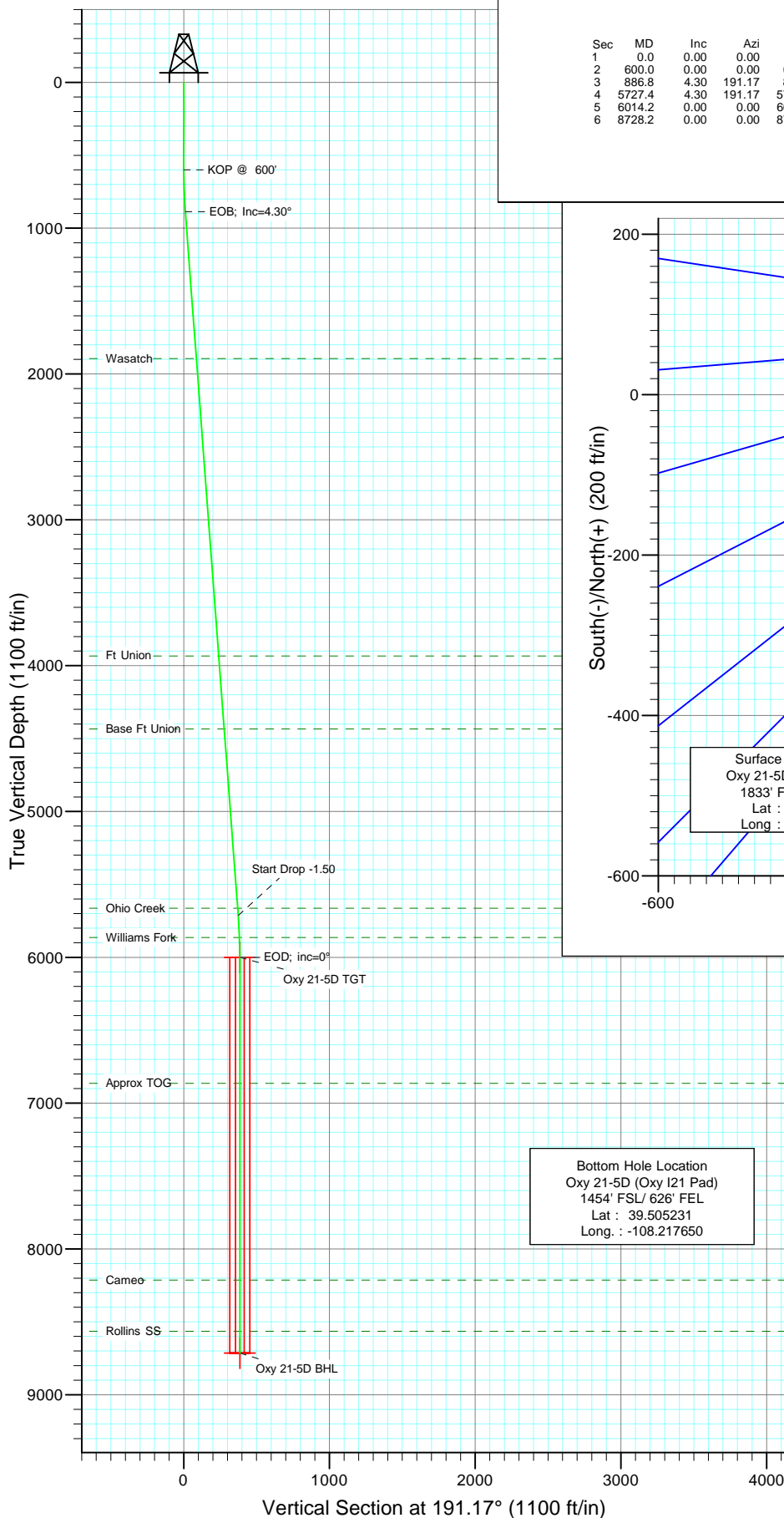




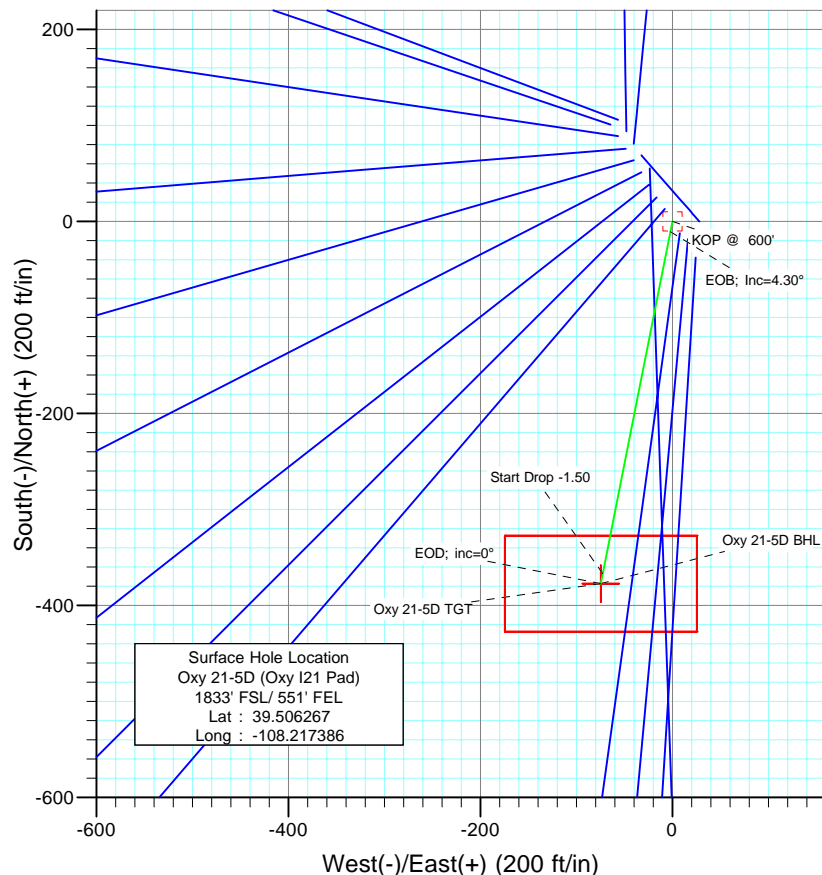
Berry Petroleum Company

Project: Garfield County
Site: NESE S21-T6S-R97W (Oxy I21 pad)
Well: Oxy 21-5D (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	886.8	4.30	191.17	886.5	-10.6	-2.1	1.50	191.17	10.8	
4	5727.4	4.30	191.17	5713.5	-366.8	-72.4	0.00	0.00	373.9	
5	6014.2	0.00	0.00	6000.0	-377.3	-74.5	1.50	180.00	384.6	Oxy 21-5D TGT
6	8728.2	0.00	0.00	8714.0	-377.3	-74.5	0.00	0.00	384.6	Oxy 21-5D BHL



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1894.0	1897.1	Wasatch
3934.0	3942.9	Ft Union
4434.0	4444.3	Base Ft Union
5664.0	5677.8	Ohio Creek
5864.0	5878.1	Williams Fork
6864.0	6878.2	Approx TOG
8214.0	8228.2	Cameo
8564.0	8578.2	Rollins SS



Azimuths to True North
Magnetic North: 10.65°

Magnetic Field
Strength: 52405.4snT
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 21-5D BHL	191.17	Slot	0.0	0.0	0.0

Planning Report

Database:	EDM 2003.21 US Multi User DB	Local Co-ordinate Reference:	Well Oxy 21-5D (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 21-5D (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 21-5D (Oxy I21 Pad)					
Well Position	+N/-S	0.0 ft	Northing:	1,620,756.14 ft	Latitude:	39.506267
	+E/-W	0.0 ft	Easting:	2,233,383.05 ft	Longitude:	-108.217386
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	191.17

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	
886.8	4.30	191.17	886.5	-10.6	-2.1	1.50	1.50	0.00	191.17	
5,727.4	4.30	191.17	5,713.5	-366.8	-72.4	0.00	0.00	0.00	0.00	
6,014.2	0.00	0.00	6,000.0	-377.3	-74.5	1.50	-1.50	0.00	180.00	Oxy 21-5D TGT
8,728.2	0.00	0.00	8,714.0	-377.3	-74.5	0.00	0.00	0.00	0.00	Oxy 21-5D BHL

Planning Report

Database:	EDM 2003.21 US Multi User DB	Local Co-ordinate Reference:	Well Oxy 21-5D (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 21-5D (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	191.17	630.0	-0.1	0.0	0.1	1.50	1.50	
660.0	0.90	191.17	660.0	-0.5	-0.1	0.5	1.50	1.50	
690.0	1.35	191.17	690.0	-1.0	-0.2	1.1	1.50	1.50	
720.0	1.80	191.17	720.0	-1.8	-0.4	1.9	1.50	1.50	
750.0	2.25	191.17	750.0	-2.9	-0.6	2.9	1.50	1.50	
780.0	2.70	191.17	779.9	-4.2	-0.8	4.2	1.50	1.50	
810.0	3.15	191.17	809.9	-5.7	-1.1	5.8	1.50	1.50	
840.0	3.60	191.17	839.8	-7.4	-1.5	7.5	1.50	1.50	
870.0	4.05	191.17	869.8	-9.4	-1.8	9.5	1.50	1.50	
886.8	4.30	191.17	886.5	-10.6	-2.1	10.8	1.50	1.50	EOB; Inc=4.30°
900.0	4.30	191.17	899.7	-11.5	-2.3	11.8	0.00	0.00	
930.0	4.30	191.17	929.6	-13.7	-2.7	14.0	0.00	0.00	
960.0	4.30	191.17	959.5	-15.9	-3.1	16.3	0.00	0.00	
990.0	4.30	191.17	989.4	-18.2	-3.6	18.5	0.00	0.00	
1,020.0	4.30	191.17	1,019.4	-20.4	-4.0	20.8	0.00	0.00	
1,050.0	4.30	191.17	1,049.3	-22.6	-4.5	23.0	0.00	0.00	
1,080.0	4.30	191.17	1,079.2	-24.8	-4.9	25.3	0.00	0.00	
1,110.0	4.30	191.17	1,109.1	-27.0	-5.3	27.5	0.00	0.00	
1,140.0	4.30	191.17	1,139.0	-29.2	-5.8	29.8	0.00	0.00	
1,170.0	4.30	191.17	1,168.9	-31.4	-6.2	32.0	0.00	0.00	
1,200.0	4.30	191.17	1,198.8	-33.6	-6.6	34.3	0.00	0.00	
1,230.0	4.30	191.17	1,228.8	-35.8	-7.1	36.5	0.00	0.00	
1,260.0	4.30	191.17	1,258.7	-38.0	-7.5	38.8	0.00	0.00	
1,290.0	4.30	191.17	1,288.6	-40.2	-7.9	41.0	0.00	0.00	
1,320.0	4.30	191.17	1,318.5	-42.4	-8.4	43.3	0.00	0.00	
1,350.0	4.30	191.17	1,348.4	-44.6	-8.8	45.5	0.00	0.00	
1,380.0	4.30	191.17	1,378.3	-46.9	-9.2	47.8	0.00	0.00	
1,410.0	4.30	191.17	1,408.3	-49.1	-9.7	50.0	0.00	0.00	
1,440.0	4.30	191.17	1,438.2	-51.3	-10.1	52.3	0.00	0.00	
1,470.0	4.30	191.17	1,468.1	-53.5	-10.6	54.5	0.00	0.00	
1,500.0	4.30	191.17	1,498.0	-55.7	-11.0	56.8	0.00	0.00	

Planning Report

Database:	EDM 2003.21 US Multi User DB	Local Co-ordinate Reference:	Well Oxy 21-5D (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 21-5D (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	4.30	191.17	1,527.9	-57.9	-11.4	59.0	0.00	0.00	
1,560.0	4.30	191.17	1,557.8	-60.1	-11.9	61.3	0.00	0.00	
1,590.0	4.30	191.17	1,587.7	-62.3	-12.3	63.5	0.00	0.00	
1,620.0	4.30	191.17	1,617.7	-64.5	-12.7	65.8	0.00	0.00	
1,650.0	4.30	191.17	1,647.6	-66.7	-13.2	68.0	0.00	0.00	
1,680.0	4.30	191.17	1,677.5	-68.9	-13.6	70.3	0.00	0.00	
1,710.0	4.30	191.17	1,707.4	-71.1	-14.0	72.5	0.00	0.00	
1,740.0	4.30	191.17	1,737.3	-73.3	-14.5	74.8	0.00	0.00	
1,770.0	4.30	191.17	1,767.2	-75.6	-14.9	77.0	0.00	0.00	
1,800.0	4.30	191.17	1,797.2	-77.8	-15.4	79.3	0.00	0.00	
1,830.0	4.30	191.17	1,827.1	-80.0	-15.8	81.5	0.00	0.00	
1,860.0	4.30	191.17	1,857.0	-82.2	-16.2	83.8	0.00	0.00	
1,890.0	4.30	191.17	1,886.9	-84.4	-16.7	86.0	0.00	0.00	
1,897.1	4.30	191.17	1,894.0	-84.9	-16.8	86.5	0.00	0.00	Wasatch
1,920.0	4.30	191.17	1,916.8	-86.6	-17.1	88.3	0.00	0.00	
1,950.0	4.30	191.17	1,946.7	-88.8	-17.5	90.5	0.00	0.00	
1,980.0	4.30	191.17	1,976.7	-91.0	-18.0	92.8	0.00	0.00	
2,010.0	4.30	191.17	2,006.6	-93.2	-18.4	95.0	0.00	0.00	
2,040.0	4.30	191.17	2,036.5	-95.4	-18.8	97.3	0.00	0.00	
2,070.0	4.30	191.17	2,066.4	-97.6	-19.3	99.5	0.00	0.00	
2,100.0	4.30	191.17	2,096.3	-99.8	-19.7	101.8	0.00	0.00	
2,130.0	4.30	191.17	2,126.2	-102.0	-20.1	104.0	0.00	0.00	
2,160.0	4.30	191.17	2,156.1	-104.3	-20.6	106.3	0.00	0.00	
2,190.0	4.30	191.17	2,186.1	-106.5	-21.0	108.5	0.00	0.00	
2,220.0	4.30	191.17	2,216.0	-108.7	-21.5	110.8	0.00	0.00	
2,250.0	4.30	191.17	2,245.9	-110.9	-21.9	113.0	0.00	0.00	
2,280.0	4.30	191.17	2,275.8	-113.1	-22.3	115.3	0.00	0.00	
2,310.0	4.30	191.17	2,305.7	-115.3	-22.8	117.5	0.00	0.00	
2,340.0	4.30	191.17	2,335.6	-117.5	-23.2	119.8	0.00	0.00	
2,370.0	4.30	191.17	2,365.6	-119.7	-23.6	122.0	0.00	0.00	
2,400.0	4.30	191.17	2,395.5	-121.9	-24.1	124.3	0.00	0.00	
2,430.0	4.30	191.17	2,425.4	-124.1	-24.5	126.5	0.00	0.00	
2,460.0	4.30	191.17	2,455.3	-126.3	-24.9	128.8	0.00	0.00	
2,490.0	4.30	191.17	2,485.2	-128.5	-25.4	131.0	0.00	0.00	

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Oxy 21-5D TGT	0.00	0.00	6,000.0	-377.3	-74.5	1,620,381.19	2,233,297.31	39.505231	-108.217650
- hit/miss target									
- Shape									
- plan misses target center by 3523.9ft at 2490.0ft MD (2485.2 TVD, -128.5 N, -25.4 E)									
- Point									
Oxy 21-5D BHL	0.00	0.00	8,714.0	-377.3	-74.5	1,620,381.19	2,233,297.31	39.505231	-108.217650
- plan misses target center by 6233.9ft at 2490.0ft MD (2485.2 TVD, -128.5 N, -25.4 E)									
- Rectangle (sides W100.0 H200.0 D0.0)									

Planning Report

Database:	EDM 2003.21 US Multi User DB	Local Co-ordinate Reference:	Well Oxy 21-5D (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 21-5D (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	4.30	191.17	2,495.2	-129.3	-25.5	131.8	0.00	0.00	
2,600.0	4.30	191.17	2,594.9	-136.6	-27.0	139.3	0.00	0.00	
2,700.0	4.30	191.17	2,694.6	-144.0	-28.4	146.8	0.00	0.00	
2,800.0	4.30	191.17	2,794.3	-151.4	-29.9	154.3	0.00	0.00	
2,900.0	4.30	191.17	2,894.1	-158.7	-31.3	161.8	0.00	0.00	
3,000.0	4.30	191.17	2,993.8	-166.1	-32.8	169.3	0.00	0.00	
3,100.0	4.30	191.17	3,093.5	-173.4	-34.2	176.8	0.00	0.00	
3,200.0	4.30	191.17	3,193.2	-180.8	-35.7	184.3	0.00	0.00	
3,300.0	4.30	191.17	3,292.9	-188.2	-37.1	191.8	0.00	0.00	
3,400.0	4.30	191.17	3,392.6	-195.5	-38.6	199.3	0.00	0.00	
3,500.0	4.30	191.17	3,492.4	-202.9	-40.0	206.8	0.00	0.00	
3,600.0	4.30	191.17	3,592.1	-210.2	-41.5	214.3	0.00	0.00	
3,700.0	4.30	191.17	3,691.8	-217.6	-43.0	221.8	0.00	0.00	
3,800.0	4.30	191.17	3,791.5	-224.9	-44.4	229.3	0.00	0.00	
3,900.0	4.30	191.17	3,891.2	-232.3	-45.9	236.8	0.00	0.00	
3,942.9	4.30	191.17	3,934.0	-235.5	-46.5	240.0	0.00	0.00	Ft Union
4,000.0	4.30	191.17	3,991.0	-239.7	-47.3	244.3	0.00	0.00	
4,100.0	4.30	191.17	4,090.7	-247.0	-48.8	251.8	0.00	0.00	
4,200.0	4.30	191.17	4,190.4	-254.4	-50.2	259.3	0.00	0.00	
4,300.0	4.30	191.17	4,290.1	-261.7	-51.7	266.8	0.00	0.00	
4,400.0	4.30	191.17	4,389.8	-269.1	-53.1	274.3	0.00	0.00	
4,444.3	4.30	191.17	4,434.0	-272.4	-53.8	277.6	0.00	0.00	Base Ft Union
4,500.0	4.30	191.17	4,489.6	-276.5	-54.6	281.8	0.00	0.00	
4,600.0	4.30	191.17	4,589.3	-283.8	-56.0	289.3	0.00	0.00	
4,700.0	4.30	191.17	4,689.0	-291.2	-57.5	296.8	0.00	0.00	
4,800.0	4.30	191.17	4,788.7	-298.5	-58.9	304.3	0.00	0.00	
4,900.0	4.30	191.17	4,888.4	-305.9	-60.4	311.8	0.00	0.00	
5,000.0	4.30	191.17	4,988.1	-313.3	-61.8	319.3	0.00	0.00	
5,100.0	4.30	191.17	5,087.9	-320.6	-63.3	326.8	0.00	0.00	
5,200.0	4.30	191.17	5,187.6	-328.0	-64.7	334.3	0.00	0.00	
5,300.0	4.30	191.17	5,287.3	-335.3	-66.2	341.8	0.00	0.00	
5,400.0	4.30	191.17	5,387.0	-342.7	-67.7	349.3	0.00	0.00	
5,500.0	4.30	191.17	5,486.7	-350.1	-69.1	356.8	0.00	0.00	
5,600.0	4.30	191.17	5,586.5	-357.4	-70.6	364.3	0.00	0.00	
5,677.8	4.30	191.17	5,664.0	-363.1	-71.7	370.1	0.00	0.00	Ohio Creek
5,700.0	4.30	191.17	5,686.2	-364.8	-72.0	371.8	0.00	0.00	
5,727.4	4.30	191.17	5,713.5	-366.8	-72.4	373.9	0.00	0.00	Start Drop -1.50
5,800.0	3.21	191.17	5,785.9	-371.5	-73.3	378.6	1.50	-1.50	
5,878.1	2.04	191.17	5,864.0	-375.0	-74.0	382.2	1.50	-1.50	Williams Fork
5,900.0	1.71	191.17	5,885.8	-375.7	-74.2	382.9	1.50	-1.50	
6,000.0	0.21	191.17	5,985.8	-377.3	-74.5	384.6	1.50	-1.50	
6,014.2	0.00	0.00	6,000.0	-377.3	-74.5	384.6	1.50	-1.50	EOD; inc=0° - Oxy 21-5D TGT
6,100.0	0.00	0.00	6,085.8	-377.3	-74.5	384.6	0.00	0.00	
6,200.0	0.00	0.00	6,185.8	-377.3	-74.5	384.6	0.00	0.00	
6,300.0	0.00	0.00	6,285.8	-377.3	-74.5	384.6	0.00	0.00	
6,400.0	0.00	0.00	6,385.8	-377.3	-74.5	384.6	0.00	0.00	
6,500.0	0.00	0.00	6,485.8	-377.3	-74.5	384.6	0.00	0.00	
6,600.0	0.00	0.00	6,585.8	-377.3	-74.5	384.6	0.00	0.00	
6,700.0	0.00	0.00	6,685.8	-377.3	-74.5	384.6	0.00	0.00	
6,800.0	0.00	0.00	6,785.8	-377.3	-74.5	384.6	0.00	0.00	
6,878.2	0.00	0.00	6,864.0	-377.3	-74.5	384.6	0.00	0.00	Approx TOG
6,900.0	0.00	0.00	6,885.8	-377.3	-74.5	384.6	0.00	0.00	

Planning Report

Database:	EDM 2003.21 US Multi User DB	Local Co-ordinate Reference:	Well Oxy 21-5D (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 21-5D (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
7,000.0	0.00	0.00	6,985.8	-377.3	-74.5	384.6	0.00	0.00	
7,100.0	0.00	0.00	7,085.8	-377.3	-74.5	384.6	0.00	0.00	
7,200.0	0.00	0.00	7,185.8	-377.3	-74.5	384.6	0.00	0.00	
7,300.0	0.00	0.00	7,285.8	-377.3	-74.5	384.6	0.00	0.00	
7,400.0	0.00	0.00	7,385.8	-377.3	-74.5	384.6	0.00	0.00	
7,500.0	0.00	0.00	7,485.8	-377.3	-74.5	384.6	0.00	0.00	
7,600.0	0.00	0.00	7,585.8	-377.3	-74.5	384.6	0.00	0.00	
7,700.0	0.00	0.00	7,685.8	-377.3	-74.5	384.6	0.00	0.00	
7,800.0	0.00	0.00	7,785.8	-377.3	-74.5	384.6	0.00	0.00	
7,900.0	0.00	0.00	7,885.8	-377.3	-74.5	384.6	0.00	0.00	
8,000.0	0.00	0.00	7,985.8	-377.3	-74.5	384.6	0.00	0.00	
8,100.0	0.00	0.00	8,085.8	-377.3	-74.5	384.6	0.00	0.00	
8,200.0	0.00	0.00	8,185.8	-377.3	-74.5	384.6	0.00	0.00	
8,228.2	0.00	0.00	8,214.0	-377.3	-74.5	384.6	0.00	0.00	Cameo
8,300.0	0.00	0.00	8,285.8	-377.3	-74.5	384.6	0.00	0.00	
8,400.0	0.00	0.00	8,385.8	-377.3	-74.5	384.6	0.00	0.00	
8,500.0	0.00	0.00	8,485.8	-377.3	-74.5	384.6	0.00	0.00	
8,578.2	0.00	0.00	8,564.0	-377.3	-74.5	384.6	0.00	0.00	Rollins SS
8,600.0	0.00	0.00	8,585.8	-377.3	-74.5	384.6	0.00	0.00	
8,700.0	0.00	0.00	8,685.8	-377.3	-74.5	384.6	0.00	0.00	
8,728.2	0.00	0.00	8,714.0	-377.3	-74.5	384.6	0.00	0.00	TD at 8728.2 - Oxy 21-5D BHL

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Oxy 21-5D TGT	0.00	0.00	6,000.0	-377.3	-74.5	1,620,381.19	2,233,297.31	39.505231	-108.217650
- plan hits target center									
- Point									
Oxy 21-5D BHL	0.00	0.00	8,714.0	-377.3	-74.5	1,620,381.19	2,233,297.31	39.505231	-108.217650
- plan hits target center									
- Rectangle (sides W100.0 H200.0 D0.0)									

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,897.1	1,894.0	Wasatch		0.00	
3,942.9	3,934.0	Ft Union		0.00	
4,444.3	4,434.0	Base Ft Union		0.00	
5,677.8	5,664.0	Ohio Creek		0.00	
5,878.1	5,864.0	Williams Fork		0.00	
6,878.2	6,864.0	Approx TOG		0.00	
8,228.2	8,214.0	Cameo		0.00	
8,578.2	8,564.0	Rollins SS		0.00	

Planning Report

Database:	EDM 2003.21 US Multi User DB	Local Co-ordinate Reference:	Well Oxy 21-5D (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 21-5D (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'
886.8	886.5	-10.6	-2.1	EOB; Inc=4.30°
5,727.4	5,713.5	-366.8	-72.4	Start Drop -1.50
6,014.2	6,000.0	-377.3	-74.5	EOD; inc=0°
8,728.2	8,714.0	-377.3	-74.5	TD at 8728.2

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-5D (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 21-5D (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	8,727.9	Plan #1 (DD)	MWD	Geolink MWD

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
NESE S21-T6S-R97W (Oxy I21 pad)						
Oxy 21-10D (Oxy I21 Pad) - DD - Plan #1	417.2	417.3	29.3	27.9	20.636	CC, ES
Oxy 21-10D (Oxy I21 Pad) - DD - Plan #1	600.0	599.2	32.8	30.7	15.620	SF
Oxy 21-11D (Oxy I21 Pad) - DD - Plan #1	484.7	484.8	45.1	43.4	27.336	CC
Oxy 21-11D (Oxy I21 Pad) - DD - Plan #1	500.0	500.1	45.1	43.4	26.461	ES
Oxy 21-11D (Oxy I21 Pad) - DD - Plan #1	800.0	798.2	54.2	51.3	18.865	SF
Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	60.6	59.6	60.914	CC
Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1	400.0	399.8	60.7	59.4	45.149	ES
Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1	900.0	895.1	82.8	79.5	25.125	SF
Oxy 21-13D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	75.3	74.3	75.680	CC, ES
Oxy 21-13D (Oxy I21 Pad) - DD - Plan #1	1,000.0	989.6	117.0	113.3	31.548	SF
Oxy 21-14D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	90.0	89.0	90.440	CC, ES
Oxy 21-14D (Oxy I21 Pad) - DD - Plan #1	1,000.0	985.2	139.9	136.3	38.312	SF
Oxy 21-15D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	105.3	104.3	105.824	CC, ES
Oxy 21-15D (Oxy I21 Pad) - DD - Plan #1	1,000.0	979.9	163.6	160.0	45.657	SF
Oxy 21-16D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	120.1	119.1	120.704	CC, ES
Oxy 21-16D (Oxy I21 Pad) - DD - Plan #1	1,000.0	975.6	183.8	180.3	51.994	SF
Oxy 21-17D (Oxy I21 pad) - DD - Plan #1	200.0	200.0	119.7	119.0	185.297	CC, ES
Oxy 21-17D (Oxy I21 pad) - DD - Plan #1	1,000.0	969.3	200.1	196.5	56.228	SF
Oxy 21-1D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	44.7	43.7	44.909	CC, ES
Oxy 21-1D (Oxy I21 Pad) - DD - Plan #1	900.0	891.1	76.2	73.0	24.437	SF
Oxy 21-2D (Oxy I21 Pad) - DD - Plan #1	946.2	950.1	18.2	14.4	4.753	CC, ES, SF
Oxy 21-3D (Oxy I21 Pad) - DD - Plan #1	500.0	500.0	24.5	22.8	14.463	CC, ES
Oxy 21-3D (Oxy I21 Pad) - DD - Plan #1	900.0	897.7	32.1	29.0	10.309	SF
Oxy 21-4D (Oxy I21 Pad) - DD - Plan #1	600.0	600.0	14.7	12.6	7.194	CC
Oxy 21-4D (Oxy I21 Pad) - DD - Plan #1	900.0	899.1	15.1	12.0	4.873	ES
Oxy 21-4D (Oxy I21 Pad) - DD - Plan #1	1,000.0	998.8	16.7	13.2	4.790	SF
Oxy 21-6D (Oxy I21 Pad) - DD - Plan #1	843.9	1,147.9	49.5	46.5	16.766	CC, ES
Oxy 21-6D (Oxy I21 Pad) - DD - Plan #1	1,500.0	1,802.5	70.5	64.9	12.669	SF
Oxy 21-7D (Oxy I21 Pad) - DD - Plan #1	500.0	500.0	90.2	88.6	53.305	CC, ES
Oxy 21-7D (Oxy I21 Pad) - DD - Plan #1	8,728.2	8,720.6	649.4	619.0	21.352	SF
Oxy 21-8D (Oxy I21 Pad) - DD - Plan #1	500.0	500.0	105.5	103.8	62.321	CC, ES
Oxy 21-8D (Oxy I21 Pad) - DD - Plan #1	8,728.2	8,734.8	974.5	944.1	31.996	SF
Oxy 21-9D (Oxy I21 Pad) - DD - Plan #1	391.4	391.5	14.5	13.2	10.959	CC
Oxy 21-9D (Oxy I21 Pad) - DD - Plan #1	400.0	400.1	14.5	13.2	10.715	ES
Oxy 21-9D (Oxy I21 Pad) - DD - Plan #1	500.0	499.8	16.1	14.4	9.370	SF

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 21-5D (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 21-5D (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: 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	-33.07	25.1	-16.4	30.0					
100.0	100.0	100.0	100.0	0.1	0.1	-33.07	25.1	-16.4	30.0	29.7	0.30	101.080		
200.0	200.0	200.0	200.0	0.3	0.3	-33.07	25.1	-16.4	30.0	29.3	0.65	46.442		
300.0	300.0	300.1	300.1	0.5	0.5	-35.54	24.2	-17.3	29.7	28.8	1.00	29.833		
400.0	400.0	400.1	400.0	0.7	0.7	-43.13	21.4	-20.1	29.4	28.0	1.36	21.627		
417.2	417.2	417.3	417.2	0.7	0.7	-44.97	20.8	-20.7	29.3	27.9	1.42	20.636 CC, ES		
500.0	500.0	499.9	499.6	0.8	0.9	-55.74	16.8	-24.7	29.9	28.1	1.73	17.269		
600.0	600.0	599.2	598.5	1.0	1.1	-71.51	10.4	-31.1	32.8	30.7	2.10	15.620 SF		
700.0	700.0	698.1	696.7	1.2	1.4	83.83	2.2	-39.3	39.4	36.9	2.50	15.755		
800.0	799.9	796.7	794.2	1.4	1.7	75.43	-7.7	-49.3	48.7	45.8	2.88	16.896		
900.0	899.7	894.9	891.0	1.6	2.0	70.64	-19.4	-61.0	59.8	56.6	3.28	18.256		
1,000.0	999.4	992.5	986.8	1.8	2.4	67.08	-32.8	-74.3	73.0	69.4	3.68	19.837		
1,100.0	1,099.1	1,089.4	1,081.4	2.0	2.8	63.79	-47.7	-89.3	88.6	84.5	4.08	21.708		
1,200.0	1,198.8	1,185.5	1,174.6	2.2	3.2	60.87	-64.2	-105.8	106.6	102.1	4.48	23.816		
1,300.0	1,298.6	1,280.7	1,266.3	2.4	3.7	58.34	-82.2	-123.8	127.0	122.1	4.86	26.114		
1,400.0	1,398.3	1,374.7	1,356.3	2.6	4.2	56.16	-101.5	-143.2	149.8	144.6	5.25	28.564		
1,500.0	1,498.0	1,467.7	1,444.5	2.8	4.7	54.28	-122.2	-163.8	175.0	169.4	5.62	31.135		
1,600.0	1,597.7	1,561.0	1,532.4	3.0	5.3	52.65	-144.3	-186.0	202.5	196.5	5.99	33.783		
1,700.0	1,697.4	1,656.8	1,622.5	3.2	5.9	51.34	-167.4	-209.1	230.5	224.1	6.37	36.189		
1,800.0	1,797.2	1,752.7	1,712.7	3.4	6.5	50.31	-190.5	-232.2	258.6	251.9	6.75	38.338		
1,900.0	1,896.9	1,848.6	1,802.8	3.6	7.1	49.48	-213.6	-255.4	286.8	279.7	7.12	40.266		
2,000.0	1,996.6	1,944.4	1,892.9	3.9	7.7	48.79	-236.7	-278.5	315.0	307.5	7.50	42.003		
2,100.0	2,096.3	2,040.3	1,983.0	4.1	8.3	48.22	-259.8	-301.6	343.3	335.4	7.88	43.577		
2,200.0	2,196.0	2,136.2	2,073.2	4.3	8.9	47.74	-282.8	-324.7	371.6	363.3	8.26	45.009		
2,300.0	2,295.7	2,232.1	2,163.3	4.5	9.5	47.33	-305.9	-347.8	399.9	391.3	8.63	46.316		
2,400.0	2,395.5	2,327.9	2,253.4	4.7	10.1	46.97	-329.0	-370.9	428.2	419.2	9.01	47.515		
2,500.0	2,495.2	2,423.8	2,343.6	4.9	10.7	46.65	-352.1	-394.1	456.6	447.2	9.39	48.617		
2,600.0	2,594.9	2,519.7	2,433.7	5.2	11.3	46.37	-375.2	-417.2	484.9	475.2	9.77	49.635		
2,700.0	2,694.6	2,615.5	2,523.8	5.4	11.9	46.13	-398.3	-440.3	513.3	503.1	10.15	50.577		
2,800.0	2,794.3	2,711.4	2,614.0	5.6	12.5	45.91	-421.4	-463.4	541.7	531.1	10.53	51.452		
2,900.0	2,894.1	2,807.3	2,704.1	5.8	13.1	45.71	-444.5	-486.5	570.0	559.1	10.91	52.266		
3,000.0	2,993.8	2,903.2	2,794.2	6.0	13.7	45.53	-467.6	-509.6	598.4	587.1	11.29	53.026		
3,100.0	3,093.5	2,999.0	2,884.4	6.2	14.3	45.36	-490.6	-532.8	626.8	615.1	11.66	53.736		
3,200.0	3,193.2	3,094.9	2,974.5	6.5	14.9	45.21	-513.7	-555.9	655.2	643.2	12.04	54.401		
3,300.0	3,292.9	3,190.8	3,064.6	6.7	15.5	45.07	-536.8	-579.0	683.6	671.2	12.42	55.027		
3,400.0	3,392.6	3,286.6	3,154.8	6.9	16.1	44.95	-559.9	-602.1	712.0	699.2	12.80	55.615		
3,500.0	3,492.4	3,382.5	3,244.9	7.1	16.7	44.83	-583.0	-625.2	740.4	727.2	13.18	56.169		
3,600.0	3,592.1	3,478.4	3,335.0	7.3	17.4	44.72	-606.1	-648.3	768.8	755.2	13.56	56.693		
3,700.0	3,691.8	3,574.3	3,425.2	7.5	18.0	44.62	-629.2	-671.5	797.2	783.3	13.94	57.188		
3,800.0	3,791.5	3,670.1	3,515.3	7.8	18.6	44.53	-652.3	-694.6	825.6	811.3	14.32	57.656		
3,900.0	3,891.2	3,766.0	3,605.4	8.0	19.2	44.44	-675.4	-717.7	854.0	839.3	14.70	58.101		
4,000.0	3,991.0	3,861.9	3,695.6	8.2	19.8	44.36	-698.5	-740.8	882.4	867.4	15.08	58.523		
4,100.0	4,090.7	3,957.7	3,785.7	8.4	20.4	44.28	-721.5	-763.9	910.9	895.4	15.46	58.925		
4,200.0	4,190.4	4,053.6	3,875.8	8.6	21.0	44.21	-744.6	-787.1	939.3	923.4	15.84	59.307		
4,300.0	4,290.1	4,149.5	3,966.0	8.8	21.6	44.14	-767.7	-810.2	967.7	951.5	16.22	59.672		
4,400.0	4,389.8	4,245.4	4,056.1	9.1	22.2	44.08	-790.8	-833.3	996.1	979.5	16.60	60.020		
4,500.0	4,489.6	4,341.2	4,146.2	9.3	22.8	44.02	-813.9	-856.4	1,024.5	1,007.5	16.98	60.352		
4,600.0	4,589.3	4,437.1	4,236.4	9.5	23.4	43.96	-837.0	-879.5	1,052.9	1,035.6	17.36	60.670		
4,700.0	4,689.0	4,533.0	4,326.5	9.7	24.0	43.91	-860.1	-902.6	1,081.4	1,063.6	17.73	60.974		
4,800.0	4,788.7	4,628.8	4,416.6	9.9	24.7	43.85	-883.2	-925.8	1,109.8	1,091.7	18.11	61.265		

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 21-5D (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 21-5D (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 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	-32.39	38.2	-24.3	45.3					
100.0	100.0	100.0	100.0	0.1	0.1	-32.39	38.2	-24.3	45.3	45.0	0.30	152.656		
200.0	200.0	200.0	200.0	0.3	0.3	-32.39	38.2	-24.3	45.3	44.6	0.65	70.139		
300.0	300.0	300.0	300.0	0.5	0.5	-32.39	38.2	-24.3	45.3	44.3	0.99	45.529		
400.0	400.0	400.1	400.1	0.7	0.7	-34.05	37.4	-25.3	45.2	43.8	1.35	33.579		
484.7	484.7	484.8	484.7	0.8	0.8	-38.06	35.5	-27.8	45.1	43.4	1.65	27.336 CC		
500.0	500.0	500.1	500.0	0.8	0.9	-39.03	35.0	-28.4	45.1	43.4	1.70	26.461 ES		
600.0	600.0	599.7	599.4	1.0	1.1	-47.24	31.0	-33.5	45.7	43.6	2.07	22.022		
700.0	700.0	699.1	698.4	1.2	1.3	112.22	25.4	-40.7	48.5	46.0	2.47	19.651		
800.0	799.9	798.2	796.8	1.4	1.5	104.25	18.2	-49.8	54.2	51.3	2.87	18.865 SF		
900.0	899.7	896.9	894.5	1.6	1.8	98.23	9.6	-60.9	62.5	59.2	3.30	18.933		
1,000.0	999.4	995.1	991.3	1.8	2.1	92.91	-0.6	-73.9	73.0	69.2	3.75	19.486		
1,100.0	1,099.1	1,092.8	1,087.1	2.0	2.5	87.71	-12.3	-88.8	85.6	81.4	4.19	20.441		
1,200.0	1,198.8	1,189.6	1,181.6	2.2	2.9	82.90	-25.3	-105.5	100.7	96.0	4.63	21.757		
1,300.0	1,298.6	1,285.6	1,274.7	2.4	3.3	78.62	-39.7	-123.8	118.2	113.1	5.05	23.381		
1,400.0	1,398.3	1,380.6	1,366.3	2.6	3.8	74.88	-55.4	-143.8	138.2	132.8	5.47	25.260		
1,500.0	1,498.0	1,475.1	1,456.7	2.8	4.3	71.66	-72.3	-165.5	160.8	154.9	5.88	27.358		
1,600.0	1,597.7	1,572.0	1,549.1	3.0	4.8	69.02	-90.2	-188.3	184.4	178.1	6.28	29.377		
1,700.0	1,697.4	1,668.8	1,641.5	3.2	5.3	66.99	-108.0	-211.1	208.4	201.7	6.68	31.208		
1,800.0	1,797.2	1,765.7	1,733.9	3.4	5.8	65.37	-125.9	-233.9	232.5	225.5	7.08	32.867		
1,900.0	1,896.9	1,862.5	1,826.3	3.6	6.4	64.06	-143.7	-256.7	256.8	249.4	7.47	34.372		
2,000.0	1,996.6	1,959.4	1,918.7	3.9	6.9	62.98	-161.6	-279.5	281.2	273.4	7.87	35.740		
2,100.0	2,096.3	2,056.2	2,011.2	4.1	7.5	62.06	-179.5	-302.3	305.7	297.5	8.27	36.987		
2,200.0	2,196.0	2,153.1	2,103.6	4.3	8.0	61.29	-197.3	-325.2	330.3	321.6	8.66	38.129		
2,300.0	2,295.7	2,249.9	2,196.0	4.5	8.5	60.62	-215.2	-348.0	354.9	345.8	9.06	39.176		
2,400.0	2,395.5	2,346.8	2,288.4	4.7	9.1	60.03	-233.0	-370.8	379.5	370.1	9.45	40.139		
2,500.0	2,495.2	2,443.6	2,380.8	4.9	9.6	59.52	-250.9	-393.6	404.2	394.3	9.85	41.029		
2,600.0	2,594.9	2,540.5	2,473.2	5.2	10.1	59.07	-268.8	-416.4	428.9	418.6	10.25	41.852		
2,700.0	2,694.6	2,637.3	2,565.6	5.4	10.7	58.67	-286.6	-439.2	453.6	442.9	10.64	42.616		
2,800.0	2,794.3	2,734.2	2,658.1	5.6	11.2	58.30	-304.5	-462.0	478.3	467.3	11.04	43.327		
2,900.0	2,894.1	2,831.0	2,750.5	5.8	11.8	57.98	-322.4	-484.9	503.1	491.6	11.44	43.990		
3,000.0	2,993.8	2,927.9	2,842.9	6.0	12.3	57.68	-340.2	-507.7	527.8	516.0	11.83	44.609		
3,100.0	3,093.5	3,024.7	2,935.3	6.2	12.9	57.41	-358.1	-530.5	552.6	540.4	12.23	45.190		
3,200.0	3,193.2	3,121.6	3,027.7	6.5	13.4	57.17	-375.9	-553.3	577.4	564.8	12.63	45.734		
3,300.0	3,292.9	3,218.4	3,120.1	6.7	13.9	56.94	-393.8	-576.1	602.2	589.2	13.02	46.246		
3,400.0	3,392.6	3,315.3	3,212.5	6.9	14.5	56.73	-411.7	-598.9	627.0	613.6	13.42	46.729		
3,500.0	3,492.4	3,412.1	3,305.0	7.1	15.0	56.54	-429.5	-621.7	651.8	638.0	13.81	47.184		
3,600.0	3,592.1	3,509.0	3,397.4	7.3	15.6	56.36	-447.4	-644.6	676.6	662.4	14.21	47.614		
3,700.0	3,691.8	3,605.8	3,489.8	7.5	16.1	56.20	-465.2	-667.4	701.5	686.8	14.61	48.021		
3,800.0	3,791.5	3,702.7	3,582.2	7.8	16.7	56.04	-483.1	-690.2	726.3	711.3	15.00	48.407		
3,900.0	3,891.2	3,799.5	3,674.6	8.0	17.2	55.90	-501.0	-713.0	751.1	735.7	15.40	48.773		
4,000.0	3,991.0	3,896.4	3,767.0	8.2	17.8	55.76	-518.8	-735.8	776.0	760.2	15.80	49.121		
4,100.0	4,090.7	3,993.2	3,859.4	8.4	18.3	55.64	-536.7	-758.6	800.8	784.6	16.19	49.452		
4,200.0	4,190.4	4,090.1	3,951.9	8.6	18.8	55.52	-554.6	-781.4	825.6	809.1	16.59	49.768		
4,300.0	4,290.1	4,186.9	4,044.3	8.8	19.4	55.41	-572.4	-804.3	850.5	833.5	16.99	50.069		
4,400.0	4,389.8	4,283.8	4,136.7	9.1	19.9	55.30	-590.3	-827.1	875.3	858.0	17.38	50.356		
4,500.0	4,489.6	4,380.6	4,229.1	9.3	20.5	55.20	-608.1	-849.9	900.2	882.4	17.78	50.631		
4,600.0	4,589.3	4,477.5	4,321.5	9.5	21.0	55.11	-626.0	-872.7	925.1	906.9	18.18	50.893		
4,700.0	4,689.0	4,574.3	4,413.9	9.7	21.6	55.02	-643.9	-895.5	949.9	931.3	18.57	51.145		
4,800.0	4,788.7	4,671.2	4,506.4	9.9	22.1	54.93	-661.7	-918.3	974.8	955.8	18.97	51.386		
4,900.0	4,888.4	4,768.0	4,598.8	10.1	22.7	54.85	-679.6	-941.1	999.6	980.3	19.37	51.617		
5,000.0	4,988.1	4,864.9	4,691.2	10.4	23.2	54.78	-697.4	-964.0	1,024.5	1,004.7	19.76	51.840		

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 21-5D (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 21-5D (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							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S	+E/-W	Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)				
5,100.0	5,087.9	4,961.7	4,783.6	10.6	23.8	54.70	-715.3	-986.8	1,049.4	1,029.2	20.16	52.053		
5,200.0	5,187.6	5,058.6	4,876.0	10.8	24.3	54.63	-733.2	-1,009.6	1,074.2	1,053.7	20.56	52.258		
5,300.0	5,287.3	5,155.4	4,968.4	11.0	24.8	54.57	-751.0	-1,032.4	1,099.1	1,078.2	20.95	52.456		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-5D (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 21-5D (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							
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	-32.06	51.4	-32.2	60.6					
100.0	100.0	100.0	100.0	0.1	0.1	-32.06	51.4	-32.2	60.6	60.3	0.30	204.241		
200.0	200.0	200.0	200.0	0.3	0.3	-32.06	51.4	-32.2	60.6	60.0	0.65	93.841		
300.0	300.0	300.0	300.0	0.5	0.5	-32.06	51.4	-32.2	60.6	59.6	0.99	60.914 CC		
400.0	400.0	399.8	399.8	0.7	0.7	-33.29	50.8	-33.3	60.7	59.4	1.35	45.149 ES		
500.0	500.0	499.5	499.5	0.8	0.9	-36.92	49.0	-36.8	61.3	59.6	1.70	36.007		
600.0	600.0	599.0	598.7	1.0	1.1	-42.77	46.0	-42.6	62.7	60.7	2.07	30.315		
700.0	700.0	698.1	697.4	1.2	1.3	119.40	41.9	-50.6	66.4	64.0	2.46	26.997		
800.0	799.9	796.8	795.4	1.4	1.5	113.56	36.7	-60.9	73.2	70.3	2.87	25.537		
900.0	899.7	895.1	892.7	1.6	1.8	108.91	30.3	-73.4	82.8	79.5	3.29	25.125 SF		
1,000.0	999.4	992.9	989.1	1.8	2.1	104.68	22.8	-88.0	94.6	90.8	3.74	25.274		
1,100.0	1,099.1	1,090.0	1,084.4	2.0	2.5	100.40	14.3	-104.7	108.4	104.2	4.20	25.836		
1,200.0	1,198.8	1,186.4	1,178.4	2.2	2.9	96.30	4.8	-123.3	124.5	119.9	4.65	26.766		
1,300.0	1,298.6	1,281.8	1,271.0	2.4	3.3	92.51	-5.8	-143.9	143.0	137.9	5.10	28.015		
1,400.0	1,398.3	1,376.5	1,362.3	2.6	3.8	89.08	-17.2	-166.3	163.8	158.3	5.54	29.553		
1,500.0	1,498.0	1,473.6	1,455.6	2.8	4.2	86.18	-29.4	-190.2	186.0	180.0	5.98	31.100		
1,600.0	1,597.7	1,570.7	1,549.0	3.0	4.7	83.89	-41.6	-214.0	208.5	202.1	6.41	32.523		
1,700.0	1,697.4	1,667.9	1,642.4	3.2	5.2	82.05	-53.8	-237.9	231.3	224.4	6.84	33.823		
1,800.0	1,797.2	1,765.0	1,735.7	3.4	5.7	80.53	-66.0	-261.8	254.2	247.0	7.26	35.008		
1,900.0	1,896.9	1,862.1	1,829.1	3.6	6.2	79.27	-78.2	-285.6	277.3	269.6	7.68	36.090		
2,000.0	1,996.6	1,959.3	1,922.5	3.9	6.7	78.20	-90.4	-309.5	300.5	292.4	8.10	37.079		
2,100.0	2,096.3	2,056.4	2,015.8	4.1	7.2	77.29	-102.6	-333.3	323.8	315.3	8.52	37.985		
2,200.0	2,196.0	2,153.5	2,109.2	4.3	7.7	76.49	-114.8	-357.2	347.1	338.2	8.94	38.817		
2,300.0	2,295.7	2,250.6	2,202.5	4.5	8.2	75.80	-127.0	-381.0	370.5	361.2	9.36	39.583		
2,400.0	2,395.5	2,347.8	2,295.9	4.7	8.7	75.19	-139.2	-404.9	394.0	384.2	9.78	40.290		
2,500.0	2,495.2	2,444.9	2,389.3	4.9	9.2	74.65	-151.4	-428.7	417.5	407.3	10.20	40.945		
2,600.0	2,594.9	2,542.0	2,482.6	5.2	9.7	74.16	-163.6	-452.6	441.0	430.4	10.61	41.552		
2,700.0	2,694.6	2,639.2	2,576.0	5.4	10.2	73.73	-175.8	-476.5	464.6	453.5	11.03	42.116		
2,800.0	2,794.3	2,736.3	2,669.4	5.6	10.8	73.33	-188.0	-500.3	488.1	476.7	11.45	42.643		
2,900.0	2,894.1	2,833.4	2,762.7	5.8	11.3	72.98	-200.2	-524.2	511.7	499.9	11.86	43.134		
3,000.0	2,993.8	2,930.6	2,856.1	6.0	11.8	72.65	-212.3	-548.0	535.3	523.0	12.28	43.595		
3,100.0	3,093.5	3,027.7	2,949.4	6.2	12.3	72.35	-224.5	-571.9	559.0	546.3	12.70	44.026		
3,200.0	3,193.2	3,124.8	3,042.8	6.5	12.8	72.08	-236.7	-595.7	582.6	569.5	13.11	44.432		
3,300.0	3,292.9	3,222.0	3,136.2	6.7	13.3	71.83	-248.9	-619.6	606.2	592.7	13.53	44.814		
3,400.0	3,392.6	3,319.1	3,229.5	6.9	13.8	71.59	-261.1	-643.5	629.9	615.9	13.94	45.174		
3,500.0	3,492.4	3,416.2	3,322.9	7.1	14.3	71.38	-273.3	-667.3	653.6	639.2	14.36	45.514		
3,600.0	3,592.1	3,513.3	3,416.2	7.3	14.8	71.18	-285.5	-691.2	677.2	662.5	14.78	45.835		
3,700.0	3,691.8	3,610.5	3,509.6	7.5	15.3	70.99	-297.7	-715.0	700.9	685.7	15.19	46.140		
3,800.0	3,791.5	3,707.6	3,603.0	7.8	15.8	70.81	-309.9	-738.9	724.6	709.0	15.61	46.429		
3,900.0	3,891.2	3,804.7	3,696.3	8.0	16.3	70.65	-322.1	-762.7	748.3	732.3	16.02	46.703		
4,000.0	3,991.0	3,901.9	3,789.7	8.2	16.8	70.49	-334.3	-786.6	772.0	755.6	16.44	46.964		
4,100.0	4,090.7	3,999.0	3,883.1	8.4	17.4	70.35	-346.5	-810.4	795.7	778.9	16.85	47.213		
4,200.0	4,190.4	4,096.1	3,976.4	8.6	17.9	70.21	-358.7	-834.3	819.4	802.2	17.27	47.450		
4,300.0	4,290.1	4,193.3	4,069.8	8.8	18.4	70.08	-370.9	-858.2	843.1	825.5	17.68	47.676		
4,400.0	4,389.8	4,290.4	4,163.1	9.1	18.9	69.96	-383.1	-882.0	866.9	848.8	18.10	47.892		
4,500.0	4,489.6	4,387.5	4,256.5	9.3	19.4	69.84	-395.3	-905.9	890.6	872.1	18.52	48.098		
4,600.0	4,589.3	4,484.6	4,349.9	9.5	19.9	69.73	-407.5	-929.7	914.3	895.4	18.93	48.296		
4,700.0	4,689.0	4,581.8	4,443.2	9.7	20.4	69.63	-419.7	-953.6	938.0	918.7	19.35	48.485		
4,800.0	4,788.7	4,678.9	4,536.6	9.9	20.9	69.53	-431.9	-977.4	961.8	942.0	19.76	48.667		
4,900.0	4,888.4	4,776.0	4,630.0	10.1	21.4	69.44	-444.1	-1,001.3	985.5	965.3	20.18	48.841		
5,000.0	4,988.1	4,873.2	4,723.3	10.4	21.9	69.35	-456.3	-1,025.1	1,009.2	988.6	20.59	49.009		
5,100.0	5,087.9	4,970.3	4,816.7	10.6	22.5	69.26	-468.4	-1,049.0	1,033.0	1,012.0	21.01	49.169		

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 21-5D (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 21-5D (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	5,187.6	5,067.4	4,910.0	10.8	23.0	69.18	-480.6	-1,072.9	1,056.7	1,035.3	21.42	49.324		
5,300.0	5,287.3	5,164.6	5,003.4	11.0	23.5	69.10	-492.8	-1,096.7	1,080.5	1,058.6	21.84	49.473		
5,400.0	5,387.0	5,261.7	5,096.8	11.2	24.0	69.03	-505.0	-1,120.6	1,104.2	1,081.9	22.25	49.617		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-5D (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 21-5D (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		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, ES		
400.0	400.0	399.4	399.4	0.7	0.7	-33.09	63.4	-41.3	75.7	74.3	1.34	56.289		
500.0	500.0	498.7	498.6	0.8	0.9	-35.86	62.3	-45.0	76.9	75.2	1.70	45.263		
600.0	600.0	597.8	597.5	1.0	1.1	-40.23	60.5	-51.2	79.3	77.3	2.06	38.471		
700.0	700.0	696.5	695.7	1.2	1.3	123.65	58.0	-59.8	84.2	81.7	2.45	34.375		
800.0	799.9	794.7	793.3	1.4	1.5	119.31	54.9	-70.8	92.3	89.4	2.85	32.414		
900.0	899.7	892.5	890.1	1.6	1.8	115.80	51.0	-84.1	103.5	100.2	3.27	31.665		
1,000.0	999.4	989.6	985.9	1.8	2.1	112.59	46.5	-99.7	117.0	113.3	3.71	31.548 SF		
1,100.0	1,099.1	1,086.0	1,080.5	2.0	2.5	109.27	41.4	-117.5	132.4	128.3	4.16	31.858		
1,200.0	1,198.8	1,181.6	1,173.8	2.2	2.9	106.01	35.7	-137.4	150.1	145.5	4.61	32.538		
1,300.0	1,298.6	1,277.5	1,267.0	2.4	3.3	102.92	29.3	-159.4	169.8	164.8	5.06	33.538		
1,400.0	1,398.3	1,375.1	1,361.6	2.6	3.7	100.34	22.8	-182.2	190.3	184.8	5.51	34.519		
1,500.0	1,498.0	1,472.6	1,456.2	2.8	4.1	98.27	16.2	-205.1	211.1	205.2	5.96	35.428		
1,600.0	1,597.7	1,570.2	1,550.8	3.0	4.6	96.56	9.6	-227.9	232.2	225.7	6.40	36.264		
1,700.0	1,697.4	1,667.8	1,645.4	3.2	5.0	95.14	3.0	-250.7	253.3	246.5	6.84	37.030		
1,800.0	1,797.2	1,765.3	1,740.0	3.4	5.5	93.94	-3.6	-273.5	274.6	267.4	7.28	37.731		
1,900.0	1,896.9	1,862.9	1,834.7	3.6	5.9	92.91	-10.1	-296.4	296.0	288.3	7.71	38.373		
2,000.0	1,996.6	1,960.4	1,929.3	3.9	6.4	92.02	-16.7	-319.2	317.5	309.4	8.15	38.962		
2,100.0	2,096.3	2,058.0	2,023.9	4.1	6.8	91.25	-23.3	-342.0	339.1	330.5	8.58	39.504		
2,200.0	2,196.0	2,155.5	2,118.5	4.3	7.3	90.56	-29.9	-364.8	360.7	351.7	9.02	40.002		
2,300.0	2,295.7	2,253.1	2,213.1	4.5	7.7	89.96	-36.5	-387.6	382.3	372.9	9.45	40.463		
2,400.0	2,395.5	2,350.6	2,307.8	4.7	8.2	89.42	-43.0	-410.5	404.0	394.1	9.88	40.890		
2,500.0	2,495.2	2,448.2	2,402.4	4.9	8.6	88.93	-49.6	-433.3	425.7	415.4	10.31	41.285		
2,600.0	2,594.9	2,545.7	2,497.0	5.2	9.1	88.49	-56.2	-456.1	447.4	436.7	10.74	41.653		
2,700.0	2,694.6	2,643.3	2,591.6	5.4	9.5	88.09	-62.8	-478.9	469.2	458.0	11.17	41.996		
2,800.0	2,794.3	2,740.9	2,686.2	5.6	10.0	87.73	-69.3	-501.7	491.0	479.4	11.60	42.316		
2,900.0	2,894.1	2,838.4	2,780.9	5.8	10.5	87.39	-75.9	-524.6	512.8	500.8	12.03	42.616		
3,000.0	2,993.8	2,936.0	2,875.5	6.0	10.9	87.09	-82.5	-547.4	534.6	522.1	12.46	42.897		
3,100.0	3,093.5	3,033.5	2,970.1	6.2	11.4	86.81	-89.1	-570.2	556.4	543.5	12.89	43.161		
3,200.0	3,193.2	3,131.1	3,064.7	6.5	11.8	86.55	-95.7	-593.0	578.3	564.9	13.32	43.409		
3,300.0	3,292.9	3,228.6	3,159.3	6.7	12.3	86.31	-102.2	-615.9	600.1	586.4	13.75	43.644		
3,400.0	3,392.6	3,326.2	3,253.9	6.9	12.7	86.08	-108.8	-638.7	622.0	607.8	14.18	43.865		
3,500.0	3,492.4	3,423.7	3,348.6	7.1	13.2	85.87	-115.4	-661.5	643.8	629.2	14.61	44.073		
3,600.0	3,592.1	3,521.3	3,443.2	7.3	13.6	85.68	-122.0	-684.3	665.7	650.7	15.04	44.271		
3,700.0	3,691.8	3,618.8	3,537.8	7.5	14.1	85.49	-128.6	-707.1	687.6	672.1	15.47	44.459		
3,800.0	3,791.5	3,716.4	3,632.4	7.8	14.6	85.32	-135.1	-730.0	709.5	693.6	15.89	44.637		
3,900.0	3,891.2	3,813.9	3,727.0	8.0	15.0	85.16	-141.7	-752.8	731.4	715.1	16.32	44.806		
4,000.0	3,991.0	3,911.5	3,821.7	8.2	15.5	85.01	-148.3	-775.6	753.3	736.5	16.75	44.968		
4,100.0	4,090.7	4,009.1	3,916.3	8.4	15.9	84.86	-154.9	-798.4	775.2	758.0	17.18	45.121		
4,200.0	4,190.4	4,106.6	4,010.9	8.6	16.4	84.73	-161.4	-821.2	797.1	779.5	17.61	45.268		
4,300.0	4,290.1	4,204.2	4,105.5	8.8	16.8	84.60	-168.0	-844.1	819.0	801.0	18.04	45.408		
4,400.0	4,389.8	4,301.7	4,200.1	9.1	17.3	84.48	-174.6	-866.9	840.9	822.4	18.46	45.541		
4,500.0	4,489.6	4,399.3	4,294.7	9.3	17.8	84.36	-181.2	-889.7	862.8	843.9	18.89	45.669		
4,600.0	4,589.3	4,496.8	4,389.4	9.5	18.2	84.25	-187.8	-912.5	884.7	865.4	19.32	45.792		
4,700.0	4,689.0	4,594.4	4,484.0	9.7	18.7	84.15	-194.3	-935.4	906.7	886.9	19.75	45.909		
4,800.0	4,788.7	4,691.9	4,578.6	9.9	19.1	84.05	-200.9	-958.2	928.6	908.4	20.18	46.022		
4,900.0	4,888.4	4,789.5	4,673.2	10.1	19.6	83.95	-207.5	-981.0	950.5	929.9	20.61	46.130		
5,000.0	4,988.1	4,887.0	4,767.8	10.4	20.0	83.86	-214.1	-1,003.8	972.5	951.4	21.03	46.234		
5,100.0	5,087.9	4,984.6	4,862.5	10.6	20.5	83.78	-220.7	-1,026.6	994.4	972.9	21.46	46.334		

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 21-5D (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 21-5D (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	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor							
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)								
5,200.0	5,187.6	5,082.1	4,957.1	10.8	21.0	83.69	-227.2	-1,049.5	1,016.3	994.4	21.89	46.430						
5,300.0	5,287.3	5,179.7	5,051.7	11.0	21.4	83.62	-233.8	-1,072.3	1,038.3	1,016.0	22.32	46.523						
5,400.0	5,387.0	5,277.3	5,146.3	11.2	21.9	83.54	-240.4	-1,095.1	1,060.2	1,037.5	22.75	46.612						
5,500.0	5,486.7	5,374.8	5,240.9	11.5	22.3	83.47	-247.0	-1,117.9	1,082.2	1,059.0	23.17	46.699						
5,600.0	5,586.5	5,472.4	5,335.6	11.7	22.8	83.40	-253.5	-1,140.7	1,104.1	1,080.5	23.60	46.782						

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-5D (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 21-5D (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	-32.64	75.8	-48.5	90.0							
100.0	100.0	100.0	100.0	0.1	0.1	-32.64	75.8	-48.5	90.0	89.7	0.30	303.241				
200.0	200.0	200.0	200.0	0.3	0.3	-32.64	75.8	-48.5	90.0	89.3	0.65	139.327				
300.0	300.0	300.0	300.0	0.5	0.5	-32.64	75.8	-48.5	90.0	89.0	0.99	90.440	CC, ES			
400.0	400.0	398.9	398.9	0.7	0.7	-33.36	75.7	-49.8	90.6	89.2	1.34	67.460				
500.0	500.0	497.6	497.5	0.8	0.9	-35.44	75.4	-53.6	92.5	90.8	1.69	54.589				
600.0	600.0	596.1	595.8	1.0	1.0	-38.70	74.8	-60.0	96.0	93.9	2.05	46.760				
700.0	700.0	694.2	693.5	1.2	1.3	126.48	74.1	-68.8	102.1	99.7	2.43	41.969				
800.0	799.9	791.9	790.5	1.4	1.5	123.34	73.2	-80.1	111.7	108.9	2.82	39.599				
900.0	899.7	888.9	886.6	1.6	1.8	120.83	72.1	-93.7	124.6	121.4	3.23	38.603				
1,000.0	999.4	985.2	981.6	1.8	2.1	118.55	70.8	-109.6	139.9	136.3	3.65	38.312	SF			
1,100.0	1,099.1	1,080.8	1,075.4	2.0	2.4	116.13	69.4	-127.8	157.3	153.2	4.09	38.472				
1,200.0	1,198.8	1,175.5	1,167.8	2.2	2.8	113.69	67.7	-148.1	176.8	172.2	4.53	39.004				
1,300.0	1,298.6	1,271.9	1,261.6	2.4	3.2	111.37	65.9	-170.5	197.9	193.0	4.98	39.777				
1,400.0	1,398.3	1,369.4	1,356.3	2.6	3.7	109.45	64.1	-193.3	219.4	214.0	5.42	40.489				
1,500.0	1,498.0	1,466.8	1,451.0	2.8	4.1	107.89	62.3	-216.0	241.1	235.3	5.86	41.142				
1,600.0	1,597.7	1,564.2	1,545.8	3.0	4.5	106.57	60.4	-238.8	263.0	256.7	6.30	41.738				
1,700.0	1,697.4	1,661.6	1,640.5	3.2	4.9	105.47	58.6	-261.5	285.0	278.2	6.74	42.282				
1,800.0	1,797.2	1,759.0	1,735.2	3.4	5.4	104.51	56.8	-284.2	307.0	299.8	7.18	42.780				
1,900.0	1,896.9	1,856.5	1,829.9	3.6	5.8	103.69	54.9	-307.0	329.1	321.5	7.61	43.235				
2,000.0	1,996.6	1,953.9	1,924.6	3.9	6.2	102.97	53.1	-329.7	351.3	343.2	8.05	43.653				
2,100.0	2,096.3	2,051.3	2,019.3	4.1	6.7	102.34	51.3	-352.5	373.5	365.0	8.48	44.036				
2,200.0	2,196.0	2,148.7	2,114.0	4.3	7.1	101.77	49.4	-375.2	395.8	386.8	8.92	44.390				
2,300.0	2,295.7	2,246.1	2,208.7	4.5	7.5	101.27	47.6	-398.0	418.0	408.7	9.35	44.717				
2,400.0	2,395.5	2,343.6	2,303.5	4.7	8.0	100.82	45.8	-420.7	440.4	430.6	9.78	45.020				
2,500.0	2,495.2	2,441.0	2,398.2	4.9	8.4	100.41	44.0	-443.5	462.7	452.5	10.21	45.301				
2,600.0	2,594.9	2,538.4	2,492.9	5.2	8.9	100.04	42.1	-466.2	485.1	474.4	10.65	45.562				
2,700.0	2,694.6	2,635.8	2,587.6	5.4	9.3	99.70	40.3	-489.0	507.4	496.4	11.08	45.806				
2,800.0	2,794.3	2,733.3	2,682.3	5.6	9.7	99.39	38.5	-511.7	529.8	518.3	11.51	46.034				
2,900.0	2,894.1	2,830.7	2,777.0	5.8	10.2	99.10	36.6	-534.4	552.2	540.3	11.94	46.247				
3,000.0	2,993.8	2,928.1	2,871.7	6.0	10.6	98.84	34.8	-557.2	574.7	562.3	12.37	46.447				
3,100.0	3,093.5	3,025.5	2,966.4	6.2	11.1	98.60	33.0	-579.9	597.1	584.3	12.80	46.635				
3,200.0	3,193.2	3,122.9	3,061.1	6.5	11.5	98.37	31.1	-602.7	619.5	606.3	13.23	46.812				
3,300.0	3,292.9	3,220.4	3,155.9	6.7	11.9	98.16	29.3	-625.4	642.0	628.3	13.67	46.979				
3,400.0	3,392.6	3,317.8	3,250.6	6.9	12.4	97.97	27.5	-648.2	664.4	650.3	14.10	47.137				
3,500.0	3,492.4	3,415.2	3,345.3	7.1	12.8	97.79	25.6	-670.9	686.9	672.4	14.53	47.286				
3,600.0	3,592.1	3,512.6	3,440.0	7.3	13.3	97.61	23.8	-693.7	709.4	694.4	14.96	47.428				
3,700.0	3,691.8	3,610.1	3,534.7	7.5	13.7	97.45	22.0	-716.4	731.8	716.5	15.39	47.562				
3,800.0	3,791.5	3,707.5	3,629.4	7.8	14.1	97.30	20.1	-739.2	754.3	738.5	15.82	47.689				
3,900.0	3,891.2	3,804.9	3,724.1	8.0	14.6	97.16	18.3	-761.9	776.8	760.6	16.25	47.810				
4,000.0	3,991.0	3,902.3	3,818.8	8.2	15.0	97.03	16.5	-784.6	799.3	782.6	16.68	47.925				
4,100.0	4,090.7	3,999.7	3,913.6	8.4	15.5	96.90	14.6	-807.4	821.8	804.7	17.11	48.035				
4,200.0	4,190.4	4,097.2	4,008.3	8.6	15.9	96.78	12.8	-830.1	844.3	826.8	17.54	48.140				
4,300.0	4,290.1	4,194.6	4,103.0	8.8	16.4	96.67	11.0	-852.9	866.8	848.8	17.97	48.240				
4,400.0	4,389.8	4,292.0	4,197.7	9.1	16.8	96.56	9.1	-875.6	889.3	870.9	18.40	48.336				
4,500.0	4,489.6	4,389.4	4,292.4	9.3	17.2	96.45	7.3	-898.4	911.8	893.0	18.83	48.427				
4,600.0	4,589.3	4,486.9	4,387.1	9.5	17.7	96.36	5.5	-921.1	934.3	915.0	19.26	48.515				
4,700.0	4,689.0	4,584.3	4,481.8	9.7	18.1	96.26	3.6	-943.9	956.8	937.1	19.69	48.599				
4,800.0	4,788.7	4,681.7	4,576.5	9.9	18.6	96.17	1.8	-966.6	979.3	959.2	20.12	48.680				
4,900.0	4,888.4	4,779.1	4,671.2	10.1	19.0	96.09	0.0	-989.3	1,001.8	981.3	20.55	48.758				
5,000.0	4,988.1	4,876.5	4,766.0	10.4	19.5	96.01	-1.9	-1,012.1	1,024.4	1,003.4	20.98	48.832				
5,100.0	5,087.9	4,974.0	4,860.7	10.6	19.9	95.93	-3.7	-1,034.8	1,046.9	1,025.5	21.41	48.904				

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 21-5D (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 21-5D (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	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S	+E/-W	Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)			
5,200.0	5,187.6	5,071.4	4,955.4	10.8	20.3	95.86	-5.5	-1,057.6	1,069.4	1,047.6	21.84	48.973	
5,300.0	5,287.3	5,168.8	5,050.1	11.0	20.8	95.78	-7.3	-1,080.3	1,091.9	1,069.7	22.27	49.040	

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-5D (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 21-5D (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: 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	-32.41	88.9	-56.4	105.3					
100.0	100.0	100.0	100.0	0.1	0.1	-32.41	88.9	-56.4	105.3	105.0	0.30	354.820		
200.0	200.0	200.0	200.0	0.3	0.3	-32.41	88.9	-56.4	105.3	104.6	0.65	163.025		
300.0	300.0	300.0	300.0	0.5	0.5	-32.41	88.9	-56.4	105.3	104.3	0.99	105.824 CC, ES		
400.0	400.0	398.2	398.2	0.7	0.7	-32.93	89.1	-57.7	106.1	104.8	1.34	79.117		
500.0	500.0	496.3	496.2	0.8	0.9	-34.42	89.6	-61.4	108.7	107.0	1.69	64.318		
600.0	600.0	594.1	593.8	1.0	1.0	-36.76	90.5	-67.6	113.2	111.1	2.04	55.410		
700.0	700.0	691.5	690.8	1.2	1.3	129.51	91.8	-76.3	120.5	118.1	2.41	49.947		
800.0	799.9	788.4	787.1	1.4	1.5	127.38	93.5	-87.3	131.6	128.8	2.79	47.211		
900.0	899.7	884.5	882.3	1.6	1.8	125.76	95.4	-100.6	146.3	143.2	3.18	46.038		
1,000.0	999.4	979.9	976.3	1.8	2.1	124.31	97.8	-116.1	163.6	160.0	3.58	45.657 SF		
1,100.0	1,099.1	1,074.4	1,069.1	2.0	2.4	122.71	100.4	-133.8	183.0	179.0	4.00	45.761		
1,200.0	1,198.8	1,168.0	1,160.6	2.2	2.8	121.04	103.3	-153.6	204.5	200.0	4.42	46.253		
1,300.0	1,298.6	1,262.8	1,252.7	2.4	3.2	119.38	106.6	-175.6	227.9	223.0	4.85	47.025		
1,400.0	1,398.3	1,359.7	1,346.8	2.6	3.6	117.95	110.0	-198.4	251.7	246.5	5.28	47.713		
1,500.0	1,498.0	1,456.7	1,441.0	2.8	4.0	116.77	113.4	-221.2	275.7	270.0	5.71	48.326		
1,600.0	1,597.7	1,553.6	1,535.2	3.0	4.5	115.78	116.8	-244.0	299.8	293.6	6.13	48.874		
1,700.0	1,697.4	1,650.5	1,629.3	3.2	4.9	114.94	120.2	-266.8	323.9	317.3	6.56	49.367		
1,800.0	1,797.2	1,747.5	1,723.5	3.4	5.3	114.21	123.6	-289.6	348.1	341.1	6.99	49.812		
1,900.0	1,896.9	1,844.4	1,817.6	3.6	5.8	113.58	127.0	-312.4	372.3	364.9	7.41	50.216		
2,000.0	1,996.6	1,941.4	1,911.8	3.9	6.2	113.02	130.4	-335.2	396.6	388.8	7.84	50.583		
2,100.0	2,096.3	2,038.3	2,006.0	4.1	6.7	112.53	133.8	-358.0	420.9	412.7	8.27	50.918		
2,200.0	2,196.0	2,135.2	2,100.1	4.3	7.1	112.09	137.2	-380.8	445.3	436.6	8.69	51.226		
2,300.0	2,295.7	2,232.2	2,194.3	4.5	7.5	111.70	140.6	-403.6	469.6	460.5	9.12	51.508		
2,400.0	2,395.5	2,329.1	2,288.4	4.7	8.0	111.35	144.0	-426.4	494.0	484.5	9.54	51.769		
2,500.0	2,495.2	2,426.1	2,382.6	4.9	8.4	111.02	147.4	-449.2	518.4	508.4	9.97	52.011		
2,600.0	2,594.9	2,523.0	2,476.7	5.2	8.9	110.73	150.8	-472.0	542.8	532.4	10.39	52.235		
2,700.0	2,694.6	2,620.0	2,570.9	5.4	9.3	110.47	154.1	-494.8	567.2	556.4	10.82	52.443		
2,800.0	2,794.3	2,716.9	2,665.1	5.6	9.8	110.22	157.5	-517.6	591.6	580.4	11.24	52.637		
2,900.0	2,894.1	2,813.8	2,759.2	5.8	10.2	110.00	160.9	-540.4	616.1	604.4	11.66	52.818		
3,000.0	2,893.8	2,810.8	2,853.4	6.0	10.6	109.79	164.3	-563.2	640.5	628.4	12.09	52.988		
3,100.0	3,093.5	3,007.7	2,947.5	6.2	11.1	109.60	167.7	-586.0	665.0	652.5	12.51	53.148		
3,200.0	3,193.2	3,104.7	3,041.7	6.5	11.5	109.42	171.1	-608.9	689.4	676.5	12.94	53.298		
3,300.0	3,292.9	3,201.6	3,135.9	6.7	12.0	109.25	174.5	-631.7	713.9	700.5	13.36	53.439		
3,400.0	3,392.6	3,298.5	3,230.0	6.9	12.4	109.09	177.9	-654.5	738.4	724.6	13.78	53.572		
3,500.0	3,492.4	3,395.5	3,324.2	7.1	12.9	108.95	181.3	-677.3	762.8	748.6	14.21	53.698		
3,600.0	3,592.1	3,492.4	3,418.3	7.3	13.3	108.81	184.7	-700.1	787.3	772.7	14.63	53.817		
3,700.0	3,691.8	3,589.4	3,512.5	7.5	13.8	108.68	188.1	-722.9	811.8	796.8	15.05	53.929		
3,800.0	3,791.5	3,686.3	3,606.7	7.8	14.2	108.56	191.5	-745.7	836.3	820.8	15.48	54.036		
3,900.0	3,891.2	3,783.2	3,700.8	8.0	14.6	108.45	194.9	-768.5	860.8	844.9	15.90	54.138		
4,000.0	3,991.0	3,880.2	3,795.0	8.2	15.1	108.34	198.3	-791.3	885.3	869.0	16.32	54.235		
4,100.0	4,090.7	3,977.1	3,889.1	8.4	15.5	108.24	201.7	-814.1	909.8	893.0	16.75	54.327		
4,200.0	4,190.4	4,074.1	3,983.3	8.6	16.0	108.14	205.1	-836.9	934.3	917.1	17.17	54.415		
4,300.0	4,290.1	4,171.0	4,077.4	8.8	16.4	108.05	208.5	-859.7	958.8	941.2	17.59	54.499		
4,400.0	4,389.8	4,267.9	4,171.6	9.1	16.9	107.96	211.9	-882.5	983.3	965.3	18.02	54.579		
4,500.0	4,489.6	4,364.9	4,265.8	9.3	17.3	107.88	215.3	-905.3	1,007.8	989.4	18.44	54.656		
4,600.0	4,589.3	4,461.8	4,359.9	9.5	17.8	107.80	218.7	-928.1	1,032.3	1,013.4	18.86	54.729		
4,700.0	4,689.0	4,558.8	4,454.1	9.7	18.2	107.73	222.1	-950.9	1,056.8	1,037.5	19.29	54.799		
4,800.0	4,788.7	4,655.7	4,548.2	9.9	18.7	107.65	225.5	-973.7	1,081.3	1,061.6	19.71	54.867		
4,900.0	4,888.4	4,752.6	4,642.4	10.1	19.1	107.58	228.9	-996.5	1,105.8	1,085.7	20.13	54.932		

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 21-5D (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 21-5D (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				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	-28.03	106.0	-56.4	120.1					
100.0	100.0	100.0	100.0	0.1	0.1	-28.03	106.0	-56.4	120.1	119.8	0.30	404.712		
200.0	200.0	200.0	200.0	0.3	0.3	-28.03	106.0	-56.4	120.1	119.4	0.65	185.949		
300.0	300.0	300.0	300.0	0.5	0.5	-28.03	106.0	-56.4	120.1	119.1	0.99	120.704 CC, ES		
400.0	400.0	397.7	397.7	0.7	0.7	-28.42	106.4	-57.6	121.0	119.7	1.34	90.315		
500.0	500.0	495.2	495.1	0.8	0.8	-29.56	107.7	-61.1	124.0	122.3	1.69	73.476		
600.0	600.0	592.5	592.2	1.0	1.0	-31.33	109.9	-66.9	128.9	126.9	2.04	63.318		
700.0	700.0	689.4	688.7	1.2	1.3	135.55	113.0	-75.0	137.0	134.6	2.40	57.063		
800.0	799.9	785.6	784.3	1.4	1.5	133.92	116.8	-85.3	149.1	146.3	2.77	53.876		
900.0	899.7	881.1	878.8	1.6	1.8	132.69	121.5	-97.7	165.1	161.9	3.14	52.487		
1,000.0	999.4	975.6	972.1	1.8	2.1	131.63	127.0	-112.2	183.8	180.3	3.54	51.994 SF		
1,100.0	1,099.1	1,069.3	1,064.1	2.0	2.4	130.41	133.2	-128.7	204.7	200.7	3.93	52.034		
1,200.0	1,198.8	1,161.9	1,154.6	2.2	2.8	129.13	140.1	-147.1	227.7	223.3	4.34	52.490		
1,300.0	1,298.6	1,254.0	1,244.1	2.4	3.2	127.83	147.7	-167.4	252.8	248.1	4.74	53.309		
1,400.0	1,398.3	1,350.4	1,337.6	2.6	3.6	126.62	156.0	-189.5	278.9	273.8	5.16	54.064		
1,500.0	1,498.0	1,446.8	1,431.0	2.8	4.0	125.61	164.3	-211.6	305.1	299.6	5.58	54.734		
1,600.0	1,597.7	1,543.1	1,524.4	3.0	4.5	124.76	172.6	-233.7	331.4	325.4	5.99	55.327		
1,700.0	1,697.4	1,639.5	1,617.9	3.2	4.9	124.04	180.9	-255.8	357.8	351.4	6.41	55.856		
1,800.0	1,797.2	1,735.9	1,711.3	3.4	5.3	123.42	189.2	-277.9	384.1	377.3	6.82	56.330		
1,900.0	1,896.9	1,832.3	1,804.8	3.6	5.8	122.87	197.5	-300.0	410.6	403.3	7.23	56.757		
2,000.0	1,996.6	1,928.7	1,898.2	3.9	6.2	122.40	205.8	-322.1	437.0	429.4	7.65	57.144		
2,100.0	2,096.3	2,025.0	1,991.7	4.1	6.7	121.97	214.1	-344.2	463.5	455.4	8.06	57.497		
2,200.0	2,196.0	2,121.4	2,085.1	4.3	7.1	121.59	222.4	-366.3	490.0	481.5	8.47	57.819		
2,300.0	2,295.7	2,217.8	2,178.5	4.5	7.6	121.26	230.8	-388.4	516.5	507.6	8.89	58.114		
2,400.0	2,395.5	2,314.2	2,272.0	4.7	8.0	120.95	239.1	-410.5	543.0	533.7	9.30	58.386		
2,500.0	2,495.2	2,410.5	2,365.4	4.9	8.5	120.67	247.4	-432.6	569.6	559.8	9.71	58.636		
2,600.0	2,594.9	2,506.9	2,458.9	5.2	8.9	120.42	255.7	-454.7	596.1	586.0	10.13	58.869		
2,700.0	2,694.6	2,603.3	2,552.3	5.4	9.4	120.19	264.0	-476.8	622.7	612.1	10.54	59.084		
2,800.0	2,794.3	2,699.7	2,645.7	5.6	9.8	119.98	272.3	-498.9	649.2	638.3	10.95	59.285		
2,900.0	2,894.1	2,796.1	2,739.2	5.8	10.3	119.78	280.6	-521.0	675.8	664.5	11.36	59.472		
3,000.0	2,993.8	2,892.4	2,832.6	6.0	10.7	119.60	288.9	-543.1	702.4	690.6	11.78	59.647		
3,100.0	3,093.5	2,988.8	2,926.1	6.2	11.2	119.43	297.2	-565.2	729.0	716.8	12.19	59.812		
3,200.0	3,193.2	3,085.2	3,019.5	6.5	11.6	119.28	305.5	-587.3	755.6	743.0	12.60	59.966		
3,300.0	3,292.9	3,181.6	3,113.0	6.7	12.1	119.13	313.8	-609.4	782.2	769.2	13.01	60.111		
3,400.0	3,392.6	3,278.0	3,206.4	6.9	12.5	119.00	322.1	-631.5	808.8	795.4	13.42	60.248		
3,500.0	3,492.4	3,374.3	3,299.8	7.1	13.0	118.87	330.4	-653.6	835.4	821.6	13.84	60.377		
3,600.0	3,592.1	3,470.7	3,393.3	7.3	13.5	118.75	338.7	-675.7	862.0	847.8	14.25	60.499		
3,700.0	3,691.8	3,567.1	3,486.7	7.5	13.9	118.64	347.1	-697.8	888.7	874.0	14.66	60.614		
3,800.0	3,791.5	3,663.5	3,580.2	7.8	14.4	118.53	355.4	-719.9	915.3	900.2	15.07	60.724		
3,900.0	3,891.2	3,759.8	3,673.6	8.0	14.8	118.43	363.7	-742.0	941.9	926.4	15.48	60.828		
4,000.0	3,991.0	3,856.2	3,767.0	8.2	15.3	118.34	372.0	-764.1	968.5	952.6	15.90	60.927		
4,100.0	4,090.7	3,952.6	3,860.5	8.4	15.7	118.25	380.3	-786.2	995.1	978.8	16.31	61.021		
4,200.0	4,190.4	4,049.0	3,953.9	8.6	16.2	118.16	388.6	-808.3	1,021.8	1,005.1	16.72	61.111		
4,300.0	4,290.1	4,145.4	4,047.4	8.8	16.6	118.08	396.9	-830.4	1,048.4	1,031.3	17.13	61.197		
4,400.0	4,389.8	4,241.7	4,140.8	9.1	17.1	118.01	405.2	-852.5	1,075.0	1,057.5	17.54	61.279		
4,500.0	4,489.6	4,338.1	4,234.3	9.3	17.5	117.94	413.5	-874.6	1,101.7	1,083.7	17.96	61.357		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-5D (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 21-5D (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				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	-32.52	100.9	-64.3	119.7					
100.0	100.0	100.0	100.0	0.1	0.1	-32.52	100.9	-64.3	119.7	119.4	0.30	403.293		
200.0	200.0	200.0	200.0	0.3	0.3	-32.52	100.9	-64.3	119.7	119.0	0.65	185.297	CC, ES	
300.0	300.0	297.6	297.6	0.5	0.5	-32.89	101.3	-65.5	120.7	119.7	0.99	121.744		
400.0	400.0	395.1	395.0	0.7	0.7	-33.97	102.5	-69.0	123.7	122.3	1.34	92.442		
500.0	500.0	492.3	492.0	0.8	0.9	-35.64	104.5	-74.9	128.8	127.1	1.69	76.365		
600.0	600.0	589.1	588.4	1.0	1.1	-37.77	107.2	-83.1	136.2	134.1	2.04	66.842		
700.0	700.0	685.4	684.1	1.2	1.3	128.93	110.8	-93.5	146.6	144.2	2.41	60.739		
800.0	799.9	781.0	778.7	1.4	1.6	127.31	115.0	-106.1	161.0	158.3	2.78	57.851		
900.0	899.7	875.6	872.1	1.6	1.9	126.20	120.0	-120.8	179.2	176.0	3.16	56.618		
1,000.0	999.4	969.3	964.1	1.8	2.3	125.35	125.6	-137.5	200.1	196.5	3.56	56.228	SF	
1,100.0	1,099.1	1,062.0	1,054.7	2.0	2.6	124.39	131.9	-156.1	223.1	219.1	3.96	56.370		
1,200.0	1,198.8	1,153.6	1,143.7	2.2	3.1	123.38	138.9	-176.5	248.3	243.9	4.36	56.926		
1,300.0	1,298.6	1,244.1	1,231.1	2.4	3.5	122.35	146.4	-198.7	275.6	270.8	4.77	57.810		
1,400.0	1,398.3	1,333.3	1,316.8	2.6	4.0	121.34	154.4	-222.4	305.1	299.9	5.17	58.956		
1,500.0	1,498.0	1,421.3	1,400.6	2.8	4.5	120.37	163.0	-247.7	336.6	331.1	5.58	60.316		
1,600.0	1,597.7	1,507.8	1,482.4	3.0	5.0	119.44	172.0	-274.3	370.3	364.3	5.99	61.853		
1,700.0	1,697.4	1,593.0	1,562.3	3.2	5.6	118.56	181.4	-302.3	406.0	399.6	6.39	63.527		
1,800.0	1,797.2	1,676.7	1,640.2	3.4	6.1	117.74	191.3	-331.4	443.7	436.9	6.79	65.310		
1,900.0	1,896.9	1,758.9	1,716.0	3.6	6.7	116.96	201.5	-361.5	483.4	476.2	7.19	67.198		
2,000.0	1,996.6	1,839.5	1,789.7	3.9	7.4	116.24	212.0	-392.5	525.0	517.4	7.59	69.172		
2,100.0	2,096.3	1,918.6	1,861.2	4.1	8.0	115.57	222.8	-424.4	568.5	560.5	7.98	71.222		
2,200.0	2,196.0	2,000.0	1,934.1	4.3	8.7	114.91	234.4	-458.7	613.8	605.4	8.38	73.255		
2,300.0	2,295.7	2,072.0	1,997.9	4.5	9.4	114.35	245.1	-490.2	660.8	652.0	8.76	75.471		
2,400.0	2,395.5	2,146.3	2,063.1	4.7	10.1	113.81	256.5	-523.9	709.6	700.4	9.14	77.658		
2,500.0	2,495.2	2,218.9	2,126.2	4.9	10.8	113.30	268.0	-558.1	760.0	750.5	9.51	79.886		
2,600.0	2,594.9	2,290.0	2,187.2	5.2	11.5	112.83	279.7	-592.5	812.0	802.1	9.89	82.139		
2,700.0	2,694.6	2,359.4	2,246.2	5.4	12.2	112.39	291.5	-627.3	865.6	855.4	10.25	84.418		
2,800.0	2,794.3	2,440.7	2,314.7	5.6	13.0	111.91	305.5	-668.7	920.2	909.6	10.65	86.434		
2,900.0	2,894.1	2,524.2	2,385.1	5.8	13.9	111.47	319.9	-711.2	974.8	963.8	11.04	88.288		
3,000.0	2,993.8	2,607.7	2,455.5	6.0	14.8	111.07	334.3	-753.8	1,029.5	1,018.1	11.44	90.027		
3,100.0	3,093.5	2,691.2	2,525.9	6.2	15.7	110.72	348.7	-796.3	1,084.2	1,072.4	11.83	91.659		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-5D (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 21-5D (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			
0.0	0.0	0.0	0.0	0.0	0.0	147.10	-37.5	24.3	44.7					
100.0	100.0	100.0	100.0	0.1	0.1	147.10	-37.5	24.3	44.7	44.4	0.30	150.576		
200.0	200.0	200.0	200.0	0.3	0.3	147.10	-37.5	24.3	44.7	44.0	0.65	69.183		
300.0	300.0	300.0	300.0	0.5	0.5	147.10	-37.5	24.3	44.7	43.7	0.99	44.909 CC, ES		
400.0	400.0	399.0	399.0	0.7	0.7	148.06	-38.8	24.2	45.7	44.4	1.34	34.046		
500.0	500.0	498.0	497.9	0.8	0.9	150.67	-42.6	23.9	48.9	47.2	1.69	28.881		
600.0	600.0	596.6	596.3	1.0	1.1	154.33	-49.0	23.6	54.5	52.4	2.05	26.568		
700.0	700.0	695.0	694.3	1.2	1.3	-33.44	-57.9	23.0	61.5	59.1	2.40	25.620		
800.0	799.9	793.2	791.8	1.4	1.5	-31.00	-69.2	22.3	68.7	65.9	2.76	24.932		
900.0	899.7	891.1	888.8	1.6	1.8	-29.27	-83.1	21.4	76.2	73.0	3.12	24.437 SF		
1,000.0	999.4	988.8	985.0	1.8	2.1	-27.61	-99.3	20.4	85.2	81.7	3.48	24.482		
1,100.0	1,099.1	1,085.9	1,080.4	2.0	2.5	-25.80	-117.9	19.3	96.7	92.9	3.84	25.176		
1,200.0	1,198.8	1,182.3	1,174.5	2.2	2.8	-24.01	-138.8	18.0	110.7	106.5	4.20	26.367		
1,300.0	1,298.6	1,278.0	1,267.4	2.4	3.3	-22.34	-161.8	16.6	127.2	122.7	4.55	27.946		
1,400.0	1,398.3	1,372.9	1,358.8	2.6	3.7	-20.83	-186.9	15.0	146.2	141.3	4.90	29.827		
1,500.0	1,498.0	1,469.1	1,451.0	2.8	4.2	-19.51	-214.3	13.3	167.2	161.9	5.25	31.855		
1,600.0	1,597.7	1,566.7	1,544.6	3.0	4.7	-18.45	-242.3	11.6	188.5	182.9	5.60	33.670		
1,700.0	1,697.4	1,664.4	1,638.1	3.2	5.2	-17.60	-270.2	9.8	209.8	203.8	5.95	35.283		
1,800.0	1,797.2	1,762.0	1,731.7	3.4	5.7	-16.91	-298.2	8.1	231.1	224.9	6.29	36.726		
1,900.0	1,896.9	1,859.7	1,825.2	3.6	6.2	-16.34	-326.2	6.4	252.5	245.9	6.64	38.023		
2,000.0	1,996.6	1,957.4	1,918.8	3.9	6.7	-15.86	-354.1	4.6	274.0	267.0	6.99	39.195		
2,100.0	2,096.3	2,055.0	2,012.3	4.1	7.2	-15.45	-382.1	2.9	295.4	288.0	7.34	40.259		
2,200.0	2,196.0	2,152.7	2,105.9	4.3	7.7	-15.09	-410.1	1.1	316.8	309.1	7.68	41.229		
2,300.0	2,295.7	2,250.3	2,199.4	4.5	8.2	-14.78	-438.1	-0.6	338.3	330.2	8.03	42.117		
2,400.0	2,395.5	2,348.0	2,293.0	4.7	8.7	-14.50	-466.0	-2.3	359.7	351.4	8.38	42.933		
2,500.0	2,495.2	2,445.6	2,386.5	4.9	9.3	-14.26	-494.0	-4.1	381.2	372.5	8.73	43.684		
2,600.0	2,594.9	2,543.3	2,480.1	5.2	9.8	-14.04	-522.0	-5.8	402.7	393.6	9.07	44.379		
2,700.0	2,694.6	2,641.0	2,573.6	5.4	10.3	-13.84	-550.0	-7.5	424.1	414.7	9.42	45.024		
2,800.0	2,794.3	2,738.6	2,667.2	5.6	10.8	-13.67	-577.9	-9.3	445.6	435.9	9.77	45.623		
2,900.0	2,894.1	2,836.3	2,760.7	5.8	11.3	-13.51	-605.9	-11.0	467.1	457.0	10.11	46.181		
3,000.0	2,993.8	2,933.9	2,854.3	6.0	11.8	-13.36	-633.9	-12.7	488.6	478.1	10.46	46.703		
3,100.0	3,093.5	3,031.6	2,947.8	6.2	12.3	-13.23	-661.9	-14.5	510.1	499.3	10.81	47.192		
3,200.0	3,193.2	3,129.2	3,041.3	6.5	12.9	-13.10	-689.8	-16.2	531.6	520.4	11.16	47.650		
3,300.0	3,292.9	3,226.9	3,134.9	6.7	13.4	-12.99	-717.8	-17.9	553.1	541.6	11.50	48.081		
3,400.0	3,392.6	3,324.6	3,228.4	6.9	13.9	-12.89	-745.8	-19.7	574.6	562.7	11.85	48.487		
3,500.0	3,492.4	3,422.2	3,322.0	7.1	14.4	-12.79	-773.8	-21.4	596.1	583.9	12.20	48.870		
3,600.0	3,592.1	3,519.9	3,415.5	7.3	14.9	-12.70	-801.7	-23.2	617.6	605.0	12.54	49.232		
3,700.0	3,691.8	3,617.5	3,509.1	7.5	15.4	-12.61	-829.7	-24.9	639.1	626.2	12.89	49.575		
3,800.0	3,791.5	3,715.2	3,602.6	7.8	16.0	-12.53	-857.7	-26.6	660.6	647.3	13.24	49.899		
3,900.0	3,891.2	3,812.8	3,696.2	8.0	16.5	-12.46	-885.7	-28.4	682.1	668.5	13.59	50.207		
4,000.0	3,991.0	3,910.5	3,789.7	8.2	17.0	-12.39	-913.6	-30.1	703.6	689.7	13.93	50.500		
4,100.0	4,090.7	4,008.1	3,883.3	8.4	17.5	-12.32	-941.6	-31.8	725.1	710.8	14.28	50.779		
4,200.0	4,190.4	4,105.8	3,976.8	8.6	18.0	-12.26	-969.6	-33.6	746.6	732.0	14.63	51.045		
4,300.0	4,290.1	4,203.5	4,070.4	8.8	18.5	-12.20	-997.6	-35.3	768.1	753.1	14.97	51.298		
4,400.0	4,389.8	4,301.1	4,163.9	9.1	19.1	-12.15	-1,025.5	-37.0	789.6	774.3	15.32	51.540		
4,500.0	4,489.6	4,398.8	4,257.5	9.3	19.6	-12.10	-1,053.5	-38.8	811.1	795.5	15.67	51.771		
4,600.0	4,589.3	4,496.4	4,351.0	9.5	20.1	-12.05	-1,081.5	-40.5	832.6	816.6	16.01	51.993		
4,700.0	4,689.0	4,594.1	4,444.6	9.7	20.6	-12.00	-1,109.5	-42.2	854.1	837.8	16.36	52.205		
4,800.0	4,788.7	4,691.7	4,538.1	9.9	21.1	-11.96	-1,137.4	-44.0	875.7	858.9	16.71	52.408		
4,900.0	4,888.4	4,789.4	4,631.7	10.1	21.6	-11.91	-1,165.4	-45.7	897.2	880.1	17.06	52.603		
5,000.0	4,988.1	4,887.1	4,725.2	10.4	22.2	-11.87	-1,193.4	-47.5	918.7	901.3	17.40	52.790		
5,100.0	5,087.9	4,984.7	4,818.8	10.6	22.7	-11.83	-1,221.4	-49.2	940.2	922.4	17.75	52.970		

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 21-5D (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 21-5D (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						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	5,187.6	5,082.4	4,912.3	10.8	23.2	-11.80	-1,249.3	-50.9	961.7	943.6	18.10	53.143		
5,300.0	5,287.3	5,180.0	5,005.9	11.0	23.7	-11.76	-1,277.3	-52.7	983.2	964.8	18.44	53.309		
5,400.0	5,387.0	5,277.7	5,099.4	11.2	24.2	-11.73	-1,305.3	-54.4	1,004.7	985.9	18.79	53.469		
5,500.0	5,486.7	5,375.3	5,193.0	11.5	24.7	-11.69	-1,333.3	-56.1	1,026.2	1,007.1	19.14	53.624		
5,600.0	5,586.5	5,473.0	5,286.5	11.7	25.3	-11.66	-1,361.2	-57.9	1,047.8	1,028.3	19.48	53.773		
5,700.0	5,686.2	5,570.7	5,380.1	11.9	25.8	-11.63	-1,389.2	-59.6	1,069.3	1,049.4	19.83	53.917		
5,800.0	5,785.9	5,668.2	5,473.5	12.1	26.3	-11.65	-1,417.1	-61.3	1,091.4	1,071.3	20.16	54.142		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-5D (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 21-5D (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: 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	-22.93	55.4	-23.4	60.1					
100.0	100.0	100.0	100.0	0.1	0.1	-22.93	55.4	-23.4	60.1	59.8	0.30	202.605		
200.0	200.0	200.0	200.0	0.3	0.3	-22.93	55.4	-23.4	60.1	59.5	0.65	93.089		
300.0	300.0	301.5	301.5	0.5	0.5	-23.40	54.0	-23.4	58.9	57.9	1.00	58.990		
400.0	400.0	402.8	402.7	0.7	0.7	-24.93	50.0	-23.2	55.2	53.8	1.35	40.776		
500.0	500.0	503.8	503.5	0.8	0.9	-27.98	43.3	-23.0	49.2	47.4	1.72	28.635		
600.0	600.0	604.4	603.7	1.0	1.1	-33.72	34.0	-22.7	41.0	38.9	2.10	19.557		
700.0	700.0	704.7	703.2	1.2	1.4	125.65	22.1	-22.3	32.3	29.8	2.48	12.991		
800.0	799.9	804.6	802.1	1.4	1.7	110.66	7.6	-21.8	24.5	21.5	2.97	8.233		
900.0	899.7	904.2	900.2	1.6	2.0	85.60	-9.3	-21.2	19.1	15.5	3.58	5.329		
946.2	945.7	950.1	945.3	1.7	2.2	69.07	-18.0	-20.9	18.2	14.4	3.83	4.753 CC, ES, SF		
1,000.0	999.4	1,003.3	997.4	1.8	2.4	48.18	-28.8	-20.5	19.6	15.6	4.00	4.901		
1,100.0	1,099.1	1,101.8	1,093.5	2.0	2.8	19.63	-50.5	-19.8	28.9	24.8	4.10	7.049		
1,200.0	1,198.8	1,200.5	1,189.5	2.2	3.2	6.04	-73.3	-19.0	42.7	38.4	4.29	9.943		
1,300.0	1,298.6	1,299.2	1,285.5	2.4	3.6	-0.75	-96.2	-18.2	57.6	53.0	4.57	12.614		
1,400.0	1,398.3	1,397.9	1,381.6	2.6	4.0	-4.72	-119.0	-17.4	73.0	68.2	4.88	14.964		
1,500.0	1,498.0	1,496.6	1,477.6	2.8	4.5	-7.29	-141.8	-16.7	88.7	83.5	5.21	17.020		
1,600.0	1,597.7	1,595.4	1,573.6	3.0	4.9	-9.10	-164.6	-15.9	104.4	98.9	5.55	18.825		
1,700.0	1,697.4	1,694.1	1,669.6	3.2	5.3	-10.43	-187.4	-15.1	120.3	114.4	5.89	20.417		
1,800.0	1,797.2	1,792.8	1,765.7	3.4	5.7	-11.45	-210.2	-14.3	136.2	129.9	6.24	21.831		
1,900.0	1,896.9	1,891.5	1,861.7	3.6	6.2	-12.25	-233.1	-13.5	152.1	145.5	6.59	23.094		
2,000.0	1,996.6	1,990.2	1,957.7	3.9	6.6	-12.91	-255.9	-12.7	168.1	161.1	6.94	24.228		
2,100.0	2,096.3	2,088.9	2,053.7	4.1	7.0	-13.45	-278.7	-12.0	184.0	176.7	7.29	25.252		
2,200.0	2,196.0	2,187.6	2,149.8	4.3	7.5	-13.90	-301.5	-11.2	200.0	192.4	7.64	26.181		
2,300.0	2,295.7	2,286.3	2,245.8	4.5	7.9	-14.29	-324.3	-10.4	216.0	208.0	7.99	27.026		
2,400.0	2,395.5	2,385.0	2,341.8	4.7	8.3	-14.62	-347.2	-9.6	232.0	223.6	8.34	27.800		
2,500.0	2,495.2	2,483.7	2,437.9	4.9	8.8	-14.91	-370.0	-8.8	248.0	239.3	8.70	28.510		
2,600.0	2,594.9	2,582.4	2,533.9	5.2	9.2	-15.17	-392.8	-8.1	264.0	254.9	9.05	29.165		
2,700.0	2,694.6	2,681.1	2,629.9	5.4	9.6	-15.39	-415.6	-7.3	280.0	270.6	9.41	29.769		
2,800.0	2,794.3	2,779.8	2,725.9	5.6	10.1	-15.59	-438.4	-6.5	296.0	286.3	9.76	30.330		
2,900.0	2,894.1	2,878.5	2,822.0	5.8	10.5	-15.77	-461.2	-5.7	312.1	301.9	10.12	30.850		
3,000.0	2,993.8	2,977.2	2,918.0	6.0	10.9	-15.94	-484.1	-4.9	328.1	317.6	10.47	31.335		
3,100.0	3,093.5	3,075.9	3,014.0	6.2	11.4	-16.09	-506.9	-4.1	344.1	333.3	10.82	31.789		
3,200.0	3,193.2	3,174.6	3,110.0	6.5	11.8	-16.22	-529.7	-3.4	360.1	349.0	11.18	32.213		
3,300.0	3,292.9	3,273.3	3,206.1	6.7	12.2	-16.34	-552.5	-2.6	376.2	364.6	11.54	32.611		
3,400.0	3,392.6	3,372.0	3,302.1	6.9	12.7	-16.46	-575.3	-1.8	392.2	380.3	11.89	32.984		
3,500.0	3,492.4	3,470.7	3,398.1	7.1	13.1	-16.56	-598.1	-1.0	408.2	396.0	12.25	33.336		
3,600.0	3,592.1	3,569.4	3,494.2	7.3	13.5	-16.66	-621.0	-0.2	424.3	411.7	12.60	33.668		
3,700.0	3,691.8	3,668.1	3,590.2	7.5	14.0	-16.75	-643.8	0.6	440.3	427.3	12.96	33.982		
3,800.0	3,791.5	3,766.8	3,686.2	7.8	14.4	-16.83	-666.6	1.3	456.3	443.0	13.31	34.279		
3,900.0	3,891.2	3,865.5	3,782.2	8.0	14.8	-16.91	-689.4	2.1	472.4	458.7	13.67	34.560		
4,000.0	3,991.0	3,964.2	3,878.3	8.2	15.3	-16.98	-712.2	2.9	488.4	474.4	14.02	34.827		
4,100.0	4,090.7	4,062.9	3,974.3	8.4	15.7	-17.05	-735.1	3.7	504.5	490.1	14.38	35.081		
4,200.0	4,190.4	4,161.6	4,070.3	8.6	16.1	-17.11	-757.9	4.5	520.5	505.8	14.74	35.322		
4,300.0	4,290.1	4,260.3	4,166.3	8.8	16.6	-17.17	-780.7	5.3	536.5	521.4	15.09	35.552		
4,400.0	4,389.8	4,359.1	4,262.4	9.1	17.0	-17.23	-803.5	6.0	552.6	537.1	15.45	35.771		
4,500.0	4,489.6	4,457.8	4,358.4	9.3	17.4	-17.28	-826.3	6.8	568.6	552.8	15.80	35.980		
4,600.0	4,589.3	4,556.5	4,454.4	9.5	17.9	-17.33	-849.1	7.6	584.7	568.5	16.16	36.180		
4,700.0	4,689.0	4,655.2	4,550.4	9.7	18.3	-17.38	-872.0	8.4	600.7	584.2	16.52	36.372		
4,800.0	4,788.7	4,753.9	4,646.5	9.9	18.7	-17.42	-894.8	9.2	616.7	599.9	16.87	36.555		
4,900.0	4,888.4	4,852.6	4,742.5	10.1	19.2	-17.47	-917.6	9.9	632.8	615.6	17.23	36.730		
5,000.0	4,988.1	4,951.3	4,838.5	10.4	19.6	-17.51	-940.4	10.7	648.8	631.2	17.58	36.899		

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 21-5D (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 21-5D (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 (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	5,087.9	5,050.0	4,934.6	10.6	20.0	-17.55	-963.2	11.5	664.9	646.9	17.94		37.061	
5,200.0	5,187.6	5,148.7	5,030.6	10.8	20.5	-17.58	-986.0	12.3	680.9	662.6	18.30		37.216	
5,300.0	5,287.3	5,247.4	5,126.6	11.0	20.9	-17.62	-1,008.9	13.1	697.0	678.3	18.65		37.365	
5,400.0	5,387.0	5,346.1	5,222.6	11.2	21.3	-17.65	-1,031.7	13.9	713.0	694.0	19.01		37.509	
5,500.0	5,486.7	5,444.8	5,318.7	11.5	21.8	-17.68	-1,054.5	14.6	729.0	709.7	19.36		37.648	
5,600.0	5,586.5	5,543.5	5,414.7	11.7	22.2	-17.71	-1,077.3	15.4	745.1	725.4	19.72		37.781	
5,700.0	5,686.2	5,642.2	5,510.7	11.9	22.6	-17.74	-1,100.1	16.2	761.1	741.1	20.08		37.910	
5,800.0	5,785.9	5,740.8	5,606.6	12.1	23.1	-17.81	-1,122.9	17.0	777.8	757.4	20.42		38.096	
5,900.0	5,885.8	5,839.0	5,702.1	12.3	23.5	-17.86	-1,145.6	17.8	796.9	776.1	20.74		38.428	
6,000.0	5,985.8	5,936.6	5,797.1	12.4	23.9	-17.86	-1,168.2	18.5	818.4	797.3	21.04		38.896	
6,100.0	6,085.8	6,033.9	5,891.8	12.6	24.3	173.42	-1,190.7	19.3	841.4	820.0	21.37		39.380	
6,200.0	6,185.8	6,139.0	5,994.1	12.7	24.8	173.55	-1,214.8	20.1	864.4	842.6	21.71		39.812	
6,300.0	6,285.8	6,265.8	6,118.1	12.9	25.3	173.69	-1,241.0	21.0	884.9	862.8	22.09		40.055	
6,400.0	6,385.8	6,394.2	6,244.6	13.0	25.7	173.80	-1,263.2	21.8	902.2	879.8	22.48		40.136	
6,500.0	6,485.8	6,524.1	6,373.2	13.2	26.1	173.88	-1,281.4	22.4	916.2	893.3	22.87		40.060	
6,600.0	6,585.8	6,655.0	6,503.4	13.3	26.3	173.94	-1,295.3	22.9	926.8	903.5	23.27		39.836	
6,700.0	6,685.8	6,786.8	6,634.8	13.5	26.6	173.99	-1,304.8	23.2	934.0	910.3	23.66		39.469	
6,800.0	6,785.8	6,919.0	6,767.0	13.6	26.7	174.01	-1,309.8	23.4	937.7	913.7	24.06		38.967	
6,900.0	6,885.8	7,037.9	6,885.8	13.8	26.8	174.01	-1,310.5	23.4	938.3	913.9	24.44		38.387	
7,000.0	6,985.8	7,137.9	6,985.8	13.9	26.9	174.01	-1,310.5	23.4	938.3	913.5	24.79		37.850	
7,100.0	7,085.8	7,237.9	7,085.8	14.1	27.0	174.01	-1,310.5	23.4	938.3	913.2	25.14		37.328	
7,200.0	7,185.8	7,337.9	7,185.8	14.2	27.1	174.01	-1,310.5	23.4	938.3	912.8	25.48		36.820	
7,300.0	7,285.8	7,437.9	7,285.8	14.4	27.1	174.01	-1,310.5	23.4	938.3	912.5	25.83		36.326	
7,400.0	7,385.8	7,537.9	7,385.8	14.5	27.2	174.01	-1,310.5	23.4	938.3	912.1	26.18		35.844	
7,500.0	7,485.8	7,637.9	7,485.8	14.7	27.3	174.01	-1,310.5	23.4	938.3	911.8	26.52		35.376	
7,600.0	7,585.8	7,737.9	7,585.8	14.8	27.4	174.01	-1,310.5	23.4	938.3	911.4	26.87		34.919	
7,700.0	7,685.8	7,837.9	7,685.8	15.0	27.5	174.01	-1,310.5	23.4	938.3	911.1	27.22		34.473	
7,800.0	7,785.8	7,937.9	7,785.8	15.2	27.6	174.01	-1,310.5	23.4	938.3	910.7	27.57		34.039	
7,900.0	7,885.8	8,037.9	7,885.8	15.3	27.7	174.01	-1,310.5	23.4	938.3	910.4	27.91		33.616	
8,000.0	7,985.8	8,137.9	7,985.8	15.5	27.7	174.01	-1,310.5	23.4	938.3	910.0	28.26		33.203	
8,100.0	8,085.8	8,237.9	8,085.8	15.6	27.8	174.01	-1,310.5	23.4	938.3	909.7	28.61		32.800	
8,200.0	8,185.8	8,337.9	8,185.8	15.8	27.9	174.01	-1,310.5	23.4	938.3	909.4	28.95		32.406	
8,300.0	8,285.8	8,437.9	8,285.8	15.9	28.0	174.01	-1,310.5	23.4	938.3	909.0	29.30		32.022	
8,400.0	8,385.8	8,537.9	8,385.8	16.1	28.1	174.01	-1,310.5	23.4	938.3	908.7	29.65		31.647	
8,500.0	8,485.8	8,637.9	8,485.8	16.3	28.2	174.01	-1,310.5	23.4	938.3	908.3	30.00		31.280	
8,600.0	8,585.8	8,737.9	8,585.8	16.4	28.3	174.01	-1,310.5	23.4	938.3	908.0	30.34		30.922	
8,700.0	8,685.8	8,837.9	8,685.8	16.6	28.4	174.01	-1,310.5	23.4	938.3	907.6	30.69		30.572	
8,728.2	8,714.0	8,846.1	8,694.0	16.6	28.4	174.01	-1,310.5	23.4	938.5	907.8	30.75		30.516	

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-5D (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 21-5D (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	138.06	-18.2	16.4	24.5					
100.0	100.0	100.0	100.0	0.1	0.1	138.06	-18.2	16.4	24.5	24.2	0.30	82.522		
200.0	200.0	200.0	200.0	0.3	0.3	138.06	-18.2	16.4	24.5	23.8	0.65	37.915		
300.0	300.0	300.0	300.0	0.5	0.5	138.06	-18.2	16.4	24.5	23.5	0.99	24.612		
400.0	400.0	400.0	400.0	0.7	0.7	138.06	-18.2	16.4	24.5	23.1	1.34	18.219		
500.0	500.0	500.0	500.0	0.8	0.8	138.06	-18.2	16.4	24.5	22.8	1.69	14.463 CC, ES		
600.0	600.0	599.5	599.5	1.0	1.0	140.20	-19.5	16.2	25.4	23.3	2.04	12.434		
700.0	700.0	699.0	698.9	1.2	1.2	-47.30	-23.4	15.9	27.4	25.0	2.39	11.443		
800.0	799.9	798.4	798.1	1.4	1.4	-44.56	-29.8	15.3	29.6	26.9	2.75	10.778		
900.0	899.7	897.7	897.0	1.6	1.6	-42.58	-38.8	14.5	32.1	29.0	3.12	10.309 SF		
1,000.0	999.4	996.9	995.5	1.8	1.8	-39.57	-50.4	13.4	36.1	32.6	3.49	10.330		
1,100.0	1,099.1	1,095.8	1,093.4	2.0	2.1	-35.36	-64.4	12.2	42.3	38.4	3.86	10.957		
1,200.0	1,198.8	1,194.8	1,191.1	2.2	2.4	-31.08	-80.7	10.7	50.8	46.6	4.22	12.033		
1,300.0	1,298.6	1,294.4	1,289.2	2.4	2.7	-27.88	-97.5	9.2	59.8	55.3	4.58	13.070		
1,400.0	1,398.3	1,393.9	1,387.3	2.6	3.0	-25.53	-114.3	7.6	69.0	64.1	4.93	13.990		
1,500.0	1,498.0	1,493.5	1,485.4	2.8	3.3	-23.73	-131.0	6.1	78.3	73.0	5.29	14.807		
1,600.0	1,597.7	1,593.0	1,583.5	3.0	3.7	-22.31	-147.8	4.6	87.6	82.0	5.64	15.534		
1,700.0	1,697.4	1,692.6	1,681.6	3.2	4.0	-21.17	-164.6	3.1	97.0	91.0	5.99	16.184		
1,800.0	1,797.2	1,792.1	1,779.7	3.4	4.3	-20.23	-181.4	1.5	106.4	100.1	6.35	16.767		
1,900.0	1,896.9	1,891.6	1,877.8	3.6	4.6	-19.44	-198.1	0.0	115.8	109.1	6.70	17.293		
2,000.0	1,996.6	1,991.2	1,975.9	3.9	5.0	-18.77	-214.9	-1.5	125.3	118.2	7.05	17.770		
2,100.0	2,096.3	2,090.7	2,074.0	4.1	5.3	-18.19	-231.7	-3.0	134.8	127.4	7.40	18.203		
2,200.0	2,196.0	2,190.3	2,172.1	4.3	5.6	-17.69	-248.5	-4.6	144.2	136.5	7.76	18.599		
2,300.0	2,295.7	2,289.8	2,270.2	4.5	6.0	-17.25	-265.3	-6.1	153.7	145.6	8.11	18.962		
2,400.0	2,395.5	2,389.4	2,368.3	4.7	6.3	-16.87	-282.0	-7.6	163.2	154.8	8.46	19.296		
2,500.0	2,495.2	2,488.9	2,466.5	4.9	6.7	-16.52	-298.8	-9.2	172.7	163.9	8.81	19.604		
2,600.0	2,594.9	2,588.4	2,564.6	5.2	7.0	-16.21	-315.6	-10.7	182.2	173.1	9.16	19.888		
2,700.0	2,694.6	2,688.0	2,662.7	5.4	7.3	-15.93	-332.4	-12.2	191.7	182.2	9.51	20.153		
2,800.0	2,794.3	2,787.5	2,760.8	5.6	7.7	-15.68	-349.1	-13.7	201.3	191.4	9.87	20.399		
2,900.0	2,894.1	2,887.1	2,858.9	5.8	8.0	-15.45	-365.9	-15.3	210.8	200.6	10.22	20.628		
3,000.0	2,993.8	2,986.6	2,957.0	6.0	8.3	-15.24	-382.7	-16.8	220.3	209.7	10.57	20.843		
3,100.0	3,093.5	3,086.1	3,055.1	6.2	8.7	-15.05	-399.5	-18.3	229.8	218.9	10.92	21.044		
3,200.0	3,193.2	3,185.7	3,153.2	6.5	9.0	-14.87	-416.2	-19.8	239.3	228.1	11.27	21.232		
3,300.0	3,292.9	3,285.2	3,251.3	6.7	9.4	-14.71	-433.0	-21.4	248.9	237.3	11.62	21.410		
3,400.0	3,392.6	3,384.8	3,349.4	6.9	9.7	-14.56	-449.8	-22.9	258.4	246.4	11.98	21.577		
3,500.0	3,492.4	3,484.3	3,447.5	7.1	10.0	-14.42	-466.6	-24.4	267.9	255.6	12.33	21.734		
3,600.0	3,592.1	3,583.9	3,545.6	7.3	10.4	-14.29	-483.3	-25.9	277.5	264.8	12.68	21.883		
3,700.0	3,691.8	3,683.4	3,643.7	7.5	10.7	-14.17	-500.1	-27.5	287.0	274.0	13.03	22.025		
3,800.0	3,791.5	3,782.9	3,741.8	7.8	11.1	-14.05	-516.9	-29.0	296.5	283.2	13.38	22.158		
3,900.0	3,891.2	3,882.5	3,839.9	8.0	11.4	-13.94	-533.7	-30.5	306.1	292.3	13.73	22.285		
4,000.0	3,991.0	3,982.0	3,938.1	8.2	11.7	-13.84	-550.4	-32.0	315.6	301.5	14.09	22.406		
4,100.0	4,090.7	4,081.6	4,036.2	8.4	12.1	-13.75	-567.2	-33.6	325.2	310.7	14.44	22.521		
4,200.0	4,190.4	4,181.1	4,134.3	8.6	12.4	-13.66	-584.0	-35.1	334.7	319.9	14.79	22.631		
4,300.0	4,290.1	4,280.7	4,232.4	8.8	12.8	-13.58	-600.8	-36.6	344.2	329.1	15.14	22.735		
4,400.0	4,389.8	4,380.2	4,330.5	9.1	13.1	-13.50	-617.6	-38.1	353.8	338.3	15.49	22.835		
4,500.0	4,489.6	4,479.7	4,428.6	9.3	13.4	-13.42	-634.3	-39.7	363.3	347.5	15.84	22.930		
4,600.0	4,589.3	4,579.3	4,526.7	9.5	13.8	-13.35	-651.1	-41.2	372.9	356.7	16.20	23.022		
4,700.0	4,689.0	4,678.8	4,624.8	9.7	14.1	-13.28	-667.9	-42.7	382.4	365.9	16.55	23.109		
4,800.0	4,788.7	4,778.4	4,722.9	9.9	14.5	-13.22	-684.7	-44.2	392.0	375.1	16.90	23.193		
4,900.0	4,888.4	4,877.9	4,821.0	10.1	14.8	-13.15	-701.4	-45.8	401.5	384.3	17.25	23.273		
5,000.0	4,988.1	4,977.5	4,919.1	10.4	15.1	-13.09	-718.2	-47.3	411.0	393.4	17.60	23.350		
5,100.0	5,087.9	5,077.0	5,017.2	10.6	15.5	-13.04	-735.0	-48.8	420.6	402.6	17.96	23.425		

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 21-5D (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 21-5D (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			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	5,187.6	5,176.5	5,115.3	10.8	15.8	-12.98	-751.8	-50.3	430.1	411.8	18.31	23.496		
5,300.0	5,287.3	5,276.1	5,213.4	11.0	16.2	-12.93	-768.5	-51.9	439.7	421.0	18.66	23.565		
5,400.0	5,387.0	5,375.6	5,311.5	11.2	16.5	-12.88	-785.3	-53.4	449.2	430.2	19.01	23.631		
5,500.0	5,486.7	5,475.2	5,409.7	11.5	16.8	-12.84	-802.1	-54.9	458.8	439.4	19.36	23.695		
5,600.0	5,586.5	5,574.7	5,507.8	11.7	17.2	-12.79	-818.9	-56.4	468.3	448.6	19.71	23.756		
5,700.0	5,686.2	5,674.3	5,605.9	11.9	17.5	-12.75	-835.6	-58.0	477.9	457.8	20.07	23.816		
5,800.0	5,785.9	5,773.7	5,703.9	12.1	17.9	-12.71	-852.4	-59.5	488.1	467.7	20.41	23.919		
5,900.0	5,885.8	5,872.9	5,801.7	12.3	18.2	-12.63	-869.1	-61.0	500.8	480.0	20.73	24.155		
6,000.0	5,985.8	5,971.7	5,899.1	12.4	18.5	-12.51	-885.8	-62.5	515.9	494.9	21.04	24.522		
6,100.0	6,085.8	6,070.3	5,996.2	12.6	18.9	-178.86	-902.4	-64.0	532.7	511.4	21.37	24.929		
6,200.0	6,185.8	6,168.9	6,093.3	12.7	19.2	-179.05	-919.0	-65.5	549.6	527.9	21.71	25.319		
6,300.0	6,285.8	6,267.4	6,190.5	12.9	19.6	-179.24	-935.6	-67.1	566.4	544.4	22.04	25.696		
6,400.0	6,385.8	6,381.4	6,303.0	13.0	19.9	-179.42	-953.5	-68.7	582.1	559.7	22.40	25.981		
6,500.0	6,485.8	6,498.5	6,419.2	13.2	20.2	-179.57	-968.4	-70.0	594.8	572.0	22.77	26.117		
6,600.0	6,585.8	6,616.5	6,536.6	13.3	20.5	-179.68	-979.8	-71.1	604.5	581.3	23.15	26.114		
6,700.0	6,685.8	6,735.1	6,654.9	13.5	20.7	-179.75	-987.6	-71.8	611.1	587.6	23.52	25.977		
6,800.0	6,785.8	6,854.0	6,773.8	13.6	20.8	-179.78	-991.8	-72.2	614.6	590.7	23.90	25.713		
6,900.0	6,885.8	6,966.1	6,885.8	13.8	21.0	-179.79	-992.5	-72.2	615.2	590.9	24.27	25.349		
7,000.0	6,985.8	7,066.1	6,985.8	13.9	21.1	-179.79	-992.5	-72.2	615.2	590.6	24.62	24.991		
7,100.0	7,085.8	7,166.1	7,085.8	14.1	21.2	-179.79	-992.5	-72.2	615.2	590.2	24.96	24.644		
7,200.0	7,185.8	7,266.1	7,185.8	14.2	21.3	-179.79	-992.5	-72.2	615.2	589.9	25.31	24.305		
7,300.0	7,285.8	7,366.1	7,285.8	14.4	21.4	-179.79	-992.5	-72.2	615.2	589.5	25.66	23.976		
7,400.0	7,385.8	7,466.1	7,385.8	14.5	21.5	-179.79	-992.5	-72.2	615.2	589.2	26.01	23.656		
7,500.0	7,485.8	7,566.1	7,485.8	14.7	21.6	-179.79	-992.5	-72.2	615.2	588.9	26.35	23.344		
7,600.0	7,585.8	7,666.1	7,585.8	14.8	21.7	-179.79	-992.5	-72.2	615.2	588.5	26.70	23.040		
7,700.0	7,685.8	7,766.1	7,685.8	15.0	21.8	-179.79	-992.5	-72.2	615.2	588.2	27.05	22.744		
7,800.0	7,785.8	7,866.1	7,785.8	15.2	21.9	-179.79	-992.5	-72.2	615.2	587.8	27.40	22.455		
7,900.0	7,885.8	7,966.1	7,885.8	15.3	22.0	-179.79	-992.5	-72.2	615.2	587.5	27.74	22.174		
8,000.0	7,985.8	8,066.1	7,985.8	15.5	22.1	-179.79	-992.5	-72.2	615.2	587.1	28.09	21.899		
8,100.0	8,085.8	8,166.1	8,085.8	15.6	22.2	-179.79	-992.5	-72.2	615.2	586.8	28.44	21.632		
8,200.0	8,185.8	8,266.1	8,185.8	15.8	22.3	-179.79	-992.5	-72.2	615.2	586.4	28.79	21.370		
8,300.0	8,285.8	8,366.1	8,285.8	15.9	22.5	-179.79	-992.5	-72.2	615.2	586.1	29.14	21.115		
8,400.0	8,385.8	8,466.1	8,385.8	16.1	22.6	-179.79	-992.5	-72.2	615.2	585.7	29.48	20.866		
8,500.0	8,485.8	8,566.1	8,485.8	16.3	22.7	-179.79	-992.5	-72.2	615.2	585.4	29.83	20.623		
8,600.0	8,585.8	8,666.1	8,585.8	16.4	22.8	-179.79	-992.5	-72.2	615.2	585.0	30.18	20.385		
8,700.0	8,685.8	8,766.1	8,685.8	16.6	22.9	-179.79	-992.5	-72.2	615.2	584.7	30.53	20.152		
8,708.1	8,693.9	8,774.2	8,693.9	16.6	22.9	-179.79	-992.5	-72.2	615.2	584.7	30.56	20.134		
8,728.2	8,714.0	8,779.2	8,699.0	16.6	22.9	-179.79	-992.5	-72.2	615.4	584.8	30.60	20.111		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-5D (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 21-5D (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 21-4D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	147.46	-12.4	7.9	14.7					
100.0	100.0	100.0	100.0	0.1	0.1	147.46	-12.4	7.9	14.7	14.4	0.30	49.509		
200.0	200.0	200.0	200.0	0.3	0.3	147.46	-12.4	7.9	14.7	14.0	0.65	22.747		
300.0	300.0	300.0	300.0	0.5	0.5	147.46	-12.4	7.9	14.7	13.7	0.99	14.766		
400.0	400.0	400.0	400.0	0.7	0.7	147.46	-12.4	7.9	14.7	13.3	1.34	10.931		
500.0	500.0	500.0	500.0	0.8	0.8	147.46	-12.4	7.9	14.7	13.0	1.69	8.677		
600.0	600.0	600.0	600.0	1.0	1.0	147.46	-12.4	7.9	14.7	12.6	2.04	7.194 CC		
700.0	700.0	699.7	699.7	1.2	1.2	-43.93	-13.7	7.7	14.7	12.3	2.39	6.164		
800.0	799.9	799.4	799.3	1.4	1.4	-44.60	-17.5	7.2	14.9	12.1	2.74	5.423		
900.0	899.7	899.1	898.8	1.6	1.6	-45.64	-24.0	6.3	15.1	12.0	3.11	4.873 ES		
1,000.0	999.4	998.8	998.1	1.8	1.8	-42.95	-33.0	5.1	16.7	13.2	3.48	4.790 SF		
1,100.0	1,099.1	1,098.6	1,097.3	2.0	2.0	-37.28	-43.9	3.6	19.8	16.0	3.84	5.154		
1,200.0	1,198.8	1,198.6	1,196.6	2.2	2.2	-33.05	-55.0	2.0	23.2	19.0	4.21	5.516		
1,300.0	1,298.6	1,298.5	1,295.9	2.4	2.5	-29.91	-66.1	0.5	26.7	22.1	4.56	5.845		
1,400.0	1,398.3	1,398.4	1,395.2	2.6	2.7	-27.50	-77.1	-1.0	30.2	25.3	4.92	6.140		
1,500.0	1,498.0	1,498.4	1,494.5	2.8	3.0	-25.59	-88.2	-2.5	33.8	28.5	5.28	6.405		
1,600.0	1,597.7	1,598.3	1,593.8	3.0	3.2	-24.06	-99.3	-4.1	37.4	31.8	5.63	6.643		
1,700.0	1,697.4	1,698.2	1,693.1	3.2	3.5	-22.79	-110.4	-5.6	41.0	35.1	5.99	6.857		
1,800.0	1,797.2	1,798.1	1,792.4	3.4	3.7	-21.73	-121.4	-7.1	44.7	38.4	6.34	7.050		
1,900.0	1,896.9	1,898.1	1,891.7	3.6	4.0	-20.83	-132.5	-8.6	48.4	41.7	6.69	7.225		
2,000.0	1,996.6	1,998.0	1,991.0	3.9	4.2	-20.06	-143.6	-10.2	52.0	45.0	7.05	7.385		
2,100.0	2,096.3	2,097.9	2,090.3	4.1	4.5	-19.39	-154.6	-11.7	55.7	48.3	7.40	7.530		
2,200.0	2,196.0	2,197.9	2,189.6	4.3	4.7	-18.80	-165.7	-13.2	59.4	51.6	7.75	7.663		
2,300.0	2,295.7	2,297.8	2,288.9	4.5	5.0	-18.28	-176.8	-14.7	63.1	55.0	8.10	7.786		
2,400.0	2,395.5	2,397.7	2,388.2	4.7	5.2	-17.82	-187.9	-16.3	66.8	58.3	8.46	7.898		
2,500.0	2,495.2	2,497.7	2,487.5	4.9	5.5	-17.40	-198.9	-17.8	70.5	61.7	8.81	8.002		
2,600.0	2,594.9	2,597.6	2,586.8	5.2	5.8	-17.03	-210.0	-19.3	74.2	65.0	9.16	8.099		
2,700.0	2,694.6	2,697.5	2,686.1	5.4	6.0	-16.70	-221.1	-20.8	77.9	68.4	9.51	8.189		
2,800.0	2,794.3	2,797.4	2,785.5	5.6	6.3	-16.39	-232.1	-22.4	81.6	71.7	9.87	8.272		
2,900.0	2,894.1	2,897.4	2,884.8	5.8	6.5	-16.11	-243.2	-23.9	85.3	75.1	10.22	8.351		
3,000.0	2,993.8	2,997.3	2,984.1	6.0	6.8	-15.86	-254.3	-25.4	89.0	78.5	10.57	8.424		
3,100.0	3,093.5	3,097.2	3,083.4	6.2	7.0	-15.62	-265.3	-26.9	92.8	81.8	10.92	8.492		
3,200.0	3,193.2	3,197.2	3,182.7	6.5	7.3	-15.40	-276.4	-28.5	96.5	85.2	11.28	8.557		
3,300.0	3,292.9	3,297.1	3,282.0	6.7	7.6	-15.20	-287.5	-30.0	100.2	88.6	11.63	8.617		
3,400.0	3,392.6	3,397.0	3,381.3	6.9	7.8	-15.02	-298.6	-31.5	103.9	91.9	11.98	8.674		
3,500.0	3,492.4	3,497.0	3,480.6	7.1	8.1	-14.84	-309.6	-33.0	107.6	95.3	12.33	8.728		
3,600.0	3,592.1	3,596.9	3,579.9	7.3	8.3	-14.68	-320.7	-34.6	111.4	98.7	12.68	8.779		
3,700.0	3,691.8	3,696.8	3,679.2	7.5	8.6	-14.53	-331.8	-36.1	115.1	102.0	13.04	8.828		
3,800.0	3,791.5	3,796.7	3,778.5	7.8	8.9	-14.39	-342.8	-37.6	118.8	105.4	13.39	8.874		
3,900.0	3,891.2	3,896.7	3,877.8	8.0	9.1	-14.25	-353.9	-39.1	122.5	108.8	13.74	8.917		
4,000.0	3,991.0	3,996.6	3,977.1	8.2	9.4	-14.13	-365.0	-40.7	126.3	112.2	14.09	8.959		
4,100.0	4,090.7	4,096.5	4,076.4	8.4	9.6	-14.01	-376.1	-42.2	130.0	115.5	14.45	8.998		
4,200.0	4,190.4	4,196.5	4,175.7	8.6	9.9	-13.90	-387.1	-43.7	133.7	118.9	14.80	9.036		
4,300.0	4,290.1	4,296.4	4,275.0	8.8	10.2	-13.79	-398.2	-45.2	137.4	122.3	15.15	9.072		
4,400.0	4,389.8	4,396.3	4,374.3	9.1	10.4	-13.69	-409.3	-46.8	141.2	125.7	15.50	9.106		
4,500.0	4,489.6	4,496.3	4,473.6	9.3	10.7	-13.60	-420.3	-48.3	144.9	129.0	15.85	9.139		
4,600.0	4,589.3	4,596.2	4,572.9	9.5	10.9	-13.50	-431.4	-49.8	148.6	132.4	16.21	9.170		
4,700.0	4,689.0	4,696.1	4,672.2	9.7	11.2	-13.42	-442.5	-51.3	152.3	135.8	16.56	9.200		
4,800.0	4,788.7	4,796.0	4,771.5	9.9	11.5	-13.34	-453.5	-52.9	156.1	139.2	16.91	9.229		
4,900.0	4,888.4	4,896.0	4,870.8	10.1	11.7	-13.26	-464.6	-54.4	159.8	142.5	17.26	9.257		
5,000.0	4,988.1	4,995.9	4,970.1	10.4	12.0	-13.18	-475.7	-55.9	163.5	145.9	17.61	9.284		
5,100.0	5,087.9	5,095.8	5,069.4	10.6	12.3	-13.11	-486.8	-57.4	167.3	149.3	17.97	9.309		

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 21-5D (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 21-5D (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 21-4D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				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	5,187.6	5,195.8	5,168.7	10.8	12.5	-13.05	-497.8	-59.0	171.0	152.7	18.32	9.334		
5,300.0	5,287.3	5,295.7	5,268.0	11.0	12.8	-12.98	-508.9	-60.5	174.7	156.0	18.67	9.358		
5,400.0	5,387.0	5,395.6	5,367.3	11.2	13.0	-12.92	-520.0	-62.0	178.5	159.4	19.02	9.380		
5,500.0	5,486.7	5,495.6	5,466.6	11.5	13.3	-12.86	-531.0	-63.5	182.2	162.8	19.38	9.402		
5,600.0	5,586.5	5,595.5	5,565.9	11.7	13.6	-12.80	-542.1	-65.1	185.9	166.2	19.73	9.424		
5,700.0	5,686.2	5,695.4	5,665.2	11.9	13.8	-12.75	-553.2	-66.6	189.6	169.6	20.08	9.444		
5,800.0	5,785.9	5,795.3	5,764.5	12.1	14.1	-12.66	-564.2	-68.1	194.0	173.6	20.43	9.500		
5,900.0	5,885.8	5,895.1	5,863.7	12.3	14.3	-12.43	-575.3	-69.6	200.9	180.2	20.75	9.680		
6,000.0	5,985.8	5,994.6	5,962.6	12.4	14.6	-12.08	-586.3	-71.1	210.3	189.3	21.07	9.983		
6,100.0	6,085.8	6,094.0	6,061.3	12.6	14.9	-179.52	-597.3	-72.7	221.4	200.0	21.39	10.347		
6,200.0	6,185.8	6,193.4	6,160.1	12.7	15.1	-179.92	-608.3	-74.2	232.4	210.7	21.73	10.698		
6,300.0	6,285.8	6,292.7	6,258.8	12.9	15.4	-179.71	-619.4	-75.7	243.5	221.4	22.06	11.038		
6,400.0	6,385.8	6,392.1	6,357.6	13.0	15.6	-179.38	-630.4	-77.2	254.6	232.2	22.40	11.367		
6,500.0	6,485.8	6,493.7	6,458.5	13.2	15.9	-179.08	-641.5	-78.7	265.6	242.8	22.74	11.680		
6,600.0	6,585.8	6,600.8	6,565.2	13.3	16.1	-178.84	-651.0	-80.1	274.5	251.4	23.09	11.887		
6,700.0	6,685.8	6,708.4	6,672.6	13.5	16.3	-178.68	-657.5	-81.0	280.6	257.1	23.45	11.967		
6,800.0	6,785.8	6,816.3	6,780.4	13.6	16.5	-178.60	-661.1	-81.4	283.9	260.1	23.81	11.926		
6,900.0	6,885.8	6,921.7	6,885.8	13.8	16.6	-178.58	-661.8	-81.5	284.6	260.4	24.16	11.777		
7,000.0	6,985.8	7,021.7	6,985.8	13.9	16.7	-178.58	-661.8	-81.5	284.6	260.0	24.51	11.610		
7,100.0	7,085.8	7,121.7	7,085.8	14.1	16.9	-178.58	-661.8	-81.5	284.6	259.7	24.86	11.448		
7,200.0	7,185.8	7,221.7	7,185.8	14.2	17.0	-178.58	-661.8	-81.5	284.6	259.4	25.21	11.290		
7,300.0	7,285.8	7,321.7	7,285.8	14.4	17.1	-178.58	-661.8	-81.5	284.6	259.0	25.55	11.136		
7,400.0	7,385.8	7,421.7	7,385.8	14.5	17.3	-178.58	-661.8	-81.5	284.6	258.7	25.90	10.986		
7,500.0	7,485.8	7,521.7	7,485.8	14.7	17.4	-178.58	-661.8	-81.5	284.6	258.3	26.25	10.841		
7,600.0	7,585.8	7,621.7	7,585.8	14.8	17.5	-178.58	-661.8	-81.5	284.6	258.0	26.60	10.699		
7,700.0	7,685.8	7,721.7	7,685.8	15.0	17.7	-178.58	-661.8	-81.5	284.6	257.6	26.95	10.561		
7,800.0	7,785.8	7,821.7	7,785.8	15.2	17.8	-178.58	-661.8	-81.5	284.6	257.3	27.29	10.426		
7,900.0	7,885.8	7,921.7	7,885.8	15.3	17.9	-178.58	-661.8	-81.5	284.6	256.9	27.64	10.295		
8,000.0	7,985.8	8,021.7	7,985.8	15.5	18.1	-178.58	-661.8	-81.5	284.6	256.6	27.99	10.167		
8,100.0	8,085.8	8,121.7	8,085.8	15.6	18.2	-178.58	-661.8	-81.5	284.6	256.2	28.34	10.042		
8,200.0	8,185.8	8,221.7	8,185.8	15.8	18.3	-178.58	-661.8	-81.5	284.6	255.9	28.69	9.920		
8,300.0	8,285.8	8,321.7	8,285.8	15.9	18.5	-178.58	-661.8	-81.5	284.6	255.5	29.03	9.801		
8,400.0	8,385.8	8,421.7	8,385.8	16.1	18.6	-178.58	-661.8	-81.5	284.6	255.2	29.38	9.685		
8,500.0	8,485.8	8,521.7	8,485.8	16.3	18.7	-178.58	-661.8	-81.5	284.6	254.8	29.73	9.571		
8,600.0	8,585.8	8,621.7	8,585.8	16.4	18.9	-178.58	-661.8	-81.5	284.6	254.5	30.08	9.461		
8,700.0	8,685.8	8,721.7	8,685.8	16.6	19.0	-178.58	-661.8	-81.5	284.6	254.1	30.43	9.352		
8,709.1	8,694.9	8,730.8	8,694.9	16.6	19.0	-178.58	-661.8	-81.5	284.6	254.1	30.46	9.343		
8,728.2	8,714.0	8,740.5	8,704.6	16.6	19.1	-178.58	-661.8	-81.5	284.7	254.2	30.51	9.332		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-5D (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 21-5D (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: 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	300.0	300.0	0.0	0.0	-25.04	68.8	-32.2	76.0					
100.0	100.0	400.0	400.0	0.1	0.1	-25.04	68.8	-32.2	76.0	75.7	0.30	256.098		
200.0	200.0	500.0	500.0	0.3	0.3	-25.04	68.8	-32.2	76.0	75.3	0.65	117.667		
300.0	300.0	601.9	601.9	0.5	0.5	-24.75	67.8	-31.3	74.7	73.7	1.00	74.836		
400.0	400.0	703.7	703.6	0.7	0.7	-23.82	64.8	-28.6	70.9	69.5	1.35	52.479		
500.0	500.0	804.7	804.4	0.8	0.9	-22.06	59.8	-24.2	64.7	63.0	1.70	38.002		
600.0	600.0	904.4	903.9	1.0	1.1	-19.74	54.4	-19.5	58.0	55.9	2.05	28.248		
700.0	700.0	1,004.2	1,003.4	1.2	1.3	152.73	49.1	-14.8	52.5	50.1	2.42	21.721		
800.0	799.9	1,104.1	1,103.0	1.4	1.5	158.32	43.7	-10.1	49.8	47.0	2.79	17.866		
843.9	843.7	1,147.9	1,146.7	1.5	1.6	161.25	41.3	-8.0	49.5	46.5	2.95	16.766 CC, ES		
900.0	899.7	1,203.9	1,202.5	1.6	1.7	165.27	38.3	-5.4	50.0	46.9	3.16	15.816		
1,000.0	999.4	1,303.7	1,302.1	1.8	1.9	172.19	33.0	-0.7	52.0	48.5	3.55	14.640		
1,100.0	1,099.1	1,403.4	1,401.6	2.0	2.2	178.53	27.6	4.0	54.7	50.7	3.95	13.852		
1,200.0	1,198.8	1,503.2	1,501.1	2.2	2.4	-175.79	22.2	8.7	58.0	53.6	4.35	13.330		
1,300.0	1,298.6	1,603.0	1,600.7	2.4	2.6	-170.75	16.9	13.4	61.7	57.0	4.75	12.993		
1,400.0	1,398.3	1,702.8	1,700.2	2.6	2.8	-166.33	11.5	18.1	65.9	60.8	5.16	12.782		
1,500.0	1,498.0	1,802.5	1,799.6	2.8	3.0	-162.51	6.2	22.8	70.5	64.9	5.57	12.669 SF		
1,600.0	1,597.7	1,901.7	1,898.7	3.0	3.2	-160.49	2.3	26.2	75.9	70.0	5.94	12.778		
1,700.0	1,697.4	2,000.8	1,997.8	3.2	3.4	-160.48	0.3	28.0	82.2	75.9	6.28	13.075		
1,800.0	1,797.2	2,100.2	2,097.2	3.4	3.5	-161.86	0.0	28.2	89.1	82.5	6.61	13.492		
1,900.0	1,896.9	2,199.9	2,196.9	3.6	3.7	-163.25	0.0	28.2	96.3	89.4	6.93	13.892		
2,000.0	1,996.6	2,299.6	2,296.6	3.9	3.8	-164.45	0.0	28.2	103.5	96.2	7.26	14.257		
2,100.0	2,096.3	2,399.4	2,396.3	4.1	4.0	-165.49	0.0	28.2	110.8	103.2	7.59	14.593		
2,200.0	2,196.0	2,499.1	2,496.0	4.3	4.1	-166.40	0.0	28.2	118.0	110.1	7.92	14.901		
2,300.0	2,295.7	2,598.8	2,595.7	4.5	4.3	-167.21	0.0	28.2	125.3	117.1	8.25	15.184		
2,400.0	2,395.5	2,698.5	2,695.5	4.7	4.5	-167.92	0.0	28.2	132.7	124.1	8.59	15.446		
2,500.0	2,495.2	2,798.2	2,795.2	4.9	4.6	-168.57	0.0	28.2	140.0	131.1	8.92	15.688		
2,600.0	2,594.9	2,898.0	2,894.9	5.2	4.8	-169.14	0.0	28.2	147.4	138.1	9.26	15.912		
2,700.0	2,694.6	2,997.7	2,994.6	5.4	4.9	-169.67	0.0	28.2	154.7	145.1	9.60	16.120		
2,800.0	2,794.3	3,097.4	3,094.3	5.6	5.1	-170.14	0.0	28.2	162.1	152.2	9.94	16.314		
2,900.0	2,894.1	3,197.1	3,194.1	5.8	5.3	-170.58	0.0	28.2	169.5	159.2	10.28	16.494		
3,000.0	2,993.8	3,296.8	3,293.8	6.0	5.4	-170.97	0.0	28.2	176.9	166.3	10.62	16.664		
3,100.0	3,093.5	3,396.5	3,393.5	6.2	5.6	-171.34	0.0	28.2	184.3	173.4	10.96	16.822		
3,200.0	3,193.2	3,496.3	3,493.2	6.5	5.8	-171.68	0.0	28.2	191.8	180.5	11.30	16.971		
3,300.0	3,292.9	3,596.0	3,592.9	6.7	5.9	-171.99	0.0	28.2	199.2	187.5	11.64	17.110		
3,400.0	3,392.6	3,695.7	3,692.6	6.9	6.1	-172.28	0.0	28.2	206.6	194.6	11.98	17.242		
3,500.0	3,492.4	3,795.4	3,792.4	7.1	6.3	-172.55	0.0	28.2	214.1	201.7	12.33	17.366		
3,600.0	3,592.1	3,895.1	3,892.1	7.3	6.5	-172.80	0.0	28.2	221.5	208.8	12.67	17.483		
3,700.0	3,691.8	3,994.9	3,991.8	7.5	6.6	-173.04	0.0	28.2	228.9	215.9	13.01	17.594		
3,800.0	3,791.5	4,094.6	4,091.5	7.8	6.8	-173.26	0.0	28.2	236.4	223.0	13.36	17.699		
3,900.0	3,891.2	4,194.3	4,191.2	8.0	7.0	-173.46	0.0	28.2	243.8	230.1	13.70	17.799		
4,000.0	3,991.0	4,294.0	4,291.0	8.2	7.1	-173.66	0.0	28.2	251.3	237.2	14.04	17.894		
4,100.0	4,090.7	4,393.7	4,390.7	8.4	7.3	-173.84	0.0	28.2	258.8	244.4	14.39	17.984		
4,200.0	4,190.4	4,493.4	4,490.4	8.6	7.5	-174.01	0.0	28.2	266.2	251.5	14.73	18.069		
4,300.0	4,290.1	4,593.2	4,590.1	8.8	7.6	-174.18	0.0	28.2	273.7	258.6	15.08	18.151		
4,400.0	4,389.8	4,692.9	4,689.8	9.1	7.8	-174.33	0.0	28.2	281.1	265.7	15.42	18.229		
4,500.0	4,489.6	4,792.6	4,789.6	9.3	8.0	-174.48	0.0	28.2	288.6	272.8	15.77	18.304		
4,600.0	4,589.3	4,892.3	4,889.3	9.5	8.1	-174.62	0.0	28.2	296.1	280.0	16.11	18.375		
4,700.0	4,689.0	4,992.0	4,989.0	9.7	8.3	-174.75	0.0	28.2	303.5	287.1	16.46	18.443		
4,800.0	4,788.7	5,091.8	5,088.7	9.9	8.5	-174.88	0.0	28.2	311.0	294.2	16.80	18.509		
4,900.0	4,888.4	5,191.5	5,188.4	10.1	8.7	-175.00	0.0	28.2	318.5	301.3	17.15	18.571		
5,000.0	4,988.1	5,291.2	5,288.1	10.4	8.8	-175.11	0.0	28.2	326.0	308.5	17.49	18.632		

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 21-5D (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 21-5D (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					Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis			
5,100.0	5,087.9	5,390.9	5,387.9	10.6	9.0	-175.22	0.0	28.2	333.4	315.6	17.84	18.689		
5,200.0	5,187.6	5,490.6	5,487.6	10.8	9.2	-175.33	0.0	28.2	340.9	322.7	18.19	18.745		
5,300.0	5,287.3	5,590.3	5,587.3	11.0	9.3	-175.43	0.0	28.2	348.4	329.8	18.53	18.798		
5,400.0	5,387.0	5,690.1	5,687.0	11.2	9.5	-175.53	0.0	28.2	355.9	337.0	18.88	18.850		
5,500.0	5,486.7	5,789.8	5,786.7	11.5	9.7	-175.62	0.0	28.2	363.3	344.1	19.23	18.899		
5,600.0	5,586.5	5,889.5	5,886.5	11.7	9.9	-175.71	0.0	28.2	370.8	351.2	19.57	18.947		
5,700.0	5,686.2	5,989.2	5,986.2	11.9	10.0	-175.79	0.0	28.2	378.3	358.4	19.92	18.993		
5,800.0	5,785.9	6,089.0	6,085.9	12.1	10.2	-175.87	0.0	28.2	385.1	364.8	20.27	18.997		
5,900.0	5,885.8	6,188.9	6,185.8	12.3	10.4	-175.92	0.0	28.2	389.4	368.8	20.62	18.883		
6,000.0	5,985.8	6,288.9	6,285.8	12.4	10.5	-175.94	0.0	28.2	391.1	370.1	20.96	18.656		
6,100.0	6,085.8	6,388.9	6,385.8	12.6	10.7	15.23	0.0	28.2	391.1	369.8	21.31	18.355		
6,200.0	6,185.8	6,488.9	6,485.8	12.7	10.9	15.23	0.0	28.2	391.1	369.4	21.65	18.060		
6,300.0	6,285.8	6,588.9	6,585.8	12.9	11.1	15.23	0.0	28.2	391.1	369.1	22.00	17.775		
6,400.0	6,385.8	6,688.9	6,685.8	13.0	11.2	15.23	0.0	28.2	391.1	368.7	22.35	17.498		
6,500.0	6,485.8	6,788.9	6,785.8	13.2	11.4	15.23	0.0	28.2	391.1	368.4	22.70	17.230		
6,600.0	6,585.8	6,888.9	6,885.8	13.3	11.6	15.23	0.0	28.2	391.1	368.0	23.05	16.970		
6,700.0	6,685.8	6,988.9	6,985.8	13.5	11.8	15.23	0.0	28.2	391.1	367.7	23.39	16.717		
6,800.0	6,785.8	7,088.9	7,085.8	13.6	11.9	15.23	0.0	28.2	391.1	367.3	23.74	16.472		
6,900.0	6,885.8	7,188.9	7,185.8	13.8	12.1	15.23	0.0	28.2	391.1	367.0	24.09	16.235		
7,000.0	6,985.8	7,288.9	7,285.8	13.9	12.3	15.23	0.0	28.2	391.1	366.6	24.44	16.003		
7,100.0	7,085.8	7,388.9	7,385.8	14.1	12.5	15.23	0.0	28.2	391.1	366.3	24.79	15.779		
7,200.0	7,185.8	7,488.9	7,485.8	14.2	12.6	15.23	0.0	28.2	391.1	365.9	25.13	15.560		
7,300.0	7,285.8	7,588.9	7,585.8	14.4	12.8	15.23	0.0	28.2	391.1	365.6	25.48	15.348		
7,400.0	7,385.8	7,688.9	7,685.8	14.5	13.0	15.23	0.0	28.2	391.1	365.3	25.83	15.141		
7,500.0	7,485.8	7,788.9	7,785.8	14.7	13.1	15.23	0.0	28.2	391.1	364.9	26.18	14.939		
7,600.0	7,585.8	7,888.9	7,885.8	14.8	13.3	15.23	0.0	28.2	391.1	364.6	26.53	14.743		
7,700.0	7,685.8	7,988.9	7,985.8	15.0	13.5	15.23	0.0	28.2	391.1	364.2	26.87	14.552		
7,800.0	7,785.8	8,088.9	8,085.8	15.2	13.7	15.23	0.0	28.2	391.1	363.9	27.22	14.366		
7,900.0	7,885.8	8,188.9	8,185.8	15.3	13.8	15.23	0.0	28.2	391.1	363.5	27.57	14.185		
8,000.0	7,985.8	8,288.9	8,285.8	15.5	14.0	15.23	0.0	28.2	391.1	363.2	27.92	14.008		
8,100.0	8,085.8	8,388.9	8,385.8	15.6	14.2	15.23	0.0	28.2	391.1	362.8	28.27	13.835		
8,200.0	8,185.8	8,488.9	8,485.8	15.8	14.4	15.23	0.0	28.2	391.1	362.5	28.62	13.667		
8,300.0	8,285.8	8,588.9	8,585.8	15.9	14.5	15.23	0.0	28.2	391.1	362.1	28.96	13.502		
8,400.0	8,385.8	8,688.9	8,685.8	16.1	14.7	15.23	0.0	28.2	391.1	361.8	29.31	13.342		
8,412.4	8,398.2	8,701.3	8,698.2	16.1	14.7	15.23	0.0	28.2	391.1	361.7	29.36	13.322		
8,500.0	8,485.8	8,727.0	8,724.0	16.3	14.8	15.23	0.0	28.2	395.9	366.4	29.55	13.398		
8,600.0	8,585.8	8,727.0	8,724.0	16.4	14.8	15.23	0.0	28.2	423.2	393.5	29.73	14.237		
8,700.0	8,685.8	8,727.0	8,724.0	16.6	14.8	15.23	0.0	28.2	470.6	440.7	29.90	15.739		
8,728.2	8,714.0	8,727.0	8,724.0	16.6	14.8	15.23	0.0	28.2	486.9	456.9	29.95	16.256		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-5D (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 21-5D (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)						
0.0	0.0	0.0	0.0	0.0	0.0	-26.36	80.9	-40.1	90.2					
100.0	100.0	100.0	100.0	0.1	0.1	-26.36	80.9	-40.1	90.2	89.9	0.30	304.152		
200.0	200.0	200.0	200.0	0.3	0.3	-26.36	80.9	-40.1	90.2	89.6	0.65	139.746		
300.0	300.0	300.0	300.0	0.5	0.5	-26.36	80.9	-40.1	90.2	89.2	0.99	90.712		
400.0	400.0	400.0	400.0	0.7	0.7	-26.36	80.9	-40.1	90.2	88.9	1.34	67.150		
500.0	500.0	500.0	500.0	0.8	0.8	-26.36	80.9	-40.1	90.2	88.6	1.69	53.305 CC, ES		
600.0	600.0	598.0	598.0	1.0	1.0	-25.94	82.1	-39.9	91.3	89.3	2.04	44.794		
700.0	700.0	695.8	695.7	1.2	1.2	144.49	85.9	-39.6	95.7	93.3	2.39	40.118		
800.0	799.9	793.5	793.2	1.4	1.4	147.34	92.0	-39.0	104.6	101.8	2.73	38.247		
900.0	899.7	892.5	892.0	1.6	1.6	150.59	99.2	-38.3	116.7	113.6	3.08	37.823		
1,000.0	999.4	991.4	990.6	1.8	1.8	153.48	106.3	-37.6	130.0	126.5	3.44	37.823		
1,100.0	1,099.1	1,090.3	1,089.3	2.0	2.0	155.83	113.4	-37.0	143.5	139.7	3.79	37.904		
1,200.0	1,198.8	1,189.3	1,188.0	2.2	2.2	157.77	120.5	-36.3	157.3	153.2	4.14	38.028		
1,300.0	1,298.6	1,288.2	1,286.6	2.4	2.4	159.40	127.6	-35.6	171.2	166.7	4.48	38.174		
1,400.0	1,398.3	1,387.1	1,385.3	2.6	2.6	160.79	134.7	-34.9	185.2	180.4	4.83	38.328		
1,500.0	1,498.0	1,486.0	1,483.9	2.8	2.8	161.98	141.8	-34.2	199.4	194.2	5.18	38.483		
1,600.0	1,597.7	1,584.9	1,582.6	3.0	3.0	163.01	148.9	-33.6	213.5	208.0	5.53	38.634		
1,700.0	1,697.4	1,683.9	1,681.3	3.2	3.2	163.91	156.0	-32.9	227.8	221.9	5.87	38.780		
1,800.0	1,797.2	1,782.8	1,779.9	3.4	3.4	164.71	163.1	-32.2	242.1	235.9	6.22	38.919		
1,900.0	1,896.9	1,881.7	1,878.6	3.6	3.6	165.42	170.2	-31.5	256.4	249.9	6.57	39.050		
2,000.0	1,996.6	1,980.6	1,977.2	3.9	3.9	166.05	177.3	-30.9	270.8	263.9	6.91	39.174		
2,100.0	2,096.3	2,079.5	2,075.9	4.1	4.1	166.62	184.5	-30.2	285.2	278.0	7.26	39.291		
2,200.0	2,196.0	2,178.5	2,174.6	4.3	4.3	167.13	191.6	-29.5	299.7	292.0	7.61	39.400		
2,300.0	2,295.7	2,277.4	2,273.2	4.5	4.5	167.60	198.7	-28.8	314.1	306.2	7.95	39.503		
2,400.0	2,395.5	2,376.3	2,371.9	4.7	4.7	168.03	205.8	-28.1	328.6	320.3	8.30	39.600		
2,500.0	2,495.2	2,475.2	2,470.5	4.9	4.9	168.42	212.9	-27.5	343.1	334.4	8.64	39.691		
2,600.0	2,594.9	2,574.1	2,569.2	5.2	5.1	168.77	220.0	-26.8	357.6	348.6	8.99	39.777		
2,700.0	2,694.6	2,673.1	2,667.9	5.4	5.3	169.10	227.1	-26.1	372.1	362.7	9.34	39.858		
2,800.0	2,794.3	2,772.0	2,766.5	5.6	5.5	169.41	234.2	-25.4	386.6	376.9	9.68	39.934		
2,900.0	2,894.1	2,870.9	2,865.2	5.8	5.8	169.69	241.3	-24.7	401.1	391.1	10.03	40.006		
3,000.0	2,993.8	2,969.8	2,963.9	6.0	6.0	169.96	248.4	-24.1	415.7	405.3	10.37	40.074		
3,100.0	3,093.5	3,068.7	3,062.5	6.2	6.2	170.20	255.5	-23.4	430.2	419.5	10.72	40.138		
3,200.0	3,193.2	3,172.5	3,166.0	6.5	6.4	170.44	262.8	-22.7	444.6	433.5	11.07	40.150		
3,300.0	3,292.9	3,285.0	3,278.4	6.7	6.6	170.66	268.0	-22.2	456.6	445.2	11.44	39.905		
3,400.0	3,392.6	3,398.3	3,391.6	6.9	6.8	170.85	269.9	-22.0	465.7	453.9	11.81	39.421		
3,500.0	3,492.4	3,499.0	3,492.4	7.1	6.9	170.99	269.9	-22.0	473.1	461.0	12.16	38.895		
3,600.0	3,592.1	3,598.7	3,592.1	7.3	7.1	171.13	269.9	-22.0	480.5	468.0	12.51	38.405		
3,700.0	3,691.8	3,698.4	3,691.8	7.5	7.2	171.27	269.9	-22.0	487.9	475.1	12.86	37.940		
3,800.0	3,791.5	3,798.1	3,791.5	7.8	7.4	171.40	269.9	-22.0	495.4	482.2	13.21	37.501		
3,900.0	3,891.2	3,897.9	3,891.2	8.0	7.5	171.53	269.9	-22.0	502.8	489.2	13.56	37.085		
4,000.0	3,991.0	3,997.6	3,991.0	8.2	7.7	171.65	269.9	-22.0	510.2	496.3	13.91	36.689		
4,100.0	4,090.7	4,097.3	4,090.7	8.4	7.9	171.77	269.9	-22.0	517.6	503.4	14.25	36.313		
4,200.0	4,190.4	4,197.0	4,190.4	8.6	8.0	171.89	269.9	-22.0	525.1	510.5	14.60	35.955		
4,300.0	4,290.1	4,296.7	4,290.1	8.8	8.2	172.00	269.9	-22.0	532.5	517.5	14.95	35.614		
4,400.0	4,389.8	4,396.5	4,389.8	9.1	8.3	172.11	269.9	-22.0	539.9	524.6	15.30	35.289		
4,500.0	4,489.6	4,496.2	4,489.6	9.3	8.5	172.22	269.9	-22.0	547.3	531.7	15.65	34.978		
4,600.0	4,589.3	4,595.9	4,589.3	9.5	8.7	172.33	269.9	-22.0	554.8	538.8	16.00	34.681		
4,700.0	4,689.0	4,695.6	4,689.0	9.7	8.8	172.43	269.9	-22.0	562.2	545.9	16.35	34.396		
4,800.0	4,788.7	4,795.3	4,788.7	9.9	9.0	172.53	269.9	-22.0	569.6	553.0	16.69	34.124		
4,900.0	4,888.4	4,895.0	4,888.4	10.1	9.1	172.63	269.9	-22.0	577.1	560.0	17.04	33.863		
5,000.0	4,988.1	4,994.8	4,988.1	10.4	9.3	172.72	269.9	-22.0	584.5	567.1	17.39	33.612		
5,100.0	5,087.9	5,094.5	5,087.9	10.6	9.5	172.81	269.9	-22.0	592.0	574.2	17.74	33.372		

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 21-5D (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 21-5D (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	5,187.6	5,194.2	5,187.6	10.8	9.6	172.90	269.9	-22.0	599.4	581.3	18.09	33.140		
5,300.0	5,287.3	5,293.9	5,287.3	11.0	9.8	172.99	269.9	-22.0	606.9	588.4	18.44	32.918		
5,400.0	5,387.0	5,393.6	5,387.0	11.2	10.0	173.07	269.9	-22.0	614.3	595.5	18.78	32.704		
5,500.0	5,486.7	5,493.4	5,486.7	11.5	10.1	173.16	269.9	-22.0	621.8	602.6	19.13	32.498		
5,600.0	5,586.5	5,593.1	5,586.5	11.7	10.3	173.24	269.9	-22.0	629.2	609.7	19.48	32.299		
5,700.0	5,686.2	5,692.8	5,686.2	11.9	10.4	173.32	269.9	-22.0	636.7	616.8	19.83	32.107		
5,800.0	5,785.9	5,792.6	5,785.9	12.1	10.6	173.40	269.9	-22.0	643.4	623.2	20.19	31.869		
5,900.0	5,885.8	5,892.5	5,885.8	12.3	10.8	173.45	269.9	-22.0	647.7	627.1	20.55	31.522		
6,000.0	5,985.8	5,992.4	5,985.8	12.4	10.9	173.47	269.9	-22.0	649.4	628.5	20.90	31.076		
6,100.0	6,085.8	6,092.4	6,085.8	12.6	11.1	4.64	269.9	-22.0	649.4	628.1	21.24	30.568		
6,200.0	6,185.8	6,192.4	6,185.8	12.7	11.3	4.64	269.9	-22.0	649.4	627.8	21.59	30.074		
6,300.0	6,285.8	6,292.4	6,285.8	12.9	11.4	4.64	269.9	-22.0	649.4	627.4	21.94	29.596		
6,400.0	6,385.8	6,392.4	6,385.8	13.0	11.6	4.64	269.9	-22.0	649.4	627.1	22.29	29.133		
6,500.0	6,485.8	6,492.4	6,485.8	13.2	11.8	4.64	269.9	-22.0	649.4	626.7	22.64	28.684		
6,600.0	6,585.8	6,592.4	6,585.8	13.3	11.9	4.64	269.9	-22.0	649.4	626.4	22.99	28.249		
6,700.0	6,685.8	6,692.4	6,685.8	13.5	12.1	4.64	269.9	-22.0	649.4	626.0	23.34	27.826		
6,800.0	6,785.8	6,792.4	6,785.8	13.6	12.3	4.64	269.9	-22.0	649.4	625.7	23.69	27.417		
6,900.0	6,885.8	6,892.4	6,885.8	13.8	12.5	4.64	269.9	-22.0	649.4	625.3	24.03	27.019		
7,000.0	6,985.8	6,992.4	6,985.8	13.9	12.6	4.64	269.9	-22.0	649.4	625.0	24.38	26.632		
7,100.0	7,085.8	7,092.4	7,085.8	14.1	12.8	4.64	269.9	-22.0	649.4	624.6	24.73	26.256		
7,200.0	7,185.8	7,192.4	7,185.8	14.2	13.0	4.64	269.9	-22.0	649.4	624.3	25.08	25.891		
7,300.0	7,285.8	7,292.4	7,285.8	14.4	13.1	4.64	269.9	-22.0	649.4	624.0	25.43	25.536		
7,400.0	7,385.8	7,392.4	7,385.8	14.5	13.3	4.64	269.9	-22.0	649.4	623.6	25.78	25.190		
7,500.0	7,485.8	7,492.4	7,485.8	14.7	13.5	4.64	269.9	-22.0	649.4	623.3	26.13	24.854		
7,600.0	7,585.8	7,592.4	7,585.8	14.8	13.6	4.64	269.9	-22.0	649.4	622.9	26.48	24.526		
7,700.0	7,685.8	7,692.4	7,685.8	15.0	13.8	4.64	269.9	-22.0	649.4	622.6	26.83	24.207		
7,800.0	7,785.8	7,792.4	7,785.8	15.2	14.0	4.64	269.9	-22.0	649.4	622.2	27.17	23.897		
7,900.0	7,885.8	7,892.4	7,885.8	15.3	14.1	4.64	269.9	-22.0	649.4	621.9	27.52	23.594		
8,000.0	7,985.8	7,992.4	7,985.8	15.5	14.3	4.64	269.9	-22.0	649.4	621.5	27.87	23.298		
8,100.0	8,085.8	8,092.4	8,085.8	15.6	14.5	4.64	269.9	-22.0	649.4	621.2	28.22	23.010		
8,200.0	8,185.8	8,192.4	8,185.8	15.8	14.7	4.64	269.9	-22.0	649.4	620.8	28.57	22.729		
8,300.0	8,285.8	8,292.4	8,285.8	15.9	14.8	4.64	269.9	-22.0	649.4	620.5	28.92	22.455		
8,400.0	8,385.8	8,392.4	8,385.8	16.1	15.0	4.64	269.9	-22.0	649.4	620.1	29.27	22.187		
8,500.0	8,485.8	8,492.4	8,485.8	16.3	15.2	4.64	269.9	-22.0	649.4	619.8	29.62	21.926		
8,600.0	8,585.8	8,592.4	8,585.8	16.4	15.3	4.64	269.9	-22.0	649.4	619.4	29.97	21.671		
8,700.0	8,685.8	8,692.4	8,685.8	16.6	15.5	4.64	269.9	-22.0	649.4	619.1	30.31	21.421		
8,728.2	8,714.0	8,720.6	8,714.0	16.6	15.6	4.64	269.9	-22.0	649.4	619.0	30.41	21.352 SF		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-5D (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 21-5D (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: 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	-27.04	94.0	-48.0	105.5							
100.0	100.0	100.0	100.0	0.1	0.1	-27.04	94.0	-48.0	105.5	105.2	0.30	355.599				
200.0	200.0	200.0	200.0	0.3	0.3	-27.04	94.0	-48.0	105.5	104.9	0.65	163.383				
300.0	300.0	300.0	300.0	0.5	0.5	-27.04	94.0	-48.0	105.5	104.5	0.99	106.056				
400.0	400.0	400.0	400.0	0.7	0.7	-27.04	94.0	-48.0	105.5	104.2	1.34	78.509				
500.0	500.0	500.0	500.0	0.8	0.8	-27.04	94.0	-48.0	105.5	103.8	1.69	62.321	CC, ES			
600.0	600.0	597.6	597.5	1.0	1.0	-26.75	95.2	-48.0	106.7	104.6	2.04	52.330				
700.0	700.0	694.9	694.8	1.2	1.2	143.29	98.9	-48.0	111.2	108.8	2.38	46.638				
800.0	799.9	791.7	791.4	1.4	1.4	145.53	105.1	-48.1	120.2	117.5	2.73	44.031				
900.0	899.7	889.7	889.1	1.6	1.6	148.35	113.2	-48.3	133.4	130.3	3.08	43.321				
1,000.0	999.4	988.5	987.5	1.8	1.8	150.95	121.5	-48.4	147.8	144.4	3.43	43.088				
1,100.0	1,099.1	1,087.2	1,085.9	2.0	2.0	153.09	129.8	-48.5	162.5	158.7	3.78	42.974				
1,200.0	1,198.8	1,186.0	1,184.3	2.2	2.2	154.88	138.1	-48.6	177.4	173.3	4.13	42.935				
1,300.0	1,298.6	1,284.7	1,282.7	2.4	2.4	156.39	146.4	-48.8	192.4	187.9	4.48	42.942				
1,400.0	1,398.3	1,383.5	1,381.1	2.6	2.6	157.67	154.7	-48.9	207.6	202.7	4.83	42.977				
1,500.0	1,498.0	1,482.2	1,479.5	2.8	2.9	158.79	163.0	-49.0	222.8	217.6	5.18	43.028				
1,600.0	1,597.7	1,581.0	1,577.9	3.0	3.1	159.76	171.3	-49.1	238.1	232.5	5.52	43.090				
1,700.0	1,697.4	1,679.7	1,676.3	3.2	3.3	160.61	179.6	-49.3	253.4	247.5	5.87	43.157				
1,800.0	1,797.2	1,778.5	1,774.7	3.4	3.5	161.37	187.9	-49.4	268.8	262.6	6.22	43.225				
1,900.0	1,896.9	1,877.2	1,873.1	3.6	3.7	162.04	196.2	-49.5	284.3	277.7	6.57	43.294				
2,000.0	1,996.6	1,976.0	1,971.5	3.9	4.0	162.65	204.5	-49.6	299.7	292.8	6.91	43.362				
2,100.0	2,096.3	2,074.7	2,069.9	4.1	4.2	163.19	212.9	-49.8	315.2	308.0	7.26	43.428				
2,200.0	2,196.0	2,173.5	2,168.3	4.3	4.4	163.69	221.2	-49.9	330.8	323.2	7.61	43.492				
2,300.0	2,295.7	2,272.2	2,266.7	4.5	4.6	164.14	229.5	-50.0	346.3	338.4	7.95	43.553				
2,400.0	2,395.5	2,371.0	2,365.1	4.7	4.9	164.55	237.8	-50.1	361.9	353.6	8.30	43.611				
2,500.0	2,495.2	2,469.7	2,463.5	4.9	5.1	164.93	246.1	-50.3	377.5	368.8	8.64	43.667				
2,600.0	2,594.9	2,568.5	2,561.9	5.2	5.3	165.27	254.4	-50.4	393.1	384.1	8.99	43.721				
2,700.0	2,694.6	2,667.2	2,660.3	5.4	5.5	165.59	262.7	-50.5	408.7	399.4	9.34	43.771				
2,800.0	2,794.3	2,765.9	2,758.7	5.6	5.7	165.89	271.0	-50.6	424.3	414.6	9.68	43.820				
2,900.0	2,894.1	2,864.7	2,857.1	5.8	6.0	166.17	279.3	-50.8	440.0	429.9	10.03	43.866				
3,000.0	2,993.8	2,963.4	2,955.5	6.0	6.2	166.42	287.6	-50.9	455.6	445.2	10.38	43.910				
3,100.0	3,093.5	3,062.2	3,053.9	6.2	6.4	166.66	295.9	-51.0	471.3	460.5	10.72	43.952				
3,200.0	3,193.2	3,160.9	3,152.3	6.5	6.6	166.89	304.2	-51.2	486.9	475.9	11.07	43.992				
3,300.0	3,292.9	3,259.7	3,250.7	6.7	6.9	167.10	312.5	-51.3	502.6	491.2	11.42	44.029				
3,400.0	3,392.6	3,358.4	3,349.1	6.9	7.1	167.30	320.8	-51.4	518.3	506.5	11.76	44.066				
3,500.0	3,492.4	3,457.2	3,447.5	7.1	7.3	167.48	329.1	-51.5	534.0	521.9	12.11	44.100				
3,600.0	3,592.1	3,555.9	3,545.9	7.3	7.5	167.66	337.4	-51.7	549.6	537.2	12.45	44.133				
3,700.0	3,691.8	3,654.7	3,644.3	7.5	7.8	167.83	345.7	-51.8	565.3	552.5	12.80	44.165				
3,800.0	3,791.5	3,753.4	3,742.7	7.8	8.0	167.98	354.0	-51.9	581.0	567.9	13.15	44.195				
3,900.0	3,891.2	3,852.2	3,841.1	8.0	8.2	168.13	362.3	-52.0	596.7	583.2	13.49	44.224				
4,000.0	3,991.0	3,950.9	3,939.5	8.2	8.4	168.27	370.6	-52.2	612.4	598.6	13.84	44.252				
4,100.0	4,090.7	4,049.7	4,037.9	8.4	8.7	168.41	378.9	-52.3	628.1	614.0	14.19	44.278				
4,200.0	4,190.4	4,148.4	4,136.3	8.6	8.9	168.53	387.2	-52.4	643.9	629.3	14.53	44.304				
4,300.0	4,290.1	4,247.2	4,234.7	8.8	9.1	168.66	395.5	-52.5	659.6	644.7	14.88	44.328				
4,400.0	4,389.8	4,345.9	4,333.1	9.1	9.3	168.77	403.8	-52.7	675.3	660.1	15.23	44.352				
4,500.0	4,489.6	4,444.7	4,431.5	9.3	9.6	168.88	412.1	-52.8	691.0	675.4	15.57	44.374				
4,600.0	4,589.3	4,543.4	4,529.9	9.5	9.8	168.99	420.4	-52.9	706.7	690.8	15.92	44.396				
4,700.0	4,689.0	4,642.2	4,628.3	9.7	10.0	169.09	428.7	-53.0	722.4	706.2	16.27	44.417				
4,800.0	4,788.7	4,740.9	4,726.7	9.9	10.2	169.18	437.0	-53.2	738.2	721.6	16.61	44.437				
4,900.0	4,888.4	4,839.7	4,825.1	10.1	10.5	169.28	445.3	-53.3	753.9	736.9	16.96	44.456				
5,000.0	4,988.1	4,938.4	4,923.5	10.4	10.7	169.37	453.6	-53.4	769.6	752.3	17.30	44.475				
5,100.0	5,087.9	5,037.2	5,021.9	10.6	10.9	169.45	461.9	-53.5	785.4	767.7	17.65	44.493				

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 21-5D (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 21-5D (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: 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	5,187.6	5,135.9	5,120.3	10.8	11.1	169.53	470.2	-53.7	801.1	783.1	18.00	44.510		
5,300.0	5,287.3	5,234.7	5,218.7	11.0	11.4	169.61	478.5	-53.8	816.8	798.5	18.34	44.527		
5,400.0	5,387.0	5,333.4	5,317.0	11.2	11.6	169.69	486.8	-53.9	832.6	813.9	18.69	44.543		
5,500.0	5,486.7	5,432.2	5,415.4	11.5	11.8	169.76	495.1	-54.0	848.3	829.3	19.04	44.559		
5,600.0	5,586.5	5,530.9	5,513.8	11.7	12.0	169.83	503.4	-54.2	864.0	844.7	19.38	44.574		
5,700.0	5,686.2	5,629.6	5,612.2	11.9	12.3	169.90	511.7	-54.3	879.8	860.0	19.73	44.589		
5,800.0	5,785.9	5,728.5	5,710.7	12.1	12.5	169.99	520.0	-54.4	894.8	874.8	20.09	44.532		
5,900.0	5,885.8	5,827.7	5,809.6	12.3	12.7	170.05	528.4	-54.5	907.5	887.0	20.46	44.359		
6,000.0	5,985.8	5,927.2	5,908.7	12.4	12.9	170.07	536.7	-54.7	917.5	896.7	20.81	44.087		
6,100.0	6,085.8	6,026.8	6,008.0	12.6	13.2	1.22	545.1	-54.8	925.9	904.8	21.16	43.760		
6,200.0	6,185.8	6,126.5	6,107.3	12.7	13.4	1.20	553.5	-54.9	934.3	912.8	21.51	43.444		
6,300.0	6,285.8	6,226.1	6,206.6	12.9	13.6	1.19	561.9	-55.1	942.7	920.9	21.85	43.137		
6,400.0	6,385.8	6,325.8	6,305.9	13.0	13.8	1.17	570.2	-55.2	951.1	928.9	22.20	42.840		
6,500.0	6,485.8	6,425.4	6,405.2	13.2	14.1	1.15	578.6	-55.3	959.5	937.0	22.55	42.553		
6,600.0	6,585.8	6,539.2	6,518.6	13.3	14.3	1.13	587.8	-55.4	967.6	944.7	22.92	42.215		
6,700.0	6,685.8	6,673.1	6,652.3	13.5	14.6	1.12	594.7	-55.6	972.8	949.5	23.33	41.700		
6,800.0	6,785.8	6,806.6	6,785.8	13.6	14.8	1.11	597.0	-55.6	974.5	950.8	23.74	41.057		
6,900.0	6,885.8	6,906.6	6,885.8	13.8	14.9	1.11	597.0	-55.6	974.5	950.4	24.08	40.463		
7,000.0	6,985.8	7,006.6	6,985.8	13.9	15.0	1.11	597.0	-55.6	974.5	950.1	24.43	39.886		
7,100.0	7,085.8	7,106.6	7,085.8	14.1	15.2	1.11	597.0	-55.6	974.5	949.7	24.78	39.325		
7,200.0	7,185.8	7,206.6	7,185.8	14.2	15.3	1.11	597.0	-55.6	974.5	949.4	25.13	38.779		
7,300.0	7,285.8	7,306.6	7,285.8	14.4	15.5	1.11	597.0	-55.6	974.5	949.1	25.48	38.249		
7,400.0	7,385.8	7,406.6	7,385.8	14.5	15.6	1.11	597.0	-55.6	974.5	948.7	25.83	37.733		
7,500.0	7,485.8	7,506.6	7,485.8	14.7	15.7	1.11	597.0	-55.6	974.5	948.4	26.18	37.230		
7,600.0	7,585.8	7,606.6	7,585.8	14.8	15.9	1.11	597.0	-55.6	974.5	948.0	26.52	36.741		
7,700.0	7,685.8	7,706.6	7,685.8	15.0	16.0	1.11	597.0	-55.6	974.5	947.7	26.87	36.264		
7,800.0	7,785.8	7,806.6	7,785.8	15.2	16.2	1.11	597.0	-55.6	974.5	947.3	27.22	35.800		
7,900.0	7,885.8	7,906.6	7,885.8	15.3	16.3	1.11	597.0	-55.6	974.5	947.0	27.57	35.347		
8,000.0	7,985.8	8,006.6	7,985.8	15.5	16.5	1.11	597.0	-55.6	974.5	946.6	27.92	34.906		
8,100.0	8,085.8	8,106.6	8,085.8	15.6	16.6	1.11	597.0	-55.6	974.5	946.3	28.27	34.475		
8,200.0	8,185.8	8,206.6	8,185.8	15.8	16.8	1.11	597.0	-55.6	974.5	945.9	28.62	34.055		
8,300.0	8,285.8	8,306.6	8,285.8	15.9	16.9	1.11	597.0	-55.6	974.5	945.6	28.96	33.645		
8,400.0	8,385.8	8,406.6	8,385.8	16.1	17.1	1.11	597.0	-55.6	974.5	945.2	29.31	33.245		
8,500.0	8,485.8	8,506.6	8,485.8	16.3	17.2	1.11	597.0	-55.6	974.5	944.9	29.66	32.854		
8,600.0	8,585.8	8,606.6	8,585.8	16.4	17.4	1.11	597.0	-55.6	974.5	944.5	30.01	32.473		
8,700.0	8,685.8	8,706.6	8,685.8	16.6	17.5	1.11	597.0	-55.6	974.5	944.2	30.36	32.100		
8,728.2	8,714.0	8,734.8	8,714.0	16.6	17.6	1.11	597.0	-55.6	974.5	944.1	30.46	31.996 SF		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-5D (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 21-5D (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								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
							+N/-S (ft)	+E/-W (ft)							
0.0	0.0	0.0	0.0	0.0	0.0	-31.07	13.1	-7.9	15.3						
100.0	100.0	100.0	100.0	0.1	0.1	-31.07	13.1	-7.9	15.3	15.0	0.30	51.596			
200.0	200.0	200.0	200.0	0.3	0.3	-31.07	13.1	-7.9	15.3	14.7	0.65	23.706			
300.0	300.0	300.1	300.1	0.5	0.5	-35.85	12.1	-8.8	14.9	14.0	1.00	14.993			
391.4	391.4	391.5	391.4	0.7	0.7	-49.34	9.5	-11.0	14.5	13.2	1.33	10.959	CC		
400.0	400.0	400.1	400.0	0.7	0.7	-51.07	9.1	-11.3	14.5	13.2	1.36	10.715	ES		
500.0	500.0	499.8	499.5	0.8	0.9	-74.92	4.2	-15.6	16.1	14.4	1.72	9.370	SF		
600.0	600.0	599.0	598.3	1.0	1.1	-97.14	-2.7	-21.5	21.7	19.6	2.07	10.497			
700.0	700.0	697.9	696.5	1.2	1.4	59.18	-11.5	-29.0	30.7	28.3	2.44	12.610			
800.0	799.9	796.5	794.1	1.4	1.7	53.92	-22.2	-38.2	41.3	38.5	2.79	14.775			
900.0	899.7	894.7	890.9	1.6	2.0	51.94	-34.7	-48.9	52.8	49.7	3.17	16.671			
1,000.0	999.4	992.4	986.7	1.8	2.4	50.61	-49.0	-61.2	66.2	62.6	3.55	18.634			
1,100.0	1,099.1	1,089.4	1,081.4	2.0	2.8	49.11	-65.1	-75.0	81.9	78.0	3.93	20.831			
1,200.0	1,198.8	1,185.5	1,174.6	2.2	3.2	47.64	-82.8	-90.3	100.0	95.7	4.31	23.212			
1,300.0	1,298.6	1,280.7	1,266.4	2.4	3.7	46.28	-102.1	-106.8	120.5	115.8	4.68	25.739			
1,400.0	1,398.3	1,374.9	1,356.5	2.6	4.2	45.05	-122.9	-124.7	143.4	138.4	5.05	28.383			
1,500.0	1,498.0	1,468.0	1,444.8	2.8	4.7	43.95	-145.1	-143.7	168.7	163.2	5.42	31.119			
1,600.0	1,597.7	1,559.8	1,531.3	3.0	5.3	42.98	-168.6	-163.9	196.2	190.4	5.78	33.931			
1,700.0	1,697.4	1,650.3	1,615.7	3.2	5.9	42.12	-193.3	-185.1	226.0	219.9	6.14	36.802			
1,800.0	1,797.2	1,739.5	1,698.1	3.4	6.5	41.36	-219.1	-207.3	258.1	251.6	6.50	39.732			
1,900.0	1,896.9	1,833.2	1,784.3	3.6	7.2	40.68	-247.1	-231.3	291.4	284.6	6.86	42.493			
2,000.0	1,996.6	1,927.4	1,870.9	3.9	7.8	40.13	-275.3	-255.5	324.8	317.6	7.22	44.978			
2,100.0	2,096.3	2,021.7	1,957.5	4.1	8.5	39.69	-303.5	-279.7	358.2	350.6	7.59	47.224			
2,200.0	2,196.0	2,115.9	2,044.1	4.3	9.2	39.32	-331.6	-303.8	391.6	383.7	7.95	49.265			
2,300.0	2,295.7	2,210.1	2,130.7	4.5	9.9	39.01	-359.8	-328.0	425.1	416.7	8.31	51.127			
2,400.0	2,395.5	2,304.3	2,217.3	4.7	10.6	38.74	-388.0	-352.2	458.5	449.8	8.68	52.832			
2,500.0	2,495.2	2,398.6	2,303.9	4.9	11.2	38.51	-416.1	-376.4	491.9	482.9	9.04	54.399			
2,600.0	2,594.9	2,492.8	2,390.5	5.2	11.9	38.31	-444.3	-400.6	525.4	516.0	9.41	55.844			
2,700.0	2,694.6	2,587.0	2,477.1	5.4	12.6	38.14	-472.5	-424.8	558.8	549.1	9.77	57.182			
2,800.0	2,794.3	2,681.2	2,563.7	5.6	13.3	37.98	-500.7	-448.9	592.3	582.2	10.14	58.423			
2,900.0	2,894.1	2,775.4	2,650.3	5.8	14.0	37.84	-528.8	-473.1	625.8	615.3	10.50	59.577			
3,000.0	2,993.8	2,869.7	2,736.9	6.0	14.7	37.72	-557.0	-497.3	659.2	648.4	10.87	60.654			
3,100.0	3,093.5	2,963.9	2,823.5	6.2	15.3	37.60	-585.2	-521.5	692.7	681.5	11.23	61.661			
3,200.0	3,193.2	3,058.1	2,910.1	6.5	16.0	37.50	-613.3	-545.7	726.2	714.6	11.60	62.605			
3,300.0	3,292.9	3,152.3	2,996.7	6.7	16.7	37.41	-641.5	-569.9	759.6	747.7	11.96	63.491			
3,400.0	3,392.6	3,246.6	3,083.3	6.9	17.4	37.32	-669.7	-594.0	793.1	780.8	12.33	64.324			
3,500.0	3,492.4	3,340.8	3,169.9	7.1	18.1	37.24	-697.8	-618.2	826.6	813.9	12.70	65.110			
3,600.0	3,592.1	3,435.0	3,256.5	7.3	18.8	37.17	-726.0	-642.4	860.1	847.0	13.06	65.851			
3,700.0	3,691.8	3,529.2	3,343.1	7.5	19.5	37.10	-754.2	-666.6	893.5	880.1	13.43	66.552			
3,800.0	3,791.5	3,623.5	3,429.7	7.8	20.1	37.04	-782.4	-690.8	927.0	913.2	13.79	67.216			
3,900.0	3,891.2	3,717.7	3,516.3	8.0	20.8	36.98	-810.5	-714.9	960.5	946.3	14.16	67.845			
4,000.0	3,991.0	3,811.9	3,602.9	8.2	21.5	36.93	-838.7	-739.1	994.0	979.5	14.52	68.443			
4,100.0	4,090.7	3,906.1	3,689.5	8.4	22.2	36.88	-866.9	-763.3	1,027.5	1,012.6	14.89	69.012			
4,200.0	4,190.4	4,000.4	3,776.1	8.6	22.9	36.83	-895.0	-787.5	1,061.0	1,045.7	15.25	69.553			
4,300.0	4,290.1	4,094.6	3,862.7	8.8	23.6	36.78	-923.2	-811.7	1,094.4	1,078.8	15.62	70.069			

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 21-5D (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 21-5D (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 21-5D (Oxy I21 Pad)
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: -1.71°

