	5,344.7	13.3	21.9	-15.95	-1,048.3	7.0	549.7	530.0	19.69	27.914		
5,600.0	5,570.4	5,570.8	5,441.2	13.6	22.3	-16.01	-1,071.2	7.7	562.1	542.0	20.06	28.020		
5,700.0	5,669.8	5,670.0	5,537.8	13.8	22.7	-16.06	-1,094.2	8.5	574.5	554.0	20.43	28.122		
5,800.0	5,769.2	5,769.2	5,634.3	14.1	23.2	-16.12	-1,117.1	9.3	586.9	566.1	20.80	28.221		
5,900.0	5,868.5	5,868.4	5,730.8	14.4	23.6	-16.17	-1,140.1	10.1	599.3	578.1	21.16	28.316		
6,000.0	5,967.9	5,967.7	5,827.4	14.6	24.1	-16.21	-1,163.0	10.9	611.7	590.1	21.53	28.407		
6,100.0	6,067.3	6,066.9	5,923.9	14.9	24.5	-16.26	-1,185.9	11.7	624.1	602.2	21.90	28.496		
6,200.0	6,166.7	6,178.3	6,032.5	15.1	25.0	-16.32	-1,211.0	12.5	635.9	613.6	22.29	28.526		
6,300.0	6,266.0	6,297.8	6,149.6	15.4	25.4	-16.41	-1,234.5	13.3	644.8	622.1	22.70	28.406		
6,400.0	6,365.4	6,417.9	6,268.0	15.7	25.8	-16.54	-1,254.5	14.0	650.7	627.6	23.12	28.149		
6,500.0	6,464.8	6,538.2	6,387.2	15.9	26.1	-16.71	-1,270.8	14.6	653.6	630.1	23.53	27.781		
6,600.0	6,564.4	6,658.7	6,507.0	16.1	26.4	-16.85	-1,283.3	15.0	655.4	631.5	23.91	27.410		
6,700.0	6,664.2	6,779.2	6,627.2	16.3	26.6	-16.95	-1,292.0	15.3	656.6	632.3	24.27	27.049		
6,800.0	6,764.1	6,899.8	6,747.7	16.5	26.7	-17.01	-1,296.9	15.5	657.2	632.5	24.62	26.694		
6,900.0	6,864.1	7,016.2	6,864.1	16.6	26.8	170.81	-1,298.1	15.5	657.2	632.2	24.94	26.348		
7,000.0	6,964.1	7,116.2	6,964.1	16.7	26.9	170.81	-1,298.1	15.5	657.2	631.9	25.28	25.995		
7,100.0	7,064.1	7,216.2	7,064.1	16.8	27.0	170.81	-1,298.1	15.5	657.2	631.5	25.62	25.650		
7,200.0	7,164.1	7,316.2	7,164.1	17.0	27.0	170.81	-1,298.1	15.5	657.2	631.2	25.96	25.314		
7,300.0	7,264.1	7,416.2	7,264.1	17.1	27.1	170.81	-1,298.1	15.5	657.2	630.9	26.30	24.987		
7,400.0	7,364.1	7,516.2	7,364.1	17.2	27.2	170.81	-1,298.1	15.5	657.2	630.5	26.64	24.668		
7,500.0	7,464.1	7,616.2	7,464.1	17.4	27.3	170.81	-1,298.1	15.5	657.2	630.2	26.98	24.357		
7,600.0	7,564.1	7,716.2	7,564.1	17.5	27.4	170.81	-1,298.1	15.5	657.2	629.8	27.32	24.053		
7,700.0	7,664.1	7,816.2	7,664.1	17.6	27.5	170.81	-1,298.1	15.5	657.2	629.5	27.66	23.756		
7,800.0	7,764.1	7,916.2	7,764.1	17.8	27.6	170.81	-1,298.1	15.5	657.2	629.1	28.00	23.467		
7,900.0	7,864.1	8,016.2	7,864.1	17.9	27.6	170.81	-1,298.1	15.5	657.2	628.8	28.34	23.184		
8,000.0	7,964.1	8,116.2	7,964.1	18.0	27.7	170.81	-1,298.1	15.5	657.2	628.5	28.69	22.908		
8,100.0	8,064.1	8,216.2	8,064.1	18.2	27.8	170.81	-1,298.1	15.5	657.2	628.1	29.03	22.639		
8,200.0	8,164.1	8,316.2	8,164.1	18.3	27.9	170.81	-1,298.1	15.5	657.2	627.8	29.37	22.375		
8,300.0	8,264.1	8,416.2	8,264.1	18.4	28.0	170.81	-1,298.1	15.5	657.2	627.4	29.71	22.117		
8,400.0	8,364.1	8,516.2	8,364.1	18.6	28.1	170.81	-1,298.1	15.5	657.2	627.1	30.05	21.866		
8,500.0	8,464.1	8,616.2	8,464.1	18.7	28.2	170.81	-1,298.1	15.5	657.2	626.8	30.40	21.619		
8,600.0	8,564.1	8,716.2	8,564.1	18.9	28.3	170.81	-1,298.1	15.5	657.2	626.4	30.74	21.378		
8,700.0	8,664.1	8,816.2	8,664.1	19.0	28.4	170.81	-1,298.1	15.5	657.2	626.1	31.08	21.143		
8,722.2	8,686.3	8,838.4	8,686.3	19.0	28.4	170.81	-1,298.1	15.5	657.2	626.0	31.16	21.091		
8,740.5	8,704.6	8,846.1	8,694.0	19.1	28.4	170.81	-1,298.1	15.5	657.2	626.0	31.20	21.064		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-3D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	124.55	-5.8	8.5	10.3					
100.0	100.0	100.0	100.0	0.1	0.1	124.55	-5.8	8.5	10.3	10.0	0.30	34.637		
200.0	200.0	200.0	200.0	0.3	0.3	124.55	-5.8	8.5	10.3	9.6	0.65	15.914		
300.0	300.0	300.0	300.0	0.5	0.5	124.55	-5.8	8.5	10.3	9.3	0.99	10.330		
400.0	400.0	400.0	400.0	0.7	0.7	124.55	-5.8	8.5	10.3	8.9	1.34	7.647		
500.0	500.0	500.0	500.0	0.8	0.8	124.55	-5.8	8.5	10.3	8.6	1.69	6.070 CC, ES		
600.0	600.0	599.8	599.8	1.0	1.0	130.49	-7.1	8.3	11.0	8.9	2.04	5.374		
700.0	700.0	699.6	699.5	1.2	1.2	-47.85	-11.0	8.0	12.7	10.3	2.39	5.308 SF		
800.0	799.9	799.3	799.0	1.4	1.4	-41.15	-17.5	7.4	14.8	12.0	2.75	5.371		
900.0	899.7	898.9	898.2	1.6	1.6	-36.49	-26.6	6.6	17.1	13.9	3.11	5.477		
1,000.0	999.3	998.5	997.1	1.8	1.8	-33.26	-38.2	5.5	19.5	16.0	3.48	5.591		
1,100.0	1,098.7	1,098.0	1,095.5	2.0	2.1	-30.17	-52.3	4.2	22.6	18.7	3.86	5.853		
1,200.0	1,198.0	1,197.5	1,193.7	2.2	2.4	-25.91	-68.8	2.7	27.7	23.5	4.22	6.574		
1,300.0	1,297.4	1,297.4	1,292.1	2.5	2.7	-22.78	-85.6	1.2	33.3	28.7	4.58	7.282		
1,400.0	1,396.8	1,397.2	1,390.5	2.7	3.0	-20.55	-102.4	-0.3	39.0	34.0	4.93	7.905		
1,500.0	1,496.1	1,497.0	1,488.9	3.0	3.4	-18.89	-119.3	-1.8	44.7	39.4	5.29	8.453		
1,600.0	1,595.5	1,596.9	1,587.3	3.2	3.7	-17.60	-136.1	-3.4	50.4	44.8	5.64	8.938		
1,700.0	1,694.9	1,696.7	1,685.7	3.5	4.0	-16.58	-152.9	-4.9	56.2	50.2	5.99	9.369		
1,800.0	1,794.3	1,796.5	1,784.1	3.7	4.3	-15.75	-169.7	-6.4	61.9	55.6	6.35	9.755		
1,900.0	1,893.6	1,896.3	1,882.4	4.0	4.7	-15.06	-186.6	-8.0	67.7	61.0	6.70	10.102		
2,000.0	1,993.0	1,996.2	1,980.8	4.2	5.0	-14.47	-203.4	-9.5	73.5	66.4	7.06	10.416		
2,100.0	2,092.4	2,096.0	2,079.2	4.5	5.3	-13.98	-220.2	-11.0	79.3	71.9	7.41	10.701		
2,200.0	2,191.8	2,195.8	2,177.6	4.7	5.7	-13.55	-237.0	-12.6	85.1	77.3	7.76	10.960		
2,300.0	2,291.1	2,295.7	2,276.0	5.0	6.0	-13.17	-253.9	-14.1	90.9	82.8	8.12	11.197		
2,400.0	2,390.5	2,395.5	2,374.4	5.2	6.3	-12.84	-270.7	-15.6	96.7	88.2	8.47	11.416		
2,500.0	2,489.9	2,495.3	2,472.8	5.5	6.7	-12.55	-287.5	-17.1	102.5	93.7	8.82	11.616		
2,600.0	2,589.2	2,595.2	2,571.2	5.8	7.0	-12.29	-304.3	-18.7	108.3	99.1	9.18	11.802		
2,700.0	2,688.6	2,695.0	2,669.6	6.0	7.3	-12.06	-321.2	-20.2	114.1	104.6	9.53	11.974		
2,800.0	2,788.0	2,794.8	2,768.0	6.3	7.7	-11.85	-338.0	-21.7	119.9	110.1	9.88	12.134		
2,900.0	2,887.4	2,894.6	2,866.3	6.5	8.0	-11.65	-354.8	-23.3	125.8	115.5	10.24	12.284		
3,000.0	2,986.7	2,994.5	2,964.7	6.8	8.4	-11.48	-371.6	-24.8	131.6	121.0	10.59	12.423		
3,100.0	3,086.1	3,094.3	3,063.1	7.1	8.7	-11.32	-388.5	-26.3	137.4	126.4	10.94	12.553		
3,200.0	3,185.5	3,194.1	3,161.5	7.3	9.0	-11.17	-405.3	-27.9	143.2	131.9	11.30	12.676		
3,300.0	3,284.9	3,294.0	3,259.9	7.6	9.4	-11.04	-422.1	-29.4	149.0	137.4	11.65	12.791		
3,400.0	3,384.2	3,393.8	3,358.3	7.8	9.7	-10.91	-438.9	-30.9	154.8	142.8	12.00	12.899		
3,500.0	3,483.6	3,493.6	3,456.7	8.1	10.1	-10.79	-455.8	-32.4	160.7	148.3	12.36	13.001		
3,600.0	3,583.0	3,593.5	3,555.1	8.4	10.4	-10.69	-472.6	-34.0	166.5	153.8	12.71	13.098		
3,700.0	3,682.3	3,693.3	3,653.5	8.6	10.7	-10.58	-489.4	-35.5	172.3	159.2	13.06	13.189		
3,800.0	3,781.7	3,793.1	3,751.9	8.9	11.1	-10.49	-506.2	-37.0	178.1	164.7	13.42	13.276		
3,900.0	3,881.1	3,892.9	3,850.2	9.1	11.4	-10.40	-523.0	-38.6	184.0	170.2	13.77	13.358		
4,000.0	3,980.5	3,992.8	3,948.6	9.4	11.8	-10.32	-539.9	-40.1	189.8	175.7	14.12	13.436		
4,100.0	4,079.8	4,092.6	4,047.0	9.7	12.1	-10.24	-556.7	-41.6	195.6	181.1	14.48	13.511		
4,200.0	4,179.2	4,192.4	4,145.4	9.9	12.5	-10.17	-573.5	-43.2	201.4	186.6	14.83	13.582		
4,300.0	4,278.6	4,292.3	4,243.8	10.2	12.8	-10.10	-590.3	-44.7	207.3	192.1	15.18	13.649		
4,400.0	4,378.0	4,392.1	4,342.2	10.4	13.1	-10.03	-607.2	-46.2	213.1	197.5	15.54	13.714		
4,500.0	4,477.3	4,491.9	4,440.6	10.7	13.5	-9.97	-624.0	-47.7	218.9	203.0	15.89	13.775		
4,600.0	4,576.7	4,591.7	4,539.0	11.0	13.8	-9.91	-640.8	-49.3	224.7	208.5	16.24	13.834		
4,700.0	4,676.1	4,691.6	4,637.4	11.2	14.2	-9.86	-657.6	-50.8	230.6	214.0	16.60	13.891		
4,800.0	4,775.4	4,791.4	4,735.8	11.5	14.5	-9.80	-674.5	-52.3	236.4	219.4	16.95	13.945		
4,900.0	4,874.8	4,891.2	4,834.1	11.7	14.8	-9.75	-691.3	-53.9	242.2	224.9	17.30	13.997		
5,000.0	4,974.2	4,991.1	4,932.5	12.0	15.2	-9.70	-708.1	-55.4	248.0	230.4	17.66	14.047		
5,100.0	5,073.6	5,090.9	5,030.9	12.3	15.5	-9.66	-724.9	-56.9	253.9	235.8	18.01	14.095		

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

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-3D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		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)						
5,200.0	5,172.9	5,190.7	5,129.3	12.5	15.9	-9.61	-741.8	-58.5	259.7	241.3	18.36	14.141		
5,300.0	5,272.3	5,290.6	5,227.7	12.8	16.2	-9.57	-758.6	-60.0	265.5	246.8	18.72	14.185		
5,400.0	5,371.7	5,390.4	5,326.1	13.0	16.5	-9.53	-775.4	-61.5	271.3	252.3	19.07	14.228		
5,500.0	5,471.1	5,490.2	5,424.5	13.3	16.9	-9.49	-792.2	-63.0	277.2	257.7	19.42	14.269		
5,600.0	5,570.4	5,590.0	5,522.9	13.6	17.2	-9.46	-809.1	-64.6	283.0	263.2	19.78	14.309		
5,700.0	5,669.8	5,689.9	5,621.3	13.8	17.6	-9.42	-825.9	-66.1	288.8	268.7	20.13	14.347		
5,800.0	5,769.2	5,789.7	5,719.7	14.1	17.9	-9.39	-842.7	-67.6	294.6	274.2	20.48	14.384		
5,900.0	5,868.5	5,889.5	5,818.0	14.4	18.3	-9.35	-859.5	-69.2	300.5	279.6	20.84	14.420		
6,000.0	5,967.9	5,989.4	5,916.4	14.6	18.6	-9.32	-876.4	-70.7	306.3	285.1	21.19	14.454		
6,100.0	6,067.3	6,089.2	6,014.8	14.9	18.9	-9.29	-893.2	-72.2	312.1	290.6	21.54	14.488		
6,200.0	6,166.7	6,189.0	6,113.2	15.1	19.3	-9.26	-910.0	-73.8	318.0	296.1	21.90	14.520		
6,300.0	6,266.0	6,289.7	6,212.4	15.4	19.6	-9.24	-927.0	-75.3	323.8	301.5	22.25	14.550		
6,400.0	6,365.4	6,398.9	6,320.3	15.7	20.0	-9.24	-943.6	-76.8	327.9	305.3	22.62	14.495		
6,500.0	6,464.8	6,508.2	6,428.8	15.9	20.2	-9.31	-957.1	-78.0	329.4	306.4	23.00	14.325		
6,600.0	6,564.4	6,617.6	6,537.7	16.1	20.5	-9.37	-967.5	-79.0	330.2	306.8	23.36	14.137		
6,700.0	6,664.2	6,727.0	6,646.8	16.3	20.7	-9.42	-974.8	-79.7	330.7	307.0	23.70	13.951		
6,800.0	6,764.1	6,836.4	6,756.1	16.5	20.8	-9.44	-979.0	-80.0	330.9	306.8	24.03	13.768		
6,900.0	6,864.1	6,944.4	6,864.1	16.6	20.9	178.39	-980.2	-80.1	330.9	306.5	24.35	13.586		
7,000.0	6,964.1	7,044.4	6,964.1	16.7	21.0	178.39	-980.2	-80.1	330.9	306.2	24.70	13.396		
7,100.0	7,064.1	7,144.4	7,064.1	16.8	21.1	178.39	-980.2	-80.1	330.9	305.8	25.04	13.211		
7,200.0	7,164.1	7,244.4	7,164.1	17.0	21.2	178.39	-980.2	-80.1	330.9	305.5	25.39	13.031		
7,300.0	7,264.1	7,344.4	7,264.1	17.1	21.3	178.39	-980.2	-80.1	330.9	305.1	25.74	12.856		
7,400.0	7,364.1	7,444.4	7,364.1	17.2	21.4	178.39	-980.2	-80.1	330.9	304.8	26.08	12.686		
7,500.0	7,464.1	7,544.4	7,464.1	17.4	21.6	178.39	-980.2	-80.1	330.9	304.4	26.43	12.519		
7,600.0	7,564.1	7,644.4	7,564.1	17.5	21.7	178.39	-980.2	-80.1	330.9	304.1	26.77	12.358		
7,700.0	7,664.1	7,744.4	7,664.1	17.6	21.8	178.39	-980.2	-80.1	330.9	303.7	27.12	12.200		
7,800.0	7,764.1	7,844.4	7,764.1	17.8	21.9	178.39	-980.2	-80.1	330.9	303.4	27.47	12.046		
7,900.0	7,864.1	7,944.4	7,864.1	17.9	22.0	178.39	-980.2	-80.1	330.9	303.0	27.81	11.896		
8,000.0	7,964.1	8,044.4	7,964.1	18.0	22.1	178.39	-980.2	-80.1	330.9	302.7	28.16	11.750		
8,100.0	8,064.1	8,144.4	8,064.1	18.2	22.2	178.39	-980.2	-80.1	330.9	302.4	28.51	11.607		
8,200.0	8,164.1	8,244.4	8,164.1	18.3	22.3	178.39	-980.2	-80.1	330.9	302.0	28.85	11.467		
8,300.0	8,264.1	8,344.4	8,264.1	18.4	22.4	178.39	-980.2	-80.1	330.9	301.7	29.20	11.331		
8,400.0	8,364.1	8,444.4	8,364.1	18.6	22.5	178.39	-980.2	-80.1	330.9	301.3	29.55	11.198		
8,500.0	8,464.1	8,544.4	8,464.1	18.7	22.7	178.39	-980.2	-80.1	330.9	301.0	29.89	11.068		
8,600.0	8,564.1	8,644.4	8,564.1	18.9	22.8	178.39	-980.2	-80.1	330.9	300.6	30.24	10.941		
8,700.0	8,664.1	8,744.4	8,664.1	19.0	22.9	178.39	-980.2	-80.1	330.9	300.3	30.59	10.817		
8,724.8	8,689.0	8,769.2	8,689.0	19.0	22.9	178.39	-980.2	-80.1	330.9	300.2	30.67	10.787		
8,740.5	8,704.6	8,779.2	8,699.0	19.1	22.9	178.39	-980.2	-80.1	330.9	300.2	30.72	10.773		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-5D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			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	-32.54	12.4	-7.9	14.7					
100.0	100.0	100.0	100.0	0.1	0.1	-32.54	12.4	-7.9	14.7	14.4	0.30	49.509		
200.0	200.0	200.0	200.0	0.3	0.3	-32.54	12.4	-7.9	14.7	14.0	0.65	22.747		
300.0	300.0	300.0	300.0	0.5	0.5	-32.54	12.4	-7.9	14.7	13.7	0.99	14.766		
400.0	400.0	400.0	400.0	0.7	0.7	-32.54	12.4	-7.9	14.7	13.3	1.34	10.931		
500.0	500.0	500.0	500.0	0.8	0.8	-32.54	12.4	-7.9	14.7	13.0	1.69	8.677		
600.0	600.0	600.0	600.0	1.0	1.0	-32.54	12.4	-7.9	14.7	12.6	2.04	7.194 CC		
700.0	700.0	700.3	700.3	1.2	1.2	139.39	11.1	-8.2	14.7	12.3	2.39	6.161		
800.0	799.9	800.6	800.5	1.4	1.4	138.71	7.2	-8.9	14.9	12.1	2.75	5.420		
900.0	899.7	900.8	900.5	1.6	1.6	137.67	0.8	-10.2	15.2	12.0	3.11	4.870 ES		
1,000.0	999.3	1,000.8	1,000.2	1.8	1.8	140.41	-6.6	-11.6	16.7	13.2	3.48	4.797 SF		
1,100.0	1,098.7	1,100.7	1,099.8	2.0	2.0	146.08	-13.9	-13.1	19.8	16.0	3.84	5.164		
1,200.0	1,198.0	1,200.6	1,199.5	2.2	2.2	150.30	-21.3	-14.5	23.2	19.0	4.20	5.526		
1,300.0	1,297.4	1,300.6	1,299.1	2.5	2.4	153.43	-28.6	-16.0	26.7	22.1	4.56	5.855		
1,400.0	1,396.8	1,400.5	1,398.8	2.7	2.6	155.84	-36.0	-17.4	30.3	25.3	4.92	6.150		
1,500.0	1,496.1	1,500.4	1,498.4	3.0	2.8	157.74	-43.3	-18.9	33.8	28.6	5.27	6.415		
1,600.0	1,595.5	1,600.4	1,598.1	3.2	3.0	159.27	-50.7	-20.4	37.4	31.8	5.63	6.652		
1,700.0	1,694.9	1,700.3	1,697.7	3.5	3.2	160.53	-58.0	-21.8	41.1	35.1	5.98	6.866		
1,800.0	1,794.3	1,800.2	1,797.4	3.7	3.4	161.59	-65.4	-23.3	44.7	38.4	6.34	7.059		
1,900.0	1,893.6	1,900.2	1,897.0	4.0	3.6	162.49	-72.7	-24.7	48.4	41.7	6.69	7.234		
2,000.0	1,993.0	2,000.1	1,996.7	4.2	3.9	163.26	-80.1	-26.2	52.1	45.0	7.04	7.393		
2,100.0	2,092.4	2,100.0	2,096.3	4.5	4.1	163.93	-87.5	-27.6	55.7	48.4	7.40	7.538		
2,200.0	2,191.8	2,199.9	2,196.0	4.7	4.3	164.52	-94.8	-29.1	59.4	51.7	7.75	7.670		
2,300.0	2,291.1	2,299.9	2,295.6	5.0	4.5	165.04	-102.2	-30.5	63.1	55.0	8.10	7.793		
2,400.0	2,390.5	2,399.8	2,395.3	5.2	4.7	165.50	-109.5	-32.0	66.8	58.4	8.45	7.905		
2,500.0	2,489.9	2,499.7	2,494.9	5.5	4.9	165.91	-116.9	-33.4	70.5	61.7	8.81	8.009		
2,600.0	2,589.2	2,599.7	2,594.6	5.8	5.2	166.28	-124.2	-34.9	74.2	65.1	9.16	8.105		
2,700.0	2,688.6	2,699.6	2,694.2	6.0	5.4	166.62	-131.6	-36.3	77.9	68.4	9.51	8.195		
2,800.0	2,788.0	2,799.5	2,793.9	6.3	5.6	166.92	-138.9	-37.8	81.7	71.8	9.86	8.278		
2,900.0	2,887.4	2,899.5	2,893.5	6.5	5.8	167.20	-146.3	-39.2	85.4	75.2	10.22	8.356		
3,000.0	2,986.7	2,999.4	2,993.2	6.8	6.0	167.46	-153.6	-40.7	89.1	78.5	10.57	8.429		
3,100.0	3,086.1	3,099.3	3,092.8	7.1	6.2	167.69	-161.0	-42.1	92.8	81.9	10.92	8.498		
3,200.0	3,185.5	3,199.2	3,192.5	7.3	6.5	167.91	-168.4	-43.6	96.5	85.2	11.27	8.562		
3,300.0	3,284.9	3,299.2	3,292.1	7.6	6.7	168.11	-175.7	-45.0	100.2	88.6	11.62	8.622		
3,400.0	3,384.2	3,399.1	3,391.8	7.8	6.9	168.30	-183.1	-46.5	104.0	92.0	11.98	8.679		
3,500.0	3,483.6	3,499.0	3,491.4	8.1	7.1	168.47	-190.4	-47.9	107.7	95.3	12.33	8.733		
3,600.0	3,583.0	3,599.0	3,591.1	8.4	7.3	168.63	-197.8	-49.4	111.4	98.7	12.68	8.784		
3,700.0	3,682.3	3,698.9	3,690.7	8.6	7.5	168.78	-205.1	-50.8	115.1	102.1	13.03	8.833		
3,800.0	3,781.7	3,798.8	3,790.4	8.9	7.8	168.93	-212.5	-52.3	118.8	105.5	13.39	8.878		
3,900.0	3,881.1	3,898.8	3,890.0	9.1	8.0	169.06	-219.8	-53.7	122.6	108.8	13.74	8.922		
4,000.0	3,980.5	3,998.7	3,989.7	9.4	8.2	169.19	-227.2	-55.2	126.3	112.2	14.09	8.963		
4,100.0	4,079.8	4,098.6	4,089.3	9.7	8.4	169.30	-234.5	-56.6	130.0	115.6	14.44	9.003		
4,200.0	4,179.2	4,198.5	4,188.9	9.9	8.6	169.42	-241.9	-58.1	133.7	119.0	14.79	9.040		
4,300.0	4,278.6	4,298.5	4,288.6	10.2	8.8	169.52	-249.2	-59.5	137.5	122.3	15.15	9.076		
4,400.0	4,378.0	4,398.4	4,388.2	10.4	9.1	169.62	-256.6	-61.0	141.2	125.7	15.50	9.110		
4,500.0	4,477.3	4,498.3	4,487.9	10.7	9.3	169.72	-264.0	-62.5	144.9	129.1	15.85	9.143		
4,600.0	4,576.7	4,598.3	4,587.5	11.0	9.5	169.81	-271.3	-63.9	148.7	132.5	16.20	9.174		
4,700.0	4,676.1	4,698.2	4,687.2	11.2	9.7	169.89	-278.7	-65.4	152.4	135.8	16.56	9.204		
4,800.0	4,775.4	4,798.1	4,786.8	11.5	9.9	169.97	-286.0	-66.8	156.1	139.2	16.91	9.233		
4,900.0	4,874.8	4,898.1	4,886.5	11.7	10.1	170.05	-293.4	-68.3	159.8	142.6	17.26	9.261		
5,000.0	4,974.2	4,998.0	4,986.1	12.0	10.4	170.13	-300.7	-69.7	163.6	146.0	17.61	9.287		
5,100.0	5,073.6	5,097.9	5,085.8	12.3	10.6	170.20	-308.1	-71.2	167.3	149.3	17.96	9.313		

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

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-5D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error: 0.0 ft	
Survey Program: 0-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			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		
5,200.0	5,172.9	5,197.9	5,185.4	12.5	10.8	170.27	-315.4	-72.6	171.0	152.7	18.32	9.337		
5,300.0	5,272.3	5,297.8	5,285.1	12.8	11.0	170.33	-322.8	-74.1	174.8	156.1	18.67	9.361		
5,400.0	5,371.7	5,397.7	5,384.7	13.0	11.2	170.39	-330.1	-75.5	178.5	159.5	19.02	9.384		
5,500.0	5,471.1	5,497.6	5,484.4	13.3	11.5	170.45	-337.5	-77.0	182.2	162.8	19.37	9.406		
5,600.0	5,570.4	5,597.6	5,584.0	13.6	11.7	170.51	-344.9	-78.4	186.0	166.2	19.73	9.427		
5,700.0	5,669.8	5,697.5	5,683.7	13.8	11.9	170.57	-352.2	-79.9	189.7	169.6	20.08	9.447		
5,800.0	5,769.2	5,794.1	5,780.1	14.1	12.1	170.65	-358.7	-81.2	194.0	173.6	20.42	9.500		
5,900.0	5,868.5	5,889.1	5,875.0	14.4	12.3	170.88	-363.0	-82.0	200.7	179.9	20.76	9.668		
6,000.0	5,967.9	5,983.7	5,969.6	14.6	12.4	171.23	-364.8	-82.4	209.7	188.6	21.08	9.948		
6,100.0	6,067.3	6,081.5	6,067.3	14.9	12.5	171.66	-365.0	-82.4	220.7	199.3	21.41	10.306		
6,200.0	6,166.7	6,180.8	6,166.7	15.1	12.7	172.06	-365.0	-82.4	231.7	210.0	21.74	10.658		
6,300.0	6,266.0	6,280.2	6,266.0	15.4	12.8	172.42	-365.0	-82.4	242.8	220.7	22.08	10.998		
6,400.0	6,365.4	6,379.6	6,365.4	15.7	13.0	172.75	-365.0	-82.4	253.9	231.5	22.41	11.328		
6,500.0	6,464.8	6,479.0	6,464.8	15.9	13.1	173.06	-365.0	-82.4	264.8	242.1	22.76	11.638		
6,600.0	6,564.4	6,578.6	6,564.4	16.1	13.3	173.30	-365.0	-82.4	273.6	250.5	23.10	11.846		
6,700.0	6,664.2	6,678.4	6,664.2	16.3	13.4	173.46	-365.0	-82.4	279.9	256.4	23.44	11.942		
6,800.0	6,764.1	6,778.3	6,764.1	16.5	13.6	173.55	-365.0	-82.4	283.5	259.7	23.76	11.930		
6,900.0	6,864.1	6,878.3	6,864.1	16.6	13.7	1.42	-365.0	-82.4	284.6	260.5	24.09	11.814		
7,000.0	6,964.1	6,978.3	6,964.1	16.7	13.9	1.42	-365.0	-82.4	284.6	260.1	24.43	11.646		
7,100.0	7,064.1	7,078.3	7,064.1	16.8	14.0	1.42	-365.0	-82.4	284.6	259.8	24.78	11.482		
7,200.0	7,164.1	7,178.3	7,164.1	17.0	14.2	1.42	-365.0	-82.4	284.6	259.4	25.13	11.323		
7,300.0	7,264.1	7,278.3	7,264.1	17.1	14.3	1.42	-365.0	-82.4	284.6	259.1	25.48	11.169		
7,400.0	7,364.1	7,378.3	7,364.1	17.2	14.5	1.42	-365.0	-82.4	284.6	258.7	25.83	11.018		
7,500.0	7,464.1	7,478.3	7,464.1	17.4	14.7	1.42	-365.0	-82.4	284.6	258.4	26.17	10.872		
7,600.0	7,564.1	7,578.3	7,564.1	17.5	14.8	1.42	-365.0	-82.4	284.6	258.0	26.52	10.729		
7,700.0	7,664.1	7,678.3	7,664.1	17.6	15.0	1.42	-365.0	-82.4	284.6	257.7	26.87	10.590		
7,800.0	7,764.1	7,778.3	7,764.1	17.8	15.1	1.42	-365.0	-82.4	284.6	257.3	27.22	10.455		
7,900.0	7,864.1	7,878.3	7,864.1	17.9	15.3	1.42	-365.0	-82.4	284.6	257.0	27.57	10.323		
8,000.0	7,964.1	7,978.3	7,964.1	18.0	15.4	1.42	-365.0	-82.4	284.6	256.6	27.91	10.194		
8,100.0	8,064.1	8,078.3	8,064.1	18.2	15.6	1.42	-365.0	-82.4	284.6	256.3	28.26	10.069		
8,200.0	8,164.1	8,178.3	8,164.1	18.3	15.8	1.42	-365.0	-82.4	284.6	255.9	28.61	9.946		
8,300.0	8,264.1	8,278.3	8,264.1	18.4	15.9	1.42	-365.0	-82.4	284.6	255.6	28.96	9.827		
8,400.0	8,364.1	8,378.3	8,364.1	18.6	16.1	1.42	-365.0	-82.4	284.6	255.3	29.31	9.710		
8,500.0	8,464.1	8,478.3	8,464.1	18.7	16.2	1.42	-365.0	-82.4	284.6	254.9	29.65	9.596		
8,600.0	8,564.1	8,578.3	8,564.1	18.9	16.4	1.42	-365.0	-82.4	284.6	254.6	30.00	9.484		
8,700.0	8,664.1	8,678.3	8,664.1	19.0	16.5	1.42	-365.0	-82.4	284.6	254.2	30.35	9.376		
8,740.5	8,704.6	8,718.8	8,704.6	19.1	16.6	1.42	-365.0	-82.4	284.6	254.1	30.49	9.332		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-6D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error: 0.0 ft			
Survey Program: 0-MWD															Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor				
0.0	0.0	300.0	300.0	0.0	0.0	-26.26	81.2	-40.1	90.6							
100.0	100.0	400.0	400.0	0.1	0.1	-26.26	81.2	-40.1	90.6	90.3	0.30	305.252				
200.0	200.0	500.0	500.0	0.3	0.3	-26.26	81.2	-40.1	90.6	89.9	0.65	140.251				
300.0	300.0	602.3	602.3	0.5	0.5	-26.03	80.2	-39.2	89.3	88.3	1.00	89.369				
400.0	400.0	704.5	704.4	0.7	0.7	-25.30	77.1	-36.5	85.4	84.1	1.35	63.166				
500.0	500.0	805.7	805.4	0.8	0.9	-23.98	72.1	-32.1	79.1	77.4	1.70	46.438				
600.0	600.0	905.5	904.9	1.0	1.1	-22.30	66.8	-27.4	72.3	70.3	2.05	35.211				
700.0	700.0	1,005.3	1,004.4	1.2	1.3	152.46	61.4	-22.7	66.8	64.3	2.42	27.639				
800.0	799.9	1,105.1	1,104.0	1.4	1.5	156.47	56.0	-18.0	63.7	61.0	2.78	22.949				
857.4	857.2	1,162.4	1,161.2	1.5	1.6	159.32	52.9	-15.3	63.3	60.3	2.99	21.166	CC, ES			
900.0	899.7	1,204.9	1,203.6	1.6	1.7	161.61	50.7	-13.3	63.5	60.4	3.15	20.190				
1,000.0	999.3	1,304.7	1,303.1	1.8	1.9	167.24	45.3	-8.5	66.4	62.9	3.52	18.848				
1,100.0	1,098.7	1,404.3	1,402.5	2.0	2.2	172.57	39.9	-3.8	71.7	67.8	3.90	18.373				
1,200.0	1,198.0	1,504.0	1,501.9	2.2	2.4	177.14	34.6	0.9	77.7	73.5	4.29	18.112				
1,300.0	1,297.4	1,603.6	1,601.3	2.5	2.6	-178.96	29.2	5.6	84.2	79.5	4.68	17.972				
1,400.0	1,396.8	1,703.3	1,700.7	2.7	2.8	-175.63	23.9	10.3	90.9	85.9	5.08	17.908				
1,500.0	1,496.1	1,802.6	1,799.7	3.0	3.0	-172.81	18.6	14.9	98.0	92.5	5.47	17.905	SF			
1,600.0	1,595.5	1,900.8	1,897.8	3.2	3.2	-171.22	14.7	18.3	106.2	100.4	5.84	18.182				
1,700.0	1,694.9	1,998.8	1,995.8	3.5	3.3	-170.94	12.7	20.1	115.8	109.7	6.18	18.732				
1,800.0	1,794.3	2,097.3	2,094.3	3.7	3.5	-171.58	12.4	20.3	126.7	120.2	6.51	19.455				
1,900.0	1,893.6	2,196.7	2,193.6	4.0	3.7	-172.26	12.4	20.3	137.8	130.9	6.84	20.136				
2,000.0	1,993.0	2,296.1	2,293.0	4.2	3.8	-172.84	12.4	20.3	148.8	141.7	7.17	20.751				
2,100.0	2,092.4	2,395.4	2,392.4	4.5	4.0	-173.34	12.4	20.3	159.9	152.4	7.51	21.308				
2,200.0	2,191.8	2,494.8	2,491.8	4.7	4.1	-173.77	12.4	20.3	171.1	163.2	7.84	21.815				
2,300.0	2,291.1	2,594.2	2,591.1	5.0	4.3	-174.16	12.4	20.3	182.2	174.0	8.18	22.278				
2,400.0	2,390.5	2,693.5	2,690.5	5.2	4.5	-174.49	12.4	20.3	193.3	184.8	8.51	22.703				
2,500.0	2,489.9	2,792.9	2,789.9	5.5	4.6	-174.79	12.4	20.3	204.4	195.6	8.85	23.093				
2,600.0	2,589.2	2,892.3	2,889.2	5.8	4.8	-175.06	12.4	20.3	215.6	206.4	9.19	23.454				
2,700.0	2,688.6	2,991.7	2,988.6	6.0	4.9	-175.31	12.4	20.3	226.7	217.2	9.53	23.787				
2,800.0	2,788.0	3,091.0	3,088.0	6.3	5.1	-175.53	12.4	20.3	237.9	228.0	9.87	24.096				
2,900.0	2,887.4	3,190.4	3,187.4	6.5	5.3	-175.73	12.4	20.3	249.0	238.8	10.21	24.384				
3,000.0	2,986.7	3,289.8	3,286.7	6.8	5.4	-175.91	12.4	20.3	260.2	249.6	10.55	24.652				
3,100.0	3,086.1	3,389.2	3,386.1	7.1	5.6	-176.08	12.4	20.3	271.3	260.4	10.90	24.902				
3,200.0	3,185.5	3,488.5	3,485.5	7.3	5.8	-176.23	12.4	20.3	282.5	271.3	11.24	25.137				
3,300.0	3,284.9	3,587.9	3,584.9	7.6	5.9	-176.38	12.4	20.3	293.7	282.1	11.58	25.357				
3,400.0	3,384.2	3,687.3	3,684.2	7.8	6.1	-176.51	12.4	20.3	304.8	292.9	11.92	25.564				
3,500.0	3,483.6	3,786.6	3,783.6	8.1	6.3	-176.63	12.4	20.3	316.0	303.7	12.27	25.759				
3,600.0	3,583.0	3,886.0	3,883.0	8.4	6.4	-176.75	12.4	20.3	327.1	314.5	12.61	25.943				
3,700.0	3,682.3	3,985.4	3,982.3	8.6	6.6	-176.86	12.4	20.3	338.3	325.4	12.95	26.117				
3,800.0	3,781.7	4,084.8	4,081.7	8.9	6.8	-176.96	12.4	20.3	349.5	336.2	13.30	26.281				
3,900.0	3,881.1	4,184.1	4,181.1	9.1	6.9	-177.05	12.4	20.3	360.6	347.0	13.64	26.437				
4,000.0	3,980.5	4,283.5	4,280.5	9.4	7.1	-177.14	12.4	20.3	371.8	357.8	13.99	26.585				
4,100.0	4,079.8	4,382.9	4,379.8	9.7	7.3	-177.22	12.4	20.3	383.0	368.7	14.33	26.725				
4,200.0	4,179.2	4,482.3	4,479.2	9.9	7.4	-177.30	12.4	20.3	394.2	379.5	14.67	26.859				
4,300.0	4,278.6	4,581.6	4,578.6	10.2	7.6	-177.38	12.4	20.3	405.3	390.3	15.02	26.986				
4,400.0	4,378.0	4,681.0	4,678.0	10.4	7.8	-177.45	12.4	20.3	416.5	401.1	15.36	27.108				
4,500.0	4,477.3	4,780.4	4,777.3	10.7	8.0	-177.51	12.4	20.3	427.7	412.0	15.71	27.224				
4,600.0	4,576.7	4,879.7	4,876.7	11.0	8.1	-177.58	12.4	20.3	438.8	422.8	16.05	27.334				
4,700.0	4,676.1	4,979.1	4,976.1	11.2	8.3	-177.64	12.4	20.3	450.0	433.6	16.40	27.440				
4,800.0	4,775.4	5,078.5	5,075.4	11.5	8.5	-177.69	12.4	20.3	461.2	444.4	16.75	27.542				
4,900.0	4,874.8	5,177.9	5,174.8	11.7	8.6	-177.75	12.4	20.3	472.4	455.3	17.09	27.639				
5,000.0	4,974.2	5,277.2	5,274.2	12.0	8.8	-177.80	12.4	20.3	483.5	466.1	17.44	27.732				

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

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-6D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
5,100.0	5,073.6	5,376.6	5,373.6	12.3	9.0	-177.85	12.4	20.3	494.7	476.9	17.78	27.822		
5,200.0	5,172.9	5,476.0	5,472.9	12.5	9.1	-177.90	12.4	20.3	505.9	487.8	18.13	27.907		
5,300.0	5,272.3	5,575.4	5,572.3	12.8	9.3	-177.94	12.4	20.3	517.1	498.6	18.47	27.990		
5,400.0	5,371.7	5,674.7	5,671.7	13.0	9.5	-177.99	12.4	20.3	528.2	509.4	18.82	28.070		
5,500.0	5,471.1	5,774.1	5,771.1	13.3	9.7	-178.03	12.4	20.3	539.4	520.2	19.16	28.146		
5,600.0	5,570.4	5,873.5	5,870.4	13.6	9.8	-178.07	12.4	20.3	550.6	531.1	19.51	28.220		
5,700.0	5,669.8	5,972.8	5,969.8	13.8	10.0	-178.11	12.4	20.3	561.8	541.9	19.86	28.291		
5,800.0	5,769.2	6,072.2	6,069.2	14.1	10.2	-178.14	12.4	20.3	572.9	552.7	20.20	28.360		
5,900.0	5,868.5	6,171.6	6,168.5	14.4	10.3	-178.18	12.4	20.3	584.1	563.6	20.55	28.426		
6,000.0	5,967.9	6,271.0	6,267.9	14.6	10.5	-178.21	12.4	20.3	595.3	574.4	20.89	28.490		
6,100.0	6,067.3	6,370.3	6,367.3	14.9	10.7	-178.25	12.4	20.3	606.5	585.2	21.24	28.552		
6,200.0	6,166.7	6,469.7	6,466.7	15.1	10.9	-178.28	12.4	20.3	617.7	596.1	21.59	28.612		
6,300.0	6,266.0	6,569.1	6,566.0	15.4	11.0	-178.31	12.4	20.3	628.8	606.9	21.93	28.670		
6,400.0	6,365.4	6,668.5	6,665.4	15.7	11.2	-178.34	12.4	20.3	640.0	617.7	22.28	28.726		
6,500.0	6,464.8	6,767.8	6,764.8	15.9	11.4	-178.37	12.4	20.3	651.0	628.4	22.63	28.761		
6,600.0	6,564.4	6,867.5	6,864.4	16.1	11.5	-178.39	12.4	20.3	659.9	636.9	23.00	28.696		
6,700.0	6,664.2	6,967.3	6,964.2	16.3	11.7	-178.41	12.4	20.3	666.2	642.8	23.35	28.533		
6,800.0	6,764.1	7,067.2	7,064.1	16.5	11.9	-178.42	12.4	20.3	669.8	646.1	23.69	28.276		
6,900.0	6,864.1	7,167.2	7,164.1	16.6	12.1	9.42	12.4	20.3	670.9	646.8	24.02	27.928		
7,000.0	6,964.1	7,267.2	7,264.1	16.7	12.2	9.42	12.4	20.3	670.9	646.5	24.37	27.529		
7,100.0	7,064.1	7,367.2	7,364.1	16.8	12.4	9.42	12.4	20.3	670.9	646.1	24.72	27.141		
7,200.0	7,164.1	7,467.2	7,464.1	17.0	12.6	9.42	12.4	20.3	670.9	645.8	25.07	26.764		
7,300.0	7,264.1	7,567.2	7,564.1	17.1	12.8	9.42	12.4	20.3	670.9	645.5	25.41	26.397		
7,400.0	7,364.1	7,667.2	7,664.1	17.2	12.9	9.42	12.4	20.3	670.9	645.1	25.76	26.040		
7,500.0	7,464.1	7,767.2	7,764.1	17.4	13.1	9.42	12.4	20.3	670.9	644.8	26.11	25.692		
7,600.0	7,564.1	7,867.2	7,864.1	17.5	13.3	9.42	12.4	20.3	670.9	644.4	26.46	25.354		
7,700.0	7,664.1	7,967.2	7,964.1	17.6	13.5	9.42	12.4	20.3	670.9	644.1	26.81	25.024		
7,800.0	7,764.1	8,067.2	8,064.1	17.8	13.6	9.42	12.4	20.3	670.9	643.7	27.16	24.703		
7,900.0	7,864.1	8,167.2	8,164.1	17.9	13.8	9.42	12.4	20.3	670.9	643.4	27.51	24.390		
8,000.0	7,964.1	8,267.2	8,264.1	18.0	14.0	9.42	12.4	20.3	670.9	643.0	27.85	24.085		
8,100.0	8,064.1	8,367.2	8,364.1	18.2	14.1	9.42	12.4	20.3	670.9	642.7	28.20	23.787		
8,200.0	8,164.1	8,467.2	8,464.1	18.3	14.3	9.42	12.4	20.3	670.9	642.3	28.55	23.497		
8,300.0	8,264.1	8,567.2	8,564.1	18.4	14.5	9.42	12.4	20.3	670.9	642.0	28.90	23.213		
8,400.0	8,364.1	8,667.2	8,664.1	18.6	14.7	9.42	12.4	20.3	670.9	641.6	29.25	22.936		
8,444.3	8,408.4	8,711.5	8,708.4	18.6	14.7	9.42	12.4	20.3	670.9	641.5	29.40	22.816		
8,500.0	8,464.1	8,727.0	8,724.0	18.7	14.8	9.42	12.4	20.3	672.1	642.5	29.53	22.760		
8,600.0	8,564.1	8,727.0	8,724.0	18.9	14.8	9.42	12.4	20.3	685.3	655.6	29.70	23.074		
8,700.0	8,664.1	8,727.0	8,724.0	19.0	14.8	9.42	12.4	20.3	712.5	682.7	29.88	23.849		
8,740.5	8,704.6	8,727.0	8,724.0	19.1	14.8	9.42	12.4	20.3	727.2	697.3	29.95	24.282		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-7D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				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	-27.22	93.2	-48.0	104.9					
100.0	100.0	100.0	100.0	0.1	0.1	-27.22	93.2	-48.0	104.9	104.6	0.30	353.414		
200.0	200.0	200.0	200.0	0.3	0.3	-27.22	93.2	-48.0	104.9	104.2	0.65	162.379		
300.0	300.0	300.0	300.0	0.5	0.5	-27.22	93.2	-48.0	104.9	103.9	0.99	105.404		
400.0	400.0	400.0	400.0	0.7	0.7	-27.22	93.2	-48.0	104.9	103.5	1.34	78.026		
500.0	500.0	500.0	500.0	0.8	0.8	-27.22	93.2	-48.0	104.9	103.2	1.69	61.939 CC, ES		
600.0	600.0	597.7	597.7	1.0	1.0	-26.86	94.5	-47.8	105.9	103.9	2.04	51.970		
700.0	700.0	695.2	695.2	1.2	1.2	146.68	98.2	-47.5	110.3	107.9	2.38	46.251		
800.0	799.9	792.6	792.3	1.4	1.4	149.16	104.4	-46.9	119.1	116.4	2.73	43.599		
900.0	899.7	891.7	891.1	1.6	1.6	152.03	111.5	-46.2	131.3	128.2	3.08	42.571		
1,000.0	999.3	990.3	989.5	1.8	1.8	154.83	118.6	-45.5	146.0	142.6	3.43	42.540		
1,100.0	1,098.7	1,088.7	1,087.6	2.0	2.0	157.43	125.6	-44.9	162.8	159.1	3.78	43.053		
1,200.0	1,198.0	1,187.0	1,185.6	2.2	2.2	159.57	132.7	-44.2	180.0	175.9	4.13	43.569		
1,300.0	1,297.4	1,285.3	1,283.7	2.5	2.4	161.34	139.8	-43.5	197.4	193.0	4.48	44.062		
1,400.0	1,396.8	1,383.6	1,381.7	2.7	2.6	162.83	146.8	-42.8	215.0	210.2	4.83	44.526		
1,500.0	1,496.1	1,481.9	1,479.8	3.0	2.8	164.09	153.9	-42.2	232.7	227.5	5.18	44.959		
1,600.0	1,595.5	1,580.2	1,577.8	3.2	3.0	165.17	161.0	-41.5	250.4	244.9	5.52	45.359		
1,700.0	1,694.9	1,678.5	1,675.9	3.5	3.2	166.11	168.0	-40.8	268.3	262.4	5.87	45.729		
1,800.0	1,794.3	1,776.8	1,773.9	3.7	3.4	166.93	175.1	-40.1	286.2	280.0	6.21	46.070		
1,900.0	1,893.6	1,875.1	1,872.0	4.0	3.6	167.66	182.2	-39.5	304.1	297.6	6.56	46.386		
2,000.0	1,993.0	1,973.4	1,970.0	4.2	3.8	168.30	189.2	-38.8	322.1	315.2	6.90	46.677		
2,100.0	2,092.4	2,071.7	2,068.1	4.5	4.0	168.88	196.3	-38.1	340.1	332.9	7.25	46.946		
2,200.0	2,191.8	2,170.0	2,166.2	4.7	4.3	169.39	203.3	-37.5	358.2	350.6	7.59	47.196		
2,300.0	2,291.1	2,268.3	2,264.2	5.0	4.5	169.86	210.4	-36.8	376.3	368.3	7.93	47.428		
2,400.0	2,390.5	2,366.6	2,362.3	5.2	4.7	170.29	217.5	-36.1	394.4	386.1	8.28	47.644		
2,500.0	2,489.9	2,464.9	2,460.3	5.5	4.9	170.68	224.5	-35.4	412.5	403.9	8.62	47.845		
2,600.0	2,589.2	2,563.3	2,558.4	5.8	5.1	171.03	231.6	-34.8	430.7	421.7	8.97	48.032		
2,700.0	2,688.6	2,661.6	2,656.4	6.0	5.3	171.36	238.7	-34.1	448.8	439.5	9.31	48.207		
2,800.0	2,788.0	2,759.9	2,754.5	6.3	5.5	171.66	245.7	-33.4	467.0	457.3	9.65	48.372		
2,900.0	2,887.4	2,858.2	2,852.5	6.5	5.7	171.94	252.8	-32.7	485.2	475.2	10.00	48.526		
3,000.0	2,986.7	2,956.5	2,950.6	6.8	5.9	172.20	259.9	-32.1	503.4	493.0	10.34	48.671		
3,100.0	3,086.1	3,054.8	3,048.6	7.1	6.1	172.44	266.9	-31.4	521.6	510.9	10.69	48.807		
3,200.0	3,185.5	3,156.8	3,150.3	7.3	6.4	172.67	274.2	-30.7	539.7	528.7	11.04	48.901		
3,300.0	3,284.9	3,271.9	3,265.3	7.6	6.6	172.89	279.9	-30.1	555.8	544.3	11.41	48.711		
3,400.0	3,384.2	3,388.1	3,381.5	7.8	6.8	173.07	282.3	-29.9	568.8	557.1	11.78	48.269		
3,500.0	3,483.6	3,490.2	3,483.6	8.1	6.9	173.21	282.3	-29.9	580.0	567.8	12.14	47.787		
3,600.0	3,583.0	3,589.6	3,583.0	8.4	7.1	173.34	282.3	-29.9	591.1	578.6	12.48	47.347		
3,700.0	3,682.3	3,689.0	3,682.3	8.6	7.2	173.46	282.3	-29.9	602.2	589.4	12.83	46.931		
3,800.0	3,781.7	3,788.3	3,781.7	8.9	7.4	173.58	282.3	-29.9	613.3	600.1	13.18	46.538		
3,900.0	3,881.1	3,887.7	3,881.1	9.1	7.5	173.70	282.3	-29.9	624.4	610.9	13.53	46.164		
4,000.0	3,980.5	3,987.1	3,980.5	9.4	7.7	173.81	282.3	-29.9	635.5	621.7	13.87	45.810		
4,100.0	4,079.8	4,086.5	4,079.8	9.7	7.8	173.91	282.3	-29.9	646.7	632.4	14.22	45.472		
4,200.0	4,179.2	4,185.8	4,179.2	9.9	8.0	174.02	282.3	-29.9	657.8	643.2	14.57	45.152		
4,300.0	4,278.6	4,285.2	4,278.6	10.2	8.2	174.12	282.3	-29.9	668.9	654.0	14.92	44.846		
4,400.0	4,378.0	4,384.6	4,378.0	10.4	8.3	174.21	282.3	-29.9	680.0	664.8	15.26	44.554		
4,500.0	4,477.3	4,484.0	4,477.3	10.7	8.5	174.31	282.3	-29.9	691.2	675.6	15.61	44.275		
4,600.0	4,576.7	4,583.3	4,576.7	11.0	8.6	174.40	282.3	-29.9	702.3	686.3	15.96	44.009		
4,700.0	4,676.1	4,682.7	4,676.1	11.2	8.8	174.48	282.3	-29.9	713.4	697.1	16.31	43.754		
4,800.0	4,775.4	4,782.1	4,775.4	11.5	9.0	174.57	282.3	-29.9	724.6	707.9	16.65	43.510		
4,900.0	4,874.8	4,881.4	4,874.8	11.7	9.1	174.65	282.3	-29.9	735.7	718.7	17.00	43.276		
5,000.0	4,974.2	4,980.8	4,974.2	12.0	9.3	174.73	282.3	-29.9	746.8	729.5	17.35	43.051		
5,100.0	5,073.6	5,080.2	5,073.6	12.3	9.4	174.81	282.3	-29.9	758.0	740.3	17.69	42.835		

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

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-7D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
5,200.0	5,172.9	5,179.6	5,172.9	12.5	9.6	174.88	282.3	-29.9	769.1	751.1	18.04	42.628		
5,300.0	5,272.3	5,278.9	5,272.3	12.8	9.8	174.96	282.3	-29.9	780.2	761.8	18.39	42.429		
5,400.0	5,371.7	5,378.3	5,371.7	13.0	9.9	175.03	282.3	-29.9	791.4	772.6	18.74	42.237		
5,500.0	5,471.1	5,477.7	5,471.1	13.3	10.1	175.10	282.3	-29.9	802.5	783.4	19.08	42.052		
5,600.0	5,570.4	5,577.1	5,570.4	13.6	10.3	175.17	282.3	-29.9	813.7	794.2	19.43	41.873		
5,700.0	5,669.8	5,676.4	5,669.8	13.8	10.4	175.23	282.3	-29.9	824.8	805.0	19.78	41.701		
5,800.0	5,769.2	5,775.8	5,769.2	14.1	10.6	175.29	282.3	-29.9	836.0	815.8	20.13	41.535		
5,900.0	5,868.5	5,875.2	5,868.5	14.4	10.8	175.36	282.3	-29.9	847.1	826.6	20.47	41.375		
6,000.0	5,967.9	5,974.5	5,967.9	14.6	10.9	175.42	282.3	-29.9	858.2	837.4	20.82	41.220		
6,100.0	6,067.3	6,073.9	6,067.3	14.9	11.1	175.48	282.3	-29.9	869.4	848.2	21.17	41.071		
6,200.0	6,166.7	6,173.3	6,166.7	15.1	11.2	175.53	282.3	-29.9	880.5	859.0	21.52	40.926		
6,300.0	6,266.0	6,272.7	6,266.0	15.4	11.4	175.59	282.3	-29.9	891.7	869.8	21.86	40.785		
6,400.0	6,365.4	6,372.0	6,365.4	15.7	11.6	175.64	282.3	-29.9	902.8	880.6	22.21	40.650		
6,500.0	6,464.8	6,471.4	6,464.8	15.9	11.7	175.70	282.3	-29.9	913.8	891.2	22.57	40.490		
6,600.0	6,564.4	6,571.0	6,564.4	16.1	11.9	175.75	282.3	-29.9	922.7	899.7	22.94	40.225		
6,700.0	6,664.2	6,670.8	6,664.2	16.3	12.1	175.79	282.3	-29.9	928.9	905.6	23.30	39.873		
6,800.0	6,764.1	6,770.8	6,764.1	16.5	12.2	175.81	282.3	-29.9	932.6	908.9	23.65	39.439		
6,900.0	6,864.1	6,870.7	6,864.1	16.6	12.4	3.66	282.3	-29.9	933.6	909.6	23.99	38.923		
7,000.0	6,964.1	6,970.7	6,964.1	16.7	12.6	3.66	282.3	-29.9	933.6	909.3	24.34	38.365		
7,100.0	7,064.1	7,070.7	7,064.1	16.8	12.8	3.66	282.3	-29.9	933.6	908.9	24.68	37.822		
7,200.0	7,164.1	7,170.7	7,164.1	17.0	12.9	3.66	282.3	-29.9	933.6	908.6	25.03	37.295		
7,300.0	7,264.1	7,270.7	7,264.1	17.1	13.1	3.66	282.3	-29.9	933.6	908.2	25.38	36.782		
7,400.0	7,364.1	7,370.7	7,364.1	17.2	13.3	3.66	282.3	-29.9	933.6	907.9	25.73	36.283		
7,500.0	7,464.1	7,470.7	7,464.1	17.4	13.4	3.66	282.3	-29.9	933.6	907.5	26.08	35.798		
7,600.0	7,564.1	7,570.7	7,564.1	17.5	13.6	3.66	282.3	-29.9	933.6	907.2	26.43	35.325		
7,700.0	7,664.1	7,670.7	7,664.1	17.6	13.8	3.66	282.3	-29.9	933.6	906.9	26.78	34.865		
7,800.0	7,764.1	7,770.7	7,764.1	17.8	13.9	3.66	282.3	-29.9	933.6	906.5	27.13	34.416		
7,900.0	7,864.1	7,870.7	7,864.1	17.9	14.1	3.66	282.3	-29.9	933.6	906.2	27.48	33.979		
8,000.0	7,964.1	7,970.7	7,964.1	18.0	14.3	3.66	282.3	-29.9	933.6	905.8	27.83	33.553		
8,100.0	8,064.1	8,070.7	8,064.1	18.2	14.4	3.66	282.3	-29.9	933.6	905.5	28.17	33.137		
8,200.0	8,164.1	8,170.7	8,164.1	18.3	14.6	3.66	282.3	-29.9	933.6	905.1	28.52	32.732		
8,300.0	8,264.1	8,270.7	8,264.1	18.4	14.8	3.66	282.3	-29.9	933.6	904.8	28.87	32.336		
8,400.0	8,364.1	8,370.7	8,364.1	18.6	15.0	3.66	282.3	-29.9	933.6	904.4	29.22	31.950		
8,500.0	8,464.1	8,470.7	8,464.1	18.7	15.1	3.66	282.3	-29.9	933.6	904.1	29.57	31.573		
8,600.0	8,564.1	8,570.7	8,564.1	18.9	15.3	3.66	282.3	-29.9	933.6	903.7	29.92	31.204		
8,700.0	8,664.1	8,670.7	8,664.1	19.0	15.5	3.66	282.3	-29.9	933.6	903.4	30.27	30.844		
8,740.5	8,704.6	8,711.3	8,704.6	19.1	15.5	3.66	282.3	-29.9	933.6	903.2	30.41	30.701 SF		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-8D (Oxy I21 Pad) - DD - Plan #1												Offset Site Error:	0.0 ft
Survey Program: O-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	-27.71	106.4	-55.9	120.1				
100.0	100.0	100.0	100.0	0.1	0.1	-27.71	106.4	-55.9	120.1	119.8	0.30	404.908	
200.0	200.0	200.0	200.0	0.3	0.3	-27.71	106.4	-55.9	120.1	119.5	0.65	186.039	
300.0	300.0	300.0	300.0	0.5	0.5	-27.71	106.4	-55.9	120.1	119.1	0.99	120.762	
400.0	400.0	400.0	400.0	0.7	0.7	-27.71	106.4	-55.9	120.1	118.8	1.34	89.395	
500.0	500.0	500.0	500.0	0.8	0.8	-27.71	106.4	-55.9	120.1	118.4	1.69	70.963 CC, ES	
600.0	600.0	597.2	597.2	1.0	1.0	-27.45	107.6	-55.9	121.3	119.2	2.04	59.520	
700.0	700.0	694.3	694.2	1.2	1.2	145.76	111.3	-55.9	125.8	123.4	2.38	52.796	
800.0	799.9	790.8	790.5	1.4	1.4	147.73	117.4	-56.0	134.8	132.1	2.73	49.426	
900.0	899.7	888.7	888.0	1.6	1.6	150.22	125.5	-56.2	148.1	145.0	3.08	48.130	
1,000.0	999.3	987.1	986.2	1.8	1.8	152.74	133.8	-56.3	164.0	160.6	3.43	47.870 SF	
1,100.0	1,098.7	1,085.2	1,083.9	2.0	2.0	155.13	142.1	-56.4	182.0	178.2	3.78	48.177	
1,200.0	1,198.0	1,183.3	1,181.7	2.2	2.2	157.13	150.3	-56.5	200.3	196.2	4.13	48.518	
1,300.0	1,297.4	1,281.4	1,279.4	2.5	2.4	158.79	158.5	-56.7	218.8	214.3	4.48	48.863	
1,400.0	1,396.8	1,379.5	1,377.2	2.7	2.6	160.20	166.8	-56.8	237.4	232.6	4.83	49.201	
1,500.0	1,496.1	1,477.6	1,474.9	3.0	2.9	161.40	175.0	-56.9	256.2	251.0	5.17	49.524	
1,600.0	1,595.5	1,575.7	1,572.6	3.2	3.1	162.44	183.3	-57.0	275.1	269.5	5.52	49.831	
1,700.0	1,694.9	1,673.8	1,670.4	3.5	3.3	163.34	191.5	-57.2	294.0	288.1	5.87	50.119	
1,800.0	1,794.3	1,771.9	1,768.1	3.7	3.5	164.13	199.8	-57.3	313.0	306.8	6.21	50.388	
1,900.0	1,893.6	1,870.0	1,865.9	4.0	3.7	164.84	208.0	-57.4	332.0	325.5	6.56	50.639	
2,000.0	1,993.0	1,968.1	1,963.6	4.2	3.9	165.46	216.3	-57.5	351.1	344.2	6.90	50.873	
2,100.0	2,092.4	2,066.2	2,061.4	4.5	4.2	166.03	224.5	-57.7	370.3	363.0	7.25	51.091	
2,200.0	2,191.8	2,164.2	2,159.1	4.7	4.4	166.53	232.8	-57.8	389.4	381.8	7.59	51.295	
2,300.0	2,291.1	2,262.3	2,256.9	5.0	4.6	166.99	241.0	-57.9	408.6	400.7	7.94	51.485	
2,400.0	2,390.5	2,360.4	2,354.6	5.2	4.8	167.41	249.3	-58.0	427.8	419.6	8.28	51.663	
2,500.0	2,489.9	2,458.5	2,452.3	5.5	5.1	167.80	257.5	-58.2	447.1	438.4	8.63	51.829	
2,600.0	2,589.2	2,556.6	2,550.1	5.8	5.3	168.15	265.7	-58.3	466.3	457.3	8.97	51.985	
2,700.0	2,688.6	2,654.7	2,647.8	6.0	5.5	168.47	274.0	-58.4	485.6	476.3	9.31	52.131	
2,800.0	2,788.0	2,752.8	2,745.6	6.3	5.7	168.77	282.2	-58.5	504.9	495.2	9.66	52.268	
2,900.0	2,887.4	2,850.9	2,843.3	6.5	5.9	169.04	290.5	-58.7	524.1	514.1	10.00	52.397	
3,000.0	2,986.7	2,949.0	2,941.1	6.8	6.2	169.30	298.7	-58.8	543.4	533.1	10.35	52.518	
3,100.0	3,086.1	3,047.1	3,038.8	7.1	6.4	169.54	307.0	-58.9	562.8	552.1	10.69	52.633	
3,200.0	3,185.5	3,145.2	3,136.6	7.3	6.6	169.76	315.2	-59.0	582.1	571.0	11.04	52.741	
3,300.0	3,284.9	3,243.3	3,234.3	7.6	6.8	169.97	323.5	-59.2	601.4	590.0	11.38	52.844	
3,400.0	3,384.2	3,341.3	3,332.0	7.8	7.1	170.17	331.7	-59.3	620.7	609.0	11.73	52.941	
3,500.0	3,483.6	3,439.4	3,429.8	8.1	7.3	170.35	340.0	-59.4	640.1	628.0	12.07	53.033	
3,600.0	3,583.0	3,537.5	3,527.5	8.4	7.5	170.53	348.2	-59.5	659.4	647.0	12.41	53.121	
3,700.0	3,682.3	3,635.6	3,625.3	8.6	7.7	170.69	356.5	-59.7	678.8	666.0	12.76	53.204	
3,800.0	3,781.7	3,733.7	3,723.0	8.9	7.9	170.84	364.7	-59.8	698.1	685.0	13.10	53.283	
3,900.0	3,881.1	3,831.8	3,820.8	9.1	8.2	170.99	373.0	-59.9	717.5	704.1	13.45	53.358	
4,000.0	3,980.5	3,929.9	3,918.5	9.4	8.4	171.13	381.2	-60.0	736.9	723.1	13.79	53.430	
4,100.0	4,079.8	4,028.0	4,016.3	9.7	8.6	171.26	389.4	-60.2	756.2	742.1	14.14	53.499	
4,200.0	4,179.2	4,126.1	4,114.0	9.9	8.8	171.39	397.7	-60.3	775.6	761.1	14.48	53.564	
4,300.0	4,278.6	4,224.2	4,211.7	10.2	9.1	171.50	405.9	-60.4	795.0	780.2	14.82	53.627	
4,400.0	4,378.0	4,322.3	4,309.5	10.4	9.3	171.62	414.2	-60.5	814.4	799.2	15.17	53.687	
4,500.0	4,477.3	4,420.4	4,407.2	10.7	9.5	171.72	422.4	-60.7	833.8	818.2	15.51	53.744	
4,600.0	4,576.7	4,518.4	4,505.0	11.0	9.7	171.83	430.7	-60.8	853.1	837.3	15.86	53.799	
4,700.0	4,676.1	4,616.5	4,602.7	11.2	10.0	171.93	438.9	-60.9	872.5	856.3	16.20	53.852	
4,800.0	4,775.4	4,714.6	4,700.5	11.5	10.2	172.02	447.2	-61.0	891.9	875.4	16.55	53.903	
4,900.0	4,874.8	4,812.7	4,798.2	11.7	10.4	172.11	455.4	-61.2	911.3	894.4	16.89	53.952	
5,000.0	4,974.2	4,910.8	4,895.9	12.0	10.6	172.20	463.7	-61.3	930.7	913.5	17.24	53.999	
5,100.0	5,073.6	5,008.9	4,993.7	12.3	10.8	172.28	471.9	-61.4	950.1	932.5	17.58	54.044	

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

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.0 ft
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (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			
5,200.0	5,172.9	5,107.0	5,091.4	12.5	11.1	172.36	480.2	-61.5	969.5	951.6	17.92	54.088			
5,300.0	5,272.3	5,205.1	5,189.2	12.8	11.3	172.44	488.4	-61.7	988.9	970.6	18.27	54.130			
5,400.0	5,371.7	5,303.2	5,286.9	13.0	11.5	172.51	496.7	-61.8	1,008.3	989.7	18.61	54.170			
5,500.0	5,471.1	5,401.3	5,384.7	13.3	11.7	172.58	504.9	-61.9	1,027.7	1,008.8	18.96	54.209			
5,600.0	5,570.4	5,499.4	5,482.4	13.6	12.0	172.65	513.1	-62.0	1,047.1	1,027.8	19.30	54.247			
5,700.0	5,669.8	5,597.4	5,580.2	13.8	12.2	172.71	521.4	-62.2	1,066.5	1,046.9	19.65	54.283			
5,800.0	5,769.2	5,695.5	5,677.9	14.1	12.4	172.78	529.6	-62.3	1,085.9	1,066.0	19.99	54.319			
5,900.0	5,868.5	5,793.6	5,775.6	14.4	12.6	172.84	537.9	-62.4	1,105.4	1,085.0	20.34	54.353			

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-9D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-31.79	25.5	-15.8	30.0					
100.0	100.0	100.0	100.0	0.1	0.1	-31.79	25.5	-15.8	30.0	29.7	0.30	101.097		
200.0	200.0	200.0	200.0	0.3	0.3	-31.79	25.5	-15.8	30.0	29.4	0.65	46.450		
300.0	300.0	300.2	300.2	0.5	0.5	-34.21	24.5	-16.7	29.6	28.6	1.00	29.707		
400.0	400.0	400.3	400.2	0.7	0.7	-41.78	21.5	-19.2	28.8	27.5	1.36	21.239		
462.8	462.8	463.0	462.8	0.8	0.8	-49.36	18.6	-21.7	28.6	27.0	1.59	17.930 CC		
500.0	500.0	500.1	499.8	0.8	0.9	-54.81	16.6	-23.5	28.7	27.0	1.73	16.565 ES		
600.0	600.0	599.5	598.8	1.0	1.1	-71.81	9.7	-29.4	31.0	28.9	2.11	14.645 SF		
700.0	700.0	698.5	697.1	1.2	1.4	85.39	0.9	-37.0	37.0	34.5	2.51	14.744		
800.0	799.9	797.1	794.7	1.4	1.7	75.99	-9.8	-46.1	46.0	43.1	2.89	15.907		
900.0	899.7	895.4	891.6	1.6	2.0	70.62	-22.4	-56.9	56.9	53.6	3.29	17.314		
1,000.0	999.3	993.3	987.6	1.8	2.4	67.73	-36.8	-69.3	69.3	65.6	3.72	18.657		
1,100.0	1,098.7	1,090.7	1,082.6	2.0	2.8	66.05	-52.9	-83.1	83.1	79.0	4.17	19.953		
1,200.0	1,198.0	1,187.4	1,176.5	2.2	3.2	64.17	-70.8	-98.5	99.1	94.5	4.62	21.449		
1,300.0	1,297.4	1,283.3	1,268.9	2.5	3.7	62.20	-90.3	-115.2	117.3	112.2	5.07	23.135		
1,400.0	1,396.8	1,378.4	1,359.8	2.7	4.2	60.29	-111.3	-133.3	137.7	132.2	5.51	24.986		
1,500.0	1,496.1	1,472.3	1,448.9	3.0	4.7	58.50	-133.8	-152.6	160.5	154.5	5.95	26.977		
1,600.0	1,595.5	1,565.2	1,536.3	3.2	5.3	56.85	-157.7	-173.0	185.5	179.1	6.38	29.088		
1,700.0	1,694.9	1,656.9	1,621.8	3.5	5.9	55.35	-182.8	-194.6	212.8	206.0	6.80	31.300		
1,800.0	1,794.3	1,747.3	1,705.4	3.7	6.6	53.99	-209.1	-217.2	242.3	235.1	7.21	33.613		
1,900.0	1,893.6	1,842.4	1,792.7	4.0	7.2	52.79	-237.5	-241.6	273.0	265.4	7.63	35.792		
2,000.0	1,993.0	1,937.4	1,880.1	4.2	7.9	51.82	-265.9	-265.9	303.8	295.7	8.05	37.754		
2,100.0	2,092.4	2,032.4	1,967.4	4.5	8.6	51.04	-294.3	-290.3	334.6	326.1	8.47	39.524		
2,200.0	2,191.8	2,127.5	2,054.8	4.7	9.3	50.38	-322.7	-314.7	365.5	356.6	8.89	41.129		
2,300.0	2,291.1	2,222.5	2,142.1	5.0	10.0	49.83	-351.1	-339.1	396.4	387.1	9.31	42.590		
2,400.0	2,390.5	2,317.6	2,229.5	5.2	10.7	49.36	-379.5	-363.5	427.3	417.6	9.73	43.926		
2,500.0	2,489.9	2,412.6	2,316.8	5.5	11.3	48.95	-408.0	-387.9	458.3	448.1	10.15	45.150		
2,600.0	2,589.2	2,507.6	2,404.2	5.8	12.0	48.59	-436.4	-412.3	489.3	478.7	10.57	46.277		
2,700.0	2,688.6	2,602.7	2,491.5	6.0	12.7	48.28	-464.8	-436.7	520.3	509.3	11.00	47.317		
2,800.0	2,788.0	2,697.7	2,578.9	6.3	13.4	48.00	-493.2	-461.1	551.3	539.9	11.42	48.280		
2,900.0	2,887.4	2,792.7	2,666.2	6.5	14.1	47.75	-521.6	-485.5	582.3	570.5	11.84	49.174		
3,000.0	2,986.7	2,887.8	2,753.6	6.8	14.8	47.52	-550.0	-509.9	613.3	601.1	12.27	50.007		
3,100.0	3,086.1	2,982.8	2,840.9	7.1	15.5	47.32	-578.4	-534.2	644.4	631.7	12.69	50.783		
3,200.0	3,185.5	3,077.9	2,928.3	7.3	16.2	47.14	-606.8	-558.6	675.4	662.3	13.11	51.510		
3,300.0	3,284.9	3,172.9	3,015.6	7.6	16.9	46.97	-635.3	-583.0	706.5	692.9	13.54	52.190		
3,400.0	3,384.2	3,267.9	3,102.9	7.8	17.6	46.82	-663.7	-607.4	737.5	723.6	13.96	52.830		
3,500.0	3,483.6	3,363.0	3,190.3	8.1	18.2	46.67	-692.1	-631.8	768.6	754.2	14.38	53.431		
3,600.0	3,583.0	3,458.0	3,277.6	8.4	18.9	46.54	-720.5	-656.2	799.7	784.8	14.81	53.998		
3,700.0	3,682.3	3,553.0	3,365.0	8.6	19.6	46.42	-748.9	-680.6	830.7	815.5	15.23	54.533		
3,800.0	3,781.7	3,648.1	3,452.3	8.9	20.3	46.31	-777.3	-705.0	861.8	846.1	15.66	55.040		
3,900.0	3,881.1	3,743.1	3,539.7	9.1	21.0	46.21	-805.7	-729.4	892.9	876.8	16.08	55.519		
4,000.0	3,980.5	3,838.2	3,627.0	9.4	21.7	46.11	-834.2	-753.8	923.9	907.4	16.51	55.974		
4,100.0	4,079.8	3,933.2	3,714.4	9.7	22.4	46.02	-862.6	-778.2	955.0	938.1	16.93	56.405		
4,200.0	4,179.2	4,028.2	3,801.7	9.9	23.1	45.94	-891.0	-802.5	986.1	968.7	17.36	56.816		
4,300.0	4,278.6	4,123.3	3,889.1	10.2	23.8	45.86	-919.4	-826.9	1,017.2	999.4	17.78	57.207		
4,400.0	4,378.0	4,218.3	3,976.4	10.4	24.5	45.78	-947.8	-851.3	1,048.3	1,030.1	18.21	57.579		
4,500.0	4,477.3	4,313.3	4,063.8	10.7	25.2	45.71	-976.2	-875.7	1,079.4	1,060.7	18.63	57.935		
4,600.0	4,576.7	4,408.4	4,151.1	11.0	25.9	45.64	-1,004.6	-900.1	1,110.4	1,091.4	19.06	58.275		

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

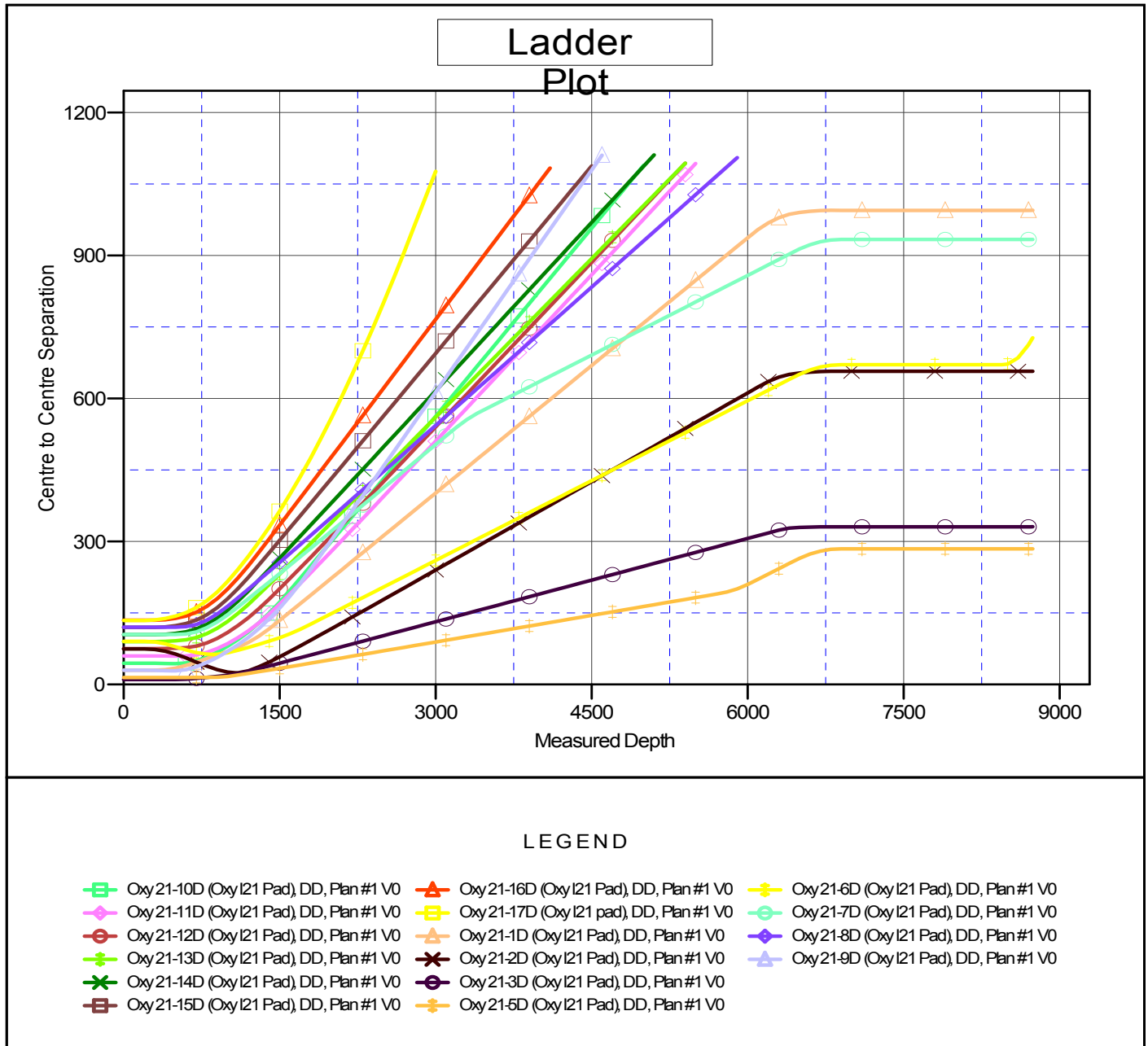
Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-4D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
Reference Site:	NESE S21-T6S-R97W (Oxy I21 pad)	MD Reference:	KBE @ 8381.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 21-4D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KBE @ 8381.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Oxy 21-4D (Oxy I21 Pad)
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: -1.71°



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