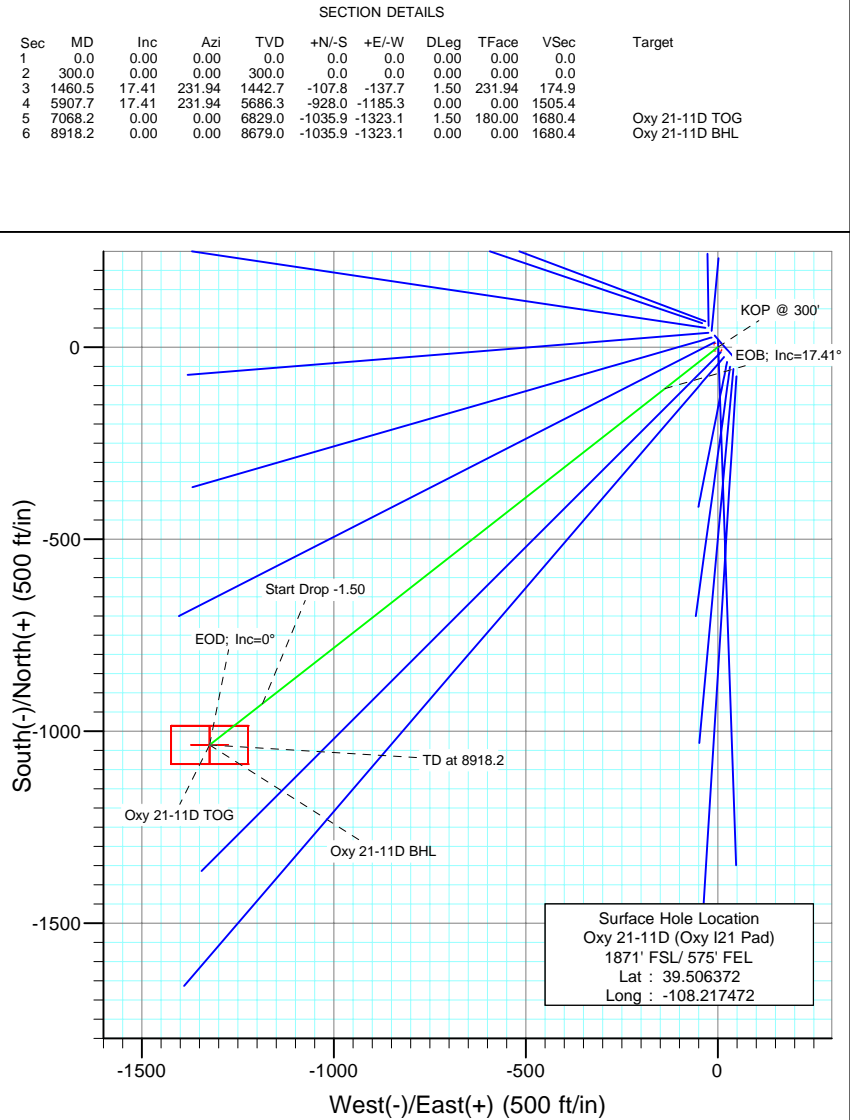
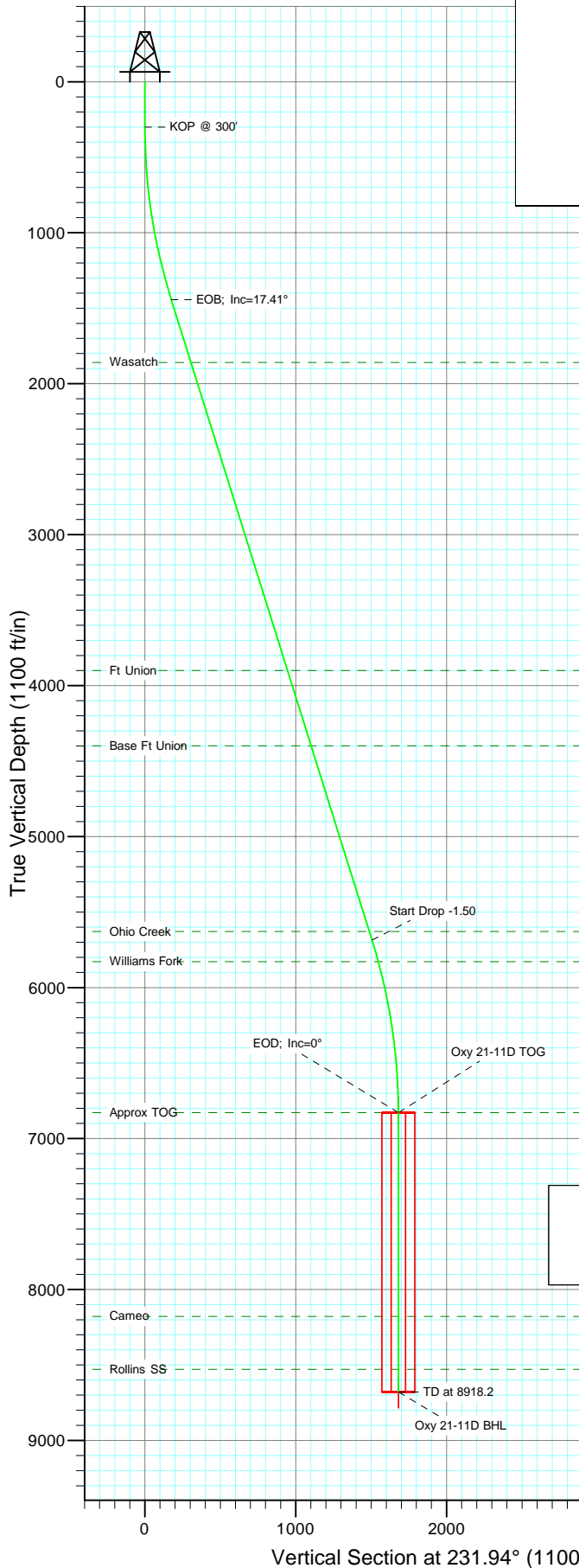


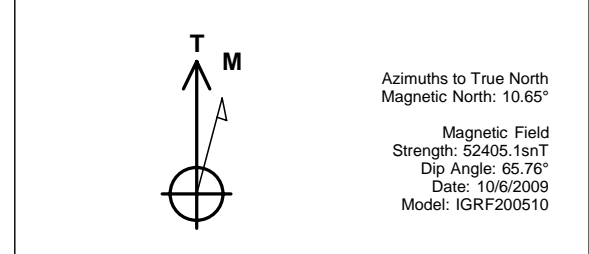


Berry Petroleum Company

Project: Garfield County
Site: NESE S21-T6S-R97W (Oxy I21 pad)
Well: Oxy 21-11D (Oxy I21 Pad)
Wellbore: DD
Design: Plan #1



FORMATION TOP DETAILS			
TVDPath	MDPath	Formation	
1859.0	1896.8	Wasatch	
3899.0	4034.7	Ft Union	
4399.0	4558.7	Base Ft Union	
5629.0	5847.7	Ohio Creek	
5829.0	6056.4	Williams Fork	
6829.0	7068.2	Approx TOG	
8179.0	8418.2	Cameo	
8529.0	8768.2	Rollins SS	



DESIGN DETAILS: Plan #1					
95XXX; BH					
KBE @ 8381.0ft (Original Well Elev)					
Target	Azimuth	Origin	N/S	E/W	From TVD
Oxy 21-11D BHL	231.94	Slot	0.0	0.0	0.0

Planning Report

Database:	EDM 2003.21 US Multi User DB	Local Co-ordinate Reference:	Well Oxy 21-11D (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 21-11D (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 21-11D (Oxy I21 Pad)					
Well Position	+N/-S	0.0 ft	Northing:	1,620,795.09 ft	Latitude:	39.506372
	+E/-W	0.0 ft	Easting:	2,233,359.94 ft	Longitude:	-108.217472
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	10/6/2009	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	231.94

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	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,460.5	17.41	231.94	1,442.7	-107.8	-137.7	1.50	1.50	0.00	231.94	
5,907.7	17.41	231.94	5,686.3	-928.0	-1,185.3	0.00	0.00	0.00	0.00	
7,068.2	0.00	0.00	6,829.0	-1,035.9	-1,323.1	1.50	-1.50	0.00	180.00	Oxy 21-11D TOG
8,918.2	0.00	0.00	8,679.0	-1,035.9	-1,323.1	0.00	0.00	0.00	0.00	Oxy 21-11D BHL

Planning Report

Database:	EDM 2003.21 US Multi User DB	Local Co-ordinate Reference:	Well Oxy 21-11D (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 21-11D (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	KOP @ 300'
330.0	0.45	231.94	330.0	-0.1	-0.1	0.1	1.50	1.50	
360.0	0.90	231.94	360.0	-0.3	-0.4	0.5	1.50	1.50	
390.0	1.35	231.94	390.0	-0.7	-0.8	1.1	1.50	1.50	
420.0	1.80	231.94	420.0	-1.2	-1.5	1.9	1.50	1.50	
450.0	2.25	231.94	450.0	-1.8	-2.3	2.9	1.50	1.50	
480.0	2.70	231.94	479.9	-2.6	-3.3	4.2	1.50	1.50	
510.0	3.15	231.94	509.9	-3.6	-4.5	5.8	1.50	1.50	
540.0	3.60	231.94	539.8	-4.6	-5.9	7.5	1.50	1.50	
570.0	4.05	231.94	569.8	-5.9	-7.5	9.5	1.50	1.50	
600.0	4.50	231.94	599.7	-7.3	-9.3	11.8	1.50	1.50	
630.0	4.95	231.94	629.6	-8.8	-11.2	14.2	1.50	1.50	
660.0	5.40	231.94	659.5	-10.5	-13.3	17.0	1.50	1.50	
690.0	5.85	231.94	689.3	-12.3	-15.7	19.9	1.50	1.50	
720.0	6.30	231.94	719.2	-14.2	-18.2	23.1	1.50	1.50	
750.0	6.75	231.94	749.0	-16.3	-20.8	26.5	1.50	1.50	
780.0	7.20	231.94	778.7	-18.6	-23.7	30.1	1.50	1.50	
810.0	7.65	231.94	808.5	-21.0	-26.8	34.0	1.50	1.50	
840.0	8.10	231.94	838.2	-23.5	-30.0	38.1	1.50	1.50	
870.0	8.55	231.94	867.9	-26.2	-33.4	42.5	1.50	1.50	
900.0	9.00	231.94	897.5	-29.0	-37.0	47.0	1.50	1.50	
930.0	9.45	231.94	927.1	-32.0	-40.8	51.8	1.50	1.50	
960.0	9.90	231.94	956.7	-35.1	-44.8	56.9	1.50	1.50	
990.0	10.35	231.94	986.3	-38.3	-48.9	62.2	1.50	1.50	
1,020.0	10.80	231.94	1,015.7	-41.7	-53.3	67.7	1.50	1.50	
1,050.0	11.25	231.94	1,045.2	-45.2	-57.8	73.4	1.50	1.50	
1,080.0	11.70	231.94	1,074.6	-48.9	-62.5	79.4	1.50	1.50	
1,110.0	12.15	231.94	1,103.9	-52.7	-67.4	85.6	1.50	1.50	
1,140.0	12.60	231.94	1,133.2	-56.7	-72.4	92.0	1.50	1.50	
1,170.0	13.05	231.94	1,162.5	-60.8	-77.7	98.7	1.50	1.50	
1,200.0	13.50	231.94	1,191.7	-65.1	-83.1	105.5	1.50	1.50	
1,230.0	13.95	231.94	1,220.8	-69.4	-88.7	112.7	1.50	1.50	
1,260.0	14.40	231.94	1,249.9	-74.0	-94.5	120.0	1.50	1.50	
1,290.0	14.85	231.94	1,279.0	-78.6	-100.5	127.6	1.50	1.50	
1,320.0	15.30	231.94	1,307.9	-83.5	-106.6	135.4	1.50	1.50	
1,350.0	15.75	231.94	1,336.8	-88.4	-112.9	143.4	1.50	1.50	
1,380.0	16.20	231.94	1,365.7	-93.5	-119.4	151.7	1.50	1.50	
1,410.0	16.65	231.94	1,394.4	-98.7	-126.1	160.1	1.50	1.50	
1,440.0	17.10	231.94	1,423.2	-104.1	-133.0	168.9	1.50	1.50	
1,460.5	17.41	231.94	1,442.7	-107.8	-137.7	174.9	1.50	1.50	EOB; Inc=17.41°
1,470.0	17.41	231.94	1,451.8	-109.6	-140.0	177.8	0.00	0.00	
1,500.0	17.41	231.94	1,480.4	-115.1	-147.1	186.8	0.00	0.00	

Planning Report

Database:	EDM 2003.21 US Multi User DB	Local Co-ordinate Reference:	Well Oxy 21-11D (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 21-11D (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	17.41	231.94	1,509.0	-120.7	-154.1	195.7	0.00	0.00	
1,560.0	17.41	231.94	1,537.7	-126.2	-161.2	204.7	0.00	0.00	
1,590.0	17.41	231.94	1,566.3	-131.7	-168.3	213.7	0.00	0.00	
1,620.0	17.41	231.94	1,594.9	-137.3	-175.3	222.7	0.00	0.00	
1,650.0	17.41	231.94	1,623.5	-142.8	-182.4	231.6	0.00	0.00	
1,680.0	17.41	231.94	1,652.2	-148.3	-189.5	240.6	0.00	0.00	
1,710.0	17.41	231.94	1,680.8	-153.9	-196.5	249.6	0.00	0.00	
1,740.0	17.41	231.94	1,709.4	-159.4	-203.6	258.6	0.00	0.00	
1,770.0	17.41	231.94	1,738.1	-164.9	-210.7	267.5	0.00	0.00	
1,800.0	17.41	231.94	1,766.7	-170.5	-217.7	276.5	0.00	0.00	
1,830.0	17.41	231.94	1,795.3	-176.0	-224.8	285.5	0.00	0.00	
1,860.0	17.41	231.94	1,823.9	-181.5	-231.9	294.5	0.00	0.00	
1,890.0	17.41	231.94	1,852.6	-187.1	-238.9	303.4	0.00	0.00	
1,896.8	17.41	231.94	1,859.0	-188.3	-240.5	305.5	0.00	0.00	Wasatch
1,920.0	17.41	231.94	1,881.2	-192.6	-246.0	312.4	0.00	0.00	
1,950.0	17.41	231.94	1,909.8	-198.1	-253.1	321.4	0.00	0.00	
1,980.0	17.41	231.94	1,938.4	-203.6	-260.1	330.4	0.00	0.00	
2,010.0	17.41	231.94	1,967.1	-209.2	-267.2	339.3	0.00	0.00	
2,040.0	17.41	231.94	1,995.7	-214.7	-274.3	348.3	0.00	0.00	
2,070.0	17.41	231.94	2,024.3	-220.2	-281.3	357.3	0.00	0.00	
2,100.0	17.41	231.94	2,052.9	-225.8	-288.4	366.3	0.00	0.00	
2,130.0	17.41	231.94	2,081.6	-231.3	-295.5	375.2	0.00	0.00	
2,160.0	17.41	231.94	2,110.2	-236.8	-302.5	384.2	0.00	0.00	
2,190.0	17.41	231.94	2,138.8	-242.4	-309.6	393.2	0.00	0.00	
2,220.0	17.41	231.94	2,167.4	-247.9	-316.7	402.2	0.00	0.00	
2,250.0	17.41	231.94	2,196.1	-253.4	-323.7	411.1	0.00	0.00	
2,280.0	17.41	231.94	2,224.7	-259.0	-330.8	420.1	0.00	0.00	
2,310.0	17.41	231.94	2,253.3	-264.5	-337.9	429.1	0.00	0.00	
2,340.0	17.41	231.94	2,281.9	-270.0	-344.9	438.1	0.00	0.00	
2,370.0	17.41	231.94	2,310.6	-275.6	-352.0	447.0	0.00	0.00	
2,400.0	17.41	231.94	2,339.2	-281.1	-359.1	456.0	0.00	0.00	
2,430.0	17.41	231.94	2,367.8	-286.6	-366.1	465.0	0.00	0.00	
2,460.0	17.41	231.94	2,396.5	-292.2	-373.2	474.0	0.00	0.00	
2,490.0	17.41	231.94	2,425.1	-297.7	-380.3	482.9	0.00	0.00	

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Oxy 21-11D BHL	0.00	0.00	8,679.0	-1,035.9	-1,323.1	1,619,799.27	2,232,006.45	39.503528	-108.222161
- plan misses target center by 6367.5ft at 2490.0ft MD (2425.1 TVD, -297.7 N, -380.3 E)									
- Rectangle (sides W100.0 H200.0 D0.0)									
Oxy 21-11D TOG	0.00	0.00	6,829.0	-1,035.9	-1,323.1	1,619,799.27	2,232,006.45	39.503528	-108.222161
- plan misses target center by 4563.8ft at 2490.0ft MD (2425.1 TVD, -297.7 N, -380.3 E)									
- Point									

Planning Report

Database:	EDM 2003.21 US Multi User DB	Local Co-ordinate Reference:	Well Oxy 21-11D (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 21-11D (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	17.41	231.94	2,434.6	-299.6	-382.6	485.9	0.00	0.00	
2,600.0	17.41	231.94	2,530.0	-318.0	-406.2	515.8	0.00	0.00	
2,700.0	17.41	231.94	2,625.5	-336.4	-429.7	545.8	0.00	0.00	
2,800.0	17.41	231.94	2,720.9	-354.9	-453.3	575.7	0.00	0.00	
2,900.0	17.41	231.94	2,816.3	-373.3	-476.8	605.6	0.00	0.00	
3,000.0	17.41	231.94	2,911.7	-391.8	-500.4	635.5	0.00	0.00	
3,100.0	17.41	231.94	3,007.1	-410.2	-524.0	665.4	0.00	0.00	
3,200.0	17.41	231.94	3,102.6	-428.6	-547.5	695.3	0.00	0.00	
3,300.0	17.41	231.94	3,198.0	-447.1	-571.1	725.3	0.00	0.00	
3,400.0	17.41	231.94	3,293.4	-465.5	-594.6	755.2	0.00	0.00	
3,500.0	17.41	231.94	3,388.8	-484.0	-618.2	785.1	0.00	0.00	
3,600.0	17.41	231.94	3,484.2	-502.4	-641.7	815.0	0.00	0.00	
3,700.0	17.41	231.94	3,579.7	-520.9	-665.3	844.9	0.00	0.00	
3,800.0	17.41	231.94	3,675.1	-539.3	-688.8	874.8	0.00	0.00	
3,900.0	17.41	231.94	3,770.5	-557.7	-712.4	904.8	0.00	0.00	
4,000.0	17.41	231.94	3,865.9	-576.2	-736.0	934.7	0.00	0.00	
4,034.7	17.41	231.94	3,899.0	-582.6	-744.1	945.1	0.00	0.00	Ft Union
4,100.0	17.41	231.94	3,961.3	-594.6	-759.5	964.6	0.00	0.00	
4,200.0	17.41	231.94	4,056.8	-613.1	-783.1	994.5	0.00	0.00	
4,300.0	17.41	231.94	4,152.2	-631.5	-806.6	1,024.4	0.00	0.00	
4,400.0	17.41	231.94	4,247.6	-650.0	-830.2	1,054.4	0.00	0.00	
4,500.0	17.41	231.94	4,343.0	-668.4	-853.7	1,084.3	0.00	0.00	
4,558.7	17.41	231.94	4,399.0	-679.2	-867.6	1,101.8	0.00	0.00	Base Ft Union
4,600.0	17.41	231.94	4,438.4	-686.8	-877.3	1,114.2	0.00	0.00	
4,700.0	17.41	231.94	4,533.9	-705.3	-900.9	1,144.1	0.00	0.00	
4,800.0	17.41	231.94	4,629.3	-723.7	-924.4	1,174.0	0.00	0.00	
4,900.0	17.41	231.94	4,724.7	-742.2	-948.0	1,203.9	0.00	0.00	
5,000.0	17.41	231.94	4,820.1	-760.6	-971.5	1,233.9	0.00	0.00	
5,100.0	17.41	231.94	4,915.5	-779.1	-995.1	1,263.8	0.00	0.00	
5,200.0	17.41	231.94	5,011.0	-797.5	-1,018.6	1,293.7	0.00	0.00	
5,300.0	17.41	231.94	5,106.4	-815.9	-1,042.2	1,323.6	0.00	0.00	
5,400.0	17.41	231.94	5,201.8	-834.4	-1,065.8	1,353.5	0.00	0.00	
5,500.0	17.41	231.94	5,297.2	-852.8	-1,089.3	1,383.4	0.00	0.00	
5,600.0	17.41	231.94	5,392.6	-871.3	-1,112.9	1,413.4	0.00	0.00	
5,700.0	17.41	231.94	5,488.1	-889.7	-1,136.4	1,443.3	0.00	0.00	
5,800.0	17.41	231.94	5,583.5	-908.2	-1,160.0	1,473.2	0.00	0.00	
5,847.7	17.41	231.94	5,629.0	-916.9	-1,171.2	1,487.5	0.00	0.00	Ohio Creek
5,900.0	17.41	231.94	5,678.9	-926.6	-1,183.5	1,503.1	0.00	0.00	
5,907.7	17.41	231.94	5,686.3	-928.0	-1,185.3	1,505.4	0.00	0.00	Start Drop -1.50
6,000.0	16.02	231.94	5,774.6	-944.4	-1,206.3	1,532.0	1.50	-1.50	
6,056.4	15.18	231.94	5,829.0	-953.7	-1,218.2	1,547.1	1.50	-1.50	Williams Fork
6,100.0	14.52	231.94	5,871.1	-960.6	-1,227.0	1,558.3	1.50	-1.50	
6,200.0	13.02	231.94	5,968.2	-975.3	-1,245.7	1,582.1	1.50	-1.50	
6,300.0	11.52	231.94	6,065.9	-988.4	-1,262.5	1,603.4	1.50	-1.50	
6,400.0	10.02	231.94	6,164.2	-999.9	-1,277.2	1,622.1	1.50	-1.50	
6,500.0	8.52	231.94	6,262.9	-1,009.9	-1,289.9	1,638.2	1.50	-1.50	
6,600.0	7.02	231.94	6,361.9	-1,018.2	-1,300.5	1,651.7	1.50	-1.50	
6,700.0	5.52	231.94	6,461.3	-1,024.9	-1,309.1	1,662.6	1.50	-1.50	
6,800.0	4.02	231.94	6,561.0	-1,030.1	-1,315.7	1,670.9	1.50	-1.50	
6,900.0	2.52	231.94	6,660.8	-1,033.6	-1,320.2	1,676.7	1.50	-1.50	
7,000.0	1.02	231.94	6,760.8	-1,035.5	-1,322.6	1,679.7	1.50	-1.50	
7,068.2	0.00	0.00	6,829.0	-1,035.9	-1,323.1	1,680.4	1.50	-1.50	EOD; Inc=0° - Approx TOG - Oxy 21-11D TOG

Planning Report

Database:	EDM 2003.21 US Multi User DB	Local Co-ordinate Reference:	Well Oxy 21-11D (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 21-11D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
7,100.0	0.00	0.00	6,860.8	-1,035.9	-1,323.1	1,680.4	0.00	0.00	
7,200.0	0.00	0.00	6,960.8	-1,035.9	-1,323.1	1,680.4	0.00	0.00	
7,300.0	0.00	0.00	7,060.8	-1,035.9	-1,323.1	1,680.4	0.00	0.00	
7,400.0	0.00	0.00	7,160.8	-1,035.9	-1,323.1	1,680.4	0.00	0.00	
7,500.0	0.00	0.00	7,260.8	-1,035.9	-1,323.1	1,680.4	0.00	0.00	
7,600.0	0.00	0.00	7,360.8	-1,035.9	-1,323.1	1,680.4	0.00	0.00	
7,700.0	0.00	0.00	7,460.8	-1,035.9	-1,323.1	1,680.4	0.00	0.00	
7,800.0	0.00	0.00	7,560.8	-1,035.9	-1,323.1	1,680.4	0.00	0.00	
7,900.0	0.00	0.00	7,660.8	-1,035.9	-1,323.1	1,680.4	0.00	0.00	
8,000.0	0.00	0.00	7,760.8	-1,035.9	-1,323.1	1,680.4	0.00	0.00	
8,100.0	0.00	0.00	7,860.8	-1,035.9	-1,323.1	1,680.4	0.00	0.00	
8,200.0	0.00	0.00	7,960.8	-1,035.9	-1,323.1	1,680.4	0.00	0.00	
8,300.0	0.00	0.00	8,060.8	-1,035.9	-1,323.1	1,680.4	0.00	0.00	
8,400.0	0.00	0.00	8,160.8	-1,035.9	-1,323.1	1,680.4	0.00	0.00	
8,418.2	0.00	0.00	8,179.0	-1,035.9	-1,323.1	1,680.4	0.00	0.00	Cameo
8,500.0	0.00	0.00	8,260.8	-1,035.9	-1,323.1	1,680.4	0.00	0.00	
8,600.0	0.00	0.00	8,360.8	-1,035.9	-1,323.1	1,680.4	0.00	0.00	
8,700.0	0.00	0.00	8,460.8	-1,035.9	-1,323.1	1,680.4	0.00	0.00	
8,768.2	0.00	0.00	8,529.0	-1,035.9	-1,323.1	1,680.4	0.00	0.00	Rollins SS
8,800.0	0.00	0.00	8,560.8	-1,035.9	-1,323.1	1,680.4	0.00	0.00	
8,900.0	0.00	0.00	8,660.8	-1,035.9	-1,323.1	1,680.4	0.00	0.00	
8,918.2	0.00	0.00	8,679.0	-1,035.9	-1,323.1	1,680.4	0.00	0.00	TD at 8918.2 - Oxy 21-11D 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 21-11D BHL	0.00	0.00	8,679.0	-1,035.9	-1,323.1	1,619,799.27	2,232,006.45	39.503528	-108.222161
- plan hits target center									
- Rectangle (sides W100.0 H200.0 D0.0)									
Oxy 21-11D TOG	0.00	0.00	6,829.0	-1,035.9	-1,323.1	1,619,799.27	2,232,006.45	39.503528	-108.222161
- plan hits target center									
- Point									

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,896.8	1,859.0	Wasatch		0.00		
4,034.7	3,899.0	Ft Union		0.00		
4,558.7	4,399.0	Base Ft Union		0.00		
5,847.7	5,629.0	Ohio Creek		0.00		
6,056.4	5,829.0	Williams Fork		0.00		
7,068.2	6,829.0	Approx TOG		0.00		
8,418.2	8,179.0	Cameo		0.00		
8,768.2	8,529.0	Rollins SS		0.00		

Planning Report

Database:	EDM 2003.21 US Multi User DB	Local Co-ordinate Reference:	Well Oxy 21-11D (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 21-11D (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)	
300.0	300.0	0.0	0.0	KOP @ 300'
1,460.5	1,442.7	-107.8	-137.7	EOB; Inc=17.41°
5,907.7	5,686.3	-928.0	-1,185.3	Start Drop -1.50
7,068.2	6,829.0	-1,035.9	-1,323.1	EOD; Inc=0°
8,918.2	8,679.0	-1,035.9	-1,323.1	TD at 8918.2

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-11D (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 21-11D (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	8,918.2	Plan #1 (DD)	MWD	Geolink MWD	

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-11D (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 21-11D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference	Offset	Distance		Separation Factor	Warning
	Measured Depth (ft)	Measured Depth (ft)	Between Centres (ft)	Between Ellipses (ft)		
NESE S21-T6S-R97W (Oxy I21 pad)						
Oxy 21-10D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	15.3	14.7	23.706	CC, ES
Oxy 21-10D (Oxy I21 Pad) - DD - Plan #1	8,900.0	8,969.4	328.5	273.9	6.015	SF
Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	15.3	14.3	15.388	CC
Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1	400.0	400.0	15.6	14.2	11.552	ES
Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1	8,918.2	8,885.4	345.2	282.5	5.502	SF
Oxy 21-13D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	30.0	29.0	30.152	CC, ES
Oxy 21-13D (Oxy I21 Pad) - DD - Plan #1	8,918.2	8,843.4	673.1	614.9	11.554	SF
Oxy 21-14D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	44.7	43.7	44.912	CC, ES
Oxy 21-14D (Oxy I21 Pad) - DD - Plan #1	8,918.2	8,832.1	965.8	907.9	16.672	SF
Oxy 21-15D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	60.0	59.0	60.295	CC, ES
Oxy 21-15D (Oxy I21 Pad) - DD - Plan #1	3,100.0	3,037.8	543.5	521.0	24.232	SF
Oxy 21-16D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	75.0	74.0	75.386	CC, ES
Oxy 21-16D (Oxy I21 Pad) - DD - Plan #1	4,700.0	4,547.0	1,102.8	1,067.2	30.943	SF
Oxy 21-17D (Oxy I21 pad) - DD - Plan #1	200.0	200.0	74.4	73.7	115.158	CC, ES
Oxy 21-17D (Oxy I21 pad) - DD - Plan #1	1,700.0	1,630.7	323.3	313.3	32.208	SF
Oxy 21-1D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	90.0	89.0	90.437	CC, ES
Oxy 21-1D (Oxy I21 Pad) - DD - Plan #1	5,200.0	5,054.1	1,110.5	1,066.3	25.116	SF
Oxy 21-2D (Oxy I21 Pad) - DD - Plan #1	531.5	532.4	9.8	8.0	5.348	CC, ES
Oxy 21-2D (Oxy I21 Pad) - DD - Plan #1	600.0	600.7	11.4	9.2	5.317	SF
Oxy 21-3D (Oxy I21 Pad) - DD - Plan #1	446.5	446.5	69.5	68.0	45.969	CC
Oxy 21-3D (Oxy I21 Pad) - DD - Plan #1	500.0	499.9	69.5	67.8	40.816	ES
Oxy 21-3D (Oxy I21 Pad) - DD - Plan #1	1,200.0	1,188.2	129.6	124.5	25.408	SF
Oxy 21-4D (Oxy I21 Pad) - DD - Plan #1	512.0	511.9	59.7	57.9	34.139	CC
Oxy 21-4D (Oxy I21 Pad) - DD - Plan #1	600.0	599.7	60.0	57.9	28.876	ES
Oxy 21-4D (Oxy I21 Pad) - DD - Plan #1	1,000.0	994.7	85.7	81.9	22.533	SF
Oxy 21-5D (Oxy I21 Pad) - DD - Plan #1	484.8	484.7	45.1	43.4	27.330	CC
Oxy 21-5D (Oxy I21 Pad) - DD - Plan #1	500.0	499.9	45.1	43.4	26.457	ES
Oxy 21-5D (Oxy I21 Pad) - DD - Plan #1	800.0	798.0	54.2	51.3	18.868	SF
Oxy 21-6D (Oxy I21 Pad) - DD - Plan #1	513.8	815.1	25.3	23.5	14.208	CC, ES
Oxy 21-6D (Oxy I21 Pad) - DD - Plan #1	600.0	900.9	27.4	25.3	12.986	SF
Oxy 21-7D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	45.5	44.5	45.687	CC, ES
Oxy 21-7D (Oxy I21 Pad) - DD - Plan #1	700.0	696.3	60.6	58.2	24.909	SF
Oxy 21-8D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	60.6	59.6	60.874	CC, ES
Oxy 21-8D (Oxy I21 Pad) - DD - Plan #1	700.0	695.6	74.1	71.6	30.331	SF
Oxy 21-9D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	30.0	29.3	46.442	CC, ES
Oxy 21-9D (Oxy I21 Pad) - DD - Plan #1	1,600.0	1,588.9	86.4	77.0	9.164	SF

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-11D (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 21-11D (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	148.93	-13.1	7.9	15.3					
100.0	100.0	100.0	100.0	0.1	0.1	148.93	-13.1	7.9	15.3	15.0	0.30	51.596		
200.0	200.0	200.0	200.0	0.3	0.3	148.93	-13.1	7.9	15.3	14.7	0.65	23.706 CC, ES		
300.0	300.0	299.9	299.9	0.5	0.5	153.57	-14.0	7.0	15.7	14.7	1.00	15.736		
400.0	400.0	399.7	399.6	0.7	0.7	-70.05	-16.8	4.2	16.8	15.5	1.36	12.417		
500.0	499.9	499.4	499.1	0.9	0.9	-63.44	-21.4	-0.4	18.6	16.8	1.73	10.728		
600.0	599.7	599.1	598.3	1.1	1.1	-58.52	-27.8	-6.8	20.8	18.6	2.13	9.759		
700.0	699.3	698.7	697.2	1.3	1.4	-55.07	-36.1	-15.1	23.3	20.8	2.55	9.144		
800.0	798.6	798.2	795.7	1.5	1.7	-52.76	-46.1	-25.2	26.2	23.2	3.00	8.712		
900.0	897.5	897.6	893.7	1.8	2.0	-51.33	-58.0	-37.0	29.3	25.8	3.50	8.373		
1,000.0	996.1	997.0	991.2	2.1	2.4	-50.56	-71.7	-50.7	32.6	28.6	4.03	8.080		
1,100.0	1,094.2	1,096.3	1,088.1	2.5	2.8	-50.28	-87.1	-66.2	36.1	31.5	4.63	7.809		
1,200.0	1,191.7	1,195.5	1,184.3	2.9	3.2	-50.36	-104.3	-83.4	39.9	34.6	5.29	7.547		
1,300.0	1,288.6	1,294.6	1,279.7	3.4	3.7	-50.71	-123.2	-102.3	43.9	37.9	6.02	7.289		
1,400.0	1,384.9	1,393.7	1,374.4	3.9	4.3	-51.26	-143.9	-123.0	48.1	41.2	6.83	7.035		
1,500.0	1,480.4	1,492.7	1,468.1	4.4	4.9	-51.79	-166.2	-145.4	52.6	44.9	7.71	6.820		
1,600.0	1,575.8	1,592.1	1,561.7	4.9	5.5	-51.19	-190.1	-169.3	58.3	49.7	8.53	6.826		
1,700.0	1,671.3	1,692.0	1,655.6	5.5	6.1	-50.59	-214.1	-193.3	64.1	54.7	9.36	6.847		
1,800.0	1,766.7	1,791.8	1,749.4	6.0	6.7	-50.09	-238.1	-217.4	69.9	59.7	10.18	6.864		
1,900.0	1,862.1	1,891.6	1,843.3	6.6	7.3	-49.67	-262.2	-241.5	75.7	64.7	11.00	6.878		
2,000.0	1,957.5	1,991.5	1,937.1	7.1	8.0	-49.30	-286.2	-265.5	81.5	69.7	11.83	6.889		
2,100.0	2,052.9	2,091.3	2,031.0	7.7	8.6	-48.99	-310.3	-289.6	87.3	74.7	12.66	6.899		
2,200.0	2,148.4	2,191.1	2,124.8	8.3	9.2	-48.71	-334.3	-313.7	93.1	79.7	13.48	6.908		
2,300.0	2,243.8	2,290.9	2,218.7	8.8	9.8	-48.47	-358.4	-337.8	99.0	84.6	14.31	6.915		
2,400.0	2,339.2	2,390.8	2,312.5	9.4	10.5	-48.26	-382.4	-361.8	104.8	89.6	15.14	6.922		
2,500.0	2,434.6	2,490.6	2,406.4	9.9	11.1	-48.06	-406.4	-385.9	110.6	94.6	15.97	6.927		
2,600.0	2,530.0	2,590.4	2,500.2	10.5	11.7	-47.89	-430.5	-410.0	116.4	99.6	16.80	6.933		
2,700.0	2,625.5	2,690.3	2,594.1	11.0	12.4	-47.73	-454.5	-434.0	122.3	104.6	17.62	6.937		
2,800.0	2,720.9	2,790.1	2,688.0	11.6	13.0	-47.59	-478.6	-458.1	128.1	109.6	18.45	6.941		
2,900.0	2,816.3	2,889.9	2,781.8	12.2	13.6	-47.46	-502.6	-482.2	133.9	114.6	19.28	6.945		
3,000.0	2,911.7	2,989.8	2,875.7	12.7	14.3	-47.34	-526.7	-506.3	139.8	119.6	20.11	6.949		
3,100.0	3,007.1	3,089.6	2,969.5	13.3	14.9	-47.23	-550.7	-530.3	145.6	124.6	20.94	6.952		
3,200.0	3,102.6	3,189.4	3,063.4	13.8	15.5	-47.13	-574.7	-554.4	151.4	129.7	21.77	6.955		
3,300.0	3,198.0	3,289.2	3,157.2	14.4	16.2	-47.03	-598.8	-578.5	157.3	134.7	22.60	6.958		
3,400.0	3,293.4	3,389.1	3,251.1	15.0	16.8	-46.95	-622.8	-602.5	163.1	139.7	23.43	6.960		
3,500.0	3,388.8	3,488.9	3,344.9	15.5	17.4	-46.87	-646.9	-626.6	168.9	144.7	24.26	6.963		
3,600.0	3,484.2	3,588.7	3,438.8	16.1	18.1	-46.79	-670.9	-650.7	174.8	149.7	25.09	6.965		
3,700.0	3,579.7	3,688.6	3,532.6	16.7	18.7	-46.72	-695.0	-674.8	180.6	154.7	25.92	6.967		
3,800.0	3,675.1	3,788.4	3,626.5	17.2	19.3	-46.65	-719.0	-698.8	186.4	159.7	26.75	6.969		
3,900.0	3,770.5	3,888.2	3,720.3	17.8	20.0	-46.59	-743.0	-722.9	192.3	164.7	27.58	6.971		
4,000.0	3,865.9	3,988.1	3,814.2	18.3	20.6	-46.53	-767.1	-747.0	198.1	169.7	28.41	6.973		
4,100.0	3,961.3	4,087.9	3,908.0	18.9	21.2	-46.48	-791.1	-771.0	203.9	174.7	29.24	6.974		
4,200.0	4,056.8	4,187.7	4,001.9	19.5	21.9	-46.42	-815.2	-795.1	209.8	179.7	30.07	6.976		
4,300.0	4,152.2	4,287.5	4,095.7	20.0	22.5	-46.38	-839.2	-819.2	215.6	184.7	30.90	6.977		
4,400.0	4,247.6	4,387.4	4,189.6	20.6	23.1	-46.33	-863.3	-843.3	221.4	189.7	31.73	6.979		
4,500.0	4,343.0	4,487.2	4,283.5	21.2	23.8	-46.28	-887.3	-867.3	227.3	194.7	32.56	6.980		
4,600.0	4,438.4	4,587.0	4,377.3	21.7	24.4	-46.24	-911.3	-891.4	233.1	199.7	33.39	6.981		
4,700.0	4,533.9	4,686.9	4,471.2	22.3	25.0	-46.20	-935.4	-915.5	238.9	204.7	34.22	6.982		
4,800.0	4,629.3	4,786.7	4,565.0	22.8	25.7	-46.16	-959.4	-939.5	244.8	209.7	35.05	6.983		
4,900.0	4,724.7	4,886.5	4,658.9	23.4	26.3	-46.13	-983.5	-963.6	250.6	214.7	35.88	6.985		
5,000.0	4,820.1	4,986.3	4,752.7	24.0	26.9	-46.09	-1,007.5	-987.7	256.4	219.7	36.71	6.986		
5,100.0	4,915.5	5,086.2	4,846.6	24.5	27.6	-46.06	-1,031.6	-1,011.8	262.3	224.7	37.54	6.987		

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 21-11D (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 21-11D (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				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	5,011.0	5,186.0	4,940.4	25.1	28.2	-46.03	-1,055.6	-1,035.8	268.1	229.7	38.37	6.987		
5,300.0	5,106.4	5,285.8	5,034.3	25.7	28.8	-46.00	-1,079.6	-1,059.9	274.0	234.8	39.20	6.988		
5,400.0	5,201.8	5,385.7	5,128.1	26.2	29.5	-45.97	-1,103.7	-1,084.0	279.8	239.8	40.03	6.989		
5,500.0	5,297.2	5,485.5	5,222.0	26.8	30.1	-45.94	-1,127.7	-1,108.0	285.6	244.8	40.86	6.990		
5,600.0	5,392.6	5,585.3	5,315.8	27.3	30.7	-45.91	-1,151.8	-1,132.1	291.5	249.8	41.69	6.991		
5,700.0	5,488.1	5,685.2	5,409.7	27.9	31.4	-45.89	-1,175.8	-1,156.2	297.3	254.8	42.52	6.992		
5,800.0	5,583.5	5,785.0	5,503.5	28.5	32.0	-45.86	-1,199.9	-1,180.3	303.1	259.8	43.35	6.992		
5,900.0	5,678.9	5,890.8	5,603.5	29.0	32.6	-45.98	-1,224.5	-1,205.0	308.1	263.8	44.28	6.958		
6,000.0	5,774.6	5,997.4	5,705.0	29.6	33.2	-46.32	-1,247.4	-1,227.9	311.7	266.4	45.28	6.883		
6,100.0	5,871.1	6,104.1	5,807.5	30.0	33.8	-46.63	-1,268.3	-1,248.8	314.9	268.7	46.21	6.815		
6,200.0	5,968.2	6,210.8	5,910.8	30.5	34.2	-46.91	-1,287.1	-1,267.6	317.8	270.8	47.07	6.753		
6,300.0	6,065.9	6,317.6	6,014.9	30.9	34.7	-47.17	-1,303.9	-1,284.5	320.4	272.6	47.84	6.697		
6,400.0	6,164.2	6,424.4	6,119.6	31.2	35.0	-47.39	-1,318.7	-1,299.3	322.6	274.1	48.54	6.647		
6,500.0	6,262.9	6,531.2	6,225.0	31.5	35.4	-47.59	-1,331.4	-1,312.0	324.5	275.4	49.16	6.601		
6,600.0	6,361.9	6,638.1	6,330.8	31.8	35.7	-47.76	-1,342.0	-1,322.6	326.0	276.3	49.70	6.560		
6,700.0	6,461.3	6,745.0	6,437.0	32.0	35.9	-47.91	-1,350.5	-1,331.1	327.2	277.0	50.17	6.522		
6,800.0	6,561.0	6,851.9	6,543.5	32.2	36.1	-48.04	-1,356.9	-1,337.5	328.0	277.5	50.56	6.488		
6,900.0	6,660.8	6,958.8	6,650.2	32.3	36.2	-48.14	-1,361.2	-1,341.8	328.5	277.6	50.87	6.457		
7,000.0	6,760.8	7,065.7	6,757.1	32.4	36.3	-48.21	-1,363.4	-1,344.0	328.6	277.5	51.11	6.429		
7,100.0	6,860.8	7,169.4	6,860.8	32.5	36.4	-176.30	-1,363.7	-1,344.3	328.5	277.2	51.29	6.405		
7,200.0	6,960.8	7,269.4	6,960.8	32.5	36.4	-176.30	-1,363.7	-1,344.3	328.5	277.0	51.46	6.383		
7,300.0	7,060.8	7,369.4	7,060.8	32.6	36.5	-176.30	-1,363.7	-1,344.3	328.5	276.9	51.63	6.362		
7,400.0	7,160.8	7,469.4	7,160.8	32.7	36.6	-176.30	-1,363.7	-1,344.3	328.5	276.7	51.81	6.341		
7,500.0	7,260.8	7,569.4	7,260.8	32.7	36.6	-176.30	-1,363.7	-1,344.3	328.5	276.5	51.98	6.319		
7,600.0	7,360.8	7,669.4	7,360.8	32.8	36.7	-176.30	-1,363.7	-1,344.3	328.5	276.3	52.16	6.298		
7,700.0	7,460.8	7,769.4	7,460.8	32.9	36.8	-176.30	-1,363.7	-1,344.3	328.5	276.2	52.34	6.276		
7,800.0	7,560.8	7,869.4	7,560.8	33.0	36.8	-176.30	-1,363.7	-1,344.3	328.5	276.0	52.52	6.255		
7,900.0	7,660.8	7,969.4	7,660.8	33.0	36.9	-176.30	-1,363.7	-1,344.3	328.5	275.8	52.70	6.233		
8,000.0	7,760.8	8,069.4	7,760.8	33.1	36.9	-176.30	-1,363.7	-1,344.3	328.5	275.6	52.89	6.212		
8,100.0	7,860.8	8,169.4	7,860.8	33.2	37.0	-176.30	-1,363.7	-1,344.3	328.5	275.4	53.07	6.190		
8,200.0	7,960.8	8,269.4	7,960.8	33.3	37.1	-176.30	-1,363.7	-1,344.3	328.5	275.2	53.26	6.168		
8,300.0	8,060.8	8,369.4	8,060.8	33.3	37.2	-176.30	-1,363.7	-1,344.3	328.5	275.1	53.45	6.146		
8,400.0	8,160.8	8,469.4	8,160.8	33.4	37.2	-176.30	-1,363.7	-1,344.3	328.5	274.9	53.64	6.124		
8,500.0	8,260.8	8,569.4	8,260.8	33.5	37.3	-176.30	-1,363.7	-1,344.3	328.5	274.7	53.83	6.103		
8,600.0	8,360.8	8,669.4	8,360.8	33.6	37.4	-176.30	-1,363.7	-1,344.3	328.5	274.5	54.02	6.081		
8,700.0	8,460.8	8,769.4	8,460.8	33.6	37.4	-176.30	-1,363.7	-1,344.3	328.5	274.3	54.22	6.059		
8,800.0	8,560.8	8,869.4	8,560.8	33.7	37.5	-176.30	-1,363.7	-1,344.3	328.5	274.1	54.42	6.037		
8,900.0	8,660.8	8,969.4	8,660.8	33.8	37.6	-176.30	-1,363.7	-1,344.3	328.5	273.9	54.61	6.015 SF		
8,918.2	8,679.0	8,972.6	8,664.0	33.8	37.6	-176.30	-1,363.7	-1,344.3	328.8	274.2	54.63	6.019		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-11D (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 21-11D (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		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	-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	300.0	300.0	0.5	0.5	-31.07	13.1	-7.9	15.3	14.3	0.99	15.388 CC		
400.0	400.0	400.0	400.0	0.7	0.7	96.96	12.5	-9.1	15.6	14.2	1.35	11.552 ES		
500.0	499.9	499.9	499.8	0.9	0.9	96.89	10.7	-12.6	16.3	14.6	1.71	9.512		
600.0	599.7	599.9	599.6	1.1	1.1	96.78	7.8	-18.4	17.6	15.4	2.11	8.309		
700.0	699.3	699.8	699.1	1.3	1.3	96.64	3.6	-26.5	19.3	16.8	2.56	7.549		
800.0	798.6	799.8	798.4	1.5	1.5	96.50	-1.7	-37.0	21.6	18.5	3.06	7.043		
900.0	897.5	899.7	897.2	1.8	1.8	96.36	-8.3	-49.7	24.3	20.7	3.63	6.690		
1,000.0	996.1	999.6	995.7	2.1	2.1	96.22	-16.0	-64.8	27.5	23.3	4.28	6.434		
1,100.0	1,094.2	1,099.5	1,093.6	2.5	2.5	96.09	-24.8	-82.1	31.3	26.3	5.01	6.241		
1,200.0	1,191.7	1,199.3	1,191.0	2.9	2.9	95.97	-34.9	-101.7	35.5	29.7	5.83	6.091		
1,300.0	1,288.6	1,299.1	1,287.8	3.4	3.4	95.86	-46.0	-123.6	40.2	33.5	6.73	5.971		
1,400.0	1,384.9	1,398.9	1,383.9	3.9	3.9	95.91	-58.3	-147.6	45.4	37.7	7.72	5.881		
1,500.0	1,480.4	1,498.7	1,479.8	4.4	4.4	97.99	-70.8	-172.1	50.9	42.2	8.73	5.827		
1,600.0	1,575.8	1,598.6	1,575.8	4.9	4.9	100.18	-83.4	-196.6	56.5	46.8	9.75	5.798		
1,700.0	1,671.3	1,698.4	1,671.7	5.5	5.4	101.97	-95.9	-221.1	62.3	51.5	10.77	5.781		
1,800.0	1,766.7	1,798.2	1,767.6	6.0	5.9	103.45	-108.4	-245.6	68.0	56.2	11.79	5.772		
1,900.0	1,862.1	1,898.0	1,863.6	6.6	6.4	104.71	-121.0	-270.2	73.8	61.0	12.80	5.768		
2,000.0	1,957.5	1,997.8	1,959.5	7.1	6.9	105.78	-133.5	-294.7	79.7	65.9	13.82	5.767		
2,100.0	2,052.9	2,097.7	2,055.5	7.7	7.4	106.70	-146.0	-319.2	85.5	70.7	14.83	5.769		
2,200.0	2,148.4	2,197.5	2,151.4	8.3	7.9	107.50	-158.6	-343.7	91.4	75.6	15.84	5.772		
2,300.0	2,243.8	2,297.3	2,247.4	8.8	8.5	108.21	-171.1	-368.2	97.3	80.5	16.85	5.776		
2,400.0	2,339.2	2,397.1	2,343.3	9.4	9.0	108.84	-183.6	-392.7	103.2	85.4	17.86	5.781		
2,500.0	2,434.6	2,496.9	2,439.3	9.9	9.5	109.40	-196.1	-417.3	109.1	90.3	18.87	5.785		
2,600.0	2,530.0	2,596.8	2,535.2	10.5	10.0	109.90	-208.7	-441.8	115.1	95.2	19.87	5.790		
2,700.0	2,625.5	2,696.6	2,631.2	11.0	10.5	110.35	-221.2	-466.3	121.0	100.1	20.88	5.796		
2,800.0	2,720.9	2,796.4	2,727.1	11.6	11.1	110.76	-233.7	-490.8	127.0	105.1	21.89	5.801		
2,900.0	2,816.3	2,896.2	2,823.1	12.2	11.6	111.13	-246.3	-515.3	132.9	110.0	22.89	5.806		
3,000.0	2,911.7	2,996.0	2,919.0	12.7	12.1	111.47	-258.8	-539.8	138.9	115.0	23.90	5.811		
3,100.0	3,007.1	3,095.8	3,015.0	13.3	12.6	111.79	-271.3	-564.4	144.8	119.9	24.90	5.816		
3,200.0	3,102.6	3,195.7	3,110.9	13.8	13.2	112.08	-283.9	-588.9	150.8	124.9	25.91	5.820		
3,300.0	3,198.0	3,295.5	3,206.8	14.4	13.7	112.34	-296.4	-613.4	156.8	129.8	26.91	5.825		
3,400.0	3,293.4	3,395.3	3,302.8	15.0	14.2	112.59	-308.9	-637.9	162.7	134.8	27.92	5.829		
3,500.0	3,388.8	3,495.1	3,398.7	15.5	14.7	112.82	-321.5	-662.4	168.7	139.8	28.92	5.833		
3,600.0	3,484.2	3,594.9	3,494.7	16.1	15.2	113.03	-334.0	-686.9	174.7	144.8	29.92	5.837		
3,700.0	3,579.7	3,694.8	3,590.6	16.7	15.8	113.23	-346.5	-711.5	180.7	149.7	30.93	5.841		
3,800.0	3,675.1	3,794.6	3,686.6	17.2	16.3	113.42	-359.1	-736.0	186.6	154.7	31.93	5.845		
3,900.0	3,770.5	3,894.4	3,782.5	17.8	16.8	113.59	-371.6	-760.5	192.6	159.7	32.93	5.849		
4,000.0	3,865.9	3,994.2	3,878.5	18.3	17.3	113.76	-384.1	-785.0	198.6	164.7	33.94	5.852		
4,100.0	3,961.3	4,094.0	3,974.4	18.9	17.9	113.91	-396.7	-809.5	204.6	169.7	34.94	5.855		
4,200.0	4,056.8	4,193.9	4,070.4	19.5	18.4	114.06	-409.2	-834.0	210.6	174.6	35.94	5.859		
4,300.0	4,152.2	4,293.7	4,166.3	20.0	18.9	114.20	-421.7	-858.6	216.6	179.6	36.95	5.862		
4,400.0	4,247.6	4,393.5	4,262.3	20.6	19.4	114.33	-434.3	-883.1	222.6	184.6	37.95	5.865		
4,500.0	4,343.0	4,493.3	4,358.2	21.2	19.9	114.45	-446.8	-907.6	228.5	189.6	38.95	5.868		
4,600.0	4,438.4	4,593.1	4,454.2	21.7	20.5	114.57	-459.3	-932.1	234.5	194.6	39.95	5.870		
4,700.0	4,533.9	4,693.0	4,550.1	22.3	21.0	114.68	-471.9	-956.6	240.5	199.6	40.95	5.873		
4,800.0	4,629.3	4,792.8	4,646.0	22.8	21.5	114.79	-484.4	-981.1	246.5	204.6	41.96	5.876		
4,900.0	4,724.7	4,892.6	4,742.0	23.4	22.0	114.89	-496.9	-1,005.7	252.5	209.6	42.96	5.878		
5,000.0	4,820.1	4,992.4	4,837.9	24.0	22.6	114.99	-509.5	-1,030.2	258.5	214.6	43.96	5.881		
5,100.0	4,915.5	5,092.2	4,933.9	24.5	23.1	115.08	-522.0	-1,054.7	264.5	219.5	44.96	5.883		

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 21-11D (Oxy I21 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8381.0ft (Original Well Elev)
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Reference Well:	Oxy 21-11D (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				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		
5,200.0	5,011.0	5,192.1	5,029.8	25.1	23.6	115.17	-534.5	-1,079.2	270.5	224.5	45.96	5.885		
5,300.0	5,106.4	5,291.9	5,125.8	25.7	24.1	115.25	-547.1	-1,103.7	276.5	229.5	46.97	5.887		
5,400.0	5,201.8	5,391.7	5,221.7	26.2	24.7	115.33	-559.6	-1,128.2	282.5	234.5	47.97	5.889		
5,500.0	5,297.2	5,491.5	5,317.7	26.8	25.2	115.41	-572.1	-1,152.8	288.5	239.5	48.97	5.891		
5,600.0	5,392.6	5,591.3	5,413.6	27.3	25.7	115.48	-584.7	-1,177.3	294.5	244.5	49.97	5.893		
5,700.0	5,488.1	5,691.1	5,509.6	27.9	26.2	115.55	-597.2	-1,201.8	300.5	249.5	50.97	5.895		
5,800.0	5,583.5	5,791.0	5,605.5	28.5	26.8	115.62	-609.7	-1,226.3	306.5	254.5	51.97	5.897		
5,900.0	5,678.9	5,890.8	5,701.5	29.0	27.3	115.69	-622.3	-1,250.8	312.5	259.5	52.97	5.899		
6,000.0	5,774.6	5,990.3	5,797.1	29.6	27.8	115.65	-634.7	-1,275.2	318.0	264.0	53.99	5.891		
6,100.0	5,871.1	6,088.0	5,891.5	30.0	28.3	115.48	-646.3	-1,297.8	322.9	267.9	54.94	5.877		
6,200.0	5,968.2	6,185.8	5,986.6	30.5	28.7	115.33	-656.7	-1,318.2	327.2	271.4	55.80	5.864		
6,300.0	6,065.9	6,283.6	6,082.2	30.9	29.1	115.21	-666.0	-1,336.4	331.1	274.6	56.59	5.852		
6,400.0	6,164.2	6,381.4	6,178.3	31.2	29.4	115.09	-674.2	-1,352.5	334.6	277.3	57.28	5.841		
6,500.0	6,262.9	6,479.3	6,274.9	31.5	29.7	115.00	-681.3	-1,366.3	337.5	279.6	57.89	5.830		
6,600.0	6,361.9	6,577.1	6,371.9	31.8	30.0	114.91	-687.3	-1,378.0	340.0	281.6	58.42	5.820		
6,700.0	6,461.3	6,675.0	6,469.2	32.0	30.2	114.84	-692.1	-1,387.4	342.0	283.1	58.86	5.810		
6,800.0	6,561.0	6,772.9	6,566.7	32.2	30.3	114.78	-695.8	-1,394.6	343.5	284.3	59.23	5.800		
6,900.0	6,660.8	6,870.8	6,664.5	32.3	30.5	114.74	-698.3	-1,399.6	344.6	285.1	59.51	5.790		
7,000.0	6,760.8	6,968.7	6,762.3	32.4	30.6	114.70	-699.7	-1,402.3	345.1	285.4	59.71	5.780		
7,100.0	6,860.8	7,067.1	6,860.8	32.5	30.6	-13.37	-700.0	-1,402.9	345.2	285.3	59.86	5.767		
7,200.0	6,960.8	7,167.1	6,960.8	32.5	30.7	-13.37	-700.0	-1,402.9	345.2	285.2	60.00	5.753		
7,300.0	7,060.8	7,267.1	7,060.8	32.6	30.8	-13.37	-700.0	-1,402.9	345.2	285.0	60.15	5.739		
7,400.0	7,160.8	7,367.1	7,160.8	32.7	30.9	-13.37	-700.0	-1,402.9	345.2	284.9	60.30	5.725		
7,500.0	7,260.8	7,467.1	7,260.8	32.7	30.9	-13.37	-700.0	-1,402.9	345.2	284.7	60.44	5.711		
7,600.0	7,360.8	7,567.1	7,360.8	32.8	31.0	-13.37	-700.0	-1,402.9	345.2	284.6	60.60	5.697		
7,700.0	7,460.8	7,667.1	7,460.8	32.9	31.1	-13.37	-700.0	-1,402.9	345.2	284.4	60.75	5.682		
7,800.0	7,560.8	7,767.1	7,560.8	33.0	31.2	-13.37	-700.0	-1,402.9	345.2	284.3	60.90	5.668		
7,900.0	7,660.8	7,867.1	7,660.8	33.0	31.2	-13.37	-700.0	-1,402.9	345.2	284.1	61.06	5.653		
8,000.0	7,760.8	7,967.1	7,760.8	33.1	31.3	-13.37	-700.0	-1,402.9	345.2	284.0	61.22	5.639		
8,100.0	7,860.8	8,067.1	7,860.8	33.2	31.4	-13.37	-700.0	-1,402.9	345.2	283.8	61.38	5.624		
8,200.0	7,960.8	8,167.1	7,960.8	33.3	31.5	-13.37	-700.0	-1,402.9	345.2	283.7	61.54	5.609		
8,300.0	8,060.8	8,267.1	8,060.8	33.3	31.5	-13.37	-700.0	-1,402.9	345.2	283.5	61.70	5.595		
8,400.0	8,160.8	8,367.1	8,160.8	33.4	31.6	-13.37	-700.0	-1,402.9	345.2	283.3	61.86	5.580		
8,500.0	8,260.8	8,467.1	8,260.8	33.5	31.7	-13.37	-700.0	-1,402.9	345.2	283.2	62.03	5.565		
8,600.0	8,360.8	8,567.1	8,360.8	33.6	31.8	-13.37	-700.0	-1,402.9	345.2	283.0	62.20	5.550		
8,700.0	8,460.8	8,667.1	8,460.8	33.6	31.9	-13.37	-700.0	-1,402.9	345.2	282.8	62.37	5.535		
8,800.0	8,560.8	8,767.1	8,560.8	33.7	32.0	-13.37	-700.0	-1,402.9	345.2	282.7	62.54	5.520		
8,900.0	8,660.8	8,867.1	8,660.8	33.8	32.0	-13.37	-700.0	-1,402.9	345.2	282.5	62.71	5.505		
8,918.2	8,679.0	8,885.4	8,679.0	33.8	32.1	-13.37	-700.0	-1,402.9	345.2	282.5	62.74	5.502 SF		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-11D (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 21-11D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-13D (Oxy I21 Pad) - DD - Plan #1											Offset Site Error:		0.0 ft	
Survey Program: 0-MWD											Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-31.79	25.5	-15.8	30.0					
100.0	100.0	100.0	100.0	0.1	0.1	-31.79	25.5	-15.8	30.0	29.7	0.30	101.097		
200.0	200.0	200.0	200.0	0.3	0.3	-31.79	25.5	-15.8	30.0	29.4	0.65	46.450		
300.0	300.0	300.0	300.0	0.5	0.5	-31.79	25.5	-15.8	30.0	29.0	0.99	30.152	CC, ES	
400.0	400.0	399.8	399.8	0.7	0.7	96.34	25.1	-17.1	30.5	29.1	1.35	22.646		
500.0	499.9	499.6	499.5	0.9	0.9	96.55	24.1	-20.8	32.0	30.3	1.71	18.667		
600.0	599.7	599.3	599.0	1.1	1.1	96.86	22.3	-27.1	34.5	32.4	2.11	16.333		
700.0	699.3	699.0	698.3	1.3	1.3	97.22	19.7	-35.8	37.9	35.4	2.55	14.871		
800.0	798.6	798.6	797.2	1.5	1.5	97.58	16.5	-47.0	42.4	39.4	3.05	13.907		
900.0	897.5	898.2	895.8	1.8	1.8	97.93	12.5	-60.7	47.9	44.2	3.61	13.243		
1,000.0	996.1	997.7	993.8	2.1	2.1	98.24	7.9	-76.9	54.3	50.0	4.25	12.766		
1,100.0	1,094.2	1,097.1	1,091.3	2.5	2.5	98.50	2.5	-95.4	61.7	56.7	4.97	12.410		
1,200.0	1,191.7	1,196.3	1,188.1	2.9	2.9	98.72	-3.5	-116.4	70.1	64.3	5.77	12.137		
1,300.0	1,288.6	1,295.7	1,284.6	3.4	3.3	99.19	-10.1	-139.4	79.3	72.7	6.64	11.940		
1,400.0	1,384.9	1,395.2	1,381.1	3.9	3.8	101.03	-16.8	-162.7	89.1	81.5	7.57	11.776		
1,500.0	1,480.4	1,494.5	1,477.4	4.4	4.2	103.89	-23.5	-185.9	99.5	91.0	8.51	11.690		
1,600.0	1,575.8	1,593.8	1,573.7	4.9	4.7	106.52	-30.2	-209.2	110.3	100.8	9.46	11.666		
1,700.0	1,671.3	1,693.1	1,670.0	5.5	5.1	108.68	-36.9	-232.4	121.3	110.9	10.39	11.670		
1,800.0	1,766.7	1,792.4	1,766.4	6.0	5.6	110.48	-43.6	-255.6	132.4	121.0	11.32	11.692		
1,900.0	1,862.1	1,891.7	1,862.7	6.6	6.0	112.01	-50.3	-278.8	143.6	131.3	12.25	11.725		
2,000.0	1,957.5	1,991.0	1,959.0	7.1	6.5	113.31	-57.0	-302.1	154.9	141.7	13.17	11.762		
2,100.0	2,052.9	2,090.3	2,055.3	7.7	7.0	114.43	-63.7	-325.3	166.2	152.1	14.08	11.803		
2,200.0	2,148.4	2,189.7	2,151.6	8.3	7.4	115.41	-70.4	-348.5	177.6	162.6	15.00	11.844		
2,300.0	2,243.8	2,289.0	2,247.9	8.8	7.9	116.27	-77.1	-371.8	189.1	173.2	15.91	11.885		
2,400.0	2,339.2	2,388.3	2,344.2	9.4	8.4	117.03	-83.8	-395.0	200.6	183.8	16.82	11.925		
2,500.0	2,434.6	2,487.6	2,440.6	9.9	8.8	117.71	-90.5	-418.2	212.1	194.4	17.73	11.964		
2,600.0	2,530.0	2,586.9	2,536.9	10.5	9.3	118.32	-97.2	-441.5	223.7	205.1	18.64	12.002		
2,700.0	2,625.5	2,686.2	2,633.2	11.0	9.7	118.87	-103.9	-464.7	235.3	215.7	19.54	12.038		
2,800.0	2,720.9	2,785.5	2,729.5	11.6	10.2	119.37	-110.6	-487.9	246.9	226.4	20.45	12.073		
2,900.0	2,816.3	2,884.8	2,825.8	12.2	10.7	119.82	-117.3	-511.1	258.5	237.1	21.35	12.106		
3,000.0	2,911.7	2,984.1	2,922.1	12.7	11.1	120.23	-124.0	-534.4	270.1	247.9	22.26	12.137		
3,100.0	3,007.1	3,083.4	3,018.5	13.3	11.6	120.61	-130.7	-557.6	281.8	258.6	23.16	12.167		
3,200.0	3,102.6	3,182.7	3,114.8	13.8	12.1	120.96	-137.4	-580.8	293.4	269.4	24.06	12.195		
3,300.0	3,198.0	3,282.0	3,211.1	14.4	12.5	121.29	-144.1	-604.1	305.1	280.1	24.96	12.222		
3,400.0	3,293.4	3,381.3	3,307.4	15.0	13.0	121.59	-150.8	-627.3	316.8	290.9	25.86	12.248		
3,500.0	3,388.8	3,480.6	3,403.7	15.5	13.5	121.87	-157.5	-650.5	328.4	301.7	26.76	12.273		
3,600.0	3,484.2	3,579.9	3,500.0	16.1	13.9	122.12	-164.2	-673.8	340.1	312.5	27.66	12.296		
3,700.0	3,579.7	3,679.2	3,596.3	16.7	14.4	122.37	-170.9	-697.0	351.8	323.3	28.56	12.318		
3,800.0	3,675.1	3,778.5	3,692.7	17.2	14.9	122.59	-177.6	-720.2	363.5	334.1	29.46	12.340		
3,900.0	3,770.5	3,877.8	3,789.0	17.8	15.3	122.80	-184.3	-743.5	375.2	344.9	30.36	12.360		
4,000.0	3,865.9	3,977.1	3,885.3	18.3	15.8	123.00	-191.0	-766.7	386.9	355.7	31.26	12.379		
4,100.0	3,961.3	4,076.4	3,981.6	18.9	16.2	123.19	-197.7	-789.9	398.7	366.5	32.15	12.398		
4,200.0	4,056.8	4,175.7	4,077.9	19.5	16.7	123.37	-204.4	-813.1	410.4	377.3	33.05	12.416		
4,300.0	4,152.2	4,275.0	4,174.2	20.0	17.2	123.54	-211.0	-836.4	422.1	388.1	33.95	12.433		
4,400.0	4,247.6	4,374.3	4,270.6	20.6	17.6	123.69	-217.7	-859.6	433.8	399.0	34.85	12.449		
4,500.0	4,343.0	4,473.6	4,366.9	21.2	18.1	123.84	-224.4	-882.8	445.5	409.8	35.75	12.465		
4,600.0	4,438.4	4,572.9	4,463.2	21.7	18.6	123.98	-231.1	-906.1	457.3	420.6	36.64	12.480		
4,700.0	4,533.9	4,672.2	4,559.5	22.3	19.0	124.12	-237.8	-929.3	469.0	431.5	37.54	12.494		
4,800.0	4,629.3	4,771.5	4,655.8	22.8	19.5	124.25	-244.5	-952.5	480.8	442.3	38.44	12.508		
4,900.0	4,724.7	4,870.8	4,752.1	23.4	20.0	124.37	-251.2	-975.8	492.5	453.2	39.33	12.521		
5,000.0	4,820.1	4,970.1	4,848.4	24.0	20.4	124.49	-257.9	-999.0	504.2	464.0	40.23	12.534		
5,100.0	4,915.5	5,069.4	4,944.8	24.5	20.9	124.60	-264.6	-1,022.2	516.0	474.8	41.13	12.546		

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 21-11D (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 21-11D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-13D (Oxy I21 Pad) - DD - Plan #1												Offset Site Error: 0.0 ft			
Survey Program: 0-MWD														Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor			
5,200.0	5,011.0	5,168.7	5,041.1	25.1	21.4	124.70	-271.3	-1,045.5	527.7	485.7	42.02	12.558			
5,300.0	5,106.4	5,268.1	5,137.4	25.7	21.8	124.81	-278.0	-1,068.7	539.5	496.5	42.92	12.570			
5,400.0	5,201.8	5,367.4	5,233.7	26.2	22.3	124.90	-284.7	-1,091.9	551.2	507.4	43.81	12.581			
5,500.0	5,297.2	5,466.7	5,330.0	26.8	22.8	125.00	-291.4	-1,115.1	563.0	518.3	44.71	12.591			
5,600.0	5,392.6	5,566.0	5,426.3	27.3	23.2	125.09	-298.1	-1,138.4	574.7	529.1	45.61	12.602			
5,700.0	5,488.1	5,665.3	5,522.7	27.9	23.7	125.17	-304.8	-1,161.6	586.5	540.0	46.50	12.611			
5,800.0	5,583.5	5,764.6	5,619.0	28.5	24.2	125.25	-311.5	-1,184.8	598.2	550.8	47.40	12.621			
5,900.0	5,678.9	5,863.9	5,715.3	29.0	24.6	125.33	-318.2	-1,208.1	610.0	561.7	48.29	12.630			
6,000.0	5,774.6	5,963.2	5,811.7	29.6	25.1	125.45	-324.9	-1,231.3	621.1	571.9	49.18	12.628			
6,100.0	5,871.1	6,062.8	5,908.2	30.0	25.6	125.37	-331.6	-1,254.6	630.7	580.6	50.10	12.588			
6,200.0	5,968.2	6,159.0	6,001.7	30.5	26.0	125.18	-337.8	-1,276.2	639.1	588.1	50.98	12.536			
6,300.0	6,065.9	6,254.9	6,095.5	30.9	26.4	125.01	-343.4	-1,295.5	646.5	594.7	51.76	12.490			
6,400.0	6,164.2	6,350.9	6,189.8	31.2	26.7	124.86	-348.3	-1,312.6	653.1	600.6	52.47	12.447			
6,500.0	6,262.9	6,447.0	6,284.7	31.5	27.0	124.73	-352.6	-1,327.4	658.7	605.6	53.09	12.407			
6,600.0	6,361.9	6,543.1	6,380.0	31.8	27.2	124.61	-356.2	-1,339.9	663.4	609.8	53.63	12.370			
6,700.0	6,461.3	6,639.3	6,475.6	32.0	27.5	124.51	-359.1	-1,350.1	667.2	613.1	54.09	12.335			
6,800.0	6,561.0	6,735.6	6,571.5	32.2	27.6	124.43	-361.4	-1,357.9	670.1	615.6	54.47	12.302			
6,900.0	6,660.8	6,832.0	6,667.7	32.3	27.8	124.36	-363.0	-1,363.5	672.0	617.2	54.77	12.270			
7,000.0	6,760.8	6,928.3	6,764.0	32.4	27.9	124.30	-363.9	-1,366.7	673.0	618.0	54.99	12.238			
7,100.0	6,860.8	7,025.1	6,860.8	32.5	28.0	-3.79	-364.2	-1,367.6	673.1	618.0	55.15	12.205			
7,200.0	6,960.8	7,125.1	6,960.8	32.5	28.0	-3.79	-364.2	-1,367.6	673.1	617.8	55.31	12.170			
7,300.0	7,060.8	7,225.1	7,060.8	32.6	28.1	-3.79	-364.2	-1,367.6	673.1	617.7	55.47	12.135			
7,400.0	7,160.8	7,325.1	7,160.8	32.7	28.2	-3.79	-364.2	-1,367.6	673.1	617.5	55.63	12.100			
7,500.0	7,260.8	7,425.1	7,260.8	32.7	28.3	-3.79	-364.2	-1,367.6	673.1	617.3	55.79	12.065			
7,600.0	7,360.8	7,525.1	7,360.8	32.8	28.4	-3.79	-364.2	-1,367.6	673.1	617.2	55.95	12.030			
7,700.0	7,460.8	7,625.1	7,460.8	32.9	28.4	-3.79	-364.2	-1,367.6	673.1	617.0	56.12	11.995			
7,800.0	7,560.8	7,725.1	7,560.8	33.0	28.5	-3.79	-364.2	-1,367.6	673.1	616.9	56.29	11.959			
7,900.0	7,660.8	7,825.1	7,660.8	33.0	28.6	-3.79	-364.2	-1,367.6	673.1	616.7	56.46	11.923			
8,000.0	7,760.8	7,925.1	7,760.8	33.1	28.7	-3.79	-364.2	-1,367.6	673.1	616.5	56.63	11.888			
8,100.0	7,860.8	8,025.1	7,860.8	33.2	28.8	-3.79	-364.2	-1,367.6	673.1	616.3	56.80	11.852			
8,200.0	7,960.8	8,125.1	7,960.8	33.3	28.9	-3.79	-364.2	-1,367.6	673.1	616.2	56.97	11.816			
8,300.0	8,060.8	8,225.1	8,060.8	33.3	28.9	-3.79	-364.2	-1,367.6	673.1	616.0	57.15	11.779			
8,400.0	8,160.8	8,325.1	8,160.8	33.4	29.0	-3.79	-364.2	-1,367.6	673.1	615.8	57.32	11.743			
8,500.0	8,260.8	8,425.1	8,260.8	33.5	29.1	-3.79	-364.2	-1,367.6	673.1	615.6	57.50	11.707			
8,600.0	8,360.8	8,525.1	8,360.8	33.6	29.2	-3.79	-364.2	-1,367.6	673.1	615.5	57.68	11.670			
8,700.0	8,460.8	8,625.1	8,460.8	33.6	29.3	-3.79	-364.2	-1,367.6	673.1	615.3	57.86	11.634			
8,800.0	8,560.8	8,725.1	8,560.8	33.7	29.4	-3.79	-364.2	-1,367.6	673.1	615.1	58.04	11.597			
8,900.0	8,660.8	8,825.1	8,660.8	33.8	29.5	-3.79	-364.2	-1,367.6	673.1	614.9	58.23	11.560			
8,918.2	8,679.0	8,843.4	8,679.0	33.8	29.5	-3.79	-364.2	-1,367.6	673.1	614.9	58.26	11.554 SF			

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-11D (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 21-11D (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		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	-32.89	37.5	-24.3	44.7					
100.0	100.0	100.0	100.0	0.1	0.1	-32.89	37.5	-24.3	44.7	44.4	0.30	150.588		
200.0	200.0	200.0	200.0	0.3	0.3	-32.89	37.5	-24.3	44.7	44.0	0.65	69.189		
300.0	300.0	300.0	300.0	0.5	0.5	-32.89	37.5	-24.3	44.7	43.7	0.99	44.912 CC, ES		
400.0	400.0	399.4	399.4	0.7	0.7	95.35	37.4	-25.6	45.4	44.1	1.35	33.749		
500.0	499.9	498.9	498.8	0.9	0.9	95.87	37.1	-29.4	47.6	45.9	1.71	27.842		
600.0	599.7	598.2	597.9	1.1	1.1	96.64	36.6	-35.9	51.3	49.2	2.10	24.395		
700.0	699.3	697.4	696.7	1.3	1.3	97.54	35.9	-44.9	56.5	53.9	2.54	22.257		
800.0	798.6	796.6	795.2	1.5	1.5	98.48	34.9	-56.4	63.1	60.1	3.03	20.868		
900.0	897.5	895.5	893.1	1.8	1.8	99.36	33.8	-70.4	71.3	67.7	3.58	19.927		
1,000.0	996.1	994.3	990.4	2.1	2.1	100.17	32.5	-87.0	80.9	76.7	4.20	19.266		
1,100.0	1,094.2	1,092.8	1,087.1	2.5	2.5	100.86	30.9	-106.0	92.0	87.1	4.90	18.784		
1,200.0	1,191.7	1,191.1	1,183.0	2.9	2.9	101.45	29.2	-127.4	104.5	98.8	5.67	18.419		
1,300.0	1,288.6	1,290.0	1,279.2	3.4	3.3	102.40	27.4	-150.5	118.2	111.7	6.51	18.148		
1,400.0	1,384.9	1,388.8	1,375.3	3.9	3.7	104.20	25.5	-173.6	132.5	125.1	7.40	17.904		
1,500.0	1,480.4	1,487.5	1,471.2	4.4	4.2	106.59	23.6	-196.6	147.6	139.3	8.32	17.748		
1,600.0	1,575.8	1,586.1	1,567.1	4.9	4.6	108.80	21.8	-219.6	163.1	153.9	9.24	17.662		
1,700.0	1,671.3	1,684.7	1,662.9	5.5	5.0	110.63	19.9	-242.6	178.8	168.7	10.15	17.613		
1,800.0	1,766.7	1,783.3	1,758.8	6.0	5.5	112.17	18.1	-265.7	194.7	183.6	11.07	17.590		
1,900.0	1,862.1	1,882.0	1,854.7	6.6	5.9	113.47	16.2	-288.7	210.7	198.7	11.98	17.584		
2,000.0	1,957.5	1,980.6	1,950.6	7.1	6.4	114.59	14.4	-311.7	226.7	213.8	12.89	17.588		
2,100.0	2,052.9	2,079.2	2,046.4	7.7	6.8	115.56	12.5	-334.7	242.8	229.0	13.80	17.599		
2,200.0	2,148.4	2,177.8	2,142.3	8.3	7.2	116.41	10.7	-357.7	259.0	244.3	14.71	17.615		
2,300.0	2,243.8	2,276.4	2,238.2	8.8	7.7	117.16	8.8	-380.8	275.3	259.7	15.61	17.634		
2,400.0	2,339.2	2,375.0	2,334.0	9.4	8.1	117.83	6.9	-403.8	291.6	275.0	16.51	17.654		
2,500.0	2,434.6	2,473.6	2,429.9	9.9	8.6	118.42	5.1	-426.8	307.9	290.5	17.42	17.676		
2,600.0	2,530.0	2,572.2	2,525.8	10.5	9.0	118.96	3.2	-449.8	324.2	305.9	18.32	17.697		
2,700.0	2,625.5	2,670.9	2,621.6	11.0	9.5	119.44	1.4	-472.9	340.6	321.4	19.22	17.719		
2,800.0	2,720.9	2,769.5	2,717.5	11.6	9.9	119.88	-0.5	-495.9	357.0	336.9	20.12	17.741		
2,900.0	2,816.3	2,868.1	2,813.4	12.2	10.4	120.28	-2.3	-518.9	373.4	352.4	21.02	17.762		
3,000.0	2,911.7	2,966.7	2,909.2	12.7	10.8	120.65	-4.2	-541.9	389.8	367.9	21.92	17.783		
3,100.0	3,007.1	3,065.3	3,005.1	13.3	11.2	120.99	-6.0	-565.0	406.3	383.4	22.82	17.803		
3,200.0	3,102.6	3,163.9	3,101.0	13.8	11.7	121.30	-7.9	-588.0	422.7	399.0	23.72	17.822		
3,300.0	3,198.0	3,262.5	3,196.8	14.4	12.1	121.59	-9.7	-611.0	439.2	414.6	24.62	17.841		
3,400.0	3,293.4	3,361.1	3,292.7	15.0	12.6	121.86	-11.6	-634.0	455.6	430.1	25.51	17.859		
3,500.0	3,388.8	3,459.8	3,388.6	15.5	13.0	122.11	-13.5	-657.0	472.1	445.7	26.41	17.876		
3,600.0	3,484.2	3,558.4	3,484.5	16.1	13.5	122.34	-15.3	-680.1	488.6	461.3	27.31	17.893		
3,700.0	3,579.7	3,657.0	3,580.3	16.7	13.9	122.56	-17.2	-703.1	505.1	476.9	28.20	17.909		
3,800.0	3,675.1	3,755.6	3,676.2	17.2	14.4	122.76	-19.0	-726.1	521.6	492.5	29.10	17.925		
3,900.0	3,770.5	3,854.2	3,772.1	17.8	14.8	122.95	-20.9	-749.1	538.1	508.1	30.00	17.940		
4,000.0	3,865.9	3,952.8	3,867.9	18.3	15.3	123.13	-22.7	-772.2	554.6	523.8	30.89	17.954		
4,100.0	3,961.3	4,051.4	3,963.8	18.9	15.7	123.30	-24.6	-795.2	571.2	539.4	31.79	17.968		
4,200.0	4,056.8	4,150.0	4,059.7	19.5	16.2	123.46	-26.4	-818.2	587.7	555.0	32.68	17.981		
4,300.0	4,152.2	4,248.6	4,155.5	20.0	16.6	123.61	-28.3	-841.2	604.2	570.6	33.58	17.994		
4,400.0	4,247.6	4,347.3	4,251.4	20.6	17.1	123.75	-30.1	-864.3	620.8	586.3	34.47	18.007		
4,500.0	4,343.0	4,445.9	4,347.3	21.2	17.5	123.89	-32.0	-887.3	637.3	601.9	35.37	18.018		
4,600.0	4,438.4	4,544.5	4,443.1	21.7	17.9	124.01	-33.9	-910.3	653.8	617.6	36.26	18.030		
4,700.0	4,533.9	4,643.1	4,539.0	22.3	18.4	124.14	-35.7	-933.3	670.4	633.2	37.16	18.041		
4,800.0	4,629.3	4,741.7	4,634.9	22.8	18.8	124.25	-37.6	-956.3	686.9	648.9	38.05	18.052		
4,900.0	4,724.7	4,840.3	4,730.8	23.4	19.3	124.36	-39.4	-979.4	703.5	664.5	38.95	18.062		
5,000.0	4,820.1	4,938.9	4,826.6	24.0	19.7	124.47	-41.3	-1,002.4	720.0	680.2	39.84	18.072		
5,100.0	4,915.5	5,037.5	4,922.5	24.5	20.2	124.57	-43.1	-1,025.4	736.6	695.9	40.74	18.081		

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 21-11D (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 21-11D (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				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)				
5,200.0	5,011.0	5,136.2	5,018.4	25.1	20.6	124.67	-45.0	-1,048.4	753.1	711.5	41.63	18.091		
5,300.0	5,106.4	5,234.8	5,114.2	25.7	21.1	124.76	-46.8	-1,071.5	769.7	727.2	42.53	18.100		
5,400.0	5,201.8	5,333.4	5,210.1	26.2	21.5	124.85	-48.7	-1,094.5	786.3	742.8	43.42	18.108		
5,500.0	5,297.2	5,432.0	5,306.0	26.8	22.0	124.93	-50.5	-1,117.5	802.8	758.5	44.31	18.117		
5,600.0	5,392.6	5,530.6	5,401.8	27.3	22.4	125.01	-52.4	-1,140.5	819.4	774.2	45.21	18.125		
5,700.0	5,488.1	5,629.2	5,497.7	27.9	22.9	125.09	-54.3	-1,163.6	836.0	789.9	46.10	18.133		
5,800.0	5,583.5	5,727.8	5,593.6	28.5	23.3	125.17	-56.1	-1,186.6	852.5	805.5	47.00	18.140		
5,900.0	5,678.9	5,826.4	5,689.4	29.0	23.8	125.24	-58.0	-1,209.6	869.1	821.2	47.89	18.148		
6,000.0	5,774.6	5,925.2	5,785.4	29.6	24.2	125.43	-59.8	-1,232.7	885.0	836.2	48.77	18.146		
6,100.0	5,871.1	6,024.1	5,881.6	30.0	24.7	125.48	-61.7	-1,255.7	899.5	849.8	49.66	18.113		
6,200.0	5,968.2	6,123.0	5,977.7	30.5	25.1	125.39	-63.5	-1,278.8	912.4	861.9	50.53	18.055		
6,300.0	6,065.9	6,221.2	6,073.6	30.9	25.5	125.26	-65.2	-1,300.0	923.9	872.6	51.34	17.997		
6,400.0	6,164.2	6,319.7	6,170.3	31.2	25.9	125.14	-66.8	-1,318.8	934.1	882.0	52.06	17.943		
6,500.0	6,262.9	6,418.4	6,267.6	31.5	26.2	125.04	-68.1	-1,335.2	942.9	890.2	52.70	17.892		
6,600.0	6,361.9	6,517.3	6,365.5	31.8	26.4	124.95	-69.2	-1,349.1	950.2	897.0	53.25	17.844		
6,700.0	6,461.3	6,616.4	6,464.0	32.0	26.7	124.87	-70.1	-1,360.4	956.2	902.5	53.73	17.798		
6,800.0	6,561.0	6,715.6	6,562.8	32.2	26.9	124.80	-70.8	-1,369.2	960.7	906.6	54.11	17.754		
6,900.0	6,660.8	6,815.0	6,661.9	32.3	27.0	124.74	-71.3	-1,375.5	963.8	909.4	54.42	17.711		
7,000.0	6,760.8	6,914.4	6,761.3	32.4	27.1	124.69	-71.6	-1,379.2	965.5	910.9	54.65	17.668		
7,100.0	6,860.8	7,013.9	6,860.8	32.5	27.2	-3.40	-71.7	-1,380.3	965.8	911.0	54.81	17.622		
7,200.0	6,960.8	7,113.9	6,960.8	32.5	27.3	-3.40	-71.7	-1,380.3	965.8	910.9	54.97	17.572		
7,300.0	7,060.8	7,213.9	7,060.8	32.6	27.4	-3.40	-71.7	-1,380.3	965.8	910.7	55.13	17.521		
7,400.0	7,160.8	7,313.9	7,160.8	32.7	27.5	-3.40	-71.7	-1,380.3	965.8	910.6	55.29	17.470		
7,500.0	7,260.8	7,413.9	7,260.8	32.7	27.5	-3.40	-71.7	-1,380.3	965.8	910.4	55.45	17.419		
7,600.0	7,360.8	7,513.9	7,360.8	32.8	27.6	-3.40	-71.7	-1,380.3	965.8	910.2	55.61	17.367		
7,700.0	7,460.8	7,613.9	7,460.8	32.9	27.7	-3.40	-71.7	-1,380.3	965.8	910.1	55.78	17.315		
7,800.0	7,560.8	7,713.9	7,560.8	33.0	27.8	-3.40	-71.7	-1,380.3	965.8	909.9	55.95	17.264		
7,900.0	7,660.8	7,813.9	7,660.8	33.0	27.9	-3.40	-71.7	-1,380.3	965.8	909.7	56.12	17.211		
8,000.0	7,760.8	7,913.9	7,760.8	33.1	28.0	-3.40	-71.7	-1,380.3	965.8	909.6	56.29	17.159		
8,100.0	7,860.8	8,013.9	7,860.8	33.2	28.0	-3.40	-71.7	-1,380.3	965.8	909.4	56.46	17.107		
8,200.0	7,960.8	8,113.9	7,960.8	33.3	28.1	-3.40	-71.7	-1,380.3	965.8	909.2	56.63	17.054		
8,300.0	8,060.8	8,213.9	8,060.8	33.3	28.2	-3.40	-71.7	-1,380.3	965.8	909.0	56.81	17.001		
8,400.0	8,160.8	8,313.9	8,160.8	33.4	28.3	-3.40	-71.7	-1,380.3	965.8	908.9	56.99	16.948		
8,500.0	8,260.8	8,413.9	8,260.8	33.5	28.4	-3.40	-71.7	-1,380.3	965.8	908.7	57.17	16.895		
8,600.0	8,360.8	8,513.9	8,360.8	33.6	28.5	-3.40	-71.7	-1,380.3	965.8	908.5	57.35	16.842		
8,700.0	8,460.8	8,613.9	8,460.8	33.6	28.6	-3.40	-71.7	-1,380.3	965.8	908.3	57.53	16.788		
8,800.0	8,560.8	8,713.9	8,560.8	33.7	28.7	-3.40	-71.7	-1,380.3	965.8	908.1	57.71	16.735		
8,900.0	8,660.8	8,813.9	8,660.8	33.8	28.8	-3.40	-71.7	-1,380.3	965.8	907.9	57.90	16.681		
8,918.2	8,679.0	8,832.1	8,679.0	33.8	28.8	-3.40	-71.7	-1,380.3	965.8	907.9	57.93	16.672 SF		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-11D (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 21-11D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-15D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total 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	-32.43	50.6	-32.2	60.0					
100.0	100.0	100.0	100.0	0.1	0.1	-32.43	50.6	-32.2	60.0	59.7	0.30	202.164		
200.0	200.0	200.0	200.0	0.3	0.3	-32.43	50.6	-32.2	60.0	59.3	0.65	92.886		
300.0	300.0	300.0	300.0	0.5	0.5	-32.43	50.6	-32.2	60.0	59.0	0.99	60.295 CC, ES		
400.0	400.0	399.0	399.0	0.7	0.7	95.92	50.8	-33.4	61.0	59.6	1.34	45.340		
500.0	499.9	497.9	497.8	0.9	0.9	96.72	51.4	-37.2	63.9	62.2	1.71	37.445		
600.0	599.7	596.7	596.4	1.1	1.1	97.90	52.3	-43.6	68.8	66.7	2.09	32.877		
700.0	699.3	695.3	694.6	1.3	1.3	99.29	53.6	-52.4	75.8	73.2	2.52	30.089		
800.0	798.6	793.6	792.3	1.5	1.5	100.72	55.3	-63.7	84.7	81.7	2.99	28.324		
900.0	897.5	891.7	889.3	1.8	1.8	102.09	57.4	-77.4	95.7	92.2	3.52	27.171		
1,000.0	996.1	989.4	985.6	2.1	2.1	103.32	59.8	-93.5	108.7	104.6	4.12	26.397		
1,100.0	1,094.2	1,086.6	1,081.1	2.5	2.5	104.40	62.5	-112.0	123.7	118.9	4.78	25.863		
1,200.0	1,191.7	1,183.5	1,175.6	2.9	2.9	105.31	65.6	-132.8	140.7	135.2	5.52	25.485		
1,300.0	1,288.6	1,281.0	1,270.4	3.4	3.3	106.24	69.0	-155.6	159.4	153.1	6.32	25.223		
1,400.0	1,384.9	1,378.9	1,365.5	3.9	3.7	107.68	72.4	-178.6	179.1	171.9	7.18	24.958		
1,500.0	1,480.4	1,476.6	1,460.3	4.4	4.1	109.56	75.9	-201.6	199.6	191.6	8.06	24.762		
1,600.0	1,575.8	1,574.1	1,555.1	4.9	4.6	111.34	79.3	-224.5	220.5	211.6	8.96	24.624		
1,700.0	1,671.3	1,671.7	1,649.9	5.5	5.0	112.82	82.7	-247.5	241.6	231.8	9.85	24.522		
1,800.0	1,766.7	1,769.3	1,744.7	6.0	5.4	114.06	86.1	-270.4	262.8	252.1	10.75	24.447		
1,900.0	1,862.1	1,866.9	1,839.4	6.6	5.9	115.12	89.5	-293.4	284.2	272.5	11.65	24.391		
2,000.0	1,957.5	1,964.4	1,934.2	7.1	6.3	116.02	92.9	-316.4	305.6	293.0	12.55	24.348		
2,100.0	2,052.9	2,062.0	2,029.0	7.7	6.8	116.81	96.4	-339.3	327.0	313.6	13.45	24.317		
2,200.0	2,148.4	2,159.6	2,123.8	8.3	7.2	117.51	99.8	-362.3	348.5	334.2	14.35	24.293		
2,300.0	2,243.8	2,257.2	2,218.5	8.8	7.7	118.12	103.2	-385.2	370.1	354.8	15.25	24.275		
2,400.0	2,339.2	2,354.8	2,313.3	9.4	8.1	118.66	106.6	-408.2	391.7	375.5	16.14	24.261		
2,500.0	2,434.6	2,452.3	2,408.1	9.9	8.5	119.15	110.0	-431.1	413.3	396.3	17.04	24.251		
2,600.0	2,530.0	2,549.9	2,502.9	10.5	9.0	119.59	113.5	-454.1	434.9	417.0	17.94	24.244		
2,700.0	2,625.5	2,647.5	2,597.7	11.0	9.4	119.98	116.9	-477.0	456.6	437.8	18.84	24.239		
2,800.0	2,720.9	2,745.1	2,692.4	11.6	9.9	120.35	120.3	-500.0	478.3	458.6	19.74	24.235		
2,900.0	2,816.3	2,842.6	2,787.2	12.2	10.3	120.68	123.7	-522.9	500.0	479.4	20.63	24.233		
3,000.0	2,911.7	2,940.2	2,882.0	12.7	10.8	120.98	127.1	-545.9	521.7	500.2	21.53	24.232		
3,100.0	3,007.1	3,037.8	2,976.8	13.3	11.2	121.26	130.5	-568.9	543.5	521.0	22.43	24.232 SF		
3,200.0	3,102.6	3,135.4	3,071.5	13.8	11.7	121.51	134.0	-591.8	565.2	541.9	23.32	24.232		
3,300.0	3,198.0	3,233.0	3,166.3	14.4	12.1	121.75	137.4	-614.8	587.0	562.7	24.22	24.233		
3,400.0	3,293.4	3,330.5	3,261.1	15.0	12.6	121.97	140.8	-637.7	608.7	583.6	25.12	24.235		
3,500.0	3,388.8	3,428.1	3,355.9	15.5	13.0	122.18	144.2	-660.7	630.5	604.5	26.01	24.236		
3,600.0	3,484.2	3,525.7	3,450.6	16.1	13.5	122.37	147.6	-683.6	652.3	625.4	26.91	24.238		
3,700.0	3,579.7	3,623.3	3,545.4	16.7	13.9	122.55	151.0	-706.6	674.0	646.2	27.81	24.240		
3,800.0	3,675.1	3,720.8	3,640.2	17.2	14.4	122.72	154.5	-729.5	695.8	667.1	28.70	24.243		
3,900.0	3,770.5	3,818.4	3,735.0	17.8	14.8	122.88	157.9	-752.5	717.6	688.0	29.60	24.245		
4,000.0	3,865.9	3,916.0	3,829.8	18.3	15.3	123.03	161.3	-775.5	739.4	708.9	30.50	24.248		
4,100.0	3,961.3	4,013.6	3,924.5	18.9	15.7	123.17	164.7	-798.4	761.2	729.8	31.39	24.250		
4,200.0	4,056.8	4,111.1	4,019.3	19.5	16.2	123.30	168.1	-821.4	783.0	750.8	32.29	24.253		
4,300.0	4,152.2	4,208.7	4,114.1	20.0	16.6	123.42	171.6	-844.3	804.9	771.7	33.18	24.255		
4,400.0	4,247.6	4,306.3	4,208.9	20.6	17.0	123.54	175.0	-867.3	826.7	792.6	34.08	24.258		
4,500.0	4,343.0	4,403.9	4,303.6	21.2	17.5	123.66	178.4	-890.2	848.5	813.5	34.97	24.261		
4,600.0	4,438.4	4,501.5	4,398.4	21.7	17.9	123.76	181.8	-913.2	870.3	834.4	35.87	24.263		
4,700.0	4,533.9	4,599.0	4,493.2	22.3	18.4	123.86	185.2	-936.1	892.1	855.4	36.77	24.266		
4,800.0	4,629.3	4,696.6	4,588.0	22.8	18.8	123.96	188.6	-959.1	914.0	876.3	37.66	24.268		
4,900.0	4,724.7	4,794.2	4,682.8	23.4	19.3	124.05	192.1	-982.1	935.8	897.2	38.56	24.271		
5,000.0	4,820.1	4,891.8	4,777.5	24.0	19.7	124.14	195.5	-1,005.0	957.6	918.2	39.45	24.273		
5,100.0	4,915.5	4,989.3	4,872.3	24.5	20.2	124.23	198.9	-1,028.0	979.5	939.1	40.35	24.276		

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 21-11D (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 21-11D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.0 ft
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth	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	5,011.0	5,086.9	4,967.1	25.1	20.6	124.31	202.3	-1,050.9	1,001.3	960.1	41.24	24.278			
5,300.0	5,106.4	5,184.5	5,061.9	25.7	21.1	124.38	205.7	-1,073.9	1,023.1	981.0	42.14	24.281			
5,400.0	5,201.8	5,282.1	5,156.6	26.2	21.5	124.46	209.2	-1,096.8	1,045.0	1,001.9	43.03	24.283			
5,500.0	5,297.2	5,379.7	5,251.4	26.8	22.0	124.53	212.6	-1,119.8	1,066.8	1,022.9	43.93	24.285			
5,600.0	5,392.6	5,477.2	5,346.2	27.3	22.4	124.60	216.0	-1,142.7	1,088.7	1,043.8	44.82	24.288			
5,700.0	5,488.1	5,574.8	5,441.0	27.9	22.9	124.66	219.4	-1,165.7	1,110.5	1,064.8	45.72	24.290			

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-11D (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 21-11D (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	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	-25.40	67.7	-32.2	75.0					
100.0	100.0	100.0	100.0	0.1	0.1	-25.40	67.7	-32.2	75.0	74.7	0.30	252.766		
200.0	200.0	200.0	200.0	0.3	0.3	-25.40	67.7	-32.2	75.0	74.4	0.65	116.136		
300.0	300.0	300.0	300.0	0.5	0.5	-25.40	67.7	-32.2	75.0	74.0	0.99	75.386 CC, ES		
400.0	400.0	398.6	398.6	0.7	0.7	102.92	68.2	-33.4	76.2	74.9	1.34	56.721		
500.0	499.9	497.1	497.0	0.9	0.9	103.67	69.5	-36.9	79.9	78.2	1.70	46.882		
600.0	599.7	595.4	595.1	1.1	1.0	104.76	71.8	-42.9	86.0	83.9	2.09	41.222		
700.0	699.3	693.4	692.7	1.3	1.3	106.04	74.9	-51.1	94.6	92.1	2.50	37.809		
800.0	798.6	791.1	789.7	1.5	1.5	107.35	78.8	-61.7	105.7	102.7	2.96	35.693		
900.0	897.5	888.3	885.9	1.8	1.8	108.61	83.7	-74.5	119.3	115.8	3.47	34.358		
1,000.0	996.1	984.9	981.2	2.1	2.1	109.74	89.3	-89.5	135.4	131.3	4.04	33.504		
1,100.0	1,094.2	1,080.9	1,075.5	2.5	2.4	110.72	95.7	-106.6	153.9	149.2	4.67	32.952		
1,200.0	1,191.7	1,176.2	1,168.6	2.9	2.8	111.53	103.0	-125.8	174.9	169.5	5.37	32.594		
1,300.0	1,288.6	1,271.5	1,261.1	3.4	3.2	112.23	110.9	-147.1	198.2	192.1	6.12	32.394		
1,400.0	1,384.9	1,368.3	1,354.9	3.9	3.7	113.20	119.3	-169.3	223.0	216.1	6.93	32.180		
1,500.0	1,480.4	1,464.7	1,448.4	4.4	4.1	114.56	127.6	-191.4	248.8	241.0	7.77	32.014		
1,600.0	1,575.8	1,561.0	1,541.7	4.9	4.5	115.94	135.9	-213.5	275.0	266.4	8.63	31.874		
1,700.0	1,671.3	1,657.3	1,635.1	5.5	5.0	117.08	144.2	-235.6	301.3	291.8	9.49	31.756		
1,800.0	1,766.7	1,753.6	1,728.5	6.0	5.4	118.04	152.5	-257.7	327.6	317.3	10.35	31.656		
1,900.0	1,862.1	1,850.0	1,821.9	6.6	5.9	118.85	160.8	-279.8	354.1	342.9	11.22	31.571		
2,000.0	1,957.5	1,946.3	1,915.3	7.1	6.3	119.55	169.1	-301.9	380.6	368.5	12.08	31.499		
2,100.0	2,052.9	2,042.6	2,008.7	7.7	6.8	120.16	177.4	-323.9	407.2	394.2	12.95	31.436		
2,200.0	2,148.4	2,138.9	2,102.1	8.3	7.2	120.70	185.7	-346.0	433.8	419.9	13.82	31.383		
2,300.0	2,243.8	2,235.3	2,195.5	8.8	7.7	121.17	194.0	-368.1	460.4	445.7	14.69	31.336		
2,400.0	2,339.2	2,331.6	2,288.9	9.4	8.1	121.59	202.3	-390.2	487.0	471.5	15.56	31.294		
2,500.0	2,434.6	2,427.9	2,382.2	9.9	8.6	121.97	210.6	-412.3	513.7	497.3	16.43	31.258		
2,600.0	2,530.0	2,524.2	2,475.6	10.5	9.0	122.31	218.9	-434.4	540.4	523.1	17.31	31.226		
2,700.0	2,625.5	2,620.6	2,569.0	11.0	9.5	122.62	227.2	-456.5	567.1	548.9	18.18	31.197		
2,800.0	2,720.9	2,716.9	2,662.4	11.6	9.9	122.90	235.5	-478.6	593.8	574.8	19.05	31.171		
2,900.0	2,816.3	2,813.2	2,755.8	12.2	10.4	123.15	243.8	-500.7	620.6	600.6	19.92	31.148		
3,000.0	2,911.7	2,909.5	2,849.2	12.7	10.8	123.39	252.1	-522.7	647.3	626.5	20.80	31.127		
3,100.0	3,007.1	3,005.9	2,942.6	13.3	11.3	123.61	260.4	-544.8	674.1	652.4	21.67	31.108		
3,200.0	3,102.6	3,102.2	3,036.0	13.8	11.7	123.81	268.7	-566.9	700.8	678.3	22.54	31.091		
3,300.0	3,198.0	3,198.5	3,129.4	14.4	12.2	123.99	277.0	-589.0	727.6	704.2	23.41	31.075		
3,400.0	3,293.4	3,294.8	3,222.8	15.0	12.6	124.16	285.3	-611.1	754.4	730.1	24.29	31.060		
3,500.0	3,388.8	3,391.1	3,316.1	15.5	13.1	124.33	293.6	-633.2	781.1	756.0	25.16	31.047		
3,600.0	3,484.2	3,487.5	3,409.5	16.1	13.5	124.48	301.9	-655.3	807.9	781.9	26.03	31.035		
3,700.0	3,579.7	3,583.8	3,502.9	16.7	14.0	124.62	310.2	-677.4	834.7	807.8	26.91	31.023		
3,800.0	3,675.1	3,680.1	3,596.3	17.2	14.4	124.75	318.5	-699.5	861.5	833.7	27.78	31.012		
3,900.0	3,770.5	3,776.4	3,689.7	17.8	14.9	124.87	326.9	-721.5	888.3	859.7	28.65	31.003		
4,000.0	3,865.9	3,872.8	3,783.1	18.3	15.3	124.99	335.2	-743.6	915.1	885.6	29.53	30.993		
4,100.0	3,961.3	3,969.1	3,876.5	18.9	15.8	125.10	343.5	-765.7	941.9	911.5	30.40	30.985		
4,200.0	4,056.8	4,065.4	3,969.9	19.5	16.3	125.20	351.8	-787.8	968.7	937.5	31.27	30.977		
4,300.0	4,152.2	4,161.7	4,063.3	20.0	16.7	125.30	360.1	-809.9	995.6	963.4	32.15	30.969		
4,400.0	4,247.6	4,258.1	4,156.6	20.6	17.2	125.39	368.4	-832.0	1,022.4	989.4	33.02	30.962		
4,500.0	4,343.0	4,354.4	4,250.0	21.2	17.6	125.48	376.7	-854.1	1,049.2	1,015.3	33.89	30.955		
4,600.0	4,438.4	4,450.7	4,343.4	21.7	18.1	125.56	385.0	-876.2	1,076.0	1,041.2	34.77	30.949		
4,700.0	4,533.9	4,547.0	4,436.8	22.3	18.5	125.64	393.3	-898.3	1,102.8	1,067.2	35.64	30.943 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 21-11D (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 21-11D (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: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	-32.60	62.6	-40.1	74.4					
100.0	100.0	100.0	100.0	0.1	0.1	-32.60	62.6	-40.1	74.4	0.30	250.638			
200.0	200.0	200.0	200.0	0.3	0.3	-32.60	62.6	-40.1	74.4	0.65	115.158 CC, ES			
300.0	300.0	298.5	298.5	0.5	0.5	-33.20	63.1	-41.3	75.4	0.99	75.960			
400.0	400.0	396.9	396.8	0.7	0.7	94.03	64.3	-44.9	78.5	1.34	58.393			
500.0	499.9	495.1	494.8	0.9	0.9	93.96	66.3	-50.9	83.9	1.71	49.058			
600.0	599.7	593.0	592.3	1.1	1.1	94.51	69.1	-59.2	91.6	2.10	43.557			
700.0	699.3	690.5	689.2	1.3	1.4	95.49	72.7	-69.9	101.4	2.53	40.093			
800.0	798.6	787.7	785.4	1.5	1.6	96.72	77.1	-82.8	113.5	3.00	37.796			
900.0	897.5	884.3	880.6	1.8	2.0	98.05	82.2	-98.0	128.0	3.53	36.206			
1,000.0	996.1	980.3	974.9	2.1	2.3	99.37	88.1	-115.3	144.7	4.13	35.063			
1,100.0	1,094.2	1,075.6	1,068.0	2.5	2.7	100.62	94.7	-134.7	163.7	4.78	34.217			
1,200.0	1,191.7	1,170.2	1,159.8	2.9	3.1	101.75	101.9	-156.2	185.1	5.51	33.576			
1,300.0	1,288.6	1,264.0	1,250.3	3.4	3.6	102.77	109.9	-179.5	208.7	6.31	33.082			
1,400.0	1,384.9	1,356.9	1,339.3	3.9	4.1	103.65	118.4	-204.8	234.5	7.17	32.697			
1,500.0	1,480.4	1,449.0	1,426.8	4.4	4.6	104.53	127.5	-231.8	262.6	8.10	32.426			
1,600.0	1,575.8	1,540.2	1,512.9	4.9	5.2	105.19	137.3	-260.5	292.2	9.06	32.266			
1,700.0	1,671.3	1,630.7	1,597.5	5.5	5.8	105.41	147.6	-290.9	323.3	10.04	32.208 SF			
1,800.0	1,766.7	1,720.3	1,680.5	6.0	6.5	105.31	158.4	-322.9	355.8	11.04	32.230			
1,900.0	1,862.1	1,808.9	1,761.8	6.6	7.1	104.97	169.7	-356.3	389.7	12.06	32.320			
2,000.0	1,957.5	1,896.5	1,841.3	7.1	7.8	104.47	181.5	-391.1	425.0	13.09	32.468			
2,100.0	2,052.9	1,983.0	1,918.9	7.7	8.6	103.84	193.7	-427.1	461.7	14.13	32.664			
2,200.0	2,148.4	2,068.3	1,994.7	8.3	9.3	103.12	206.3	-464.3	499.8	15.18	32.914			
2,300.0	2,243.8	2,152.3	2,068.4	8.8	10.1	102.34	219.2	-502.5	539.3	16.24	33.213			
2,400.0	2,339.2	2,235.1	2,140.2	9.4	10.9	101.53	232.4	-541.6	580.2	17.29	33.559			
2,500.0	2,434.6	2,316.5	2,209.9	9.9	11.7	100.69	245.9	-581.4	622.5	18.34	33.952			
2,600.0	2,530.0	2,399.8	2,280.3	10.5	12.6	99.82	260.2	-623.6	666.3	19.39	34.355			
2,700.0	2,625.5	2,489.1	2,355.5	11.0	13.5	98.98	275.6	-669.1	710.4	20.48	34.686			
2,800.0	2,720.9	2,578.3	2,430.8	11.6	14.5	98.23	291.0	-714.6	754.7	21.56	34.996			
2,900.0	2,816.3	2,667.6	2,506.0	12.2	15.4	97.56	306.4	-760.0	799.0	22.64	35.287			
3,000.0	2,911.7	2,756.9	2,581.3	12.7	16.4	96.96	321.8	-805.5	843.5	23.72	35.558			
3,100.0	3,007.1	2,846.1	2,656.5	13.3	17.3	96.43	337.2	-851.0	888.0	24.79	35.813			
3,200.0	3,102.6	2,935.4	2,731.7	13.8	18.2	95.94	352.6	-896.5	932.5	25.87	36.051			
3,300.0	3,198.0	3,024.6	2,807.0	14.4	19.2	95.50	368.0	-942.0	977.1	26.94	36.275			
3,400.0	3,293.4	3,113.9	2,882.2	15.0	20.1	95.09	383.3	-987.5	1,021.8	28.00	36.486			
3,500.0	3,388.8	3,203.2	2,957.5	15.5	21.1	94.72	398.7	-1,032.9	1,066.4	29.07	36.684			
3,600.0	3,484.2	3,292.4	3,032.7	16.1	22.0	94.38	414.1	-1,078.4	1,111.2	30.14	36.870			

Directional Plus

Anticollision Report

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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 21-11D (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									
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	147.36	-75.8	48.5	90.0							
100.0	100.0	100.0	100.0	0.1	0.1	147.36	-75.8	48.5	90.0	89.7	0.30	303.228				
200.0	200.0	200.0	200.0	0.3	0.3	147.36	-75.8	48.5	90.0	89.3	0.65	139.321				
300.0	300.0	300.0	300.0	0.5	0.5	147.36	-75.8	48.5	90.0	89.0	0.99	90.437	CC, ES			
400.0	400.0	398.1	398.1	0.7	0.7	-84.91	-77.0	48.5	90.9	89.5	1.34	67.687				
500.0	499.9	496.2	496.1	0.9	0.9	-85.84	-80.8	48.2	93.6	91.9	1.70	55.045				
600.0	599.7	594.1	593.8	1.1	1.0	-87.27	-87.1	47.8	98.3	96.2	2.08	47.220				
700.0	699.3	691.8	691.2	1.3	1.3	-89.05	-95.8	47.3	104.9	102.4	2.50	42.028				
800.0	798.6	789.3	788.0	1.5	1.5	-91.01	-107.0	46.6	113.5	110.6	2.96	38.406				
900.0	897.5	886.5	884.2	1.8	1.8	-93.02	-120.6	45.7	124.2	120.7	3.47	35.782				
1,000.0	996.1	983.3	979.6	2.1	2.1	-94.97	-136.6	44.8	137.0	132.9	4.05	33.825				
1,100.0	1,094.2	1,079.6	1,074.2	2.5	2.4	-96.78	-154.9	43.6	151.8	147.1	4.70	32.333				
1,200.0	1,191.7	1,175.4	1,167.8	2.9	2.8	-98.42	-175.5	42.3	168.8	163.4	5.41	31.179				
1,300.0	1,288.6	1,270.8	1,260.3	3.4	3.2	-99.86	-198.2	40.9	187.8	181.6	6.20	30.275				
1,400.0	1,384.9	1,365.5	1,351.7	3.9	3.7	-101.11	-223.1	39.4	209.0	201.9	7.07	29.561				
1,500.0	1,480.4	1,461.1	1,443.4	4.4	4.2	-102.36	-250.3	37.7	231.9	223.9	7.99	29.031				
1,600.0	1,575.8	1,558.3	1,536.5	4.9	4.6	-103.62	-278.1	36.0	255.2	246.2	8.93	28.570				
1,700.0	1,671.3	1,655.4	1,629.5	5.5	5.1	-104.68	-305.9	34.3	278.6	268.7	9.88	28.181				
1,800.0	1,766.7	1,752.5	1,722.5	6.0	5.6	-105.57	-333.7	32.5	302.0	291.2	10.85	27.849				
1,900.0	1,862.1	1,849.6	1,815.5	6.6	6.1	-106.33	-361.5	30.8	325.6	313.8	11.81	27.564				
2,000.0	1,957.5	1,946.7	1,908.5	7.1	6.7	-106.99	-389.3	29.1	349.1	336.4	12.78	27.318				
2,100.0	2,052.9	2,043.8	2,001.6	7.7	7.2	-107.56	-417.2	27.3	372.8	359.0	13.75	27.105				
2,200.0	2,148.4	2,140.9	2,094.6	8.3	7.7	-108.07	-445.0	25.6	396.4	381.7	14.73	26.917				
2,300.0	2,243.8	2,238.0	2,187.6	8.8	8.2	-108.52	-472.8	23.9	420.1	404.4	15.70	26.751				
2,400.0	2,339.2	2,335.1	2,280.6	9.4	8.7	-108.92	-500.6	22.2	443.8	427.1	16.68	26.604				
2,500.0	2,434.6	2,432.2	2,373.7	9.9	9.2	-109.28	-528.4	20.4	467.5	449.8	17.66	26.473				
2,600.0	2,530.0	2,529.3	2,466.7	10.5	9.7	-109.61	-556.2	18.7	491.2	472.6	18.64	26.355				
2,700.0	2,625.5	2,626.4	2,559.7	11.0	10.2	-109.90	-584.1	17.0	515.0	495.4	19.62	26.248				
2,800.0	2,720.9	2,723.5	2,652.7	11.6	10.7	-110.17	-611.9	15.3	538.7	518.1	20.60	26.151				
2,900.0	2,816.3	2,820.6	2,745.7	12.2	11.2	-110.42	-639.7	13.5	562.5	540.9	21.58	26.063				
3,000.0	2,911.7	2,917.8	2,838.8	12.7	11.7	-110.65	-667.5	11.8	586.3	563.7	22.56	25.983				
3,100.0	3,007.1	3,014.9	2,931.8	13.3	12.3	-110.86	-695.3	10.1	610.1	586.5	23.55	25.909				
3,200.0	3,102.6	3,112.0	3,024.8	13.8	12.8	-111.05	-723.1	8.4	633.9	609.3	24.53	25.841				
3,300.0	3,198.0	3,209.1	3,117.8	14.4	13.3	-111.23	-751.0	6.6	657.7	632.1	25.51	25.778				
3,400.0	3,293.4	3,306.2	3,210.8	15.0	13.8	-111.40	-778.8	4.9	681.5	655.0	26.49	25.720				
3,500.0	3,388.8	3,403.3	3,303.9	15.5	14.3	-111.56	-806.6	3.2	705.3	677.8	27.48	25.666				
3,600.0	3,484.2	3,500.4	3,396.9	16.1	14.8	-111.70	-834.4	1.5	729.1	700.6	28.46	25.616				
3,700.0	3,579.7	3,597.5	3,489.9	16.7	15.3	-111.84	-862.2	-0.3	752.9	723.4	29.45	25.569				
3,800.0	3,675.1	3,694.6	3,582.9	17.2	15.8	-111.97	-890.0	-2.0	776.7	746.3	30.43	25.525				
3,900.0	3,770.5	3,791.7	3,676.0	17.8	16.4	-112.09	-917.9	-3.7	800.5	769.1	31.41	25.484				
4,000.0	3,865.9	3,888.8	3,769.0	18.3	16.9	-112.20	-945.7	-5.4	824.4	792.0	32.40	25.445				
4,100.0	3,961.3	3,985.9	3,862.0	18.9	17.4	-112.31	-973.5	-7.2	848.2	814.8	33.38	25.409				
4,200.0	4,056.8	4,083.0	3,955.0	19.5	17.9	-112.41	-1,001.3	-8.9	872.0	837.7	34.37	25.374				
4,300.0	4,152.2	4,180.1	4,048.0	20.0	18.4	-112.51	-1,029.1	-10.6	895.9	860.5	35.35	25.342				
4,400.0	4,247.6	4,277.3	4,141.1	20.6	18.9	-112.60	-1,057.0	-12.3	919.7	883.4	36.34	25.311				
4,500.0	4,343.0	4,374.4	4,234.1	21.2	19.4	-112.68	-1,084.8	-14.1	943.5	906.2	37.32	25.282				
4,600.0	4,438.4	4,471.5	4,327.1	21.7	20.0	-112.76	-1,112.6	-15.8	967.4	929.1	38.30	25.255				
4,700.0	4,533.9	4,568.6	4,420.1	22.3	20.5	-112.84	-1,140.4	-17.5	991.2	951.9	39.29	25.229				
4,800.0	4,629.3	4,665.7	4,513.2	22.8	21.0	-112.92	-1,168.2	-19.3	1,015.1	974.8	40.27	25.204				
4,900.0	4,724.7	4,762.8	4,606.2	23.4	21.5	-112.99	-1,196.0	-21.0	1,038.9	997.7	41.26	25.180				
5,000.0	4,820.1	4,859.9	4,699.2	24.0	22.0	-113.06	-1,223.9	-22.7	1,062.8	1,020.5	42.24	25.158				
5,100.0	4,915.5	4,957.0	4,792.2	24.5	22.5	-113.12	-1,251.7	-24.4	1,086.6	1,043.4	43.23	25.136				

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

Directional Plus

Anticollision Report

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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 21-11D (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										
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)				
5,200.0	5,011.0	5,054.1	4,885.2	25.1	23.0	-113.18	-1,279.5	-26.2	1,110.5	1,066.3	44.21	25.116 SF		

Directional Plus

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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 21-11D (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		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)				Between Centres (ft)	Between Ellipses (ft)	
0.0	0.0	0.0	0.0	0.0	0.0	2.83	17.1	0.8	17.1					
100.0	100.0	100.0	100.0	0.1	0.1	2.83	17.1	0.8	17.1	16.8	0.30	57.768		
200.0	200.0	200.0	200.0	0.3	0.3	2.83	17.1	0.8	17.1	16.5	0.65	26.542		
300.0	300.0	300.4	300.4	0.5	0.5	3.23	15.8	0.9	15.8	14.8	1.00	15.883		
400.0	400.0	400.7	400.7	0.7	0.7	137.34	11.8	1.0	12.8	11.5	1.35	9.536		
500.0	499.9	500.9	500.6	0.9	0.9	160.37	5.3	1.3	10.1	8.4	1.71	5.901		
531.5	531.4	532.4	531.9	0.9	1.0	172.51	2.7	1.3	9.8	8.0	1.84	5.348 CC, ES		
600.0	599.7	600.7	600.0	1.1	1.1	-159.29	-3.9	1.6	11.4	9.2	2.14	5.317 SF		
700.0	699.3	700.3	698.8	1.3	1.4	-133.43	-15.6	2.0	18.6	16.0	2.61	7.145		
800.0	798.6	799.4	796.9	1.5	1.7	-122.49	-29.8	2.5	29.8	26.7	3.11	9.581		
900.0	897.5	897.9	894.1	1.8	2.0	-117.48	-46.4	3.0	43.8	40.2	3.67	11.940		
1,000.0	996.1	995.9	990.2	2.1	2.4	-114.91	-65.5	3.7	60.3	56.0	4.29	14.058		
1,100.0	1,094.2	1,093.3	1,085.2	2.5	2.8	-113.46	-86.8	4.4	79.0	74.1	4.97	15.915		
1,200.0	1,191.7	1,191.2	1,180.4	2.9	3.2	-113.24	-109.4	5.2	99.5	93.8	5.70	17.457		
1,300.0	1,288.6	1,288.9	1,275.4	3.4	3.6	-114.14	-132.0	6.0	120.9	114.4	6.47	18.675		
1,400.0	1,384.9	1,386.2	1,370.1	3.9	4.0	-115.64	-154.5	6.7	143.5	136.2	7.29	19.682		
1,500.0	1,480.4	1,483.2	1,464.5	4.4	4.4	-117.52	-176.9	7.5	167.2	159.1	8.13	20.571		
1,600.0	1,575.8	1,580.1	1,558.8	4.9	4.8	-119.21	-199.3	8.3	191.3	182.4	8.97	21.325		
1,700.0	1,671.3	1,677.0	1,653.0	5.5	5.2	-120.52	-221.7	9.0	215.6	205.8	9.82	21.961		
1,800.0	1,766.7	1,773.9	1,747.3	6.0	5.7	-121.57	-244.1	9.8	239.9	229.3	10.66	22.504		
1,900.0	1,862.1	1,870.8	1,841.6	6.6	6.1	-122.42	-266.5	10.6	264.3	252.8	11.51	22.972		
2,000.0	1,957.5	1,967.7	1,935.9	7.1	6.5	-123.13	-288.9	11.3	288.8	276.4	12.35	23.379		
2,100.0	2,052.9	2,064.6	2,030.2	7.7	6.9	-123.72	-311.3	12.1	313.3	300.1	13.20	23.736		
2,200.0	2,148.4	2,161.5	2,124.4	8.3	7.4	-124.24	-333.7	12.9	337.8	323.7	14.04	24.052		
2,300.0	2,243.8	2,258.4	2,218.7	8.8	7.8	-124.68	-356.1	13.6	362.3	347.4	14.89	24.333		
2,400.0	2,339.2	2,355.3	2,313.0	9.4	8.2	-125.06	-378.6	14.4	386.9	371.1	15.74	24.584		
2,500.0	2,434.6	2,452.3	2,407.3	9.9	8.6	-125.40	-401.0	15.2	411.4	394.8	16.58	24.810		
2,600.0	2,530.0	2,549.2	2,501.6	10.5	9.0	-125.71	-423.4	16.0	436.0	418.6	17.43	25.015		
2,700.0	2,625.5	2,646.1	2,595.8	11.0	9.5	-125.98	-445.8	16.7	460.6	442.3	18.28	25.201		
2,800.0	2,720.9	2,743.0	2,690.1	11.6	9.9	-126.22	-468.2	17.5	485.2	466.1	19.12	25.370		
2,900.0	2,816.3	2,839.9	2,784.4	12.2	10.3	-126.44	-490.6	18.3	509.8	489.8	19.97	25.526		
3,000.0	2,911.7	2,936.8	2,878.7	12.7	10.7	-126.64	-513.0	19.0	534.4	513.6	20.82	25.669		
3,100.0	3,007.1	3,033.7	2,973.0	13.3	11.2	-126.82	-535.4	19.8	559.0	537.3	21.67	25.800		
3,200.0	3,102.6	3,130.6	3,067.2	13.8	11.6	-126.98	-557.8	20.6	583.6	561.1	22.51	25.922		
3,300.0	3,198.0	3,227.5	3,161.5	14.4	12.0	-127.14	-580.2	21.3	608.3	584.9	23.36	26.036		
3,400.0	3,293.4	3,324.4	3,255.8	15.0	12.4	-127.28	-602.6	22.1	632.9	608.7	24.21	26.141		
3,500.0	3,388.8	3,421.3	3,350.1	15.5	12.9	-127.41	-625.0	22.9	657.5	632.5	25.06	26.239		
3,600.0	3,484.2	3,518.3	3,444.4	16.1	13.3	-127.53	-647.4	23.6	682.1	656.2	25.91	26.331		
3,700.0	3,579.7	3,615.2	3,538.7	16.7	13.7	-127.64	-669.8	24.4	706.8	680.0	26.75	26.417		
3,800.0	3,675.1	3,712.1	3,632.9	17.2	14.1	-127.74	-692.2	25.2	731.4	703.8	27.60	26.498		
3,900.0	3,770.5	3,809.0	3,727.2	17.8	14.6	-127.84	-714.6	25.9	756.1	727.6	28.45	26.574		
4,000.0	3,865.9	3,905.9	3,821.5	18.3	15.0	-127.93	-737.0	26.7	780.7	751.4	29.30	26.645		
4,100.0	3,961.3	4,002.8	3,915.8	18.9	15.4	-128.02	-759.4	27.5	805.3	775.2	30.15	26.713		
4,200.0	4,056.8	4,099.7	4,010.1	19.5	15.8	-128.10	-781.8	28.2	830.0	799.0	31.00	26.777		
4,300.0	4,152.2	4,196.6	4,104.3	20.0	16.3	-128.18	-804.2	29.0	854.6	822.8	31.85	26.837		
4,400.0	4,247.6	4,293.5	4,198.6	20.6	16.7	-128.25	-826.6	29.8	879.3	846.6	32.69	26.895		
4,500.0	4,343.0	4,390.4	4,292.9	21.2	17.1	-128.32	-849.0	30.5	903.9	870.4	33.54	26.949		
4,600.0	4,438.4	4,487.3	4,387.2	21.7	17.5	-128.38	-871.4	31.3	928.6	894.2	34.39	27.001		
4,700.0	4,533.9	4,584.3	4,481.5	22.3	18.0	-128.44	-893.8	32.1	953.2	918.0	35.24	27.050		
4,800.0	4,629.3	4,681.2	4,575.7	22.8	18.4	-128.50	-916.2	32.9	977.9	941.8	36.09	27.097		
4,900.0	4,724.7	4,778.1	4,670.0	23.4	18.8	-128.56	-938.6	33.6	1,002.5	965.6	36.94	27.142		
5,000.0	4,820.1	4,875.0	4,764.3	24.0	19.3	-128.61	-961.0	34.4	1,027.2	989.4	37.79	27.185		

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 21-11D (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 21-11D (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	4,915.5	4,971.9	4,858.6	24.5	19.7	-128.66	-983.4	35.2	1,051.9	1,013.2	38.63	27.226		
5,200.0	5,011.0	5,068.8	4,952.9	25.1	20.1	-128.71	-1,005.8	35.9	1,076.5	1,037.0	39.48	27.265		
5,300.0	5,106.4	5,165.7	5,047.1	25.7	20.5	-128.75	-1,028.2	36.7	1,101.2	1,060.8	40.33	27.302		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-11D (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 21-11D (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	144.26	-56.5	40.6	69.6				
100.0	100.0	100.0	100.0	0.1	0.1	144.26	-56.5	40.6	69.6	69.3	0.30	234.434	
200.0	200.0	200.0	200.0	0.3	0.3	144.26	-56.5	40.6	69.6	68.9	0.65	107.713	
300.0	300.0	300.0	300.0	0.5	0.5	144.26	-56.5	40.6	69.6	68.6	0.99	69.919	
400.0	400.0	400.0	400.0	0.7	0.7	-88.76	-56.5	40.6	69.5	68.2	1.35	51.669	
446.5	446.5	446.5	446.5	0.8	0.8	-90.00	-56.5	40.6	69.5	68.0	1.51	45.969 CC	
500.0	499.9	499.9	499.9	0.9	0.8	-91.99	-56.5	40.6	69.5	67.8	1.70	40.816 ES	
600.0	599.7	598.5	598.5	1.1	1.0	-96.46	-57.7	40.5	70.9	68.8	2.08	34.156	
700.0	699.3	697.1	697.0	1.3	1.2	-101.06	-61.5	40.2	74.7	72.2	2.47	30.209	
800.0	798.6	795.6	795.3	1.5	1.4	-105.39	-67.8	39.6	81.0	78.1	2.90	27.895	
900.0	897.5	894.0	893.3	1.8	1.6	-109.15	-76.7	38.8	89.7	86.3	3.37	26.581	
1,000.0	996.1	992.2	990.9	2.1	1.8	-112.23	-88.0	37.8	100.8	96.9	3.89	25.875	
1,100.0	1,094.2	1,090.1	1,087.8	2.5	2.1	-114.64	-101.8	36.5	114.1	109.7	4.47	25.525	
1,200.0	1,191.7	1,188.2	1,184.5	2.9	2.4	-116.54	-117.8	35.0	129.6	124.5	5.10	25.408 SF	
1,300.0	1,288.6	1,286.6	1,281.5	3.4	2.7	-118.73	-134.4	33.5	146.6	140.8	5.77	25.415	
1,400.0	1,384.9	1,384.6	1,378.1	3.9	3.0	-121.18	-150.9	32.0	165.1	158.7	6.46	25.565	
1,500.0	1,480.4	1,482.2	1,474.2	4.4	3.3	-123.80	-167.4	30.5	185.2	178.1	7.15	25.889	
1,600.0	1,575.8	1,579.7	1,570.4	4.9	3.6	-126.15	-183.8	29.0	206.0	198.1	7.85	26.248	
1,700.0	1,671.3	1,677.2	1,666.5	5.5	3.9	-128.06	-200.3	27.6	227.0	218.4	8.54	26.590	
1,800.0	1,766.7	1,774.7	1,762.6	6.0	4.3	-129.65	-216.7	26.1	248.2	238.9	9.22	26.911	
1,900.0	1,862.1	1,872.2	1,858.7	6.6	4.6	-130.99	-233.1	24.6	269.5	259.6	9.91	27.209	
2,000.0	1,957.5	1,969.7	1,954.8	7.1	4.9	-132.14	-249.6	23.1	291.0	280.4	10.59	27.485	
2,100.0	2,052.9	2,067.2	2,050.9	7.7	5.2	-133.13	-266.0	21.6	312.6	301.3	11.27	27.741	
2,200.0	2,148.4	2,164.8	2,147.0	8.3	5.6	-133.98	-282.4	20.1	334.2	322.3	11.95	27.976	
2,300.0	2,243.8	2,262.3	2,243.1	8.8	5.9	-134.74	-298.9	18.6	355.9	343.3	12.62	28.194	
2,400.0	2,339.2	2,359.8	2,339.2	9.4	6.2	-135.41	-315.3	17.1	377.7	364.4	13.30	28.396	
2,500.0	2,434.6	2,457.3	2,435.3	9.9	6.5	-136.00	-331.7	15.6	399.5	385.5	13.98	28.583	
2,600.0	2,530.0	2,554.8	2,531.4	10.5	6.9	-136.54	-348.2	14.1	421.4	406.7	14.65	28.757	
2,700.0	2,625.5	2,652.3	2,627.5	11.0	7.2	-137.02	-364.6	12.6	443.2	427.9	15.33	28.918	
2,800.0	2,720.9	2,749.8	2,723.6	11.6	7.5	-137.45	-381.0	11.1	465.1	449.1	16.00	29.069	
2,900.0	2,816.3	2,847.3	2,819.7	12.2	7.9	-137.85	-397.5	9.6	487.1	470.4	16.68	29.209	
3,000.0	2,911.7	2,944.9	2,915.8	12.7	8.2	-138.21	-413.9	8.1	509.0	491.7	17.35	29.341	
3,100.0	3,007.1	3,042.4	3,011.9	13.3	8.5	-138.55	-430.3	6.6	531.0	513.0	18.02	29.464	
3,200.0	3,102.6	3,139.9	3,108.1	13.8	8.9	-138.85	-446.8	5.1	553.0	534.3	18.69	29.579	
3,300.0	3,198.0	3,237.4	3,204.2	14.4	9.2	-139.14	-463.2	3.6	575.0	555.6	19.37	29.688	
3,400.0	3,293.4	3,334.9	3,300.3	15.0	9.5	-139.40	-479.6	2.1	597.0	576.9	20.04	29.791	
3,500.0	3,388.8	3,432.4	3,396.4	15.5	9.9	-139.64	-496.1	0.7	619.0	598.3	20.71	29.887	
3,600.0	3,484.2	3,529.9	3,492.5	16.1	10.2	-139.87	-512.5	-0.8	641.0	619.6	21.38	29.978	
3,700.0	3,579.7	3,627.5	3,588.6	16.7	10.5	-140.08	-528.9	-2.3	663.1	641.0	22.05	30.065	
3,800.0	3,675.1	3,725.0	3,684.7	17.2	10.9	-140.28	-545.4	-3.8	685.1	662.4	22.73	30.147	
3,900.0	3,770.5	3,822.5	3,780.8	17.8	11.2	-140.46	-561.8	-5.3	707.2	683.8	23.40	30.224	
4,000.0	3,865.9	3,920.0	3,876.9	18.3	11.5	-140.64	-578.2	-6.8	729.2	705.2	24.07	30.298	
4,100.0	3,961.3	4,017.5	3,973.0	18.9	11.9	-140.80	-594.7	-8.3	751.3	726.6	24.74	30.368	
4,200.0	4,056.8	4,115.0	4,069.1	19.5	12.2	-140.96	-611.1	-9.8	773.4	748.0	25.41	30.435	
4,300.0	4,152.2	4,212.5	4,165.2	20.0	12.5	-141.10	-627.5	-11.3	795.4	769.4	26.08	30.498	
4,400.0	4,247.6	4,310.0	4,261.3	20.6	12.9	-141.24	-644.0	-12.8	817.5	790.8	26.75	30.559	
4,500.0	4,343.0	4,407.6	4,357.4	21.2	13.2	-141.37	-660.4	-14.3	839.6	812.2	27.42	30.617	
4,600.0	4,438.4	4,505.1	4,453.5	21.7	13.5	-141.50	-676.8	-15.8	861.7	833.6	28.09	30.673	
4,700.0	4,533.9	4,602.6	4,549.7	22.3	13.9	-141.61	-693.3	-17.3	883.8	855.0	28.76	30.726	
4,800.0	4,629.3	4,700.1	4,645.8	22.8	14.2	-141.73	-709.7	-18.8	905.9	876.5	29.43	30.776	
4,900.0	4,724.7	4,797.6	4,741.9	23.4	14.5	-141.83	-726.1	-20.3	928.0	897.9	30.11	30.825	
5,000.0	4,820.1	4,895.1	4,838.0	24.0	14.9	-141.94	-742.6	-21.8	950.1	919.3	30.78	30.872	

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 21-11D (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 21-11D (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						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	4,915.5	4,992.6	4,934.1	24.5	15.2	-142.03	-759.0	-23.3	972.2	940.8	31.45	30.917		
5,200.0	5,011.0	5,090.1	5,030.2	25.1	15.5	-142.13	-775.4	-24.8	994.3	962.2	32.12	30.960		
5,300.0	5,106.4	5,187.7	5,126.3	25.7	15.9	-142.22	-791.9	-26.2	1,016.4	983.6	32.79	31.002		
5,400.0	5,201.8	5,285.2	5,222.4	26.2	16.2	-142.30	-808.3	-27.7	1,038.5	1,005.1	33.46	31.042		
5,500.0	5,297.2	5,382.7	5,318.5	26.8	16.5	-142.38	-824.7	-29.2	1,060.7	1,026.5	34.13	31.080		
5,600.0	5,392.6	5,480.2	5,414.6	27.3	16.9	-142.46	-841.2	-30.7	1,082.8	1,048.0	34.80	31.117		
5,700.0	5,488.1	5,577.7	5,510.7	27.9	17.2	-142.54	-857.6	-32.2	1,104.9	1,069.4	35.47	31.153		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-11D (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 21-11D (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: 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	147.57	-50.6	32.2	60.0				
100.0	100.0	100.0	100.0	0.1	0.1	147.57	-50.6	32.2	60.0	59.7	0.30	202.165	
200.0	200.0	200.0	200.0	0.3	0.3	147.57	-50.6	32.2	60.0	59.3	0.65	92.886	
300.0	300.0	300.0	300.0	0.5	0.5	147.57	-50.6	32.2	60.0	59.0	0.99	60.295	
400.0	400.0	400.0	400.0	0.7	0.7	-85.62	-50.6	32.2	59.9	58.5	1.35	44.498	
500.0	499.9	499.9	499.9	0.9	0.8	-89.38	-50.6	32.2	59.7	58.0	1.70	35.037	
512.0	511.9	511.9	511.9	0.9	0.9	-90.00	-50.6	32.2	59.7	57.9	1.75	34.139 CC	
600.0	599.7	599.7	599.7	1.1	1.0	-95.62	-50.6	32.2	60.0	57.9	2.08	28.876 ES	
700.0	699.3	698.5	698.4	1.3	1.2	-102.98	-51.9	32.0	62.2	59.7	2.47	25.196	
800.0	798.6	797.2	797.2	1.5	1.4	-109.79	-55.7	31.5	67.4	64.5	2.88	23.354	
900.0	897.5	896.0	895.7	1.8	1.6	-115.46	-62.0	30.6	75.3	71.9	3.33	22.626	
1,000.0	996.1	994.7	994.0	2.1	1.8	-119.82	-70.8	29.4	85.7	81.9	3.80	22.533 SF	
1,100.0	1,094.2	1,093.5	1,092.2	2.5	2.0	-123.30	-81.6	27.9	98.4	94.1	4.31	22.805	
1,200.0	1,191.7	1,192.2	1,190.3	2.9	2.2	-126.94	-92.6	26.4	112.9	108.1	4.84	23.333	
1,300.0	1,288.6	1,290.5	1,288.0	3.4	2.5	-130.58	-103.4	24.9	129.5	124.1	5.37	24.122	
1,400.0	1,384.9	1,388.3	1,385.2	3.9	2.7	-134.06	-114.3	23.4	148.3	142.4	5.89	25.158	
1,500.0	1,480.4	1,485.7	1,481.9	4.4	2.9	-137.35	-125.1	21.9	169.3	162.9	6.41	26.419	
1,600.0	1,575.8	1,582.9	1,578.5	4.9	3.2	-140.11	-135.8	20.4	191.1	184.2	6.91	27.646	
1,700.0	1,671.3	1,680.1	1,675.1	5.5	3.4	-142.30	-146.6	18.9	213.2	205.8	7.41	28.771	
1,800.0	1,766.7	1,777.3	1,771.7	6.0	3.7	-144.08	-157.4	17.5	235.6	227.7	7.91	29.799	
1,900.0	1,862.1	1,874.6	1,868.4	6.6	3.9	-145.55	-168.1	16.0	258.2	249.8	8.40	30.736	
2,000.0	1,957.5	1,971.8	1,965.0	7.1	4.1	-146.79	-178.9	14.5	280.9	272.0	8.89	31.591	
2,100.0	2,052.9	2,069.0	2,061.6	7.7	4.4	-147.84	-189.7	13.0	303.7	294.3	9.38	32.373	
2,200.0	2,148.4	2,166.2	2,158.2	8.3	4.6	-148.74	-200.5	11.5	326.6	316.7	9.87	33.088	
2,300.0	2,243.8	2,263.5	2,254.8	8.8	4.9	-149.53	-211.2	10.0	349.5	339.2	10.36	33.745	
2,400.0	2,339.2	2,360.7	2,351.4	9.4	5.1	-150.22	-222.0	8.6	372.5	361.7	10.85	34.350	
2,500.0	2,434.6	2,457.9	2,448.0	9.9	5.4	-150.82	-232.8	7.1	395.6	384.3	11.33	34.909	
2,600.0	2,530.0	2,555.1	2,544.7	10.5	5.6	-151.37	-243.5	5.6	418.7	406.9	11.82	35.425	
2,700.0	2,625.5	2,652.4	2,641.3	11.0	5.9	-151.85	-254.3	4.1	441.8	429.5	12.31	35.905	
2,800.0	2,720.9	2,749.6	2,737.9	11.6	6.1	-152.29	-265.1	2.6	465.0	452.2	12.79	36.350	
2,900.0	2,816.3	2,846.8	2,834.5	12.2	6.4	-152.68	-275.8	1.1	488.2	474.9	13.28	36.765	
3,000.0	2,911.7	2,944.0	2,931.1	12.7	6.6	-153.04	-286.6	-0.3	511.4	497.6	13.76	37.153	
3,100.0	3,007.1	3,041.3	3,027.7	13.3	6.9	-153.37	-297.4	-1.8	534.6	520.3	14.25	37.516	
3,200.0	3,102.6	3,138.5	3,124.3	13.8	7.2	-153.67	-308.2	-3.3	557.8	543.1	14.73	37.857	
3,300.0	3,198.0	3,235.7	3,221.0	14.4	7.4	-153.95	-318.9	-4.8	581.1	565.8	15.22	38.176	
3,400.0	3,293.4	3,332.9	3,317.6	15.0	7.7	-154.21	-329.7	-6.3	604.3	588.6	15.71	38.477	
3,500.0	3,388.8	3,430.2	3,414.2	15.5	7.9	-154.44	-340.5	-7.8	627.6	611.4	16.19	38.761	
3,600.0	3,484.2	3,527.4	3,510.8	16.1	8.2	-154.66	-351.2	-9.2	650.9	634.2	16.68	39.029	
3,700.0	3,579.7	3,624.6	3,607.4	16.7	8.4	-154.87	-362.0	-10.7	674.1	657.0	17.16	39.283	
3,800.0	3,675.1	3,721.8	3,704.0	17.2	8.7	-155.06	-372.8	-12.2	697.4	679.8	17.65	39.523	
3,900.0	3,770.5	3,819.0	3,800.6	17.8	8.9	-155.24	-383.6	-13.7	720.7	702.6	18.13	39.750	
4,000.0	3,865.9	3,916.3	3,897.3	18.3	9.2	-155.41	-394.3	-15.2	744.0	725.4	18.62	39.967	
4,100.0	3,961.3	4,013.5	3,993.9	18.9	9.4	-155.56	-405.1	-16.7	767.3	748.2	19.10	40.172	
4,200.0	4,056.8	4,110.7	4,090.5	19.5	9.7	-155.71	-415.9	-18.1	790.7	771.1	19.59	40.368	
4,300.0	4,152.2	4,207.9	4,187.1	20.0	9.9	-155.85	-426.6	-19.6	814.0	793.9	20.07	40.555	
4,400.0	4,247.6	4,305.2	4,283.7	20.6	10.2	-155.98	-437.4	-21.1	837.3	816.8	20.56	40.733	
4,500.0	4,343.0	4,402.4	4,380.3	21.2	10.4	-156.11	-448.2	-22.6	860.6	839.6	21.04	40.903	
4,600.0	4,438.4	4,499.6	4,476.9	21.7	10.7	-156.22	-459.0	-24.1	884.0	862.5	21.53	41.065	
4,700.0	4,533.9	4,596.8	4,573.6	22.3	10.9	-156.34	-469.7	-25.6	907.3	885.3	22.01	41.221	
4,800.0	4,629.3	4,694.1	4,670.2	22.8	11.2	-156.44	-480.5	-27.0	930.7	908.2	22.50	41.370	
4,900.0	4,724.7	4,791.3	4,766.8	23.4	11.5	-156.54	-491.3	-28.5	954.0	931.0	22.98	41.513	
5,000.0	4,820.1	4,888.5	4,863.4	24.0	11.7	-156.64	-502.0	-30.0	977.3	953.9	23.47	41.650	

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 21-11D (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 21-11D (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	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)								
5,100.0	4,915.5	4,985.7	4,960.0	24.5	12.0	-156.73	-512.8	-31.5	1,000.7	976.7	23.95	41.782						
5,200.0	5,011.0	5,083.0	5,056.6	25.1	12.2	-156.82	-523.6	-33.0	1,024.0	999.6	24.44	41.908						
5,300.0	5,106.4	5,180.2	5,153.2	25.7	12.5	-156.90	-534.3	-34.5	1,047.4	1,022.5	24.92	42.030						
5,400.0	5,201.8	5,277.4	5,249.9	26.2	12.7	-156.98	-545.1	-35.9	1,070.7	1,045.3	25.40	42.147						
5,500.0	5,297.2	5,374.6	5,346.5	26.8	13.0	-157.06	-555.9	-37.4	1,094.1	1,068.2	25.89	42.260						

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-11D (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 21-11D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-5D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	147.61	-38.2	24.3	45.3					
100.0	100.0	100.0	100.0	0.1	0.1	147.61	-38.2	24.3	45.3	45.0	0.30	152.656		
200.0	200.0	200.0	200.0	0.3	0.3	147.61	-38.2	24.3	45.3	44.6	0.65	70.139		
300.0	300.0	300.0	300.0	0.5	0.5	147.61	-38.2	24.3	45.3	44.3	0.99	45.529		
400.0	400.0	400.0	400.0	0.7	0.7	-85.99	-38.2	24.3	45.2	43.8	1.35	33.583		
484.8	484.7	484.7	484.7	0.8	0.8	-90.00	-38.2	24.3	45.1	43.4	1.65	27.330 CC		
500.0	499.9	499.9	499.9	0.9	0.8	-90.97	-38.2	24.3	45.1	43.4	1.70	26.457 ES		
600.0	599.7	599.7	599.7	1.1	1.0	-99.18	-38.2	24.3	45.7	43.6	2.08	21.987		
700.0	699.3	698.8	698.8	1.3	1.2	-108.49	-39.5	24.0	48.5	46.0	2.47	19.653		
800.0	798.6	798.0	797.9	1.5	1.4	-116.39	-43.3	23.3	54.2	51.3	2.87	18.868 SF		
900.0	897.5	897.2	896.9	1.8	1.6	-122.33	-49.6	22.0	62.5	59.2	3.30	18.944		
1,000.0	996.1	996.4	995.8	2.1	1.8	-127.63	-56.9	20.6	73.1	69.3	3.74	19.515		
1,100.0	1,094.2	1,095.3	1,094.5	2.5	2.0	-132.84	-64.1	19.2	85.8	81.6	4.19	20.500		
1,200.0	1,191.7	1,193.8	1,192.7	2.9	2.2	-137.64	-71.4	17.7	101.0	96.4	4.62	21.860		
1,300.0	1,288.6	1,291.9	1,290.5	3.4	2.4	-141.91	-78.6	16.3	118.8	113.8	5.05	23.546		
1,400.0	1,384.9	1,389.4	1,387.7	3.9	2.6	-145.62	-85.8	14.9	139.2	133.8	5.46	25.505		
1,500.0	1,480.4	1,486.4	1,484.4	4.4	2.8	-148.86	-92.9	13.5	162.1	156.2	5.86	27.667		
1,600.0	1,575.8	1,583.2	1,581.0	4.9	3.0	-151.45	-100.1	12.1	185.8	179.5	6.26	29.689		
1,700.0	1,671.3	1,680.1	1,677.6	5.5	3.2	-153.46	-107.2	10.7	209.8	203.1	6.66	31.518		
1,800.0	1,766.7	1,776.9	1,774.1	6.0	3.4	-155.06	-114.3	9.3	233.9	226.9	7.05	33.172		
1,900.0	1,862.1	1,873.8	1,870.7	6.6	3.6	-156.35	-121.4	7.8	258.2	250.8	7.45	34.671		
2,000.0	1,957.5	1,970.6	1,967.3	7.1	3.8	-157.43	-128.6	6.4	282.6	274.8	7.84	36.032		
2,100.0	2,052.9	2,067.5	2,063.9	7.7	4.0	-158.33	-135.7	5.0	307.1	298.9	8.24	37.272		
2,200.0	2,148.4	2,164.3	2,160.4	8.3	4.2	-159.10	-142.8	3.6	331.7	323.0	8.64	38.406		
2,300.0	2,243.8	2,261.2	2,257.0	8.8	4.4	-159.77	-149.9	2.2	356.3	347.2	9.03	39.446		
2,400.0	2,339.2	2,358.0	2,353.6	9.4	4.6	-160.34	-157.1	0.8	380.9	371.5	9.43	40.402		
2,500.0	2,434.6	2,454.9	2,450.2	9.9	4.8	-160.85	-164.2	-0.6	405.6	395.8	9.82	41.285		
2,600.0	2,530.0	2,551.7	2,546.8	10.5	5.1	-161.30	-171.3	-2.0	430.3	420.1	10.22	42.101		
2,700.0	2,625.5	2,648.6	2,643.3	11.0	5.3	-161.70	-178.5	-3.4	455.0	444.4	10.62	42.858		
2,800.0	2,720.9	2,745.4	2,739.9	11.6	5.5	-162.06	-185.6	-4.8	479.7	468.7	11.01	43.563		
2,900.0	2,816.3	2,842.3	2,836.5	12.2	5.7	-162.39	-192.7	-6.2	504.5	493.1	11.41	44.219		
3,000.0	2,911.7	2,939.1	2,933.1	12.7	5.9	-162.68	-199.8	-7.6	529.3	517.4	11.80	44.833		
3,100.0	3,007.1	3,036.0	3,029.6	13.3	6.1	-162.95	-207.0	-9.0	554.0	541.8	12.20	45.407		
3,200.0	3,102.6	3,132.8	3,126.2	13.8	6.3	-163.19	-214.1	-10.4	578.8	566.2	12.60	45.946		
3,300.0	3,198.0	3,229.7	3,222.8	14.4	6.5	-163.42	-221.2	-11.9	603.6	590.6	12.99	46.453		
3,400.0	3,293.4	3,326.5	3,319.4	15.0	6.7	-163.63	-228.3	-13.3	628.4	615.0	13.39	46.930		
3,500.0	3,388.8	3,423.4	3,416.0	15.5	6.9	-163.82	-235.5	-14.7	653.2	639.4	13.79	47.380		
3,600.0	3,484.2	3,520.2	3,512.5	16.1	7.1	-163.99	-242.6	-16.1	678.1	663.9	14.18	47.805		
3,700.0	3,579.7	3,617.1	3,609.1	16.7	7.4	-164.16	-249.7	-17.5	702.9	688.3	14.58	48.208		
3,800.0	3,675.1	3,713.9	3,705.7	17.2	7.6	-164.31	-256.9	-18.9	727.7	712.7	14.98	48.589		
3,900.0	3,770.5	3,810.8	3,802.3	17.8	7.8	-164.46	-264.0	-20.3	752.5	737.2	15.37	48.951		
4,000.0	3,865.9	3,907.6	3,898.8	18.3	8.0	-164.59	-271.1	-21.7	777.4	761.6	15.77	49.295		
4,100.0	3,961.3	4,004.5	3,995.4	18.9	8.2	-164.72	-278.2	-23.1	802.2	786.1	16.17	49.622		
4,200.0	4,056.8	4,101.3	4,092.0	19.5	8.4	-164.83	-285.4	-24.5	827.1	810.5	16.56	49.934		
4,300.0	4,152.2	4,198.2	4,188.6	20.0	8.6	-164.95	-292.5	-25.9	851.9	835.0	16.96	50.231		
4,400.0	4,247.6	4,295.0	4,285.2	20.6	8.8	-165.05	-299.6	-27.3	876.8	859.4	17.36	50.515		
4,500.0	4,343.0	4,391.9	4,381.7	21.2	9.0	-165.15	-306.7	-28.7	901.6	883.9	17.75	50.786		
4,600.0	4,438.4	4,488.7	4,478.3	21.7	9.3	-165.24	-313.9	-30.1	926.5	908.3	18.15	51.045		
4,700.0	4,533.9	4,585.6	4,574.9	22.3	9.5	-165.33	-321.0	-31.6	951.3	932.8	18.55	51.293		
4,800.0	4,629.3	4,682.4	4,671.5	22.8	9.7	-165.42	-328.1	-33.0	976.2	957.3	18.94	51.531		
4,900.0	4,724.7	4,779.3	4,768.0	23.4	9.9	-165.50	-335.3	-34.4	1,001.1	981.7	19.34	51.760		
5,000.0	4,820.1	4,876.1	4,864.6	24.0	10.1	-165.58	-342.4	-35.8	1,025.9	1,006.2	19.74	51.979		

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 21-11D (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 21-11D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-5D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error: 0.0 ft
Survey Program: 0-MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	
5,100.0	4,915.5	4,973.0	4,961.2	24.5	10.3	-165.65	-349.5	-37.2	1,050.8	1,030.7	20.13	52.190	
5,200.0	5,011.0	5,069.8	5,057.8	25.1	10.5	-165.72	-356.6	-38.6	1,075.7	1,055.1	20.53	52.392	
5,300.0	5,106.4	5,166.7	5,154.3	25.7	10.7	-165.78	-363.8	-40.0	1,100.5	1,079.6	20.93	52.587	

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-11D (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 21-11D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design		NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-6D (Oxy I21 Pad) - DD - Plan #1											Offset Site Error:		0.0 ft
Survey Program:		0-MWD											Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor			
0.0	0.0	300.0	300.0	0.0	0.0	-14.48	30.6	-7.9	31.6						
100.0	100.0	400.0	400.0	0.1	0.1	-14.48	30.6	-7.9	31.6	31.3	0.30	106.502			
200.0	200.0	500.0	500.0	0.3	0.3	-14.48	30.6	-7.9	31.6	31.0	0.65	48.933			
300.0	300.0	600.7	600.7	0.5	0.5	-13.35	29.6	-7.0	30.4	29.4	1.00	30.536			
400.0	400.0	701.3	701.2	0.7	0.7	121.09	26.6	-4.4	27.7	26.3	1.35	20.454			
500.0	499.9	801.4	801.1	0.9	0.9	137.19	21.7	-0.1	25.3	23.6	1.72	14.681			
513.8	513.7	815.1	814.8	0.9	0.9	140.06	21.0	0.5	25.3	23.5	1.78	14.208	CC, ES		
600.0	599.7	900.9	900.3	1.1	1.1	158.37	16.4	4.6	27.4	25.3	2.11	12.986	SF		
700.0	699.3	1,000.2	999.3	1.3	1.3	175.08	11.0	9.2	35.1	32.7	2.49	14.115			
800.0	798.6	1,099.2	1,098.1	1.5	1.5	-175.01	5.7	13.9	47.3	44.5	2.86	16.528			
900.0	897.5	1,197.8	1,196.5	1.8	1.7	-169.66	0.4	18.6	62.9	59.7	3.24	19.409			
1,000.0	996.1	1,296.0	1,294.5	2.1	1.9	-166.84	-4.9	23.2	81.3	77.7	3.62	22.448			
1,100.0	1,094.2	1,393.8	1,392.0	2.5	2.1	-165.41	-10.1	27.8	102.3	98.3	4.01	25.539			
1,200.0	1,191.7	1,491.0	1,488.9	2.9	2.3	-164.74	-15.4	32.4	125.8	121.4	4.39	28.648			
1,300.0	1,288.6	1,587.6	1,585.2	3.4	2.5	-164.52	-20.6	37.0	151.7	146.9	4.78	31.766			
1,400.0	1,384.9	1,683.4	1,680.9	3.9	2.8	-164.55	-25.7	41.5	180.1	174.9	5.16	34.896			
1,500.0	1,480.4	1,778.6	1,775.8	4.4	3.0	-164.77	-30.8	46.0	210.7	205.1	5.55	37.954			
1,600.0	1,575.8	1,875.5	1,872.5	4.9	3.1	-165.31	-35.1	49.8	241.4	235.4	5.93	40.685			
1,700.0	1,671.3	1,972.7	1,969.7	5.5	3.3	-166.25	-37.6	51.9	271.4	265.1	6.28	43.187			
1,800.0	1,766.7	2,069.7	2,066.7	6.0	3.5	-167.46	-38.2	52.5	300.8	294.2	6.61	45.505			
1,900.0	1,862.1	2,165.1	2,162.1	6.6	3.6	-168.58	-38.2	52.5	330.1	323.2	6.93	47.648			
2,000.0	1,957.5	2,260.6	2,257.5	7.1	3.8	-169.53	-38.2	52.5	359.6	352.3	7.25	49.612			
2,100.0	2,052.9	2,356.0	2,352.9	7.7	3.9	-170.33	-38.2	52.5	389.1	381.5	7.57	51.415			
2,200.0	2,148.4	2,451.4	2,448.4	8.3	4.1	-171.01	-38.2	52.5	418.6	410.7	7.89	53.072			
2,300.0	2,243.8	2,546.8	2,543.8	8.8	4.2	-171.61	-38.2	52.5	448.2	440.0	8.21	54.599			
2,400.0	2,339.2	2,642.2	2,639.2	9.4	4.4	-172.13	-38.2	52.5	477.9	469.3	8.53	56.009			
2,500.0	2,434.6	2,737.7	2,734.6	9.9	4.5	-172.60	-38.2	52.5	507.5	498.7	8.86	57.315			
2,600.0	2,530.0	2,833.1	2,830.0	10.5	4.7	-173.01	-38.2	52.5	537.2	528.1	9.18	58.526			
2,700.0	2,625.5	2,928.5	2,925.5	11.0	4.8	-173.37	-38.2	52.5	567.0	557.5	9.50	59.651			
2,800.0	2,720.9	3,023.9	3,020.9	11.6	5.0	-173.71	-38.2	52.5	596.7	586.9	9.83	60.700			
2,900.0	2,816.3	3,119.3	3,116.3	12.2	5.2	-174.01	-38.2	52.5	626.5	616.3	10.16	61.678			
3,000.0	2,911.7	3,214.8	3,211.7	12.7	5.3	-174.28	-38.2	52.5	656.2	645.8	10.48	62.593			
3,100.0	3,007.1	3,310.2	3,307.1	13.3	5.5	-174.53	-38.2	52.5	686.0	675.2	10.81	63.451			
3,200.0	3,102.6	3,405.6	3,402.6	13.8	5.6	-174.76	-38.2	52.5	715.8	704.7	11.14	64.256			
3,300.0	3,198.0	3,501.0	3,498.0	14.4	5.8	-174.97	-38.2	52.5	745.6	734.2	11.47	65.012			
3,400.0	3,293.4	3,596.4	3,593.4	15.0	5.9	-175.16	-38.2	52.5	775.5	763.7	11.80	65.725			
3,500.0	3,388.8	3,691.9	3,688.8	15.5	6.1	-175.34	-38.2	52.5	805.3	793.1	12.13	66.396			
3,600.0	3,484.2	3,787.3	3,784.2	16.1	6.3	-175.51	-38.2	52.5	835.1	822.6	12.46	67.031			
3,700.0	3,579.7	3,882.7	3,879.7	16.7	6.4	-175.66	-38.2	52.5	864.9	852.2	12.79	67.632			
3,800.0	3,675.1	3,978.1	3,975.1	17.2	6.6	-175.81	-38.2	52.5	894.8	881.7	13.12	68.200			
3,900.0	3,770.5	4,073.5	4,070.5	17.8	6.8	-175.94	-38.2	52.5	924.6	911.2	13.45	68.740			
4,000.0	3,865.9	4,169.0	4,165.9	18.3	6.9	-176.07	-38.2	52.5	954.5	940.7	13.78	69.252			
4,100.0	3,961.3	4,264.4	4,261.3	18.9	7.1	-176.19	-38.2	52.5	984.3	970.2	14.11	69.739			
4,200.0	4,056.8	4,359.8	4,356.8	19.5	7.2	-176.30	-38.2	52.5	1,014.2	999.7	14.45	70.203			
4,300.0	4,152.2	4,455.2	4,452.2	20.0	7.4	-176.41	-38.2	52.5	1,044.1	1,029.3	14.78	70.644			
4,400.0	4,247.6	4,550.6	4,547.6	20.6	7.6	-176.51	-38.2	52.5	1,073.9	1,058.8	15.11	71.066			
4,500.0	4,343.0	4,646.1	4,643.0	21.2	7.7	-176.60	-38.2	52.5	1,103.8	1,088.3	15.44	71.468			

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 21-11D (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 21-11D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-7D (Oxy I21 Pad) - DD - Plan #1												Offset Site Error: 0.0 ft			
Survey Program: 0-MWD														Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance								
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	-20.34	42.6	-15.8	45.5						
100.0	100.0	100.0	100.0	0.1	0.1	-20.34	42.6	-15.8	45.5	45.2	0.30	153.186			
200.0	200.0	200.0	200.0	0.3	0.3	-20.34	42.6	-15.8	45.5	44.8	0.65	70.383			
300.0	300.0	300.0	300.0	0.5	0.5	-20.34	42.6	-15.8	45.5	44.5	0.99	45.687	CC, ES		
400.0	400.0	400.0	400.0	0.7	0.7	109.27	42.6	-15.8	45.9	44.5	1.35	34.095			
500.0	499.9	499.9	499.9	0.9	0.8	113.74	42.6	-15.8	47.3	45.6	1.70	27.798			
600.0	599.7	598.4	598.4	1.1	1.0	120.74	43.9	-15.7	51.6	49.5	2.07	24.962			
700.0	699.3	696.3	696.2	1.3	1.2	128.76	47.6	-15.3	60.6	58.2	2.43	24.909	SF		
800.0	798.6	793.5	793.2	1.5	1.4	135.89	53.8	-14.7	74.9	72.1	2.80	26.739			
900.0	897.5	891.4	890.9	1.8	1.6	141.66	60.8	-14.1	93.0	89.8	3.17	29.294			
1,000.0	996.1	988.9	988.1	2.1	1.8	146.22	67.8	-13.4	113.7	110.2	3.54	32.111			
1,100.0	1,094.2	1,085.8	1,084.7	2.5	2.0	149.87	74.8	-12.7	137.3	133.3	3.91	35.107			
1,200.0	1,191.7	1,181.9	1,180.6	2.9	2.2	152.82	81.7	-12.1	163.4	159.2	4.27	38.230			
1,300.0	1,288.6	1,277.4	1,275.8	3.4	2.4	155.24	88.6	-11.4	192.2	187.6	4.64	41.447			
1,400.0	1,384.9	1,372.0	1,370.2	3.9	2.6	157.25	95.4	-10.8	223.6	218.6	5.00	44.737			
1,500.0	1,480.4	1,465.9	1,463.8	4.4	2.8	159.00	102.1	-10.1	257.3	252.0	5.36	48.020			
1,600.0	1,575.8	1,559.5	1,557.3	4.9	3.0	160.47	108.8	-9.5	291.7	285.9	5.73	50.941			
1,700.0	1,671.3	1,653.2	1,650.7	5.5	3.2	161.63	115.6	-8.8	326.1	320.1	6.09	53.537			
1,800.0	1,766.7	1,746.9	1,744.1	6.0	3.4	162.57	122.3	-8.2	360.7	354.3	6.46	55.858			
1,900.0	1,862.1	1,840.6	1,837.6	6.6	3.6	163.35	129.0	-7.5	395.4	388.5	6.82	57.943			
2,000.0	1,957.5	1,934.3	1,931.0	7.1	3.8	164.00	135.8	-6.9	430.1	422.9	7.19	59.824			
2,100.0	2,052.9	2,028.0	2,024.5	7.7	4.0	164.55	142.5	-6.3	464.8	457.3	7.55	61.531			
2,200.0	2,148.4	2,121.7	2,117.9	8.3	4.2	165.03	149.2	-5.6	499.6	491.7	7.92	63.085			
2,300.0	2,243.8	2,215.3	2,211.3	8.8	4.4	165.45	156.0	-5.0	534.4	526.1	8.28	64.506			
2,400.0	2,339.2	2,309.0	2,304.8	9.4	4.6	165.81	162.7	-4.3	569.2	560.5	8.65	65.810			
2,500.0	2,434.6	2,402.7	2,398.2	9.9	4.8	166.13	169.4	-3.7	604.0	595.0	9.01	67.010			
2,600.0	2,530.0	2,496.4	2,491.7	10.5	5.0	166.42	176.2	-3.0	638.9	629.5	9.38	68.119			
2,700.0	2,625.5	2,590.1	2,585.1	11.0	5.2	166.68	182.9	-2.4	673.8	664.0	9.74	69.147			
2,800.0	2,720.9	2,683.8	2,678.5	11.6	5.4	166.91	189.6	-1.8	708.6	698.5	10.11	70.101			
2,900.0	2,816.3	2,777.4	2,772.0	12.2	5.6	167.12	196.4	-1.1	743.5	733.0	10.47	70.990			
3,000.0	2,911.7	2,871.1	2,865.4	12.7	5.8	167.31	203.1	-0.5	778.4	767.6	10.84	71.820			
3,100.0	3,007.1	2,964.8	2,958.9	13.3	6.0	167.49	209.8	0.2	813.3	802.1	11.20	72.597			
3,200.0	3,102.6	3,058.5	3,052.3	13.8	6.2	167.65	216.6	0.8	848.2	836.7	11.57	73.325			
3,300.0	3,198.0	3,157.2	3,150.8	14.4	6.4	167.81	223.6	1.5	883.1	871.1	11.94	73.962			
3,400.0	3,293.4	3,274.0	3,267.4	15.0	6.6	168.08	229.4	2.0	916.3	904.0	12.32	74.353			
3,500.0	3,388.8	3,392.6	3,386.0	15.5	6.8	168.46	231.6	2.3	947.1	934.4	12.69	74.644			
3,600.0	3,484.2	3,490.9	3,484.2	16.1	6.9	168.82	231.7	2.3	976.5	963.5	13.02	75.006			
3,700.0	3,579.7	3,586.3	3,579.7	16.7	7.1	169.15	231.7	2.3	1,005.9	992.6	13.35	75.373			
3,800.0	3,675.1	3,681.7	3,675.1	17.2	7.2	169.46	231.7	2.3	1,035.4	1,021.7	13.67	75.724			
3,900.0	3,770.5	3,777.1	3,770.5	17.8	7.4	169.75	231.7	2.3	1,064.9	1,050.9	14.00	76.061			
4,000.0	3,865.9	3,872.5	3,865.9	18.3	7.5	170.03	231.7	2.3	1,094.3	1,080.0	14.33	76.384			

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-11D (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 21-11D (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					Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	-23.04	55.7	-23.7	60.6					
100.0	100.0	100.0	100.0	0.1	0.1	-23.04	55.7	-23.7	60.6	60.3	0.30	204.106		
200.0	200.0	200.0	200.0	0.3	0.3	-23.04	55.7	-23.7	60.6	59.9	0.65	93.779		
300.0	300.0	300.0	300.0	0.5	0.5	-23.04	55.7	-23.7	60.6	59.6	0.99	60.874 CC, ES		
400.0	400.0	400.0	400.0	0.7	0.7	106.20	55.7	-23.7	60.9	59.6	1.35	45.278		
500.0	499.9	499.9	499.9	0.9	0.8	109.66	55.7	-23.7	62.1	60.4	1.70	36.490		
600.0	599.7	598.0	598.0	1.1	1.0	115.21	57.0	-23.7	65.9	63.8	2.07	31.856		
700.0	699.3	695.6	695.5	1.3	1.2	121.99	60.7	-23.8	74.1	71.6	2.44	30.331 SF		
800.0	798.6	792.2	791.9	1.5	1.4	128.59	66.9	-23.9	87.3	84.5	2.82	30.935		
900.0	897.5	889.4	888.8	1.8	1.6	134.31	75.0	-24.0	105.1	101.9	3.21	32.781		
1,000.0	996.1	986.7	985.8	2.1	1.8	139.10	83.1	-24.1	125.8	122.2	3.59	34.997		
1,100.0	1,094.2	1,083.5	1,082.2	2.5	2.0	143.08	91.3	-24.2	149.1	145.1	3.98	37.456		
1,200.0	1,191.7	1,179.5	1,177.9	2.9	2.2	146.39	99.4	-24.4	175.1	170.8	4.37	40.091		
1,300.0	1,288.6	1,274.9	1,272.9	3.4	2.4	149.17	107.4	-24.5	203.8	199.0	4.75	42.859		
1,400.0	1,384.9	1,369.4	1,367.1	3.9	2.6	151.52	115.3	-24.6	235.0	229.9	5.14	45.729		
1,500.0	1,480.4	1,463.1	1,460.5	4.4	2.8	153.60	123.2	-24.7	268.6	263.1	5.52	48.638		
1,600.0	1,575.8	1,556.7	1,553.7	4.9	3.0	155.38	131.1	-24.8	302.9	297.0	5.91	51.258		
1,700.0	1,671.3	1,650.2	1,646.9	5.5	3.2	156.79	138.9	-25.0	337.4	331.1	6.30	53.601		
1,800.0	1,766.7	1,743.8	1,740.2	6.0	3.4	157.94	146.8	-25.1	372.1	365.4	6.68	55.702		
1,900.0	1,862.1	1,837.4	1,833.4	6.6	3.7	158.90	154.7	-25.2	406.9	399.8	7.06	57.596		
2,000.0	1,957.5	1,930.9	1,926.6	7.1	3.9	159.71	162.5	-25.3	441.7	434.3	7.45	59.309		
2,100.0	2,052.9	2,024.5	2,019.9	7.7	4.1	160.40	170.4	-25.4	476.6	468.8	7.83	60.865		
2,200.0	2,148.4	2,118.1	2,113.1	8.3	4.3	160.99	178.3	-25.6	511.6	503.4	8.21	62.284		
2,300.0	2,243.8	2,211.6	2,206.3	8.8	4.5	161.51	186.1	-25.7	546.6	538.0	8.60	63.583		
2,400.0	2,339.2	2,305.2	2,299.5	9.4	4.7	161.97	194.0	-25.8	581.7	572.7	8.98	64.776		
2,500.0	2,434.6	2,398.7	2,392.8	9.9	4.9	162.37	201.8	-25.9	616.8	607.4	9.36	65.875		
2,600.0	2,530.0	2,492.3	2,486.0	10.5	5.1	162.73	209.7	-26.0	651.9	642.1	9.75	66.891		
2,700.0	2,625.5	2,585.9	2,579.2	11.0	5.3	163.06	217.6	-26.2	687.0	676.9	10.13	67.832		
2,800.0	2,720.9	2,679.4	2,672.5	11.6	5.6	163.35	225.4	-26.3	722.1	711.6	10.51	68.707		
2,900.0	2,816.3	2,773.0	2,765.7	12.2	5.8	163.62	233.3	-26.4	757.3	746.4	10.89	69.522		
3,000.0	2,911.7	2,866.5	2,858.9	12.7	6.0	163.86	241.2	-26.5	792.4	781.2	11.28	70.283		
3,100.0	3,007.1	2,960.1	2,952.2	13.3	6.2	164.08	249.0	-26.6	827.6	816.0	11.66	70.995		
3,200.0	3,102.6	3,053.7	3,045.4	13.8	6.4	164.28	256.9	-26.7	862.8	850.8	12.04	71.663		
3,300.0	3,198.0	3,147.2	3,138.6	14.4	6.6	164.47	264.8	-26.9	898.0	885.6	12.42	72.291		
3,400.0	3,293.4	3,240.8	3,231.8	15.0	6.8	164.64	272.6	-27.0	933.2	920.4	12.80	72.882		
3,500.0	3,388.8	3,334.4	3,325.1	15.5	7.0	164.80	280.5	-27.1	968.4	955.2	13.19	73.439		
3,600.0	3,484.2	3,427.9	3,418.3	16.1	7.2	164.95	288.4	-27.2	1,003.7	990.1	13.57	73.965		
3,700.0	3,579.7	3,521.5	3,511.5	16.7	7.5	165.09	296.2	-27.3	1,038.9	1,024.9	13.95	74.462		
3,800.0	3,675.1	3,615.0	3,604.8	17.2	7.7	165.22	304.1	-27.5	1,074.1	1,059.8	14.33	74.934		
3,900.0	3,770.5	3,708.6	3,698.0	17.8	7.9	165.35	312.0	-27.6	1,109.3	1,094.6	14.72	75.381		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-11D (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 21-11D (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: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	146.93	-25.1	16.4	30.0					
100.0	100.0	100.0	100.0	0.1	0.1	146.93	-25.1	16.4	30.0	29.7	0.30	101.080		
200.0	200.0	200.0	200.0	0.3	0.3	146.93	-25.1	16.4	30.0	29.3	0.65	46.442 CC, ES		
300.0	300.0	299.8	299.7	0.5	0.5	149.29	-26.1	15.5	30.4	29.4	1.00	30.509		
400.0	400.0	399.4	399.3	0.7	0.7	-78.27	-29.1	13.0	31.6	30.2	1.36	23.273		
500.0	499.9	499.0	498.7	0.9	0.9	-74.54	-34.0	8.7	33.4	31.6	1.74	19.231		
600.0	599.7	598.6	597.8	1.1	1.1	-71.57	-40.9	2.8	35.8	33.7	2.15	16.681		
700.0	699.3	698.0	696.6	1.3	1.4	-69.32	-49.7	-4.8	38.7	36.2	2.59	14.934		
800.0	798.6	797.4	794.9	1.5	1.7	-67.72	-60.5	-14.0	42.2	39.1	3.09	13.655		
900.0	897.5	896.7	892.8	1.8	2.0	-66.68	-73.2	-24.9	46.1	42.5	3.64	12.666		
1,000.0	996.1	995.9	990.1	2.1	2.4	-66.10	-87.8	-37.4	50.4	46.2	4.25	11.866		
1,100.0	1,094.2	1,094.9	1,086.8	2.5	2.8	-65.87	-104.3	-51.6	55.2	50.3	4.93	11.195		
1,200.0	1,191.7	1,194.0	1,182.8	2.9	3.2	-65.92	-122.7	-67.4	60.4	54.7	5.69	10.619		
1,300.0	1,288.6	1,292.9	1,278.0	3.4	3.7	-66.18	-143.0	-84.8	66.0	59.5	6.53	10.115		
1,400.0	1,384.9	1,391.7	1,372.4	3.9	4.3	-66.59	-165.0	-103.7	72.1	64.6	7.45	9.669		
1,500.0	1,480.4	1,490.4	1,466.0	4.4	4.8	-67.01	-188.9	-124.3	78.6	70.1	8.45	9.301		
1,600.0	1,575.8	1,588.9	1,558.5	4.9	5.5	-66.29	-214.6	-146.3	86.4	77.0	9.43	9.164 SF		
1,700.0	1,671.3	1,687.0	1,649.8	5.5	6.1	-64.44	-242.0	-169.8	95.7	85.3	10.34	9.249		
1,800.0	1,766.7	1,785.4	1,740.4	6.0	6.8	-61.92	-271.1	-194.8	106.5	95.3	11.18	9.527		
1,900.0	1,862.1	1,884.7	1,831.6	6.6	7.5	-59.67	-300.8	-220.2	117.8	105.9	11.99	9.829		
2,000.0	1,957.5	1,983.9	1,922.8	7.1	8.2	-57.81	-330.4	-245.7	129.3	116.5	12.79	10.112		
2,100.0	2,052.9	2,083.2	2,014.0	7.7	9.0	-56.26	-360.1	-271.2	140.9	127.3	13.58	10.377		
2,200.0	2,148.4	2,182.4	2,105.3	8.3	9.7	-54.94	-389.8	-296.7	152.6	138.2	14.36	10.622		
2,300.0	2,243.8	2,281.7	2,196.5	8.8	10.4	-53.81	-419.5	-322.1	164.3	149.2	15.14	10.850		
2,400.0	2,339.2	2,381.0	2,287.7	9.4	11.1	-52.84	-449.1	-347.6	176.1	160.2	15.92	11.060		
2,500.0	2,434.6	2,480.2	2,379.0	9.9	11.8	-51.98	-478.8	-373.1	187.9	171.2	16.70	11.256		
2,600.0	2,530.0	2,579.5	2,470.2	10.5	12.5	-51.23	-508.5	-398.6	199.8	182.3	17.47	11.437		
2,700.0	2,625.5	2,678.8	2,561.4	11.0	13.3	-50.56	-538.2	-424.0	211.7	193.5	18.24	11.606		
2,800.0	2,720.9	2,778.0	2,652.7	11.6	14.0	-49.96	-567.8	-449.5	223.6	204.6	19.01	11.763		
2,900.0	2,816.3	2,877.3	2,743.9	12.2	14.7	-49.42	-597.5	-475.0	235.6	215.8	19.78	11.909		
3,000.0	2,911.7	2,976.5	2,835.1	12.7	15.4	-48.94	-627.2	-500.5	247.6	227.0	20.55	12.046		
3,100.0	3,007.1	3,075.8	2,926.4	13.3	16.2	-48.50	-656.9	-525.9	259.6	238.2	21.32	12.174		
3,200.0	3,102.6	3,175.1	3,017.6	13.8	16.9	-48.10	-686.5	-551.4	271.6	249.5	22.09	12.294		
3,300.0	3,198.0	3,274.3	3,108.8	14.4	17.6	-47.73	-716.2	-576.9	283.6	260.7	22.86	12.407		
3,400.0	3,293.4	3,373.6	3,200.0	15.0	18.3	-47.39	-745.9	-602.4	295.6	272.0	23.62	12.513		
3,500.0	3,388.8	3,472.8	3,291.3	15.5	19.0	-47.08	-775.6	-627.8	307.6	283.2	24.39	12.613		
3,600.0	3,484.2	3,572.1	3,382.5	16.1	19.8	-46.79	-805.2	-653.3	319.7	294.5	25.16	12.708		
3,700.0	3,579.7	3,671.4	3,473.7	16.7	20.5	-46.53	-834.9	-678.8	331.7	305.8	25.92	12.797		
3,800.0	3,675.1	3,770.6	3,565.0	17.2	21.2	-46.28	-864.6	-704.3	343.8	317.1	26.69	12.881		
3,900.0	3,770.5	3,869.9	3,656.2	17.8	21.9	-46.05	-894.3	-729.7	355.8	328.4	27.45	12.961		
4,000.0	3,865.9	3,969.1	3,747.4	18.3	22.7	-45.83	-923.9	-755.2	367.9	339.7	28.22	13.037		
4,100.0	3,961.3	4,068.4	3,838.7	18.9	23.4	-45.63	-953.6	-780.7	380.0	351.0	28.98	13.109		
4,200.0	4,056.8	4,167.7	3,929.9	19.5	24.1	-45.44	-983.3	-806.2	392.0	362.3	29.75	13.178		
4,300.0	4,152.2	4,266.9	4,021.1	20.0	24.8	-45.26	-1,013.0	-831.6	404.1	373.6	30.51	13.243		
4,400.0	4,247.6	4,366.2	4,112.4	20.6	25.6	-45.09	-1,042.6	-857.1	416.2	384.9	31.28	13.306		
4,500.0	4,343.0	4,465.4	4,203.6	21.2	26.3	-44.93	-1,072.3	-882.6	428.3	396.2	32.04	13.365		
4,600.0	4,438.4	4,564.7	4,294.8	21.7	27.0	-44.78	-1,102.0	-908.1	440.4	407.6	32.81	13.422		
4,700.0	4,533.9	4,664.0	4,386.0	22.3	27.7	-44.64	-1,131.7	-933.5	452.5	418.9	33.57	13.477		
4,800.0	4,629.3	4,763.2	4,477.3	22.8	28.5	-44.50	-1,161.3	-959.0	464.6	430.2	34.34	13.529		
4,900.0	4,724.7	4,862.5	4,568.5	23.4	29.2	-44.38	-1,191.0	-984.5	476.6	441.5	35.10	13.579		
5,000.0	4,820.1	4,961.7	4,659.7	24.0	29.9	-44.26	-1,220.7	-1,010.0	488.7	452.9	35.87	13.626		
5,100.0	4,915.5	5,061.0	4,751.0	24.5	30.6	-44.14	-1,250.4	-1,035.4	500.8	464.2	36.63	13.672		

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 21-11D (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 21-11D (Oxy I21 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-9D (Oxy I21 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
5,200.0	5,011.0	5,160.3	4,842.2	25.1	31.4	-44.03	-1,280.0	-1,060.9	512.9	475.6	37.40	13.716		
5,300.0	5,106.4	5,259.5	4,933.4	25.7	32.1	-43.92	-1,309.7	-1,086.4	525.1	486.9	38.16	13.759		
5,400.0	5,201.8	5,358.8	5,024.7	26.2	32.8	-43.82	-1,339.4	-1,111.9	537.2	498.2	38.93	13.800		
5,500.0	5,297.2	5,458.0	5,115.9	26.8	33.5	-43.73	-1,369.1	-1,137.3	549.3	509.6	39.69	13.839		
5,600.0	5,392.6	5,557.3	5,207.1	27.3	34.3	-43.64	-1,398.7	-1,162.8	561.4	520.9	40.45	13.877		
5,700.0	5,488.1	5,656.6	5,298.3	27.9	35.0	-43.55	-1,428.4	-1,188.3	573.5	532.3	41.22	13.913		
5,800.0	5,583.5	5,770.4	5,403.6	28.5	35.8	-43.54	-1,461.3	-1,216.5	584.4	542.3	42.08	13.889		
5,900.0	5,678.9	5,884.8	5,510.7	29.0	36.5	-43.71	-1,491.9	-1,242.8	592.8	549.7	43.04	13.772		
6,000.0	5,774.6	5,999.5	5,619.2	29.6	37.2	-44.04	-1,520.1	-1,267.0	599.5	555.4	44.04	13.611		
6,100.0	5,871.1	6,114.5	5,729.0	30.0	37.8	-44.35	-1,545.9	-1,289.2	605.5	560.6	44.97	13.466		
6,200.0	5,968.2	6,229.6	5,839.9	30.5	38.3	-44.62	-1,569.2	-1,309.2	611.0	565.1	45.82	13.334		
6,300.0	6,065.9	6,344.8	5,951.8	30.9	38.8	-44.86	-1,590.0	-1,327.0	615.8	569.2	46.59	13.215		
6,400.0	6,164.2	6,460.2	6,064.7	31.2	39.2	-45.08	-1,608.3	-1,342.7	619.9	572.6	47.29	13.107		
6,500.0	6,262.9	6,575.7	6,178.3	31.5	39.6	-45.27	-1,623.9	-1,356.1	623.4	575.5	47.92	13.010		
6,600.0	6,361.9	6,691.3	6,292.6	31.8	39.9	-45.44	-1,637.0	-1,367.3	626.2	577.8	48.47	12.921		
6,700.0	6,461.3	6,807.0	6,407.5	32.0	40.2	-45.58	-1,647.4	-1,376.3	628.4	579.5	48.93	12.842		
6,800.0	6,561.0	6,922.7	6,522.7	32.2	40.4	-45.69	-1,655.2	-1,383.0	629.9	580.6	49.33	12.771		
6,900.0	6,660.8	7,038.4	6,638.3	32.3	40.5	-45.79	-1,660.3	-1,387.4	630.8	581.1	49.64	12.706		
7,000.0	6,760.8	7,154.2	6,754.0	32.4	40.6	-45.85	-1,662.8	-1,389.5	630.9	581.1	49.88	12.648		
7,100.0	6,860.8	7,261.0	6,860.8	32.5	40.7	-173.94	-1,663.1	-1,389.7	630.7	580.7	50.06	12.599		
7,200.0	6,960.8	7,361.0	6,960.8	32.5	40.8	-173.94	-1,663.1	-1,389.7	630.7	580.5	50.24	12.555		
7,300.0	7,060.8	7,461.0	7,060.8	32.6	40.8	-173.94	-1,663.1	-1,389.7	630.7	580.3	50.42	12.511		
7,400.0	7,160.8	7,561.0	7,160.8	32.7	40.9	-173.94	-1,663.1	-1,389.7	630.7	580.2	50.59	12.467		
7,500.0	7,260.8	7,661.0	7,260.8	32.7	40.9	-173.94	-1,663.1	-1,389.7	630.7	580.0	50.77	12.422		
7,600.0	7,360.8	7,761.0	7,360.8	32.8	41.0	-173.94	-1,663.1	-1,389.7	630.7	579.8	50.96	12.378		
7,700.0	7,460.8	7,861.0	7,460.8	32.9	41.0	-173.94	-1,663.1	-1,389.7	630.7	579.6	51.14	12.333		
7,800.0	7,560.8	7,961.0	7,560.8	33.0	41.1	-173.94	-1,663.1	-1,389.7	630.7	579.4	51.33	12.289		
7,900.0	7,660.8	8,061.0	7,660.8	33.0	41.2	-173.94	-1,663.1	-1,389.7	630.7	579.2	51.51	12.244		
8,000.0	7,760.8	8,161.0	7,760.8	33.1	41.2	-173.94	-1,663.1	-1,389.7	630.7	579.0	51.70	12.199		
8,100.0	7,860.8	8,261.0	7,860.8	33.2	41.3	-173.94	-1,663.1	-1,389.7	630.7	578.9	51.89	12.154		
8,200.0	7,960.8	8,361.0	7,960.8	33.3	41.3	-173.94	-1,663.1	-1,389.7	630.7	578.7	52.09	12.109		
8,300.0	8,060.8	8,461.0	8,060.8	33.3	41.4	-173.94	-1,663.1	-1,389.7	630.7	578.5	52.28	12.064		
8,400.0	8,160.8	8,561.0	8,160.8	33.4	41.5	-173.94	-1,663.1	-1,389.7	630.7	578.3	52.48	12.019		
8,500.0	8,260.8	8,661.0	8,260.8	33.5	41.5	-173.94	-1,663.1	-1,389.7	630.7	578.1	52.67	11.974		
8,600.0	8,360.8	8,761.0	8,360.8	33.6	41.6	-173.94	-1,663.1	-1,389.7	630.7	577.9	52.87	11.929		
8,700.0	8,460.8	8,861.0	8,460.8	33.6	41.6	-173.94	-1,663.1	-1,389.7	630.7	577.7	53.07	11.884		
8,800.0	8,560.8	8,961.0	8,560.8	33.7	41.7	-173.94	-1,663.1	-1,389.7	630.7	577.5	53.28	11.839		
8,864.2	8,625.0	9,025.2	8,625.0	33.8	41.8	-173.94	-1,663.1	-1,389.7	630.7	577.3	53.41	11.810		
8,900.0	8,660.8	9,054.2	8,654.0	33.8	41.8	-173.94	-1,663.1	-1,389.7	630.8	577.3	53.47	11.796		
8,918.2	8,679.0	9,054.2	8,654.0	33.8	41.8	-173.94	-1,663.1	-1,389.7	631.2	577.8	53.49	11.801		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 21-11D (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 21-11D (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 21-11D (Oxy I21 Pad)
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: -1.71°

