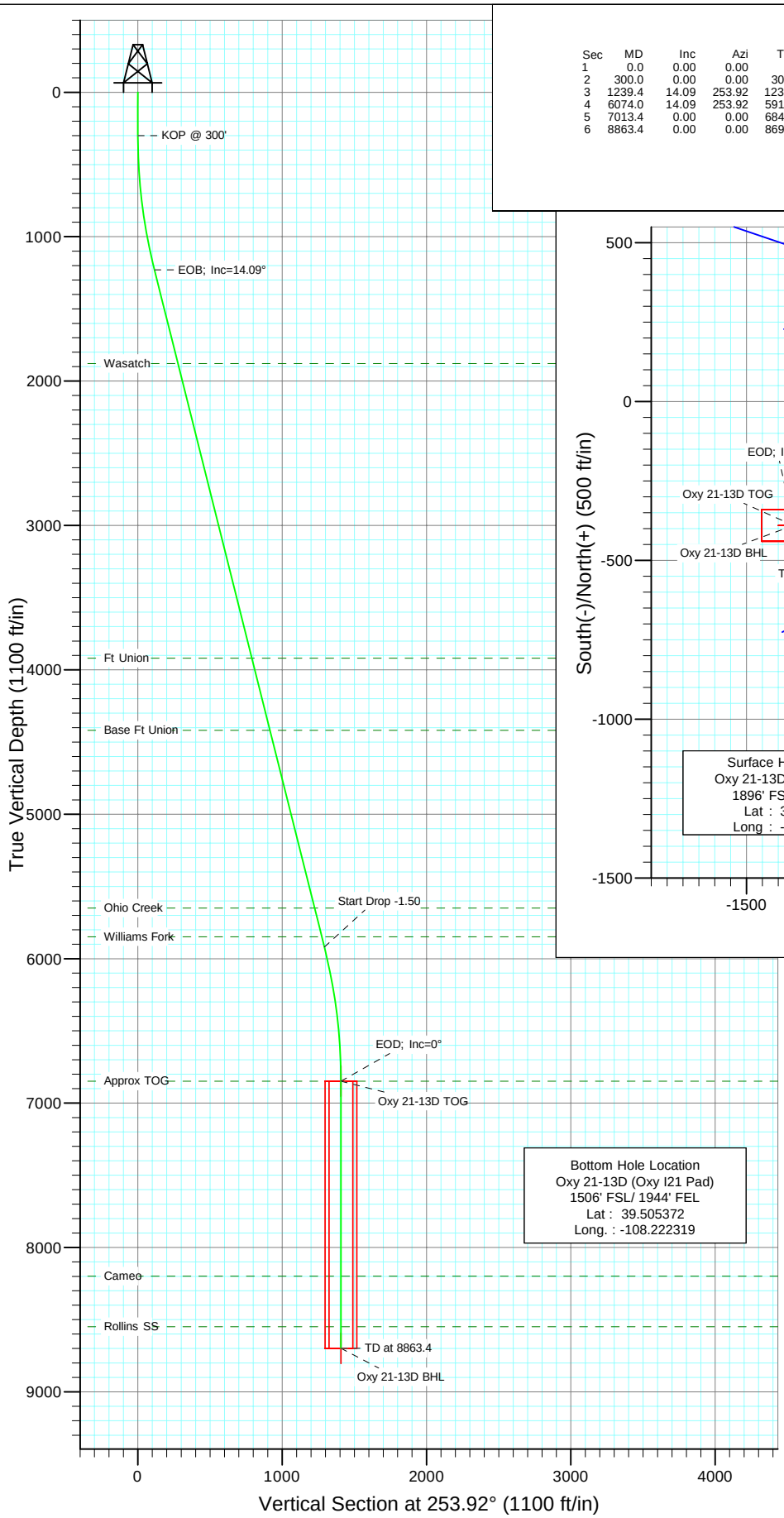
Berry Petroleum Company

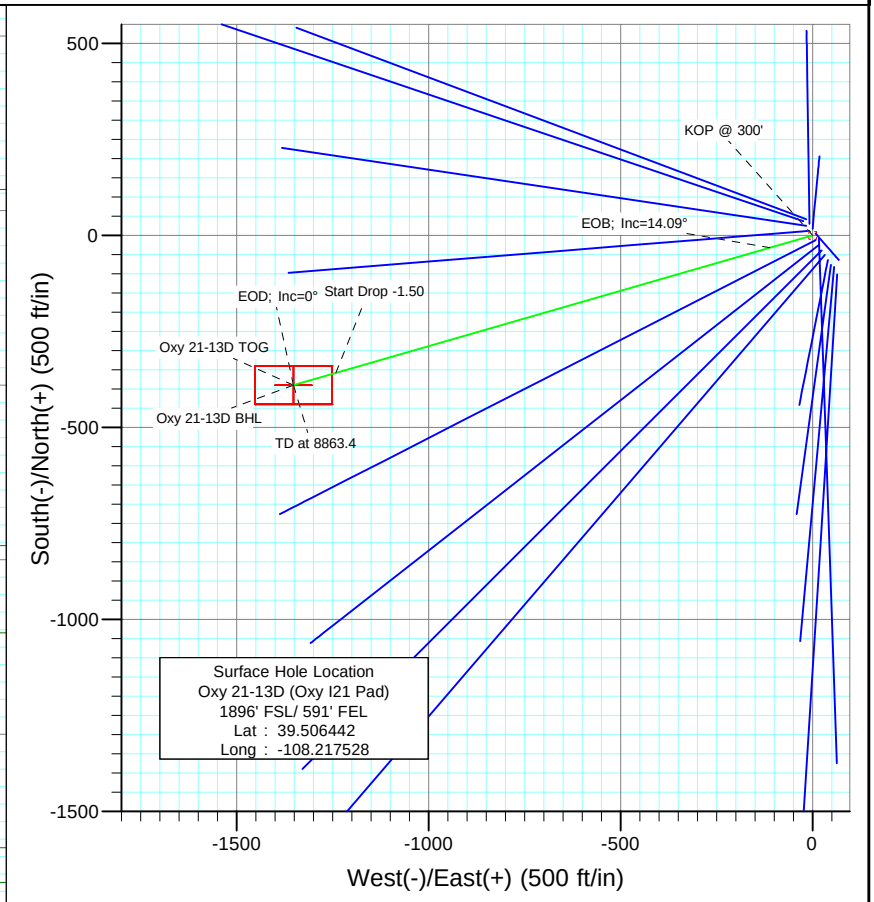
Project: Garfield County
Site: NESE S21-T6S-R97W (Oxy I21 pad)
Well: Oxy 21-13D (Oxy I21 Pad)
Wellbore: DD
Design: Plan #1

CATHEDRAL

SECTION DETAILS

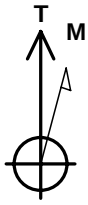
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.0	
3	1239.4	14.09	253.92	1230.0	-31.8	-110.4	1.50	253.92	114.9	
4	6074.0	14.09	253.92	5919.0	-357.9	-1241.4	0.00	0.00	1292.0	
5	7013.4	0.00	0.00	6849.0	-389.7	-1351.8	1.50	180.00	1406.9	Oxy 21-13D TOG
6	8863.4	0.00	0.00	8699.0	-389.7	-1351.8	0.00	0.00	1406.9	Oxy 21-13D BHL





FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1879.0	1908.6	Wasatch
3919.0	4011.9	Ft Union
4419.0	4527.4	Base Ft Union
5649.0	5795.5	Ohio Creek
5849.0	6001.7	Williams Fork
6849.0	7013.4	Approx TOG
8199.0	8363.4	Cameo
8549.0	8713.4	Rollins SS



Azimuths to True North
Magnetic North: 10.65°

Magnetic Field
Strength: 52405.2snT
Dip Angle: 65.76°
Date: 10/6/2009
Model: IGRF200510

DESIGN DETAILS: Plan #1

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

Target	Azimuth	Origin	N/S	E/W	From TVD
Oxy 21-13D BHL	253.92	Slot	0.0	0.0	0.0

Planning Report

Database:	EDM 2003.21 US Multi User DB	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 21-13D (Oxy I21 Pad)

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,620,821.05 ft	**Latitude:**	39.506442
	+E/-W	0.0 ft	**Easting:**	2,233,344.91 ft	**Longitude:**	-108.217528
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	253.92

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	
1,239.4	14.09	253.92	1,230.0	-31.8	-110.4	1.50	1.50	0.00	253.92	
6,074.0	14.09	253.92	5,919.0	-357.9	-1,241.4	0.00	0.00	0.00	0.00	
7,013.4	0.00	0.00	6,849.0	-389.7	-1,351.8	1.50	-1.50	0.00	180.00	Oxy 21-13D TOG
8,863.4	0.00	0.00	8,699.0	-389.7	-1,351.8	0.00	0.00	0.00	0.00	Oxy 21-13D BHL

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Project:	Garfield County	**MD Reference:**	KBE @ 8381.0ft (Original Well Elev)
Site:	NESE S21-T6S-R97W (Oxy I21 pad)	**North Reference:**	True
Well:	Oxy 21-13D (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	253.92	330.0	0.0	-0.1	0.1	1.50	1.50	
360.0	0.90	253.92	360.0	-0.1	-0.5	0.5	1.50	1.50	
390.0	1.35	253.92	390.0	-0.3	-1.0	1.1	1.50	1.50	
420.0	1.80	253.92	420.0	-0.5	-1.8	1.9	1.50	1.50	
450.0	2.25	253.92	450.0	-0.8	-2.8	2.9	1.50	1.50	
480.0	2.70	253.92	479.9	-1.2	-4.1	4.2	1.50	1.50	
510.0	3.15	253.92	509.9	-1.6	-5.5	5.8	1.50	1.50	
540.0	3.60	253.92	539.8	-2.1	-7.2	7.5	1.50	1.50	
570.0	4.05	253.92	569.8	-2.6	-9.2	9.5	1.50	1.50	
600.0	4.50	253.92	599.7	-3.3	-11.3	11.8	1.50	1.50	
630.0	4.95	253.92	629.6	-3.9	-13.7	14.2	1.50	1.50	
660.0	5.40	253.92	659.5	-4.7	-16.3	17.0	1.50	1.50	
690.0	5.85	253.92	689.3	-5.5	-19.1	19.9	1.50	1.50	
720.0	6.30	253.92	719.2	-6.4	-22.2	23.1	1.50	1.50	
750.0	6.75	253.92	749.0	-7.3	-25.4	26.5	1.50	1.50	
780.0	7.20	253.92	778.7	-8.3	-28.9	30.1	1.50	1.50	
810.0	7.65	253.92	808.5	-9.4	-32.7	34.0	1.50	1.50	
840.0	8.10	253.92	838.2	-10.6	-36.6	38.1	1.50	1.50	
870.0	8.55	253.92	867.9	-11.8	-40.8	42.5	1.50	1.50	
900.0	9.00	253.92	897.5	-13.0	-45.2	47.0	1.50	1.50	
930.0	9.45	253.92	927.1	-14.4	-49.8	51.8	1.50	1.50	
960.0	9.90	253.92	956.7	-15.8	-54.7	56.9	1.50	1.50	
990.0	10.35	253.92	986.3	-17.2	-59.7	62.2	1.50	1.50	
1,020.0	10.80	253.92	1,015.7	-18.7	-65.0	67.7	1.50	1.50	
1,050.0	11.25	253.92	1,045.2	-20.3	-70.5	73.4	1.50	1.50	
1,080.0	11.70	253.92	1,074.6	-22.0	-76.3	79.4	1.50	1.50	
1,110.0	12.15	253.92	1,103.9	-23.7	-82.2	85.6	1.50	1.50	
1,140.0	12.60	253.92	1,133.2	-25.5	-88.4	92.0	1.50	1.50	
1,170.0	13.05	253.92	1,162.5	-27.3	-94.8	98.7	1.50	1.50	
1,200.0	13.50	253.92	1,191.7	-29.2	-101.4	105.5	1.50	1.50	
1,230.0	13.95	253.92	1,220.8	-31.2	-108.2	112.7	1.50	1.50	
1,239.4	14.09	253.92	1,230.0	-31.8	-110.4	114.9	1.50	1.50	EOB; Inc=14.09°
1,260.0	14.09	253.92	1,249.9	-33.2	-115.3	119.9	0.00	0.00	
1,290.0	14.09	253.92	1,279.0	-35.2	-122.3	127.3	0.00	0.00	
1,320.0	14.09	253.92	1,308.1	-37.3	-129.3	134.6	0.00	0.00	
1,350.0	14.09	253.92	1,337.2	-39.3	-136.3	141.9	0.00	0.00	
1,380.0	14.09	253.92	1,366.3	-41.3	-143.3	149.2	0.00	0.00	
1,410.0	14.09	253.92	1,395.4	-43.3	-150.3	156.5	0.00	0.00	
1,440.0	14.09	253.92	1,424.5	-45.4	-157.4	163.8	0.00	0.00	
1,470.0	14.09	253.92	1,453.6	-47.4	-164.4	171.1	0.00	0.00	
1,500.0	14.09	253.92	1,482.7	-49.4	-171.4	178.4	0.00	0.00	

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Site:	NESE S21-T6S-R97W (Oxy I21 pad)	**North Reference:**	True
Well:	Oxy 21-13D (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	14.09	253.92	1,511.8	-51.4	-178.4	185.7	0.00	0.00	
1,560.0	14.09	253.92	1,540.9	-53.5	-185.4	193.0	0.00	0.00	
1,590.0	14.09	253.92	1,570.0	-55.5	-192.5	200.3	0.00	0.00	
1,620.0	14.09	253.92	1,599.1	-57.5	-199.5	207.6	0.00	0.00	
1,650.0	14.09	253.92	1,628.2	-59.5	-206.5	214.9	0.00	0.00	
1,680.0	14.09	253.92	1,657.3	-61.5	-213.5	222.2	0.00	0.00	
1,710.0	14.09	253.92	1,686.4	-63.6	-220.5	229.5	0.00	0.00	
1,740.0	14.09	253.92	1,715.5	-65.6	-227.5	236.8	0.00	0.00	
1,770.0	14.09	253.92	1,744.6	-67.6	-234.6	244.1	0.00	0.00	
1,800.0	14.09	253.92	1,773.7	-69.6	-241.6	251.4	0.00	0.00	
1,830.0	14.09	253.92	1,802.8	-71.7	-248.6	258.7	0.00	0.00	
1,860.0	14.09	253.92	1,831.9	-73.7	-255.6	266.0	0.00	0.00	
1,890.0	14.09	253.92	1,861.0	-75.7	-262.6	273.3	0.00	0.00	
1,908.6	14.09	253.92	1,879.0	-77.0	-267.0	277.9	0.00	0.00	Wasatch
1,920.0	14.09	253.92	1,890.1	-77.7	-269.7	280.6	0.00	0.00	
1,950.0	14.09	253.92	1,919.2	-79.8	-276.7	287.9	0.00	0.00	
1,980.0	14.09	253.92	1,948.3	-81.8	-283.7	295.2	0.00	0.00	
2,010.0	14.09	253.92	1,977.4	-83.8	-290.7	302.5	0.00	0.00	
2,040.0	14.09	253.92	2,006.5	-85.8	-297.7	309.8	0.00	0.00	
2,070.0	14.09	253.92	2,035.6	-87.8	-304.7	317.2	0.00	0.00	
2,100.0	14.09	253.92	2,064.7	-89.9	-311.8	324.5	0.00	0.00	
2,130.0	14.09	253.92	2,093.8	-91.9	-318.8	331.8	0.00	0.00	
2,160.0	14.09	253.92	2,122.9	-93.9	-325.8	339.1	0.00	0.00	
2,190.0	14.09	253.92	2,152.0	-95.9	-332.8	346.4	0.00	0.00	
2,220.0	14.09	253.92	2,181.1	-98.0	-339.8	353.7	0.00	0.00	
2,250.0	14.09	253.92	2,210.2	-100.0	-346.9	361.0	0.00	0.00	
2,280.0	14.09	253.92	2,239.2	-102.0	-353.9	368.3	0.00	0.00	
2,310.0	14.09	253.92	2,268.3	-104.0	-360.9	375.6	0.00	0.00	
2,340.0	14.09	253.92	2,297.4	-106.1	-367.9	382.9	0.00	0.00	
2,370.0	14.09	253.92	2,326.5	-108.1	-374.9	390.2	0.00	0.00	
2,400.0	14.09	253.92	2,355.6	-110.1	-381.9	397.5	0.00	0.00	
2,430.0	14.09	253.92	2,384.7	-112.1	-389.0	404.8	0.00	0.00	
2,460.0	14.09	253.92	2,413.8	-114.1	-396.0	412.1	0.00	0.00	
2,490.0	14.09	253.92	2,442.9	-116.2	-403.0	419.4	0.00	0.00	

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Oxy 21-13D BHL	0.00	0.00	8,699.0	-389.7	-1,351.8	1,620,471.96	2,231,982.01	39.505372	-108.222319
- plan misses target center by 6333.5ft at 2490.0ft MD (2442.9 TVD, -116.2 N, -403.0 E)									
- Rectangle (sides W100.0 H200.0 D0.0)									
Oxy 21-13D TOG	0.00	0.00	6,849.0	-389.7	-1,351.8	1,620,471.96	2,231,982.01	39.505372	-108.222319
- plan misses target center by 4515.4ft at 2490.0ft MD (2442.9 TVD, -116.2 N, -403.0 E)									
- Point									

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Site:	NESE S21-T6S-R97W (Oxy I21 pad)	**North Reference:**	True
Well:	Oxy 21-13D (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	14.09	253.92	2,452.6	-116.8	-405.3	421.8	0.00	0.00	
2,600.0	14.09	253.92	2,549.6	-123.6	-428.7	446.2	0.00	0.00	
2,700.0	14.09	253.92	2,646.6	-130.3	-452.1	470.5	0.00	0.00	
2,800.0	14.09	253.92	2,743.6	-137.1	-475.5	494.9	0.00	0.00	
2,900.0	14.09	253.92	2,840.6	-143.8	-498.9	519.2	0.00	0.00	
3,000.0	14.09	253.92	2,937.6	-150.6	-522.3	543.6	0.00	0.00	
3,100.0	14.09	253.92	3,034.6	-157.3	-545.7	567.9	0.00	0.00	
3,200.0	14.09	253.92	3,131.6	-164.1	-569.1	592.3	0.00	0.00	
3,300.0	14.09	253.92	3,228.6	-170.8	-592.5	616.6	0.00	0.00	
3,400.0	14.09	253.92	3,325.5	-177.5	-615.9	641.0	0.00	0.00	
3,500.0	14.09	253.92	3,422.5	-184.3	-639.3	665.3	0.00	0.00	
3,600.0	14.09	253.92	3,519.5	-191.0	-662.7	689.6	0.00	0.00	
3,700.0	14.09	253.92	3,616.5	-197.8	-686.1	714.0	0.00	0.00	
3,800.0	14.09	253.92	3,713.5	-204.5	-709.5	738.3	0.00	0.00	
3,900.0	14.09	253.92	3,810.5	-211.3	-732.8	762.7	0.00	0.00	
4,000.0	14.09	253.92	3,907.5	-218.0	-756.2	787.0	0.00	0.00	
4,011.9	14.09	253.92	3,919.0	-218.8	-759.0	789.9	0.00	0.00	Ft Union
4,100.0	14.09	253.92	4,004.5	-224.7	-779.6	811.4	0.00	0.00	
4,200.0	14.09	253.92	4,101.5	-231.5	-803.0	835.7	0.00	0.00	
4,300.0	14.09	253.92	4,198.5	-238.2	-826.4	860.1	0.00	0.00	
4,400.0	14.09	253.92	4,295.5	-245.0	-849.8	884.4	0.00	0.00	
4,500.0	14.09	253.92	4,392.4	-251.7	-873.2	908.8	0.00	0.00	
4,527.4	14.09	253.92	4,419.0	-253.6	-879.6	915.4	0.00	0.00	Base Ft Union
4,600.0	14.09	253.92	4,489.4	-258.5	-896.6	933.1	0.00	0.00	
4,700.0	14.09	253.92	4,586.4	-265.2	-920.0	957.5	0.00	0.00	
4,800.0	14.09	253.92	4,683.4	-271.9	-943.4	981.8	0.00	0.00	
4,900.0	14.09	253.92	4,780.4	-278.7	-966.8	1,006.1	0.00	0.00	
5,000.0	14.09	253.92	4,877.4	-285.4	-990.2	1,030.5	0.00	0.00	
5,100.0	14.09	253.92	4,974.4	-292.2	-1,013.6	1,054.8	0.00	0.00	
5,200.0	14.09	253.92	5,071.4	-298.9	-1,037.0	1,079.2	0.00	0.00	
5,300.0	14.09	253.92	5,168.4	-305.7	-1,060.4	1,103.5	0.00	0.00	
5,400.0	14.09	253.92	5,265.4	-312.4	-1,083.7	1,127.9	0.00	0.00	
5,500.0	14.09	253.92	5,362.4	-319.2	-1,107.1	1,152.2	0.00	0.00	
5,600.0	14.09	253.92	5,459.4	-325.9	-1,130.5	1,176.6	0.00	0.00	
5,700.0	14.09	253.92	5,556.3	-332.6	-1,153.9	1,200.9	0.00	0.00	
5,795.5	14.09	253.92	5,649.0	-339.1	-1,176.3	1,224.2	0.00	0.00	Ohio Creek
5,800.0	14.09	253.92	5,653.3	-339.4	-1,177.3	1,225.3	0.00	0.00	
5,900.0	14.09	253.92	5,750.3	-346.1	-1,200.7	1,249.6	0.00	0.00	
6,000.0	14.09	253.92	5,847.3	-352.9	-1,224.1	1,274.0	0.00	0.00	
6,001.7	14.09	253.92	5,849.0	-353.0	-1,224.5	1,274.4	0.00	0.00	Williams Fork
6,074.0	14.09	253.92	5,919.0	-357.9	-1,241.4	1,292.0	0.00	0.00	Start Drop -1.50
6,100.0	13.70	253.92	5,944.3	-359.6	-1,247.4	1,298.2	1.50	-1.50	
6,200.0	12.20	253.92	6,041.8	-365.8	-1,269.0	1,320.6	1.50	-1.50	
6,300.0	10.70	253.92	6,139.8	-371.3	-1,288.0	1,340.5	1.50	-1.50	
6,400.0	9.20	253.92	6,238.3	-376.1	-1,304.6	1,357.8	1.50	-1.50	
6,500.0	7.70	253.92	6,337.2	-380.2	-1,318.7	1,372.4	1.50	-1.50	
6,600.0	6.20	253.92	6,436.5	-383.5	-1,330.4	1,384.5	1.50	-1.50	
6,700.0	4.70	253.92	6,536.0	-386.1	-1,339.5	1,394.0	1.50	-1.50	
6,800.0	3.20	253.92	6,635.8	-388.0	-1,346.1	1,400.9	1.50	-1.50	
6,900.0	1.70	253.92	6,735.7	-389.2	-1,350.2	1,405.2	1.50	-1.50	
7,000.0	0.20	253.92	6,835.6	-389.7	-1,351.8	1,406.9	1.50	-1.50	
7,013.4	0.00	0.00	6,849.0	-389.7	-1,351.8	1,406.9	1.50	-1.50	EOD; Inc=0° - Approx TOG - Oxy 21-13D TOG

Database:	EDM 2003.21 US Multi User DB	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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	6,935.6	-389.7	-1,351.8	1,406.9	0.00	0.00	
7,200.0	0.00	0.00	7,035.6	-389.7	-1,351.8	1,406.9	0.00	0.00	
7,300.0	0.00	0.00	7,135.6	-389.7	-1,351.8	1,406.9	0.00	0.00	
7,400.0	0.00	0.00	7,235.6	-389.7	-1,351.8	1,406.9	0.00	0.00	
7,500.0	0.00	0.00	7,335.6	-389.7	-1,351.8	1,406.9	0.00	0.00	
7,600.0	0.00	0.00	7,435.6	-389.7	-1,351.8	1,406.9	0.00	0.00	
7,700.0	0.00	0.00	7,535.6	-389.7	-1,351.8	1,406.9	0.00	0.00	
7,800.0	0.00	0.00	7,635.6	-389.7	-1,351.8	1,406.9	0.00	0.00	
7,900.0	0.00	0.00	7,735.6	-389.7	-1,351.8	1,406.9	0.00	0.00	
8,000.0	0.00	0.00	7,835.6	-389.7	-1,351.8	1,406.9	0.00	0.00	
8,100.0	0.00	0.00	7,935.6	-389.7	-1,351.8	1,406.9	0.00	0.00	
8,200.0	0.00	0.00	8,035.6	-389.7	-1,351.8	1,406.9	0.00	0.00	
8,300.0	0.00	0.00	8,135.6	-389.7	-1,351.8	1,406.9	0.00	0.00	
8,363.4	0.00	0.00	8,199.0	-389.7	-1,351.8	1,406.9	0.00	0.00	Cameo
8,400.0	0.00	0.00	8,235.6	-389.7	-1,351.8	1,406.9	0.00	0.00	
8,500.0	0.00	0.00	8,335.6	-389.7	-1,351.8	1,406.9	0.00	0.00	
8,600.0	0.00	0.00	8,435.6	-389.7	-1,351.8	1,406.9	0.00	0.00	
8,700.0	0.00	0.00	8,535.6	-389.7	-1,351.8	1,406.9	0.00	0.00	
8,713.4	0.00	0.00	8,549.0	-389.7	-1,351.8	1,406.9	0.00	0.00	Rollins SS
8,800.0	0.00	0.00	8,635.6	-389.7	-1,351.8	1,406.9	0.00	0.00	
8,863.4	0.00	0.00	8,699.0	-389.7	-1,351.8	1,406.9	0.00	0.00	TD at 8863.4 - Oxy 21-13D BHL

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Oxy 21-13D BHL - plan hits target center - Rectangle (sides W100.0 H200.0 D0.0)	0.00	0.00	8,699.0	-389.7	-1,351.8	1,620,471.96	2,231,982.01	39.505372	-108.222319
Oxy 21-13D TOG - plan hits target center - Point	0.00	0.00	6,849.0	-389.7	-1,351.8	1,620,471.96	2,231,982.01	39.505372	-108.222319

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,908.6	1,879.0	Wasatch		0.00	
4,011.9	3,919.0	Ft Union		0.00	
4,527.4	4,419.0	Base Ft Union		0.00	
5,795.5	5,649.0	Ohio Creek		0.00	
6,001.7	5,849.0	Williams Fork		0.00	
7,013.4	6,849.0	Approx TOG		0.00	
8,363.4	8,199.0	Cameo		0.00	
8,713.4	8,549.0	Rollins SS		0.00	

Database:	EDM 2003.21 US Multi User DB	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (Oxy I21 Pad)	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
300.0	300.0	0.0	0.0	KOP @ 300'
1,239.4	1,230.0	-31.8	-110.4	EOB; Inc=14.09°
6,074.0	5,919.0	-357.9	-1,241.4	Start Drop -1.50
7,013.4	6,849.0	-389.7	-1,351.8	EOD; Inc=0°
8,863.4	8,699.0	-389.7	-1,351.8	TD at 8863.4

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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	8,863.4	Plan #1 (DD)	MWD	Geolink MWD

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
NESE S21-T6S-R97W (Oxy I21 pad)						
Oxy 21-10D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	45.3	44.7	70.155	CC
Oxy 21-10D (Oxy I21 Pad) - DD - Plan #1	300.0	299.7	45.6	44.6	45.859	ES
Oxy 21-10D (Oxy I21 Pad) - DD - Plan #1	8,863.4	8,972.6	1,000.4	942.3	17.239	SF
Oxy 21-11D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	30.0	29.0	30.152	CC, ES
Oxy 21-11D (Oxy I21 Pad) - DD - Plan #1	8,863.4	8,918.2	673.4	615.2	11.555	SF
Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	14.7	13.7	14.766	CC
Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1	400.0	400.0	14.9	13.6	11.089	ES
Oxy 21-12D (Oxy I21 Pad) - DD - Plan #1	1,500.0	1,499.4	49.4	40.8	5.753	SF
Oxy 21-14D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	14.7	13.7	14.778	CC
Oxy 21-14D (Oxy I21 Pad) - DD - Plan #1	400.0	399.8	14.9	13.6	11.097	ES
Oxy 21-14D (Oxy I21 Pad) - DD - Plan #1	8,863.4	8,852.1	292.8	235.1	5.074	SF
Oxy 21-15D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	30.0	29.0	30.147	CC, ES
Oxy 21-15D (Oxy I21 Pad) - DD - Plan #1	8,863.4	8,856.7	618.8	561.2	10.735	SF
Oxy 21-16D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	45.3	44.3	45.546	CC, ES
Oxy 21-16D (Oxy I21 Pad) - DD - Plan #1	8,863.4	8,865.7	931.0	874.0	16.338	SF
Oxy 21-17D (Oxy I21 pad) - DD - Plan #1	200.0	200.0	44.4	43.7	68.716	CC, ES
Oxy 21-17D (Oxy I21 pad) - DD - Plan #1	1,400.0	1,376.2	147.7	140.4	20.047	SF
Oxy 21-1D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	120.0	119.0	120.586	CC, ES
Oxy 21-1D (Oxy I21 Pad) - DD - Plan #1	4,100.0	3,914.6	1,111.8	1,083.9	39.830	SF
Oxy 21-2D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	18.6	18.0	28.859	CC, ES
Oxy 21-2D (Oxy I21 Pad) - DD - Plan #1	400.0	399.4	22.4	21.1	16.572	SF
Oxy 21-3D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	99.5	98.5	100.020	CC, ES
Oxy 21-3D (Oxy I21 Pad) - DD - Plan #1	5,000.0	4,867.7	1,096.5	1,067.3	37.475	SF
Oxy 21-4D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	90.0	89.0	90.445	CC, ES
Oxy 21-4D (Oxy I21 Pad) - DD - Plan #1	1,100.0	1,088.0	149.6	145.4	35.394	SF
Oxy 21-5D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	75.3	74.3	75.680	CC, ES
Oxy 21-5D (Oxy I21 Pad) - DD - Plan #1	1,000.0	993.3	117.2	113.5	31.557	SF
Oxy 21-6D (Oxy I21 Pad) - DD - Plan #1	200.0	500.0	9.4	8.8	14.561	CC
Oxy 21-6D (Oxy I21 Pad) - DD - Plan #1	300.0	599.9	9.7	8.7	9.727	ES
Oxy 21-6D (Oxy I21 Pad) - DD - Plan #1	400.0	699.7	12.7	11.3	9.389	SF
Oxy 21-7D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	17.1	16.1	17.208	CC, ES
Oxy 21-7D (Oxy I21 Pad) - DD - Plan #1	500.0	499.9	19.2	17.5	11.313	SF
Oxy 21-8D (Oxy I21 Pad) - DD - Plan #1	300.0	300.0	31.2	30.3	31.409	CC
Oxy 21-8D (Oxy I21 Pad) - DD - Plan #1	400.0	400.0	31.3	30.0	23.270	ES
Oxy 21-8D (Oxy I21 Pad) - DD - Plan #1	600.0	598.8	34.9	32.9	16.875	SF
Oxy 21-9D (Oxy I21 Pad) - DD - Plan #1	200.0	200.0	60.0	59.3	92.886	CC, ES
Oxy 21-9D (Oxy I21 Pad) - DD - Plan #1	1,600.0	1,574.3	195.5	186.0	20.557	SF

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	148.46	-38.6	23.7	45.3				
100.0	100.0	100.0	100.0	0.1	0.1	148.46	-38.6	23.7	45.3	45.0	0.30	152.690	
200.0	200.0	200.0	200.0	0.3	0.3	148.46	-38.6	23.7	45.3	44.7	0.65	70.155	CC
300.0	300.0	299.7	299.7	0.5	0.5	150.04	-39.5	22.8	45.6	44.6	0.99	45.859	ES
400.0	400.0	399.3	399.2	0.7	0.7	-100.81	-42.3	20.0	47.0	45.7	1.36	34.659	
500.0	499.9	498.8	498.5	0.9	0.9	-98.08	-46.9	15.4	49.8	48.1	1.74	28.651	
600.0	599.7	598.2	597.5	1.1	1.1	-95.86	-53.3	9.0	54.0	51.9	2.16	25.047	
700.0	699.3	697.5	696.1	1.3	1.4	-94.17	-61.5	0.8	59.6	56.9	2.62	22.722	
800.0	798.6	796.5	794.1	1.5	1.7	-92.98	-71.5	-9.2	66.4	63.3	3.14	21.131	
900.0	897.5	895.4	891.6	1.8	2.0	-92.20	-83.2	-21.0	74.5	70.8	3.73	19.986	
1,000.0	996.1	994.0	988.3	2.1	2.4	-91.76	-96.7	-34.5	83.8	79.5	4.38	19.124	
1,100.0	1,094.2	1,092.5	1,084.4	2.5	2.8	-91.55	-112.0	-49.7	94.4	89.3	5.12	18.450	
1,200.0	1,191.7	1,190.6	1,179.5	2.9	3.2	-91.51	-128.9	-66.7	106.2	100.3	5.93	17.907	
1,300.0	1,288.7	1,288.5	1,273.8	3.4	3.7	-91.48	-147.5	-85.3	119.2	112.4	6.81	17.517	
1,400.0	1,385.7	1,386.0	1,367.0	3.8	4.2	-90.63	-167.7	-105.5	133.4	125.6	7.71	17.305	
1,500.0	1,482.7	1,483.0	1,459.0	4.3	4.8	-89.09	-189.5	-127.3	148.7	140.1	8.62	17.252	
1,600.0	1,579.7	1,580.6	1,550.9	4.7	5.4	-87.19	-212.8	-150.7	165.3	155.7	9.53	17.347	
1,700.0	1,676.7	1,679.1	1,643.5	5.2	6.0	-85.54	-236.5	-174.4	182.1	171.7	10.43	17.456	
1,800.0	1,773.7	1,777.5	1,736.0	5.6	6.6	-84.17	-260.2	-198.2	199.1	187.7	11.33	17.564	
1,900.0	1,870.7	1,876.0	1,828.6	6.1	7.2	-83.02	-283.9	-221.9	216.1	203.9	12.23	17.669	
2,000.0	1,967.7	1,974.4	1,921.1	6.5	7.9	-82.04	-307.6	-245.6	233.2	220.1	13.13	17.768	
2,100.0	2,064.7	2,072.9	2,013.7	7.0	8.5	-81.19	-331.3	-269.4	250.4	236.4	14.02	17.862	
2,200.0	2,161.7	2,171.3	2,106.2	7.5	9.1	-80.45	-355.1	-293.1	267.6	252.7	14.91	17.950	
2,300.0	2,258.6	2,269.8	2,198.8	7.9	9.7	-79.80	-378.8	-316.9	284.9	269.1	15.80	18.032	
2,400.0	2,355.6	2,368.2	2,291.3	8.4	10.3	-79.22	-402.5	-340.6	302.2	285.5	16.69	18.108	
2,500.0	2,452.6	2,466.7	2,383.9	8.9	10.9	-78.71	-426.2	-364.3	319.5	301.9	17.58	18.180	
2,600.0	2,549.6	2,565.1	2,476.5	9.3	11.6	-78.25	-449.9	-388.1	336.9	318.4	18.46	18.247	
2,700.0	2,646.6	2,663.6	2,569.0	9.8	12.2	-77.83	-473.6	-411.8	354.2	334.9	19.35	18.309	
2,800.0	2,743.6	2,762.0	2,661.6	10.3	12.8	-77.45	-497.3	-435.6	371.6	351.4	20.23	18.367	
2,900.0	2,840.6	2,860.5	2,754.1	10.7	13.4	-77.11	-521.0	-459.3	389.0	367.9	21.12	18.422	
3,000.0	2,937.6	2,958.9	2,846.7	11.2	14.1	-76.79	-544.7	-483.0	406.4	384.4	22.00	18.473	
3,100.0	3,034.6	3,057.4	2,939.2	11.7	14.7	-76.51	-568.4	-506.8	423.8	401.0	22.88	18.521	
3,200.0	3,131.6	3,155.8	3,031.8	12.1	15.3	-76.24	-592.2	-530.5	441.3	417.5	23.77	18.566	
3,300.0	3,228.6	3,254.3	3,124.3	12.6	15.9	-76.00	-615.9	-554.2	458.7	434.1	24.65	18.609	
3,400.0	3,325.5	3,352.7	3,216.9	13.1	16.6	-75.77	-639.6	-578.0	476.1	450.6	25.53	18.649	
3,500.0	3,422.5	3,451.2	3,309.5	13.5	17.2	-75.56	-663.3	-601.7	493.6	467.2	26.41	18.687	
3,600.0	3,519.5	3,549.6	3,402.0	14.0	17.8	-75.36	-687.0	-625.5	511.1	483.8	27.30	18.723	
3,700.0	3,616.5	3,648.1	3,494.6	14.5	18.4	-75.18	-710.7	-649.2	528.5	500.3	28.18	18.757	
3,800.0	3,713.5	3,746.5	3,587.1	15.0	19.1	-75.00	-734.4	-672.9	546.0	516.9	29.06	18.789	
3,900.0	3,810.5	3,845.0	3,679.7	15.4	19.7	-74.84	-758.1	-696.7	563.5	533.5	29.94	18.820	
4,000.0	3,907.5	3,943.4	3,772.2	15.9	20.3	-74.69	-781.8	-720.4	580.9	550.1	30.82	18.849	
4,100.0	4,004.5	4,041.9	3,864.8	16.4	20.9	-74.55	-805.5	-744.2	598.4	566.7	31.70	18.877	
4,200.0	4,101.5	4,140.3	3,957.4	16.8	21.6	-74.41	-829.3	-767.9	615.9	583.3	32.58	18.903	
4,300.0	4,198.5	4,238.8	4,049.9	17.3	22.2	-74.29	-853.0	-791.6	633.4	599.9	33.46	18.928	
4,400.0	4,295.5	4,337.2	4,142.5	17.8	22.8	-74.17	-876.7	-815.4	650.9	616.5	34.34	18.952	
4,500.0	4,392.4	4,435.7	4,235.0	18.2	23.4	-74.05	-900.4	-839.1	668.4	633.1	35.22	18.975	
4,600.0	4,489.4	4,534.1	4,327.6	18.7	24.1	-73.94	-924.1	-862.9	685.9	649.8	36.10	18.997	
4,700.0	4,586.4	4,632.6	4,420.1	19.2	24.7	-73.84	-947.8	-886.6	703.4	666.4	36.98	19.018	
4,800.0	4,683.4	4,731.0	4,512.7	19.6	25.3	-73.74	-971.5	-910.3	720.9	683.0	37.86	19.038	
4,900.0	4,780.4	4,829.5	4,605.2	20.1	25.9	-73.65	-995.2	-934.1	738.4	699.6	38.74	19.058	
5,000.0	4,877.4	4,927.9	4,697.8	20.6	26.6	-73.56	-1,018.9	-957.8	755.9	716.2	39.62	19.076	
5,100.0	4,974.4	5,026.4	4,790.4	21.0	27.2	-73.47	-1,042.7	-981.5	773.4	732.9	40.50	19.094	

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

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,071.4	5,124.8	4,882.9	21.5	27.8	-73.39	-1,066.4	-1,005.3	790.9	749.5	41.38	19.111	
5,300.0	5,168.4	5,223.3	4,975.5	22.0	28.4	-73.32	-1,090.1	-1,029.0	808.4	766.1	42.26	19.128	
5,400.0	5,265.4	5,321.7	5,068.0	22.5	29.1	-73.24	-1,113.8	-1,052.8	825.9	782.8	43.14	19.144	
5,500.0	5,362.4	5,420.2	5,160.6	22.9	29.7	-73.17	-1,137.5	-1,076.5	843.4	799.4	44.02	19.159	
5,600.0	5,459.4	5,518.6	5,253.1	23.4	30.3	-73.10	-1,161.2	-1,100.2	860.9	816.0	44.90	19.174	
5,700.0	5,556.3	5,617.1	5,345.7	23.9	30.9	-73.04	-1,184.9	-1,124.0	878.4	832.7	45.78	19.188	
5,800.0	5,653.3	5,715.5	5,438.3	24.3	31.6	-72.97	-1,208.6	-1,147.7	895.9	849.3	46.66	19.202	
5,900.0	5,750.3	5,818.0	5,534.6	24.8	32.2	-72.91	-1,233.3	-1,172.4	913.4	865.9	47.55	19.209	
6,000.0	5,847.3	5,936.9	5,647.3	25.3	32.9	-72.96	-1,260.2	-1,199.3	929.4	880.9	48.52	19.154	
6,100.0	5,944.3	6,056.6	5,761.7	25.7	33.5	-73.21	-1,284.7	-1,223.9	943.3	893.7	49.54	19.039	
6,200.0	6,041.8	6,176.7	5,877.8	26.2	34.1	-73.60	-1,306.8	-1,246.0	955.5	905.0	50.53	18.911	
6,300.0	6,139.8	6,297.3	5,995.1	26.5	34.6	-73.96	-1,326.4	-1,265.6	966.3	914.9	51.41	18.794	
6,400.0	6,238.3	6,418.3	6,113.7	26.9	35.0	-74.27	-1,343.4	-1,282.7	975.6	923.4	52.20	18.690	
6,500.0	6,337.2	6,539.6	6,233.3	27.1	35.4	-74.53	-1,357.8	-1,297.1	983.4	930.5	52.88	18.595	
6,600.0	6,436.5	6,661.2	6,353.7	27.4	35.7	-74.76	-1,369.5	-1,308.8	989.7	936.2	53.47	18.509	
6,700.0	6,536.0	6,783.0	6,474.9	27.6	36.0	-74.94	-1,378.5	-1,317.8	994.5	940.5	53.96	18.430	
6,800.0	6,635.8	6,905.0	6,596.5	27.7	36.2	-75.09	-1,384.8	-1,324.1	997.8	943.4	54.35	18.357	
6,900.0	6,735.7	7,027.0	6,718.4	27.9	36.3	-75.19	-1,388.3	-1,327.6	999.5	944.9	54.65	18.290	
7,000.0	6,835.6	7,144.2	6,835.6	27.9	36.4	-75.26	-1,389.2	-1,328.5	999.8	944.9	54.85	18.228	
7,043.5	6,879.1	7,187.7	6,879.1	28.0	36.4	-75.26	-1,389.2	-1,328.5	999.7	944.8	54.92	18.203	
7,100.0	6,935.6	7,244.2	6,935.6	28.0	36.4	178.66	-1,389.2	-1,328.5	999.8	944.7	55.01	18.175	
7,200.0	7,035.6	7,344.2	7,035.6	28.1	36.5	178.66	-1,389.2	-1,328.5	999.8	944.6	55.17	18.123	
7,300.0	7,135.6	7,444.2	7,135.6	28.2	36.5	178.66	-1,389.2	-1,328.5	999.8	944.4	55.33	18.070	
7,400.0	7,235.6	7,544.2	7,235.6	28.3	36.6	178.66	-1,389.2	-1,328.5	999.8	944.3	55.49	18.017	
7,500.0	7,335.6	7,644.2	7,335.6	28.3	36.7	178.66	-1,389.2	-1,328.5	999.8	944.1	55.65	17.964	
7,600.0	7,435.6	7,744.2	7,435.6	28.4	36.7	178.66	-1,389.2	-1,328.5	999.8	943.9	55.82	17.910	
7,700.0	7,535.6	7,844.2	7,535.6	28.5	36.8	178.66	-1,389.2	-1,328.5	999.8	943.8	55.99	17.856	
7,800.0	7,635.6	7,944.2	7,635.6	28.6	36.9	178.66	-1,389.2	-1,328.5	999.8	943.6	56.16	17.802	
7,900.0	7,735.6	8,044.2	7,735.6	28.7	36.9	178.66	-1,389.2	-1,328.5	999.8	943.4	56.33	17.748	
8,000.0	7,835.6	8,144.2	7,835.6	28.8	37.0	178.66	-1,389.2	-1,328.5	999.8	943.2	56.50	17.694	
8,100.0	7,935.6	8,244.2	7,935.6	28.8	37.1	178.66	-1,389.2	-1,328.5	999.8	943.1	56.68	17.640	
8,200.0	8,035.6	8,344.2	8,035.6	28.9	37.1	178.66	-1,389.2	-1,328.5	999.8	942.9	56.85	17.585	
8,300.0	8,135.6	8,444.2	8,135.6	29.0	37.2	178.66	-1,389.2	-1,328.5	999.8	942.7	57.03	17.530	
8,400.0	8,235.6	8,544.2	8,235.6	29.1	37.3	178.66	-1,389.2	-1,328.5	999.8	942.5	57.21	17.475	
8,500.0	8,335.6	8,644.2	8,335.6	29.2	37.3	178.66	-1,389.2	-1,328.5	999.8	942.4	57.39	17.420	
8,600.0	8,435.6	8,744.2	8,435.6	29.3	37.4	178.66	-1,389.2	-1,328.5	999.8	942.2	57.57	17.365	
8,700.0	8,535.6	8,844.2	8,535.6	29.4	37.5	178.66	-1,389.2	-1,328.5	999.8	942.0	57.76	17.309	
8,800.0	8,635.6	8,944.2	8,635.6	29.5	37.6	178.66	-1,389.2	-1,328.5	999.8	941.8	57.94	17.254	
8,816.2	8,651.8	8,960.4	8,651.8	29.5	37.6	178.66	-1,389.2	-1,328.5	999.8	941.8	57.97	17.245	
8,863.4	8,699.0	8,972.6	8,664.0	29.5	37.6	178.66	-1,389.2	-1,328.5	1,000.4	942.3	58.03	17.239	SF

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (Oxy I21 Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-11D (Oxy I21 Pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	148.21	-25.5	15.8	30.0				
100.0	100.0	100.0	100.0	0.1	0.1	148.21	-25.5	15.8	30.0	29.7	0.30	101.097	
200.0	200.0	200.0	200.0	0.3	0.3	148.21	-25.5	15.8	30.0	29.4	0.65	46.450	
300.0	300.0	300.0	300.0	0.5	0.5	148.21	-25.5	15.8	30.0	29.0	0.99	30.152	CC, ES
400.0	400.0	399.9	399.9	0.7	0.7	-105.62	-26.3	14.8	30.5	29.1	1.35	22.643	
500.0	499.9	499.8	499.7	0.9	0.9	-105.39	-28.7	11.7	32.0	30.3	1.71	18.664	
600.0	599.7	599.7	599.4	1.1	1.1	-105.05	-32.7	6.5	34.5	32.4	2.11	16.332	
700.0	699.3	699.5	698.8	1.3	1.3	-104.64	-38.4	-0.6	37.9	35.4	2.55	14.870	
800.0	798.6	799.3	797.8	1.5	1.5	-104.21	-45.6	-9.9	42.4	39.4	3.05	13.907	
900.0	897.5	899.0	896.5	1.8	1.8	-103.78	-54.4	-21.1	47.9	44.3	3.62	13.243	
1,000.0	996.1	998.6	994.7	2.1	2.1	-103.38	-64.8	-34.4	54.3	50.1	4.25	12.767	
1,100.0	1,094.2	1,098.1	1,092.3	2.5	2.5	-103.00	-76.7	-49.6	61.7	56.8	4.97	12.412	
1,200.0	1,191.7	1,197.5	1,189.2	2.9	2.9	-102.66	-90.2	-66.8	70.1	64.3	5.78	12.138	
1,300.0	1,288.7	1,296.7	1,285.4	3.4	3.4	-102.10	-105.2	-86.0	79.4	72.7	6.65	11.941	
1,400.0	1,385.7	1,395.8	1,380.8	3.8	3.9	-100.18	-121.7	-107.1	89.1	81.6	7.57	11.775	
1,500.0	1,482.7	1,494.8	1,475.5	4.3	4.4	-97.28	-139.7	-130.0	99.6	91.0	8.52	11.689	
1,600.0	1,579.7	1,594.1	1,570.2	4.7	4.9	-94.65	-158.0	-153.4	110.3	100.9	9.46	11.662	
1,700.0	1,676.7	1,693.4	1,665.0	5.2	5.5	-92.49	-176.3	-176.8	121.3	110.9	10.40	11.666	
1,800.0	1,773.7	1,792.7	1,759.8	5.6	6.0	-90.69	-194.6	-200.2	132.4	121.1	11.33	11.688	
1,900.0	1,870.7	1,892.0	1,854.5	6.1	6.5	-89.17	-212.9	-223.6	143.6	131.3	12.25	11.719	
2,000.0	1,967.7	1,991.3	1,949.3	6.5	7.1	-87.87	-231.2	-247.0	154.9	141.7	13.17	11.757	
2,100.0	2,064.7	2,090.6	2,044.0	7.0	7.6	-86.75	-249.6	-270.4	166.2	152.2	14.09	11.797	
2,200.0	2,161.7	2,190.0	2,138.8	7.5	8.2	-85.77	-267.9	-293.8	177.7	162.7	15.01	11.839	
2,300.0	2,258.6	2,289.3	2,233.5	7.9	8.7	-84.91	-286.2	-317.2	189.1	173.2	15.92	11.880	
2,400.0	2,355.6	2,388.6	2,328.3	8.4	9.3	-84.15	-304.5	-340.6	200.6	183.8	16.83	11.920	
2,500.0	2,452.6	2,487.9	2,423.0	8.9	9.9	-83.47	-322.8	-364.0	212.2	194.4	17.74	11.959	
2,600.0	2,549.6	2,587.2	2,517.8	9.3	10.4	-82.86	-341.1	-387.3	223.7	205.1	18.65	11.997	
2,700.0	2,646.6	2,686.5	2,612.5	9.8	11.0	-82.31	-359.4	-410.7	235.3	215.7	19.55	12.033	
2,800.0	2,743.6	2,785.8	2,707.3	10.3	11.5	-81.81	-377.8	-434.1	246.9	226.4	20.46	12.068	
2,900.0	2,840.6	2,885.1	2,802.1	10.7	12.1	-81.36	-396.1	-457.5	258.5	237.1	21.36	12.101	
3,000.0	2,937.6	2,984.4	2,896.8	11.2	12.6	-80.94	-414.4	-480.9	270.1	247.9	22.27	12.132	
3,100.0	3,034.6	3,083.7	2,991.6	11.7	13.2	-80.56	-432.7	-504.3	281.8	258.6	23.17	12.162	
3,200.0	3,131.6	3,183.0	3,086.3	12.1	13.7	-80.21	-451.0	-527.7	293.4	269.4	24.07	12.191	
3,300.0	3,228.6	3,282.3	3,181.1	12.6	14.3	-79.89	-469.3	-551.1	305.1	280.1	24.97	12.218	
3,400.0	3,325.5	3,381.6	3,275.8	13.1	14.9	-79.59	-487.6	-574.5	316.8	290.9	25.87	12.244	
3,500.0	3,422.5	3,480.9	3,370.6	13.5	15.4	-79.31	-505.9	-597.9	328.5	301.7	26.77	12.269	
3,600.0	3,519.5	3,580.2	3,465.3	14.0	16.0	-79.05	-524.3	-621.3	340.1	312.5	27.67	12.292	
3,700.0	3,616.5	3,679.5	3,560.1	14.5	16.5	-78.81	-542.6	-644.7	351.8	323.3	28.57	12.314	
3,800.0	3,713.5	3,778.8	3,654.9	15.0	17.1	-78.59	-560.9	-668.1	363.5	334.1	29.47	12.336	
3,900.0	3,810.5	3,878.1	3,749.6	15.4	17.7	-78.37	-579.2	-691.4	375.2	344.9	30.37	12.356	
4,000.0	3,907.5	3,977.4	3,844.4	15.9	18.2	-78.18	-597.5	-714.8	387.0	355.7	31.27	12.376	
4,100.0	4,004.5	4,076.7	3,939.1	16.4	18.8	-77.99	-615.8	-738.2	398.7	366.5	32.17	12.394	
4,200.0	4,101.5	4,176.0	4,033.9	16.8	19.3	-77.81	-634.1	-761.6	410.4	377.3	33.06	12.412	
4,300.0	4,198.5	4,275.3	4,128.6	17.3	19.9	-77.64	-652.5	-785.0	422.1	388.1	33.96	12.429	
4,400.0	4,295.5	4,374.6	4,223.4	17.8	20.4	-77.49	-670.8	-808.4	433.8	399.0	34.86	12.446	
4,500.0	4,392.4	4,473.9	4,318.1	18.2	21.0	-77.34	-689.1	-831.8	445.6	409.8	35.76	12.461	
4,600.0	4,489.4	4,573.2	4,412.9	18.7	21.6	-77.19	-707.4	-855.2	457.3	420.6	36.65	12.476	
4,700.0	4,586.4	4,672.5	4,507.6	19.2	22.1	-77.06	-725.7	-878.6	469.0	431.5	37.55	12.491	
4,800.0	4,683.4	4,771.8	4,602.4	19.6	22.7	-76.93	-744.0	-902.0	480.8	442.3	38.45	12.505	
4,900.0	4,780.4	4,871.1	4,697.2	20.1	23.2	-76.81	-762.3	-925.4	492.5	453.2	39.34	12.518	
5,000.0	4,877.4	4,970.4	4,791.9	20.6	23.8	-76.69	-780.7	-948.8	504.2	464.0	40.24	12.531	
5,100.0	4,974.4	5,069.7	4,886.7	21.0	24.4	-76.58	-799.0	-972.2	516.0	474.9	41.14	12.543	

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

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (Oxy I21 Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-11D (Oxy I21 Pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,071.4	5,169.0	4,981.4	21.5	24.9	-76.48	-817.3	-995.5	527.7	485.7	42.03	12.555	
5,300.0	5,168.4	5,268.4	5,076.2	22.0	25.5	-76.37	-835.6	-1,018.9	539.5	496.6	42.93	12.567	
5,400.0	5,265.4	5,367.7	5,170.9	22.5	26.0	-76.28	-853.9	-1,042.3	551.2	507.4	43.83	12.578	
5,500.0	5,362.4	5,467.0	5,265.7	22.9	26.6	-76.18	-872.2	-1,065.7	563.0	518.3	44.72	12.589	
5,600.0	5,459.4	5,566.3	5,360.4	23.4	27.2	-76.09	-890.5	-1,089.1	574.7	529.1	45.62	12.599	
5,700.0	5,556.3	5,665.6	5,455.2	23.9	27.7	-76.01	-908.9	-1,112.5	586.5	540.0	46.51	12.609	
5,800.0	5,653.3	5,764.9	5,550.0	24.3	28.3	-75.93	-927.2	-1,135.9	598.2	550.8	47.41	12.619	
5,900.0	5,750.3	5,864.2	5,644.7	24.8	28.8	-75.85	-945.5	-1,159.3	610.0	561.7	48.31	12.628	
6,000.0	5,847.3	5,969.3	5,745.2	25.3	29.4	-75.80	-964.6	-1,183.7	621.5	572.3	49.22	12.627	
6,100.0	5,944.3	6,079.2	5,851.0	25.7	29.9	-76.00	-982.9	-1,207.0	631.5	581.3	50.19	12.583	
6,200.0	6,041.8	6,189.3	5,957.9	26.2	30.4	-76.33	-999.3	-1,228.0	640.3	589.2	51.11	12.530	
6,300.0	6,139.8	6,299.7	6,065.6	26.5	30.9	-76.62	-1,013.9	-1,246.6	648.1	596.2	51.93	12.481	
6,400.0	6,238.3	6,410.2	6,174.3	26.9	31.2	-76.88	-1,026.5	-1,262.8	654.9	602.2	52.66	12.437	
6,500.0	6,337.2	6,520.9	6,283.6	27.1	31.6	-77.10	-1,037.2	-1,276.5	660.6	607.3	53.29	12.396	
6,600.0	6,436.5	6,631.7	6,393.4	27.4	31.9	-77.29	-1,046.0	-1,287.7	665.3	611.4	53.84	12.357	
6,700.0	6,536.0	6,742.6	6,503.8	27.6	32.1	-77.44	-1,052.8	-1,296.4	668.8	614.6	54.29	12.320	
6,800.0	6,635.8	6,853.6	6,614.5	27.7	32.3	-77.56	-1,057.6	-1,302.6	671.3	616.7	54.65	12.284	
6,900.0	6,735.7	6,964.6	6,725.4	27.9	32.4	-77.65	-1,060.5	-1,306.2	672.8	617.9	54.92	12.250	
7,000.0	6,835.6	7,074.9	6,835.6	27.9	32.5	-77.71	-1,061.4	-1,307.3	673.1	618.0	55.11	12.213	
7,043.5	6,879.1	7,118.3	6,879.1	28.0	32.5	-77.72	-1,061.4	-1,307.3	673.1	617.9	55.19	12.197	
7,100.0	6,935.6	7,174.9	6,935.6	28.0	32.5	176.21	-1,061.4	-1,307.3	673.1	617.9	55.27	12.179	
7,200.0	7,035.6	7,274.9	7,035.6	28.1	32.6	176.21	-1,061.4	-1,307.3	673.1	617.7	55.43	12.144	
7,300.0	7,135.6	7,374.9	7,135.6	28.2	32.7	176.21	-1,061.4	-1,307.3	673.1	617.5	55.59	12.109	
7,400.0	7,235.6	7,474.9	7,235.6	28.3	32.7	176.21	-1,061.4	-1,307.3	673.1	617.4	55.75	12.074	
7,500.0	7,335.6	7,574.9	7,335.6	28.3	32.8	176.21	-1,061.4	-1,307.3	673.1	617.2	55.91	12.039	
7,600.0	7,435.6	7,674.9	7,435.6	28.4	32.9	176.21	-1,061.4	-1,307.3	673.1	617.1	56.08	12.004	
7,700.0	7,535.6	7,774.9	7,535.6	28.5	32.9	176.21	-1,061.4	-1,307.3	673.1	616.9	56.24	11.968	
7,800.0	7,635.6	7,874.9	7,635.6	28.6	33.0	176.21	-1,061.4	-1,307.3	673.1	616.7	56.41	11.932	
7,900.0	7,735.6	7,974.9	7,735.6	28.7	33.1	176.21	-1,061.4	-1,307.3	673.1	616.6	56.58	11.897	
8,000.0	7,835.6	8,074.9	7,835.6	28.8	33.2	176.21	-1,061.4	-1,307.3	673.1	616.4	56.75	11.861	
8,100.0	7,935.6	8,174.9	7,935.6	28.8	33.2	176.21	-1,061.4	-1,307.3	673.1	616.2	56.93	11.825	
8,200.0	8,035.6	8,274.9	8,035.6	28.9	33.3	176.21	-1,061.4	-1,307.3	673.1	616.0	57.10	11.788	
8,300.0	8,135.6	8,374.9	8,135.6	29.0	33.4	176.21	-1,061.4	-1,307.3	673.1	615.9	57.28	11.752	
8,400.0	8,235.6	8,474.9	8,235.6	29.1	33.5	176.21	-1,061.4	-1,307.3	673.1	615.7	57.46	11.716	
8,500.0	8,335.6	8,574.9	8,335.6	29.2	33.5	176.21	-1,061.4	-1,307.3	673.1	615.5	57.63	11.679	
8,600.0	8,435.6	8,674.9	8,435.6	29.3	33.6	176.21	-1,061.4	-1,307.3	673.1	615.3	57.82	11.643	
8,700.0	8,535.6	8,774.9	8,535.6	29.4	33.7	176.21	-1,061.4	-1,307.3	673.1	615.1	58.00	11.606	
8,800.0	8,635.6	8,874.9	8,635.6	29.5	33.8	176.21	-1,061.4	-1,307.3	673.1	615.0	58.18	11.569	
8,832.5	8,668.1	8,907.4	8,668.1	29.5	33.8	176.21	-1,061.4	-1,307.3	673.1	614.9	58.24	11.558	
8,863.4	8,699.0	8,918.2	8,679.0	29.5	33.8	176.21	-1,061.4	-1,307.3	673.4	615.2	58.28	11.555	SF

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	147.46	-12.4	7.9	14.7				
100.0	100.0	100.0	100.0	0.1	0.1	147.46	-12.4	7.9	14.7	14.4	0.30	49.509	
200.0	200.0	200.0	200.0	0.3	0.3	147.46	-12.4	7.9	14.7	14.0	0.65	22.747	
300.0	300.0	300.0	300.0	0.5	0.5	147.46	-12.4	7.9	14.7	13.7	0.99	14.766	CC
400.0	400.0	400.0	400.0	0.7	0.7	-106.27	-13.0	6.7	14.9	13.6	1.35	11.089	ES
500.0	499.9	500.1	500.0	0.9	0.9	-105.74	-14.8	3.2	15.7	14.0	1.71	9.144	
600.0	599.7	600.1	599.8	1.1	1.1	-104.96	-17.7	-2.6	16.9	14.8	2.11	8.007	
700.0	699.3	700.1	699.4	1.3	1.3	-104.04	-21.9	-10.7	18.6	16.1	2.56	7.296	
800.0	798.6	800.1	798.7	1.5	1.5	-103.08	-27.3	-21.2	20.9	17.8	3.06	6.828	
900.0	897.5	900.1	897.6	1.8	1.8	-102.15	-33.8	-34.0	23.6	20.0	3.63	6.505	
1,000.0	996.1	1,000.0	996.1	2.1	2.1	-101.29	-41.5	-49.1	26.8	22.5	4.28	6.273	
1,100.0	1,094.2	1,100.0	1,094.1	2.5	2.5	-100.51	-50.4	-66.4	30.5	25.5	5.01	6.099	
1,200.0	1,191.7	1,199.9	1,191.6	2.9	2.9	-99.83	-60.4	-86.0	34.8	28.9	5.83	5.965	
1,300.0	1,288.7	1,299.7	1,288.4	3.4	3.4	-98.59	-71.6	-107.9	39.4	32.7	6.72	5.863	
1,400.0	1,385.7	1,399.5	1,384.5	3.8	3.9	-94.69	-83.9	-131.9	44.2	36.6	7.65	5.781	
1,500.0	1,482.7	1,499.4	1,480.4	4.3	4.4	-90.88	-96.4	-156.4	49.4	40.8	8.58	5.753	SF
1,600.0	1,579.7	1,599.2	1,576.4	4.7	4.9	-87.79	-108.9	-181.0	54.7	45.2	9.49	5.758	
1,700.0	1,676.7	1,699.0	1,672.3	5.2	5.4	-85.26	-121.5	-205.5	60.1	49.7	10.40	5.780	
1,800.0	1,773.7	1,798.8	1,768.2	5.6	5.9	-83.15	-134.0	-230.0	65.6	54.3	11.29	5.812	
1,900.0	1,870.7	1,898.6	1,864.2	6.1	6.4	-81.37	-146.5	-254.5	71.2	59.0	12.17	5.850	
2,000.0	1,967.7	1,998.5	1,960.1	6.5	6.9	-79.85	-159.1	-279.0	76.9	63.8	13.05	5.890	
2,100.0	2,064.7	2,098.3	2,056.1	7.0	7.4	-78.54	-171.6	-303.5	82.6	68.7	13.93	5.930	
2,200.0	2,161.7	2,198.1	2,152.0	7.5	7.9	-77.40	-184.1	-328.1	88.3	73.5	14.80	5.970	
2,300.0	2,258.6	2,297.9	2,248.0	7.9	8.5	-76.40	-196.7	-352.6	94.1	78.4	15.66	6.008	
2,400.0	2,355.6	2,397.7	2,343.9	8.4	9.0	-75.51	-209.2	-377.1	99.9	83.4	16.52	6.046	
2,500.0	2,452.6	2,497.6	2,439.9	8.9	9.5	-74.72	-221.7	-401.6	105.7	88.3	17.38	6.081	
2,600.0	2,549.6	2,597.4	2,535.8	9.3	10.0	-74.02	-234.3	-426.1	111.6	93.3	18.24	6.115	
2,700.0	2,646.6	2,697.2	2,631.8	9.8	10.5	-73.38	-246.8	-450.6	117.4	98.3	19.10	6.147	
2,800.0	2,743.6	2,797.0	2,727.7	10.3	11.1	-72.81	-259.3	-475.2	123.3	103.3	19.96	6.178	
2,900.0	2,840.6	2,896.8	2,823.7	10.7	11.6	-72.28	-271.9	-499.7	129.2	108.3	20.81	6.206	
3,000.0	2,937.6	2,996.7	2,919.6	11.2	12.1	-71.81	-284.4	-524.2	135.0	113.4	21.66	6.234	
3,100.0	3,034.6	3,096.5	3,015.6	11.7	12.6	-71.37	-296.9	-548.7	140.9	118.4	22.51	6.260	
3,200.0	3,131.6	3,196.3	3,111.5	12.1	13.2	-70.97	-309.5	-573.2	146.8	123.5	23.37	6.284	
3,300.0	3,228.6	3,296.1	3,207.5	12.6	13.7	-70.60	-322.0	-597.7	152.8	128.5	24.22	6.308	
3,400.0	3,325.5	3,395.9	3,303.4	13.1	14.2	-70.25	-334.5	-622.3	158.7	133.6	25.07	6.330	
3,500.0	3,422.5	3,495.8	3,399.4	13.5	14.7	-69.93	-347.1	-646.8	164.6	138.7	25.92	6.351	
3,600.0	3,519.5	3,595.6	3,495.3	14.0	15.2	-69.64	-359.6	-671.3	170.5	143.7	26.76	6.371	
3,700.0	3,616.5	3,695.4	3,591.3	14.5	15.8	-69.36	-372.1	-695.8	176.4	148.8	27.61	6.390	
3,800.0	3,713.5	3,795.2	3,687.2	15.0	16.3	-69.10	-384.7	-720.3	182.4	153.9	28.46	6.408	
3,900.0	3,810.5	3,895.1	3,783.1	15.4	16.8	-68.86	-397.2	-744.8	188.3	159.0	29.31	6.425	
4,000.0	3,907.5	3,994.9	3,879.1	15.9	17.3	-68.63	-409.7	-769.4	194.3	164.1	30.15	6.442	
4,100.0	4,004.5	4,094.7	3,975.0	16.4	17.9	-68.42	-422.3	-793.9	200.2	169.2	31.00	6.458	
4,200.0	4,101.5	4,194.5	4,071.0	16.8	18.4	-68.22	-434.8	-818.4	206.1	174.3	31.85	6.473	
4,300.0	4,198.5	4,294.3	4,166.9	17.3	18.9	-68.03	-447.3	-842.9	212.1	179.4	32.69	6.487	
4,400.0	4,295.5	4,394.2	4,262.9	17.8	19.4	-67.85	-459.9	-867.4	218.0	184.5	33.54	6.501	
4,500.0	4,392.4	4,494.0	4,358.8	18.2	20.0	-67.68	-472.4	-891.9	224.0	189.6	34.39	6.514	
4,600.0	4,489.4	4,593.8	4,454.8	18.7	20.5	-67.51	-484.9	-916.5	230.0	194.7	35.23	6.527	
4,700.0	4,586.4	4,693.6	4,550.7	19.2	21.0	-67.36	-497.5	-941.0	235.9	199.8	36.08	6.539	
4,800.0	4,683.4	4,793.4	4,646.7	19.6	21.5	-67.21	-510.0	-965.5	241.9	204.9	36.92	6.551	
4,900.0	4,780.4	4,893.3	4,742.6	20.1	22.0	-67.08	-522.5	-990.0	247.8	210.1	37.77	6.562	
5,000.0	4,877.4	4,993.1	4,838.6	20.6	22.6	-66.94	-535.0	-1,014.5	253.8	215.2	38.61	6.573	
5,100.0	4,974.4	5,092.9	4,934.5	21.0	23.1	-66.82	-547.6	-1,039.1	259.8	220.3	39.46	6.583	

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

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,071.4	5,192.7	5,030.5	21.5	23.6	-66.70	-560.1	-1,063.6	265.7	225.4	40.30	6.593	
5,300.0	5,168.4	5,292.5	5,126.4	22.0	24.1	-66.58	-572.6	-1,088.1	271.7	230.5	41.15	6.603	
5,400.0	5,265.4	5,392.4	5,222.4	22.5	24.7	-66.47	-585.2	-1,112.6	277.6	235.7	41.99	6.612	
5,500.0	5,362.4	5,492.2	5,318.3	22.9	25.2	-66.37	-597.7	-1,137.1	283.6	240.8	42.84	6.621	
5,600.0	5,459.4	5,592.0	5,414.3	23.4	25.7	-66.26	-610.2	-1,161.6	289.6	245.9	43.68	6.629	
5,700.0	5,556.3	5,691.8	5,510.2	23.9	26.2	-66.17	-622.8	-1,186.2	295.5	251.0	44.52	6.638	
5,800.0	5,653.3	5,791.6	5,606.2	24.3	26.8	-66.07	-635.3	-1,210.7	301.5	256.1	45.37	6.646	
5,900.0	5,750.3	5,891.5	5,702.1	24.8	27.3	-65.98	-647.8	-1,235.2	307.5	261.3	46.21	6.654	
6,000.0	5,847.3	5,992.2	5,798.9	25.3	27.8	-65.90	-660.5	-1,259.9	313.4	266.4	47.06	6.660	
6,100.0	5,944.3	6,097.0	5,900.2	25.7	28.3	-66.11	-672.8	-1,283.9	318.4	270.4	47.99	6.634	
6,200.0	6,041.8	6,201.9	6,002.2	26.2	28.8	-66.45	-683.8	-1,305.5	322.5	273.7	48.87	6.599	
6,300.0	6,139.8	6,306.8	6,104.9	26.5	29.1	-66.74	-693.6	-1,324.6	326.2	276.5	49.67	6.568	
6,400.0	6,238.3	6,411.8	6,208.2	26.9	29.5	-67.01	-702.0	-1,341.2	329.4	279.0	50.37	6.539	
6,500.0	6,337.2	6,516.8	6,312.1	27.1	29.8	-67.24	-709.2	-1,355.2	332.0	281.0	50.99	6.511	
6,600.0	6,436.5	6,621.8	6,416.3	27.4	30.1	-67.43	-715.1	-1,366.7	334.2	282.7	51.52	6.486	
6,700.0	6,536.0	6,726.9	6,520.9	27.6	30.3	-67.60	-719.7	-1,375.7	335.8	283.9	51.97	6.462	
6,800.0	6,635.8	6,831.9	6,625.7	27.7	30.4	-67.73	-722.9	-1,382.1	337.0	284.6	52.33	6.440	
6,900.0	6,735.7	6,937.0	6,730.7	27.9	30.5	-67.84	-724.9	-1,385.9	337.6	285.0	52.60	6.418	
7,000.0	6,835.6	7,042.0	6,835.6	27.9	30.6	-67.92	-725.5	-1,387.1	337.7	284.9	52.80	6.396	
7,043.5	6,879.1	7,085.5	6,879.1	28.0	30.7	-67.94	-725.5	-1,387.1	337.6	284.8	52.88	6.385	
7,100.0	6,935.6	7,142.0	6,935.6	28.0	30.7	-174.00	-725.5	-1,387.1	337.7	284.7	52.96	6.376	
7,200.0	7,035.6	7,242.0	7,035.6	28.1	30.8	-174.00	-725.5	-1,387.1	337.7	284.5	53.13	6.356	
7,300.0	7,135.6	7,342.0	7,135.6	28.2	30.8	-174.00	-725.5	-1,387.1	337.7	284.4	53.29	6.336	
7,400.0	7,235.6	7,442.0	7,235.6	28.3	30.9	-174.00	-725.5	-1,387.1	337.7	284.2	53.46	6.316	
7,500.0	7,335.6	7,542.0	7,335.6	28.3	31.0	-174.00	-725.5	-1,387.1	337.7	284.0	53.63	6.296	
7,600.0	7,435.6	7,642.0	7,435.6	28.4	31.1	-174.00	-725.5	-1,387.1	337.7	283.9	53.80	6.276	
7,700.0	7,535.6	7,742.0	7,535.6	28.5	31.1	-174.00	-725.5	-1,387.1	337.7	283.7	53.98	6.256	
7,800.0	7,635.6	7,842.0	7,635.6	28.6	31.2	-174.00	-725.5	-1,387.1	337.7	283.5	54.15	6.236	
7,900.0	7,735.6	7,942.0	7,735.6	28.7	31.3	-174.00	-725.5	-1,387.1	337.7	283.4	54.33	6.216	
8,000.0	7,835.6	8,042.0	7,835.6	28.8	31.4	-174.00	-725.5	-1,387.1	337.7	283.2	54.51	6.195	
8,100.0	7,935.6	8,142.0	7,935.6	28.8	31.4	-174.00	-725.5	-1,387.1	337.7	283.0	54.69	6.175	
8,200.0	8,035.6	8,242.0	8,035.6	28.9	31.5	-174.00	-725.5	-1,387.1	337.7	282.8	54.87	6.155	
8,300.0	8,135.6	8,342.0	8,135.6	29.0	31.6	-174.00	-725.5	-1,387.1	337.7	282.6	55.05	6.134	
8,400.0	8,235.6	8,442.0	8,235.6	29.1	31.7	-174.00	-725.5	-1,387.1	337.7	282.4	55.23	6.114	
8,500.0	8,335.6	8,542.0	8,335.6	29.2	31.8	-174.00	-725.5	-1,387.1	337.7	282.3	55.42	6.093	
8,600.0	8,435.6	8,642.0	8,435.6	29.3	31.8	-174.00	-725.5	-1,387.1	337.7	282.1	55.61	6.072	
8,700.0	8,535.6	8,742.0	8,535.6	29.4	31.9	-174.00	-725.5	-1,387.1	337.7	281.9	55.80	6.052	
8,800.0	8,635.6	8,842.0	8,635.6	29.5	32.0	-174.00	-725.5	-1,387.1	337.7	281.7	55.99	6.031	
8,835.7	8,671.3	8,877.7	8,671.3	29.5	32.0	-174.00	-725.5	-1,387.1	337.7	281.6	56.06	6.024	
8,863.4	8,699.0	8,890.4	8,684.0	29.5	32.1	-174.00	-725.5	-1,387.1	338.0	281.9	56.10	6.026	

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-35.15	12.0	-8.5	14.7				
100.0	100.0	100.0	100.0	0.1	0.1	-35.15	12.0	-8.5	14.7	14.4	0.30	49.549	
200.0	200.0	200.0	200.0	0.3	0.3	-35.15	12.0	-8.5	14.7	14.1	0.65	22.766	
300.0	300.0	300.0	300.0	0.5	0.5	-35.15	12.0	-8.5	14.7	13.7	0.99	14.778	CC
400.0	400.0	399.8	399.8	0.7	0.7	71.35	11.9	-9.8	14.9	13.6	1.35	11.097	ES
500.0	499.9	499.6	499.5	0.9	0.9	72.55	11.6	-13.7	15.7	13.9	1.71	9.150	
600.0	599.7	599.4	599.1	1.1	1.1	74.32	11.1	-20.2	16.9	14.8	2.10	8.015	
700.0	699.3	699.2	698.5	1.3	1.3	76.40	10.3	-29.2	18.6	16.0	2.54	7.311	
800.0	798.6	798.9	797.5	1.5	1.5	78.57	9.4	-40.9	20.8	17.8	3.03	6.853	
900.0	897.5	898.7	896.2	1.8	1.8	80.65	8.3	-55.1	23.5	19.9	3.60	6.541	
1,000.0	996.1	998.4	994.5	2.1	2.1	82.55	6.9	-71.9	26.8	22.6	4.24	6.320	
1,100.0	1,094.2	1,098.1	1,092.3	2.5	2.5	84.23	5.3	-91.3	30.6	25.6	4.97	6.157	
1,200.0	1,191.7	1,197.8	1,189.5	2.9	2.9	85.68	3.6	-113.1	34.9	29.1	5.79	6.033	
1,300.0	1,288.7	1,297.6	1,286.6	3.4	3.3	87.90	1.7	-136.5	39.5	32.9	6.66	5.937	
1,400.0	1,385.7	1,397.5	1,383.7	3.8	3.8	89.95	-0.2	-159.8	44.1	36.6	7.54	5.857	
1,500.0	1,482.7	1,497.4	1,480.8	4.3	4.2	91.60	-2.0	-183.1	48.8	40.4	8.43	5.793	
1,600.0	1,579.7	1,597.3	1,577.9	4.7	4.6	92.97	-3.9	-206.4	53.5	44.2	9.32	5.743	
1,700.0	1,676.7	1,697.2	1,675.0	5.2	5.1	94.11	-5.8	-229.7	58.3	48.1	10.22	5.702	
1,800.0	1,773.7	1,797.0	1,772.1	5.6	5.5	95.08	-7.7	-253.1	63.0	51.9	11.12	5.668	
1,900.0	1,870.7	1,896.9	1,869.2	6.1	6.0	95.91	-9.6	-276.4	67.8	55.8	12.02	5.640	
2,000.0	1,967.7	1,996.8	1,966.3	6.5	6.4	96.64	-11.4	-299.7	72.6	59.7	12.92	5.616	
2,100.0	2,064.7	2,096.7	2,063.4	7.0	6.9	97.27	-13.3	-323.0	77.4	63.6	13.83	5.596	
2,200.0	2,161.7	2,196.6	2,160.5	7.5	7.3	97.83	-15.2	-346.3	82.2	67.5	14.73	5.579	
2,300.0	2,258.6	2,296.5	2,257.6	7.9	7.8	98.33	-17.1	-369.7	87.0	71.4	15.64	5.564	
2,400.0	2,355.6	2,396.3	2,354.8	8.4	8.2	98.78	-19.0	-393.0	91.8	75.3	16.54	5.551	
2,500.0	2,452.6	2,496.2	2,451.9	8.9	8.7	99.18	-20.8	-416.3	96.6	79.2	17.44	5.540	
2,600.0	2,549.6	2,596.1	2,549.0	9.3	9.1	99.54	-22.7	-439.6	101.5	83.1	18.35	5.530	
2,700.0	2,646.6	2,696.0	2,646.1	9.8	9.6	99.87	-24.6	-462.9	106.3	87.0	19.25	5.521	
2,800.0	2,743.6	2,795.9	2,743.2	10.3	10.0	100.17	-26.5	-486.2	111.1	91.0	20.16	5.513	
2,900.0	2,840.6	2,895.7	2,840.3	10.7	10.5	100.45	-28.3	-509.6	116.0	94.9	21.06	5.506	
3,000.0	2,937.6	2,995.6	2,937.4	11.2	10.9	100.71	-30.2	-532.9	120.8	98.8	21.97	5.499	
3,100.0	3,034.6	3,095.5	3,034.5	11.7	11.4	100.94	-32.1	-556.2	125.6	102.8	22.87	5.493	
3,200.0	3,131.6	3,195.4	3,131.6	12.1	11.8	101.16	-34.0	-579.5	130.5	106.7	23.78	5.488	
3,300.0	3,228.6	3,295.3	3,228.7	12.6	12.3	101.36	-35.9	-602.8	135.3	110.7	24.68	5.483	
3,400.0	3,325.5	3,395.2	3,325.8	13.1	12.7	101.55	-37.7	-626.2	140.2	114.6	25.59	5.478	
3,500.0	3,422.5	3,495.0	3,422.9	13.5	13.2	101.72	-39.6	-649.5	145.0	118.5	26.49	5.474	
3,600.0	3,519.5	3,594.9	3,520.0	14.0	13.6	101.89	-41.5	-672.8	149.9	122.5	27.40	5.470	
3,700.0	3,616.5	3,694.8	3,617.1	14.5	14.1	102.04	-43.4	-696.1	154.7	126.4	28.30	5.467	
3,800.0	3,713.5	3,794.7	3,714.2	15.0	14.5	102.18	-45.2	-719.4	159.6	130.4	29.21	5.463	
3,900.0	3,810.5	3,894.6	3,811.3	15.4	15.0	102.32	-47.1	-742.8	164.4	134.3	30.11	5.460	
4,000.0	3,907.5	3,994.4	3,908.4	15.9	15.5	102.45	-49.0	-766.1	169.3	138.3	31.02	5.458	
4,100.0	4,004.5	4,094.3	4,005.5	16.4	15.9	102.57	-50.9	-789.4	174.1	142.2	31.92	5.455	
4,200.0	4,101.5	4,194.2	4,102.6	16.8	16.4	102.68	-52.8	-812.7	179.0	146.2	32.83	5.452	
4,300.0	4,198.5	4,294.1	4,199.7	17.3	16.8	102.79	-54.6	-836.0	183.8	150.1	33.73	5.450	
4,400.0	4,295.5	4,394.0	4,296.8	17.8	17.3	102.89	-56.5	-859.4	188.7	154.1	34.64	5.448	
4,500.0	4,392.4	4,493.8	4,393.9	18.2	17.7	102.99	-58.4	-882.7	193.6	158.0	35.54	5.446	
4,600.0	4,489.4	4,593.7	4,491.0	18.7	18.2	103.09	-60.3	-906.0	198.4	162.0	36.45	5.444	
4,700.0	4,586.4	4,693.6	4,588.1	19.2	18.6	103.17	-62.2	-929.3	203.3	165.9	37.35	5.442	
4,800.0	4,683.4	4,793.5	4,685.2	19.6	19.1	103.26	-64.0	-952.6	208.1	169.9	38.26	5.440	
4,900.0	4,780.4	4,893.4	4,782.3	20.1	19.5	103.34	-65.9	-976.0	213.0	173.8	39.16	5.439	
5,000.0	4,877.4	4,993.3	4,879.4	20.6	20.0	103.42	-67.8	-999.3	217.8	177.8	40.07	5.437	
5,100.0	4,974.4	5,093.1	4,976.5	21.0	20.4	103.49	-69.7	-1,022.6	222.7	181.7	40.97	5.436	

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

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,071.4	5,193.0	5,073.6	21.5	20.9	103.56	-71.5	-1,045.9	227.6	185.7	41.88	5.434	
5,300.0	5,168.4	5,292.9	5,170.7	22.0	21.3	103.63	-73.4	-1,069.2	232.4	189.6	42.78	5.433	
5,400.0	5,265.4	5,392.8	5,267.8	22.5	21.8	103.69	-75.3	-1,092.6	237.3	193.6	43.69	5.432	
5,500.0	5,362.4	5,492.7	5,364.9	22.9	22.2	103.75	-77.2	-1,115.9	242.1	197.6	44.59	5.430	
5,600.0	5,459.4	5,592.5	5,462.0	23.4	22.7	103.81	-79.1	-1,139.2	247.0	201.5	45.50	5.429	
5,700.0	5,556.3	5,692.4	5,559.2	23.9	23.2	103.87	-80.9	-1,162.5	251.9	205.5	46.40	5.428	
5,800.0	5,653.3	5,792.3	5,656.3	24.3	23.6	103.92	-82.8	-1,185.8	256.7	209.4	47.31	5.427	
5,900.0	5,750.3	5,892.2	5,753.4	24.8	24.1	103.98	-84.7	-1,209.2	261.6	213.4	48.21	5.426	
6,000.0	5,847.3	5,992.1	5,850.5	25.3	24.5	104.03	-86.6	-1,232.5	266.5	217.3	49.12	5.425	
6,100.0	5,944.3	6,092.0	5,947.6	25.7	25.0	104.08	-88.4	-1,255.8	271.3	221.3	50.02	5.424	
6,200.0	6,041.8	6,191.5	6,044.6	26.2	25.4	104.00	-90.2	-1,278.1	275.7	224.9	50.85	5.422	
6,300.0	6,139.8	6,291.1	6,142.2	26.5	25.8	103.92	-91.8	-1,297.8	279.6	228.0	51.60	5.419	
6,400.0	6,238.3	6,390.7	6,240.3	26.9	26.1	103.86	-93.2	-1,315.1	283.1	230.8	52.27	5.416	
6,500.0	6,337.2	6,490.4	6,338.8	27.1	26.4	103.80	-94.4	-1,329.7	286.0	233.1	52.84	5.412	
6,600.0	6,436.5	6,590.0	6,437.7	27.4	26.6	103.75	-95.4	-1,341.9	288.4	235.0	53.34	5.406	
6,700.0	6,536.0	6,689.7	6,537.0	27.6	26.8	103.70	-96.1	-1,351.4	290.2	236.5	53.75	5.400	
6,800.0	6,635.8	6,789.4	6,636.4	27.7	27.0	103.66	-96.7	-1,358.3	291.6	237.5	54.08	5.392	
6,900.0	6,735.7	6,889.1	6,736.0	27.9	27.1	103.63	-97.1	-1,362.7	292.4	238.1	54.33	5.383	
7,000.0	6,835.6	6,988.8	6,835.7	27.9	27.2	103.60	-97.2	-1,364.5	292.8	238.3	54.49	5.372	
7,100.0	6,935.6	7,088.8	6,935.6	28.0	27.3	-2.48	-97.2	-1,364.5	292.8	238.1	54.65	5.357	
7,200.0	7,035.6	7,188.8	7,035.6	28.1	27.4	-2.48	-97.2	-1,364.5	292.8	238.0	54.81	5.341	
7,300.0	7,135.6	7,288.8	7,135.6	28.2	27.4	-2.48	-97.2	-1,364.5	292.8	237.8	54.97	5.326	
7,400.0	7,235.6	7,388.8	7,235.6	28.3	27.5	-2.48	-97.2	-1,364.5	292.8	237.6	55.13	5.310	
7,500.0	7,335.6	7,488.8	7,335.6	28.3	27.6	-2.48	-97.2	-1,364.5	292.8	237.5	55.30	5.294	
7,600.0	7,435.6	7,588.8	7,435.6	28.4	27.7	-2.48	-97.2	-1,364.5	292.8	237.3	55.46	5.278	
7,700.0	7,535.6	7,688.8	7,535.6	28.5	27.8	-2.48	-97.2	-1,364.5	292.8	237.1	55.63	5.263	
7,800.0	7,635.6	7,788.8	7,635.6	28.6	27.8	-2.48	-97.2	-1,364.5	292.8	237.0	55.80	5.247	
7,900.0	7,735.6	7,888.8	7,735.6	28.7	27.9	-2.48	-97.2	-1,364.5	292.8	236.8	55.97	5.231	
8,000.0	7,835.6	7,988.8	7,835.6	28.8	28.0	-2.48	-97.2	-1,364.5	292.8	236.6	56.14	5.215	
8,100.0	7,935.6	8,088.8	7,935.6	28.8	28.1	-2.48	-97.2	-1,364.5	292.8	236.4	56.32	5.198	
8,200.0	8,035.6	8,188.8	8,035.6	28.9	28.2	-2.48	-97.2	-1,364.5	292.8	236.3	56.49	5.182	
8,300.0	8,135.6	8,288.8	8,135.6	29.0	28.3	-2.48	-97.2	-1,364.5	292.8	236.1	56.67	5.166	
8,400.0	8,235.6	8,388.8	8,235.6	29.1	28.4	-2.48	-97.2	-1,364.5	292.8	235.9	56.85	5.150	
8,500.0	8,335.6	8,488.8	8,335.6	29.2	28.5	-2.48	-97.2	-1,364.5	292.8	235.7	57.03	5.134	
8,600.0	8,435.6	8,588.8	8,435.6	29.3	28.6	-2.48	-97.2	-1,364.5	292.8	235.6	57.21	5.117	
8,700.0	8,535.6	8,688.8	8,535.6	29.4	28.6	-2.48	-97.2	-1,364.5	292.8	235.4	57.39	5.101	
8,800.0	8,635.6	8,788.8	8,635.6	29.5	28.7	-2.48	-97.2	-1,364.5	292.8	235.2	57.58	5.085	
8,863.4	8,699.0	8,852.1	8,699.0	29.5	28.8	-2.48	-97.2	-1,364.5	292.8	235.1	57.70	5.074	SF

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-33.07	25.1	-16.4	30.0				
100.0	100.0	100.0	100.0	0.1	0.1	-33.07	25.1	-16.4	30.0	29.7	0.30	101.080	
200.0	200.0	200.0	200.0	0.3	0.3	-33.07	25.1	-16.4	30.0	29.3	0.65	46.442	
300.0	300.0	300.0	300.0	0.5	0.5	-33.07	25.1	-16.4	30.0	29.0	0.99	30.147	CC, ES
400.0	400.0	399.5	399.5	0.7	0.7	73.52	25.3	-17.6	30.5	29.1	1.35	22.652	
500.0	499.9	498.9	498.9	0.9	0.9	74.96	25.9	-21.5	31.9	30.2	1.71	18.698	
600.0	599.7	598.4	598.1	1.1	1.1	77.08	26.8	-27.9	34.4	32.3	2.10	16.413	
700.0	699.3	697.7	697.0	1.3	1.3	79.58	28.2	-36.8	37.9	35.4	2.53	15.018	
800.0	798.6	797.0	795.6	1.5	1.5	82.16	29.9	-48.3	42.6	39.5	3.01	14.132	
900.0	897.5	896.2	893.8	1.8	1.8	84.63	32.0	-62.3	48.3	44.7	3.56	13.547	
1,000.0	996.1	995.4	991.5	2.1	2.1	86.86	34.4	-78.8	55.1	50.9	4.19	13.148	
1,100.0	1,094.2	1,094.3	1,088.6	2.5	2.5	88.82	37.3	-97.8	63.1	58.2	4.91	12.866	
1,200.0	1,191.7	1,193.2	1,185.1	2.9	2.9	90.49	40.4	-119.2	72.2	66.5	5.70	12.660	
1,300.0	1,288.7	1,292.5	1,281.5	3.4	3.3	92.14	43.9	-142.5	82.1	75.6	6.55	12.538	
1,400.0	1,385.7	1,392.0	1,378.2	3.8	3.8	93.57	47.4	-165.9	92.1	84.7	7.41	12.426	
1,500.0	1,482.7	1,491.4	1,474.8	4.3	4.2	94.71	50.9	-189.3	102.2	93.9	8.29	12.327	
1,600.0	1,579.7	1,590.9	1,571.4	4.7	4.6	95.65	54.4	-212.7	112.3	103.1	9.17	12.241	
1,700.0	1,676.7	1,690.4	1,668.0	5.2	5.1	96.44	57.8	-236.1	122.4	112.3	10.06	12.166	
1,800.0	1,773.7	1,789.9	1,764.6	5.6	5.5	97.10	61.3	-259.5	132.5	121.5	10.95	12.101	
1,900.0	1,870.7	1,889.3	1,861.3	6.1	6.0	97.67	64.8	-282.9	142.6	130.8	11.84	12.044	
2,000.0	1,967.7	1,988.8	1,957.9	6.5	6.4	98.17	68.3	-306.3	152.8	140.1	12.74	11.994	
2,100.0	2,064.7	2,088.3	2,054.5	7.0	6.9	98.60	71.8	-329.7	163.0	149.3	13.64	11.950	
2,200.0	2,161.7	2,187.8	2,151.1	7.5	7.3	98.99	75.3	-353.1	173.1	158.6	14.54	11.911	
2,300.0	2,258.6	2,287.2	2,247.7	7.9	7.8	99.33	78.8	-376.5	183.3	167.9	15.44	11.876	
2,400.0	2,355.6	2,386.7	2,344.4	8.4	8.2	99.63	82.2	-399.9	193.5	177.2	16.34	11.844	
2,500.0	2,452.6	2,486.2	2,441.0	8.9	8.7	99.90	85.7	-423.3	203.7	186.5	17.24	11.815	
2,600.0	2,549.6	2,585.7	2,537.6	9.3	9.2	100.15	89.2	-446.7	213.9	195.7	18.14	11.790	
2,700.0	2,646.6	2,685.1	2,634.2	9.8	9.6	100.38	92.7	-470.1	224.1	205.0	19.05	11.766	
2,800.0	2,743.6	2,784.6	2,730.8	10.3	10.1	100.58	96.2	-493.5	234.3	214.3	19.95	11.745	
2,900.0	2,840.6	2,884.1	2,827.5	10.7	10.5	100.77	99.7	-516.9	244.5	223.6	20.85	11.725	
3,000.0	2,937.6	2,983.6	2,924.1	11.2	11.0	100.94	103.1	-540.3	254.7	232.9	21.76	11.707	
3,100.0	3,034.6	3,083.0	3,020.7	11.7	11.4	101.10	106.6	-563.7	264.9	242.2	22.66	11.690	
3,200.0	3,131.6	3,182.5	3,117.3	12.1	11.9	101.25	110.1	-587.1	275.1	251.6	23.57	11.674	
3,300.0	3,228.6	3,282.0	3,213.9	12.6	12.3	101.39	113.6	-610.5	285.3	260.9	24.47	11.660	
3,400.0	3,325.5	3,381.5	3,310.6	13.1	12.8	101.52	117.1	-633.9	295.5	270.2	25.38	11.646	
3,500.0	3,422.5	3,480.9	3,407.2	13.5	13.3	101.64	120.6	-657.3	305.8	279.5	26.28	11.634	
3,600.0	3,519.5	3,580.4	3,503.8	14.0	13.7	101.75	124.0	-680.7	316.0	288.8	27.19	11.622	
3,700.0	3,616.5	3,679.9	3,600.4	14.5	14.2	101.85	127.5	-704.1	326.2	298.1	28.09	11.611	
3,800.0	3,713.5	3,779.4	3,697.0	15.0	14.6	101.95	131.0	-727.5	336.4	307.4	29.00	11.601	
3,900.0	3,810.5	3,878.8	3,793.7	15.4	15.1	102.04	134.5	-750.9	346.6	316.7	29.91	11.591	
4,000.0	3,907.5	3,978.3	3,890.3	15.9	15.5	102.13	138.0	-774.3	356.9	326.0	30.81	11.582	
4,100.0	4,004.5	4,077.8	3,986.9	16.4	16.0	102.21	141.5	-797.7	367.1	335.4	31.72	11.573	
4,200.0	4,101.5	4,177.3	4,083.5	16.8	16.5	102.29	145.0	-821.1	377.3	344.7	32.62	11.565	
4,300.0	4,198.5	4,276.7	4,180.1	17.3	16.9	102.37	148.4	-844.5	387.5	354.0	33.53	11.557	
4,400.0	4,295.5	4,376.2	4,276.8	17.8	17.4	102.44	151.9	-867.9	397.7	363.3	34.44	11.550	
4,500.0	4,392.4	4,475.7	4,373.4	18.2	17.8	102.50	155.4	-891.3	408.0	372.6	35.34	11.543	
4,600.0	4,489.4	4,575.2	4,470.0	18.7	18.3	102.56	158.9	-914.7	418.2	381.9	36.25	11.536	
4,700.0	4,586.4	4,674.6	4,566.6	19.2	18.7	102.63	162.4	-938.1	428.4	391.3	37.16	11.530	
4,800.0	4,683.4	4,774.1	4,663.2	19.6	19.2	102.68	165.9	-961.5	438.6	400.6	38.06	11.524	
4,900.0	4,780.4	4,873.6	4,759.9	20.1	19.7	102.74	169.3	-984.9	448.9	409.9	38.97	11.518	
5,000.0	4,877.4	4,973.1	4,856.5	20.6	20.1	102.79	172.8	-1,008.3	459.1	419.2	39.88	11.513	
5,100.0	4,974.4	5,072.5	4,953.1	21.0	20.6	102.84	176.3	-1,031.7	469.3	428.5	40.78	11.508	

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

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,071.4	5,172.0	5,049.7	21.5	21.0	102.89	179.8	-1,055.1	479.6	437.9	41.69	11.503	
5,300.0	5,168.4	5,271.5	5,146.3	22.0	21.5	102.93	183.3	-1,078.5	489.8	447.2	42.60	11.498	
5,400.0	5,265.4	5,371.0	5,243.0	22.5	21.9	102.98	186.8	-1,101.9	500.0	456.5	43.50	11.493	
5,500.0	5,362.4	5,470.4	5,339.6	22.9	22.4	103.02	190.3	-1,125.3	510.2	465.8	44.41	11.489	
5,600.0	5,459.4	5,569.9	5,436.2	23.4	22.9	103.06	193.7	-1,148.7	520.5	475.1	45.32	11.485	
5,700.0	5,556.3	5,669.4	5,532.8	23.9	23.3	103.10	197.2	-1,172.1	530.7	484.5	46.23	11.481	
5,800.0	5,653.3	5,768.8	5,629.4	24.3	23.8	103.14	200.7	-1,195.5	540.9	493.8	47.13	11.477	
5,900.0	5,750.3	5,868.3	5,726.1	24.8	24.2	103.17	204.2	-1,218.9	551.2	503.1	48.04	11.473	
6,000.0	5,847.3	5,967.8	5,822.7	25.3	24.7	103.21	207.7	-1,242.3	561.4	512.4	48.95	11.469	
6,100.0	5,944.3	6,067.3	5,919.3	25.7	25.2	103.27	211.2	-1,265.7	571.6	521.7	49.85	11.465	
6,200.0	6,041.8	6,168.7	6,018.0	26.2	25.6	103.31	214.6	-1,289.0	581.3	530.6	50.70	11.464	
6,300.0	6,139.8	6,271.3	6,118.3	26.5	26.0	103.33	217.7	-1,310.0	589.8	538.4	51.47	11.461	
6,400.0	6,238.3	6,374.0	6,219.4	26.9	26.3	103.35	220.5	-1,328.4	597.3	545.2	52.14	11.455	
6,500.0	6,337.2	6,476.9	6,321.0	27.1	26.6	103.36	222.8	-1,344.1	603.7	551.0	52.74	11.448	
6,600.0	6,436.5	6,579.9	6,423.1	27.4	26.9	103.36	224.8	-1,357.0	609.0	555.7	53.25	11.437	
6,700.0	6,536.0	6,683.0	6,525.7	27.6	27.1	103.36	226.3	-1,367.3	613.1	559.5	53.67	11.424	
6,800.0	6,635.8	6,786.1	6,628.6	27.7	27.3	103.35	227.4	-1,374.8	616.2	562.1	54.01	11.409	
6,900.0	6,735.7	6,889.3	6,731.7	27.9	27.4	103.34	228.1	-1,379.6	618.1	563.8	54.26	11.390	
7,000.0	6,835.6	6,992.6	6,834.9	27.9	27.5	103.32	228.4	-1,381.6	618.8	564.4	54.44	11.367	
7,100.0	6,935.6	7,093.3	6,935.6	28.0	27.6	-2.77	228.4	-1,381.7	618.8	564.2	54.60	11.335	
7,200.0	7,035.6	7,193.3	7,035.6	28.1	27.7	-2.77	228.4	-1,381.7	618.8	564.1	54.76	11.302	
7,300.0	7,135.6	7,293.3	7,135.6	28.2	27.8	-2.77	228.4	-1,381.7	618.8	563.9	54.92	11.269	
7,400.0	7,235.6	7,393.3	7,235.6	28.3	27.8	-2.77	228.4	-1,381.7	618.8	563.8	55.08	11.235	
7,500.0	7,335.6	7,493.3	7,335.6	28.3	27.9	-2.77	228.4	-1,381.7	618.8	563.6	55.24	11.202	
7,600.0	7,435.6	7,593.3	7,435.6	28.4	28.0	-2.77	228.4	-1,381.7	618.8	563.4	55.41	11.168	
7,700.0	7,535.6	7,693.3	7,535.6	28.5	28.1	-2.77	228.4	-1,381.7	618.8	563.3	55.58	11.135	
7,800.0	7,635.6	7,793.3	7,635.6	28.6	28.2	-2.77	228.4	-1,381.7	618.8	563.1	55.75	11.101	
7,900.0	7,735.6	7,893.3	7,735.6	28.7	28.3	-2.77	228.4	-1,381.7	618.8	562.9	55.92	11.067	
8,000.0	7,835.6	7,993.3	7,835.6	28.8	28.3	-2.77	228.4	-1,381.7	618.8	562.8	56.09	11.033	
8,100.0	7,935.6	8,093.3	7,935.6	28.8	28.4	-2.77	228.4	-1,381.7	618.8	562.6	56.26	10.999	
8,200.0	8,035.6	8,193.3	8,035.6	28.9	28.5	-2.77	228.4	-1,381.7	618.8	562.4	56.44	10.965	
8,300.0	8,135.6	8,293.3	8,135.6	29.0	28.6	-2.77	228.4	-1,381.7	618.8	562.2	56.62	10.930	
8,400.0	8,235.6	8,393.3	8,235.6	29.1	28.7	-2.77	228.4	-1,381.7	618.8	562.0	56.80	10.896	
8,500.0	8,335.6	8,493.3	8,335.6	29.2	28.8	-2.77	228.4	-1,381.7	618.8	561.9	56.98	10.861	
8,600.0	8,435.6	8,593.3	8,435.6	29.3	28.9	-2.77	228.4	-1,381.7	618.8	561.7	57.16	10.827	
8,700.0	8,535.6	8,693.3	8,535.6	29.4	29.0	-2.77	228.4	-1,381.7	618.8	561.5	57.34	10.792	
8,800.0	8,635.6	8,793.3	8,635.6	29.5	29.1	-2.77	228.4	-1,381.7	618.8	561.3	57.53	10.757	
8,863.4	8,699.0	8,856.7	8,699.0	29.5	29.1	-2.77	228.4	-1,381.7	618.8	561.2	57.65	10.735	SF

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-21.17	42.3	-16.4	45.3				
100.0	100.0	100.0	100.0	0.1	0.1	-21.17	42.3	-16.4	45.3	45.0	0.30	152.712	
200.0	200.0	200.0	200.0	0.3	0.3	-21.17	42.3	-16.4	45.3	44.7	0.65	70.165	
300.0	300.0	300.0	300.0	0.5	0.5	-21.17	42.3	-16.4	45.3	44.3	0.99	45.546	CC, ES
400.0	400.0	399.2	399.2	0.7	0.7	85.31	42.7	-17.6	46.1	44.7	1.34	34.247	
500.0	499.9	498.4	498.3	0.9	0.9	86.44	44.1	-21.2	48.3	46.6	1.71	28.300	
600.0	599.7	597.5	597.2	1.1	1.1	88.10	46.3	-27.2	52.1	50.0	2.10	24.874	
700.0	699.3	696.4	695.7	1.3	1.3	90.05	49.5	-35.6	57.5	55.0	2.52	22.794	
800.0	798.6	795.3	793.9	1.5	1.5	92.05	53.5	-46.4	64.5	61.5	3.00	21.481	
900.0	897.5	893.9	891.5	1.8	1.8	93.96	58.5	-59.5	73.2	69.6	3.55	20.627	
1,000.0	996.1	992.3	988.5	2.1	2.1	95.69	64.3	-74.9	83.4	79.3	4.16	20.052	
1,100.0	1,094.2	1,090.4	1,084.8	2.5	2.5	97.19	70.9	-92.6	95.3	90.5	4.85	19.654	
1,200.0	1,191.7	1,188.2	1,180.2	2.9	2.9	98.47	78.4	-112.6	108.8	103.2	5.62	19.368	
1,300.0	1,288.7	1,286.3	1,275.4	3.4	3.3	99.56	86.7	-134.7	123.8	117.3	6.44	19.225	
1,400.0	1,385.7	1,385.1	1,371.3	3.8	3.7	100.40	95.2	-157.4	139.0	131.7	7.28	19.092	
1,500.0	1,482.7	1,484.0	1,467.1	4.3	4.2	101.08	103.8	-180.0	154.2	146.1	8.13	18.964	
1,600.0	1,579.7	1,582.8	1,562.9	4.7	4.6	101.64	112.3	-202.7	169.5	160.5	8.99	18.844	
1,700.0	1,676.7	1,681.6	1,658.7	5.2	5.1	102.11	120.8	-225.4	184.7	174.9	9.86	18.736	
1,800.0	1,773.7	1,780.4	1,754.5	5.6	5.5	102.50	129.3	-248.0	200.0	189.3	10.73	18.638	
1,900.0	1,870.7	1,879.2	1,850.3	6.1	6.0	102.84	137.8	-270.7	215.3	203.7	11.60	18.550	
2,000.0	1,967.7	1,978.0	1,946.1	6.5	6.5	103.13	146.3	-293.3	230.5	218.1	12.48	18.471	
2,100.0	2,064.7	2,076.9	2,041.9	7.0	6.9	103.39	154.9	-316.0	245.8	232.5	13.36	18.399	
2,200.0	2,161.7	2,175.7	2,137.7	7.5	7.4	103.62	163.4	-338.7	261.1	246.9	14.24	18.335	
2,300.0	2,258.6	2,274.5	2,233.5	7.9	7.8	103.82	171.9	-361.3	276.4	261.3	15.12	18.276	
2,400.0	2,355.6	2,373.3	2,329.3	8.4	8.3	104.00	180.4	-384.0	291.7	275.7	16.01	18.223	
2,500.0	2,452.6	2,472.1	2,425.1	8.9	8.8	104.16	188.9	-406.6	307.0	290.1	16.89	18.175	
2,600.0	2,549.6	2,571.0	2,520.9	9.3	9.2	104.31	197.5	-429.3	322.3	304.5	17.78	18.130	
2,700.0	2,646.6	2,669.8	2,616.8	9.8	9.7	104.45	206.0	-452.0	337.6	319.0	18.66	18.089	
2,800.0	2,743.6	2,768.6	2,712.6	10.3	10.2	104.57	214.5	-474.6	352.9	333.4	19.55	18.052	
2,900.0	2,840.6	2,867.4	2,808.4	10.7	10.6	104.68	223.0	-497.3	368.2	347.8	20.44	18.017	
3,000.0	2,937.6	2,966.2	2,904.2	11.2	11.1	104.78	231.5	-519.9	383.5	362.2	21.33	17.985	
3,100.0	3,034.6	3,065.1	3,000.0	11.7	11.5	104.88	240.0	-542.6	398.9	376.6	22.21	17.955	
3,200.0	3,131.6	3,163.9	3,095.8	12.1	12.0	104.97	248.6	-565.3	414.2	391.1	23.10	17.927	
3,300.0	3,228.6	3,262.7	3,191.6	12.6	12.5	105.05	257.1	-587.9	429.5	405.5	23.99	17.901	
3,400.0	3,325.5	3,361.5	3,287.4	13.1	12.9	105.12	265.6	-610.6	444.8	419.9	24.88	17.876	
3,500.0	3,422.5	3,460.3	3,383.2	13.5	13.4	105.20	274.1	-633.3	460.1	434.3	25.77	17.854	
3,600.0	3,519.5	3,559.1	3,479.0	14.0	13.9	105.26	282.6	-655.9	475.4	448.8	26.66	17.832	
3,700.0	3,616.5	3,658.0	3,574.8	14.5	14.3	105.33	291.1	-678.6	490.7	463.2	27.55	17.812	
3,800.0	3,713.5	3,756.8	3,670.6	15.0	14.8	105.38	299.7	-701.2	506.1	477.6	28.44	17.793	
3,900.0	3,810.5	3,855.6	3,766.4	15.4	15.3	105.44	308.2	-723.9	521.4	492.0	29.33	17.775	
4,000.0	3,907.5	3,954.4	3,862.3	15.9	15.7	105.49	316.7	-746.6	536.7	506.5	30.22	17.758	
4,100.0	4,004.5	4,053.2	3,958.1	16.4	16.2	105.54	325.2	-769.2	552.0	520.9	31.11	17.742	
4,200.0	4,101.5	4,152.1	4,053.9	16.8	16.7	105.59	333.7	-791.9	567.3	535.3	32.00	17.727	
4,300.0	4,198.5	4,250.9	4,149.7	17.3	17.1	105.63	342.2	-814.5	582.6	549.7	32.89	17.712	
4,400.0	4,295.5	4,349.7	4,245.5	17.8	17.6	105.67	350.8	-837.2	598.0	564.2	33.79	17.699	
4,500.0	4,392.4	4,448.5	4,341.3	18.2	18.1	105.71	359.3	-859.9	613.3	578.6	34.68	17.686	
4,600.0	4,489.4	4,547.3	4,437.1	18.7	18.5	105.75	367.8	-882.5	628.6	593.0	35.57	17.673	
4,700.0	4,586.4	4,646.2	4,532.9	19.2	19.0	105.79	376.3	-905.2	643.9	607.5	36.46	17.661	
4,800.0	4,683.4	4,745.0	4,628.7	19.6	19.5	105.82	384.8	-927.8	659.2	621.9	37.35	17.650	
4,900.0	4,780.4	4,843.8	4,724.5	20.1	19.9	105.85	393.3	-950.5	674.6	636.3	38.24	17.639	
5,000.0	4,877.4	4,942.6	4,820.3	20.6	20.4	105.89	401.9	-973.2	689.9	650.7	39.13	17.629	
5,100.0	4,974.4	5,041.4	4,916.1	21.0	20.9	105.91	410.4	-995.8	705.2	665.2	40.03	17.619	

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

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,071.4	5,140.3	5,011.9	21.5	21.3	105.94	418.9	-1,018.5	720.5	679.6	40.92	17.609	
5,300.0	5,168.4	5,239.1	5,107.7	22.0	21.8	105.97	427.4	-1,041.2	735.8	694.0	41.81	17.600	
5,400.0	5,265.4	5,337.9	5,203.6	22.5	22.2	106.00	435.9	-1,063.8	751.2	708.5	42.70	17.591	
5,500.0	5,362.4	5,436.7	5,299.4	22.9	22.7	106.02	444.5	-1,086.5	766.5	722.9	43.59	17.583	
5,600.0	5,459.4	5,535.5	5,395.2	23.4	23.2	106.05	453.0	-1,109.1	781.8	737.3	44.48	17.575	
5,700.0	5,556.3	5,634.3	5,491.0	23.9	23.6	106.07	461.5	-1,131.8	797.1	751.7	45.38	17.567	
5,800.0	5,653.3	5,733.2	5,586.8	24.3	24.1	106.09	470.0	-1,154.5	812.4	766.2	46.27	17.559	
5,900.0	5,750.3	5,832.0	5,682.6	24.8	24.6	106.11	478.5	-1,177.1	827.8	780.6	47.16	17.552	
6,000.0	5,847.3	5,930.8	5,778.4	25.3	25.0	106.14	487.0	-1,199.8	843.1	795.0	48.05	17.545	
6,100.0	5,944.3	6,029.6	5,874.2	25.7	25.5	106.21	495.6	-1,222.4	858.4	809.4	48.95	17.536	
6,200.0	6,041.8	6,132.1	5,973.6	26.2	26.0	106.33	504.3	-1,245.7	873.1	823.2	49.82	17.526	
6,300.0	6,139.8	6,239.5	6,078.4	26.5	26.4	106.40	512.6	-1,267.7	886.2	835.6	50.61	17.511	
6,400.0	6,238.3	6,347.3	6,184.2	26.9	26.8	106.46	519.9	-1,287.1	897.7	846.4	51.32	17.493	
6,500.0	6,337.2	6,455.5	6,290.9	27.1	27.1	106.51	526.1	-1,303.7	907.6	855.6	51.94	17.473	
6,600.0	6,436.5	6,564.0	6,398.4	27.4	27.4	106.55	531.3	-1,317.5	915.7	863.2	52.47	17.451	
6,700.0	6,536.0	6,672.7	6,506.5	27.6	27.7	106.57	535.4	-1,328.5	922.1	869.2	52.92	17.425	
6,800.0	6,635.8	6,781.6	6,615.1	27.7	27.9	106.58	538.4	-1,336.6	926.8	873.5	53.28	17.396	
6,900.0	6,735.7	6,890.7	6,724.0	27.9	28.0	106.57	540.4	-1,341.8	929.7	876.2	53.55	17.363	
7,000.0	6,835.6	6,999.8	6,833.1	27.9	28.1	106.56	541.3	-1,344.1	931.0	877.2	53.74	17.325	
7,100.0	6,935.6	7,102.4	6,935.6	28.0	28.2	0.47	541.3	-1,344.2	931.0	877.1	53.90	17.274	
7,200.0	7,035.6	7,202.4	7,035.6	28.1	28.3	0.47	541.3	-1,344.2	931.0	877.0	54.06	17.223	
7,300.0	7,135.6	7,302.4	7,135.6	28.2	28.3	0.47	541.3	-1,344.2	931.0	876.8	54.22	17.171	
7,400.0	7,235.6	7,402.4	7,235.6	28.3	28.4	0.47	541.3	-1,344.2	931.0	876.6	54.39	17.119	
7,500.0	7,335.6	7,502.4	7,335.6	28.3	28.5	0.47	541.3	-1,344.2	931.0	876.5	54.55	17.067	
7,600.0	7,435.6	7,602.4	7,435.6	28.4	28.6	0.47	541.3	-1,344.2	931.0	876.3	54.72	17.014	
7,700.0	7,535.6	7,702.4	7,535.6	28.5	28.7	0.47	541.3	-1,344.2	931.0	876.1	54.89	16.962	
7,800.0	7,635.6	7,802.4	7,635.6	28.6	28.8	0.47	541.3	-1,344.2	931.0	876.0	55.06	16.909	
7,900.0	7,735.6	7,902.4	7,735.6	28.7	28.8	0.47	541.3	-1,344.2	931.0	875.8	55.23	16.856	
8,000.0	7,835.6	8,002.4	7,835.6	28.8	28.9	0.47	541.3	-1,344.2	931.0	875.6	55.41	16.803	
8,100.0	7,935.6	8,102.4	7,935.6	28.8	29.0	0.47	541.3	-1,344.2	931.0	875.4	55.59	16.749	
8,200.0	8,035.6	8,202.4	8,035.6	28.9	29.1	0.47	541.3	-1,344.2	931.0	875.3	55.76	16.696	
8,300.0	8,135.6	8,302.4	8,135.6	29.0	29.2	0.47	541.3	-1,344.2	931.0	875.1	55.94	16.642	
8,400.0	8,235.6	8,402.4	8,235.6	29.1	29.3	0.47	541.3	-1,344.2	931.0	874.9	56.12	16.589	
8,500.0	8,335.6	8,502.4	8,335.6	29.2	29.3	0.47	541.3	-1,344.2	931.0	874.7	56.31	16.535	
8,600.0	8,435.6	8,602.4	8,435.6	29.3	29.4	0.47	541.3	-1,344.2	931.0	874.5	56.49	16.481	
8,700.0	8,535.6	8,702.4	8,535.6	29.4	29.5	0.47	541.3	-1,344.2	931.0	874.4	56.68	16.427	
8,800.0	8,635.6	8,802.4	8,635.6	29.5	29.6	0.47	541.3	-1,344.2	931.0	874.2	56.87	16.373	
8,863.4	8,699.0	8,865.7	8,699.0	29.5	29.7	0.47	541.3	-1,344.2	931.0	874.0	56.99	16.338	SF

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (Oxy I21 Pad)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design NESE S21-T6S-R97W (Oxy I21 pad) - Oxy 21-17D (Oxy I21 pad) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-33.15	37.2	-24.3	44.4				
100.0	100.0	100.0	100.0	0.1	0.1	-33.15	37.2	-24.3	44.4	44.1	0.30	149.559	
200.0	200.0	200.0	200.0	0.3	0.3	-33.15	37.2	-24.3	44.4	43.7	0.65	68.716	CC, ES
300.0	300.0	299.1	299.1	0.5	0.5	-34.15	37.6	-25.5	45.4	44.4	0.99	45.678	
400.0	400.0	398.1	398.0	0.7	0.7	70.59	38.8	-29.1	48.1	46.8	1.35	35.726	
500.0	499.9	496.9	496.6	0.9	0.9	70.44	40.9	-35.2	52.1	50.3	1.71	30.404	
600.0	599.7	595.6	594.9	1.1	1.1	71.23	43.7	-43.7	57.2	55.1	2.10	27.229	
700.0	699.3	694.2	692.8	1.3	1.4	72.69	47.4	-54.5	63.7	61.1	2.53	25.175	
800.0	798.6	792.5	790.1	1.5	1.7	74.54	51.9	-67.7	71.4	68.4	3.01	23.743	
900.0	897.5	890.6	886.8	1.8	2.0	76.58	57.1	-83.2	80.5	77.0	3.55	22.678	
1,000.0	996.1	988.4	982.8	2.1	2.3	78.64	63.1	-101.1	91.0	86.8	4.17	21.842	
1,100.0	1,094.2	1,085.9	1,078.0	2.5	2.7	80.63	69.9	-121.1	103.0	98.1	4.87	21.161	
1,200.0	1,191.7	1,183.0	1,172.2	2.9	3.2	82.49	77.5	-143.4	116.3	110.7	5.65	20.594	
1,300.0	1,288.7	1,279.8	1,265.5	3.4	3.7	84.12	85.8	-167.9	131.2	124.7	6.50	20.198	
1,400.0	1,385.7	1,376.2	1,357.7	3.8	4.2	84.80	94.8	-194.5	147.7	140.4	7.37	20.047	SF
1,500.0	1,482.7	1,472.1	1,448.7	4.3	4.8	84.68	104.4	-223.1	165.8	157.6	8.26	20.085	
1,600.0	1,579.7	1,567.4	1,538.4	4.7	5.4	84.00	114.8	-253.6	185.5	176.3	9.15	20.273	
1,700.0	1,676.7	1,661.9	1,626.5	5.2	6.0	82.94	125.8	-286.0	206.7	196.6	10.04	20.587	
1,800.0	1,773.7	1,755.6	1,713.0	5.6	6.7	81.64	137.3	-320.2	229.6	218.6	10.92	21.013	
1,900.0	1,870.7	1,848.3	1,797.7	6.1	7.4	80.18	149.4	-356.0	254.2	242.4	11.80	21.542	
2,000.0	1,967.7	1,940.1	1,880.5	6.5	8.2	78.66	162.1	-393.2	280.5	267.9	12.66	22.164	
2,100.0	2,064.7	2,030.7	1,961.4	7.0	9.0	77.11	175.1	-431.9	308.8	295.3	13.50	22.873	
2,200.0	2,161.7	2,120.0	2,040.2	7.5	9.8	75.57	188.7	-471.8	338.8	324.5	14.32	23.661	
2,300.0	2,258.6	2,208.2	2,116.9	7.9	10.7	74.06	202.5	-512.9	370.8	355.7	15.12	24.521	
2,400.0	2,355.6	2,295.0	2,191.5	8.4	11.5	72.61	216.8	-554.9	404.6	388.7	15.90	25.446	
2,500.0	2,452.6	2,381.3	2,264.7	8.9	12.4	71.21	231.5	-598.3	440.4	423.7	16.66	26.430	
2,600.0	2,549.6	2,473.8	2,342.7	9.3	13.4	69.87	247.4	-645.5	476.9	459.5	17.43	27.366	
2,700.0	2,646.6	2,566.3	2,420.6	9.8	14.4	68.71	263.4	-692.6	513.7	495.5	18.19	28.240	
2,800.0	2,743.6	2,658.9	2,498.6	10.3	15.3	67.71	279.4	-739.8	550.7	531.7	18.95	29.055	
2,900.0	2,840.6	2,751.4	2,576.6	10.7	16.3	66.83	295.3	-786.9	587.8	568.1	19.71	29.815	
3,000.0	2,937.6	2,843.9	2,654.6	11.2	17.3	66.06	311.3	-834.1	625.0	604.5	20.47	30.526	
3,100.0	3,034.6	2,936.4	2,732.6	11.7	18.3	65.37	327.2	-881.2	662.2	641.0	21.23	31.192	
3,200.0	3,131.6	3,028.9	2,810.6	12.1	19.2	64.76	343.2	-928.4	699.6	677.6	21.99	31.815	
3,300.0	3,228.6	3,121.4	2,888.6	12.6	20.2	64.21	359.2	-975.5	737.0	714.2	22.75	32.400	
3,400.0	3,325.5	3,214.0	2,966.6	13.1	21.2	63.71	375.1	-1,022.6	774.4	750.9	23.50	32.950	
3,500.0	3,422.5	3,306.5	3,044.5	13.5	22.2	63.26	391.1	-1,069.8	811.9	787.7	24.26	33.468	
3,600.0	3,519.5	3,399.0	3,122.5	14.0	23.2	62.84	407.0	-1,116.9	849.5	824.5	25.02	33.956	
3,700.0	3,616.5	3,491.5	3,200.5	14.5	24.1	62.46	423.0	-1,164.1	887.1	861.3	25.77	34.416	
3,800.0	3,713.5	3,584.0	3,278.5	15.0	25.1	62.12	438.9	-1,211.2	924.7	898.2	26.53	34.852	
3,900.0	3,810.5	3,676.5	3,356.5	15.4	26.1	61.80	454.9	-1,258.4	962.3	935.0	27.29	35.264	
4,000.0	3,907.5	3,769.1	3,434.5	15.9	27.1	61.50	470.9	-1,305.5	1,000.0	971.9	28.05	35.655	
4,100.0	4,004.5	3,861.6	3,512.5	16.4	28.1	61.23	486.8	-1,352.7	1,037.7	1,008.9	28.80	36.026	
4,200.0	4,101.5	3,954.1	3,590.5	16.8	29.1	60.97	502.8	-1,399.8	1,075.4	1,045.8	29.56	36.378	

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	147.57	-101.3	64.3	120.0				
100.0	100.0	100.0	100.0	0.1	0.1	147.57	-101.3	64.3	120.0	119.7	0.30	404.317	
200.0	200.0	200.0	200.0	0.3	0.3	147.57	-101.3	64.3	120.0	119.3	0.65	185.767	
300.0	300.0	300.0	300.0	0.5	0.5	147.57	-101.3	64.3	120.0	119.0	0.99	120.586	CC, ES
400.0	400.0	397.5	397.5	0.7	0.7	-106.56	-102.5	64.3	121.4	120.0	1.34	90.472	
500.0	499.9	494.9	494.8	0.9	0.8	-107.17	-106.2	64.0	125.6	123.9	1.70	73.970	
600.0	599.7	592.0	591.7	1.1	1.0	-108.09	-112.4	63.6	132.6	130.6	2.07	63.974	
700.0	699.3	688.7	688.1	1.3	1.3	-109.22	-121.0	63.1	142.5	140.1	2.48	57.539	
800.0	798.6	785.0	783.7	1.5	1.5	-110.44	-131.9	62.4	155.3	152.4	2.92	53.222	
900.0	897.5	880.6	878.3	1.8	1.8	-111.66	-145.2	61.6	171.0	167.6	3.40	50.237	
1,000.0	996.1	975.5	971.9	2.1	2.1	-112.81	-160.7	60.6	189.6	185.6	3.94	48.126	
1,100.0	1,094.2	1,069.5	1,064.3	2.5	2.4	-113.86	-178.4	59.5	211.0	206.5	4.53	46.603	
1,200.0	1,191.7	1,162.6	1,155.3	2.9	2.8	-114.77	-198.0	58.3	235.2	230.1	5.17	45.488	
1,300.0	1,288.7	1,254.7	1,244.8	3.4	3.2	-115.69	-219.7	57.0	262.1	256.2	5.86	44.735	
1,400.0	1,385.7	1,346.0	1,333.0	3.8	3.6	-116.26	-243.3	55.5	290.6	284.0	6.58	44.198	
1,500.0	1,482.7	1,437.9	1,421.2	4.3	4.0	-116.44	-269.1	53.9	320.6	313.3	7.32	43.832	
1,600.0	1,579.7	1,533.2	1,512.5	4.7	4.5	-116.51	-296.4	52.2	351.1	343.0	8.08	43.459	
1,700.0	1,676.7	1,628.5	1,603.7	5.2	5.0	-116.58	-323.7	50.5	381.5	372.7	8.85	43.115	
1,800.0	1,773.7	1,723.7	1,695.0	5.6	5.5	-116.63	-351.0	48.8	411.9	402.3	9.62	42.802	
1,900.0	1,870.7	1,819.0	1,786.2	6.1	6.0	-116.68	-378.2	47.1	442.4	432.0	10.40	42.517	
2,000.0	1,967.7	1,914.2	1,877.5	6.5	6.5	-116.72	-405.5	45.5	472.8	461.6	11.19	42.260	
2,100.0	2,064.7	2,009.5	1,968.7	7.0	7.0	-116.76	-432.8	43.8	503.2	491.2	11.97	42.026	
2,200.0	2,161.7	2,104.7	2,060.0	7.5	7.5	-116.79	-460.1	42.1	533.6	520.9	12.76	41.814	
2,300.0	2,258.6	2,200.0	2,151.2	7.9	8.0	-116.82	-487.4	40.4	564.1	550.5	13.55	41.621	
2,400.0	2,355.6	2,295.3	2,242.5	8.4	8.5	-116.85	-514.7	38.7	594.5	580.1	14.34	41.445	
2,500.0	2,452.6	2,390.5	2,333.7	8.9	9.0	-116.87	-542.0	37.0	624.9	609.8	15.14	41.283	
2,600.0	2,549.6	2,485.8	2,425.0	9.3	9.5	-116.89	-569.3	35.3	655.3	639.4	15.93	41.135	
2,700.0	2,646.6	2,581.0	2,516.2	9.8	10.0	-116.91	-596.5	33.6	685.8	669.1	16.73	40.999	
2,800.0	2,743.6	2,676.3	2,607.5	10.3	10.5	-116.93	-623.8	31.9	716.2	698.7	17.52	40.873	
2,900.0	2,840.6	2,771.5	2,698.7	10.7	11.0	-116.95	-651.1	30.2	746.6	728.3	18.32	40.756	
3,000.0	2,937.6	2,866.8	2,790.0	11.2	11.5	-116.96	-678.4	28.5	777.1	757.9	19.12	40.648	
3,100.0	3,034.6	2,962.1	2,881.2	11.7	12.0	-116.97	-705.7	26.8	807.5	787.6	19.91	40.548	
3,200.0	3,131.6	3,057.3	2,972.5	12.1	12.5	-116.99	-733.0	25.1	837.9	817.2	20.71	40.454	
3,300.0	3,228.6	3,152.6	3,063.7	12.6	13.0	-117.00	-760.3	23.4	868.3	846.8	21.51	40.366	
3,400.0	3,325.5	3,247.8	3,155.0	13.1	13.5	-117.01	-787.6	21.7	898.8	876.5	22.31	40.284	
3,500.0	3,422.5	3,343.1	3,246.2	13.5	14.0	-117.02	-814.8	20.1	929.2	906.1	23.11	40.207	
3,600.0	3,519.5	3,438.4	3,337.5	14.0	14.5	-117.03	-842.1	18.4	959.6	935.7	23.91	40.135	
3,700.0	3,616.5	3,533.6	3,428.7	14.5	15.0	-117.04	-869.4	16.7	990.1	965.4	24.71	40.067	
3,800.0	3,713.5	3,628.9	3,520.0	15.0	15.5	-117.05	-896.7	15.0	1,020.5	995.0	25.51	40.002	
3,900.0	3,810.5	3,724.1	3,611.2	15.4	16.0	-117.06	-924.0	13.3	1,050.9	1,024.6	26.31	39.942	
4,000.0	3,907.5	3,819.4	3,702.5	15.9	16.5	-117.06	-951.3	11.6	1,081.3	1,054.2	27.11	39.884	
4,100.0	4,004.5	3,914.6	3,793.7	16.4	17.0	-117.07	-978.6	9.9	1,111.8	1,083.9	27.91	39.830	SF

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	116.71	-8.4	16.6	18.6				
100.0	100.0	100.0	100.0	0.1	0.1	116.71	-8.4	16.6	18.6	18.3	0.30	62.811	
200.0	200.0	200.0	200.0	0.3	0.3	116.71	-8.4	16.6	18.6	18.0	0.65	28.859	CC, ES
300.0	300.0	299.7	299.7	0.5	0.5	120.11	-9.7	16.7	19.3	18.3	1.00	19.383	
400.0	400.0	399.4	399.3	0.7	0.7	-127.72	-13.6	16.8	22.4	21.1	1.35	16.572	SF
500.0	499.9	498.7	498.4	0.9	0.9	-123.65	-20.0	17.0	28.9	27.2	1.72	16.790	
600.0	599.7	597.6	596.9	1.1	1.1	-121.60	-29.0	17.4	38.7	36.5	2.11	18.296	
700.0	699.3	696.0	694.6	1.3	1.4	-120.79	-40.5	17.7	51.6	49.0	2.54	20.342	
800.0	798.6	793.6	791.2	1.5	1.7	-120.58	-54.4	18.2	67.6	64.6	3.00	22.561	
900.0	897.5	890.4	886.6	1.8	2.0	-120.65	-70.6	18.8	86.7	83.2	3.50	24.758	
1,000.0	996.1	986.2	980.6	2.1	2.3	-120.82	-89.0	19.4	108.9	104.8	4.06	26.834	
1,100.0	1,094.2	1,080.9	1,073.1	2.5	2.7	-120.99	-109.4	20.1	134.0	129.3	4.66	28.750	
1,200.0	1,191.7	1,176.8	1,166.4	2.9	3.1	-121.42	-131.6	20.9	161.5	156.2	5.31	30.401	
1,300.0	1,288.7	1,272.5	1,259.6	3.4	3.5	-122.40	-153.7	21.6	190.0	184.1	5.99	31.722	
1,400.0	1,385.7	1,368.3	1,352.7	3.8	3.9	-123.28	-175.9	22.4	218.8	212.1	6.68	32.733	
1,500.0	1,482.7	1,464.0	1,445.8	4.3	4.3	-123.95	-198.0	23.1	247.6	240.2	7.38	33.531	
1,600.0	1,579.7	1,559.7	1,539.0	4.7	4.7	-124.49	-220.1	23.9	276.4	268.3	8.09	34.175	
1,700.0	1,676.7	1,655.5	1,632.1	5.2	5.2	-124.92	-242.3	24.7	305.2	296.4	8.79	34.704	
1,800.0	1,773.7	1,751.2	1,725.2	5.6	5.6	-125.28	-264.4	25.4	334.0	324.5	9.50	35.145	
1,900.0	1,870.7	1,846.9	1,818.4	6.1	6.0	-125.58	-286.5	26.2	362.9	352.6	10.22	35.519	
2,000.0	1,967.7	1,942.7	1,911.5	6.5	6.4	-125.84	-308.6	26.9	391.7	380.8	10.93	35.840	
2,100.0	2,064.7	2,038.4	2,004.7	7.0	6.8	-126.06	-330.8	27.7	420.6	408.9	11.64	36.117	
2,200.0	2,161.7	2,134.1	2,097.8	7.5	7.2	-126.26	-352.9	28.5	449.4	437.1	12.36	36.359	
2,300.0	2,258.6	2,229.9	2,190.9	7.9	7.7	-126.43	-375.0	29.2	478.3	465.2	13.08	36.573	
2,400.0	2,355.6	2,325.6	2,284.1	8.4	8.1	-126.58	-397.2	30.0	507.2	493.4	13.80	36.762	
2,500.0	2,452.6	2,421.3	2,377.2	8.9	8.5	-126.71	-419.3	30.7	536.0	521.5	14.51	36.932	
2,600.0	2,549.6	2,517.1	2,470.3	9.3	8.9	-126.83	-441.4	31.5	564.9	549.7	15.23	37.084	
2,700.0	2,646.6	2,612.8	2,563.5	9.8	9.3	-126.94	-463.6	32.3	593.8	577.8	15.95	37.221	
2,800.0	2,743.6	2,708.5	2,656.6	10.3	9.7	-127.04	-485.7	33.0	622.7	606.0	16.67	37.345	
2,900.0	2,840.6	2,804.3	2,749.8	10.7	10.2	-127.13	-507.8	33.8	651.5	634.1	17.39	37.459	
3,000.0	2,937.6	2,900.0	2,842.9	11.2	10.6	-127.21	-530.0	34.5	680.4	662.3	18.11	37.563	
3,100.0	3,034.6	2,995.7	2,936.0	11.7	11.0	-127.29	-552.1	35.3	709.3	690.5	18.84	37.658	
3,200.0	3,131.6	3,091.5	3,029.2	12.1	11.4	-127.36	-574.2	36.1	738.2	718.6	19.56	37.746	
3,300.0	3,228.6	3,187.2	3,122.3	12.6	11.8	-127.42	-596.4	36.8	767.1	746.8	20.28	37.827	
3,400.0	3,325.5	3,283.0	3,215.4	13.1	12.3	-127.48	-618.5	37.6	796.0	775.0	21.00	37.902	
3,500.0	3,422.5	3,378.7	3,308.6	13.5	12.7	-127.54	-640.6	38.3	824.8	803.1	21.72	37.972	
3,600.0	3,519.5	3,474.4	3,401.7	14.0	13.1	-127.59	-662.7	39.1	853.7	831.3	22.44	38.037	
3,700.0	3,616.5	3,570.2	3,494.9	14.5	13.5	-127.64	-684.9	39.8	882.6	859.5	23.17	38.098	
3,800.0	3,713.5	3,665.9	3,588.0	15.0	13.9	-127.69	-707.0	40.6	911.5	887.6	23.89	38.155	
3,900.0	3,810.5	3,761.6	3,681.1	15.4	14.4	-127.73	-729.1	41.4	940.4	915.8	24.61	38.209	
4,000.0	3,907.5	3,857.4	3,774.3	15.9	14.8	-127.77	-751.3	42.1	969.3	943.9	25.33	38.259	
4,100.0	4,004.5	3,953.1	3,867.4	16.4	15.2	-127.81	-773.4	42.9	998.2	972.1	26.06	38.307	
4,200.0	4,101.5	4,048.8	3,960.6	16.8	15.6	-127.84	-795.5	43.6	1,027.1	1,000.3	26.78	38.351	
4,300.0	4,198.5	4,144.6	4,053.7	17.3	16.0	-127.88	-817.7	44.4	1,055.9	1,028.4	27.50	38.393	
4,400.0	4,295.5	4,240.3	4,146.8	17.8	16.5	-127.91	-839.8	45.2	1,084.8	1,056.6	28.23	38.433	

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	145.45	-82.0	56.4	99.5				
100.0	100.0	100.0	100.0	0.1	0.1	145.45	-82.0	56.4	99.5	99.2	0.30	335.362	
200.0	200.0	200.0	200.0	0.3	0.3	145.45	-82.0	56.4	99.5	98.9	0.65	154.086	
300.0	300.0	300.0	300.0	0.5	0.5	145.45	-82.0	56.4	99.5	98.5	0.99	100.020	CC, ES
400.0	400.0	400.0	400.0	0.7	0.7	-109.18	-82.0	56.4	99.9	98.6	1.35	74.282	
500.0	499.9	499.9	499.9	0.9	0.8	-111.25	-82.0	56.4	101.3	99.6	1.70	59.501	
600.0	599.7	597.8	597.8	1.1	1.0	-114.01	-83.2	56.3	104.7	102.7	2.07	50.630	
700.0	699.3	695.6	695.5	1.3	1.2	-116.77	-86.9	56.0	111.3	108.8	2.45	45.355	
800.0	798.6	793.0	792.7	1.5	1.4	-119.30	-93.1	55.4	121.0	118.1	2.87	42.228	
900.0	897.5	890.1	889.4	1.8	1.6	-121.49	-101.8	54.6	133.8	130.5	3.31	40.426	
1,000.0	996.1	986.6	985.3	2.1	1.8	-123.28	-112.8	53.6	149.7	145.9	3.79	39.443	
1,100.0	1,094.2	1,082.5	1,080.2	2.5	2.1	-124.67	-126.1	52.4	168.5	164.2	4.32	38.960	
1,200.0	1,191.7	1,178.4	1,174.8	2.9	2.4	-125.75	-141.7	51.0	190.2	185.3	4.90	38.805	
1,300.0	1,288.7	1,275.5	1,270.6	3.4	2.6	-127.06	-158.1	49.5	213.5	208.0	5.50	38.788	
1,400.0	1,385.7	1,372.6	1,366.2	3.8	3.0	-128.24	-174.4	48.0	237.0	230.9	6.12	38.742	
1,500.0	1,482.7	1,469.7	1,461.9	4.3	3.3	-129.21	-190.8	46.5	260.6	253.9	6.74	38.674	
1,600.0	1,579.7	1,566.8	1,557.6	4.7	3.6	-130.02	-207.1	45.0	284.3	276.9	7.37	38.597	
1,700.0	1,676.7	1,663.9	1,653.3	5.2	3.9	-130.70	-223.5	43.6	308.0	300.0	8.00	38.519	
1,800.0	1,773.7	1,760.9	1,749.0	5.6	4.2	-131.29	-239.9	42.1	331.7	323.1	8.63	38.443	
1,900.0	1,870.7	1,858.0	1,844.7	6.1	4.5	-131.79	-256.2	40.6	355.5	346.2	9.27	38.371	
2,000.0	1,967.7	1,955.1	1,940.4	6.5	4.9	-132.24	-272.6	39.1	379.3	369.4	9.90	38.303	
2,100.0	2,064.7	2,052.2	2,036.1	7.0	5.2	-132.63	-288.9	37.6	403.1	392.6	10.54	38.240	
2,200.0	2,161.7	2,149.3	2,131.7	7.5	5.5	-132.98	-305.3	36.1	427.0	415.8	11.18	38.182	
2,300.0	2,258.6	2,246.4	2,227.4	7.9	5.8	-133.29	-321.7	34.6	450.8	439.0	11.82	38.127	
2,400.0	2,355.6	2,343.5	2,323.1	8.4	6.2	-133.57	-338.0	33.1	474.7	462.2	12.47	38.077	
2,500.0	2,452.6	2,440.5	2,418.8	8.9	6.5	-133.82	-354.4	31.7	498.5	485.4	13.11	38.031	
2,600.0	2,549.6	2,537.6	2,514.5	9.3	6.8	-134.05	-370.8	30.2	522.4	508.7	13.75	37.988	
2,700.0	2,646.6	2,634.7	2,610.2	9.8	7.1	-134.26	-387.1	28.7	546.3	531.9	14.40	37.948	
2,800.0	2,743.6	2,731.8	2,705.9	10.3	7.5	-134.45	-403.5	27.2	570.2	555.1	15.04	37.911	
2,900.0	2,840.6	2,828.9	2,801.5	10.7	7.8	-134.63	-419.8	25.7	594.1	578.4	15.68	37.876	
3,000.0	2,937.6	2,926.0	2,897.2	11.2	8.1	-134.79	-436.2	24.2	618.0	601.7	16.33	37.844	
3,100.0	3,034.6	3,023.1	2,992.9	11.7	8.5	-134.94	-452.6	22.7	641.9	624.9	16.98	37.814	
3,200.0	3,131.6	3,120.2	3,088.6	12.1	8.8	-135.08	-468.9	21.2	665.8	648.2	17.62	37.786	
3,300.0	3,228.6	3,217.2	3,184.3	12.6	9.1	-135.21	-485.3	19.8	689.7	671.4	18.27	37.759	
3,400.0	3,325.5	3,314.3	3,280.0	13.1	9.5	-135.34	-501.7	18.3	713.6	694.7	18.91	37.734	
3,500.0	3,422.5	3,411.4	3,375.7	13.5	9.8	-135.45	-518.0	16.8	737.6	718.0	19.56	37.711	
3,600.0	3,519.5	3,508.5	3,471.4	14.0	10.1	-135.56	-534.4	15.3	761.5	741.3	20.20	37.689	
3,700.0	3,616.5	3,605.6	3,567.0	14.5	10.4	-135.66	-550.7	13.8	785.4	764.5	20.85	37.668	
3,800.0	3,713.5	3,702.7	3,662.7	15.0	10.8	-135.75	-567.1	12.3	809.3	787.8	21.50	37.648	
3,900.0	3,810.5	3,799.8	3,758.4	15.4	11.1	-135.84	-583.5	10.8	833.2	811.1	22.14	37.629	
4,000.0	3,907.5	3,896.9	3,854.1	15.9	11.4	-135.92	-599.8	9.3	857.2	834.4	22.79	37.612	
4,100.0	4,004.5	3,993.9	3,949.8	16.4	11.8	-136.00	-616.2	7.9	881.1	857.7	23.44	37.595	
4,200.0	4,101.5	4,091.0	4,045.5	16.8	12.1	-136.08	-632.6	6.4	905.0	881.0	24.08	37.579	
4,300.0	4,198.5	4,188.1	4,141.2	17.3	12.4	-136.15	-648.9	4.9	929.0	904.2	24.73	37.564	
4,400.0	4,295.5	4,285.2	4,236.9	17.8	12.8	-136.22	-665.3	3.4	952.9	927.5	25.38	37.549	
4,500.0	4,392.4	4,382.3	4,332.5	18.2	13.1	-136.28	-681.6	1.9	976.9	950.8	26.02	37.536	
4,600.0	4,489.4	4,479.4	4,428.2	18.7	13.4	-136.34	-698.0	0.4	1,000.8	974.1	26.67	37.522	
4,700.0	4,586.4	4,576.5	4,523.9	19.2	13.8	-136.40	-714.4	-1.1	1,024.7	997.4	27.32	37.510	
4,800.0	4,683.4	4,673.6	4,619.6	19.6	14.1	-136.46	-730.7	-2.6	1,048.7	1,020.7	27.97	37.498	
4,900.0	4,780.4	4,770.6	4,715.3	20.1	14.4	-136.51	-747.1	-4.1	1,072.6	1,044.0	28.61	37.486	
5,000.0	4,877.4	4,867.7	4,811.0	20.6	14.8	-136.56	-763.5	-5.5	1,096.5	1,067.3	29.26	37.475	SF

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

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	147.79	-76.1	48.0	90.0				
100.0	100.0	100.0	100.0	0.1	0.1	147.79	-76.1	48.0	90.0	89.7	0.30	303.257	
200.0	200.0	200.0	200.0	0.3	0.3	147.79	-76.1	48.0	90.0	89.3	0.65	139.334	
300.0	300.0	300.0	300.0	0.5	0.5	147.79	-76.1	48.0	90.0	89.0	0.99	90.445	CC, ES
400.0	400.0	400.0	400.0	0.7	0.7	-106.93	-76.1	48.0	90.4	89.0	1.35	67.161	
500.0	499.9	499.9	499.9	0.9	0.8	-109.26	-76.1	48.0	91.6	89.9	1.70	53.786	
600.0	599.7	599.7	599.7	1.1	1.0	-112.99	-76.1	48.0	93.9	91.9	2.07	45.339	
700.0	699.3	697.7	697.7	1.3	1.2	-117.20	-77.4	47.8	98.7	96.2	2.45	40.213	
800.0	798.6	795.6	795.5	1.5	1.4	-121.04	-81.1	47.3	106.7	103.9	2.85	37.383	
900.0	897.5	893.1	892.8	1.8	1.6	-124.27	-87.3	46.4	118.0	114.7	3.28	35.975	
1,000.0	996.1	990.3	989.6	2.1	1.8	-126.82	-95.9	45.2	132.4	128.7	3.74	35.429	
1,100.0	1,094.2	1,088.0	1,086.8	2.5	2.0	-128.91	-106.5	43.8	149.6	145.4	4.23	35.394	SF
1,200.0	1,191.7	1,186.0	1,184.1	2.9	2.2	-131.14	-117.4	42.3	168.7	164.0	4.74	35.614	
1,300.0	1,288.7	1,283.5	1,281.0	3.4	2.4	-133.48	-128.2	40.8	189.6	184.3	5.25	36.072	
1,400.0	1,385.7	1,381.0	1,377.9	3.8	2.7	-135.47	-139.0	39.3	210.8	205.0	5.77	36.506	
1,500.0	1,482.7	1,478.5	1,474.7	4.3	2.9	-137.09	-149.8	37.8	232.2	225.9	6.29	36.897	
1,600.0	1,579.7	1,576.0	1,571.6	4.7	3.1	-138.44	-160.6	36.3	253.7	246.9	6.81	37.251	
1,700.0	1,676.7	1,673.4	1,668.5	5.2	3.4	-139.58	-171.4	34.9	275.4	268.1	7.33	37.570	
1,800.0	1,773.7	1,770.9	1,765.4	5.6	3.6	-140.56	-182.2	33.4	297.2	289.3	7.85	37.859	
1,900.0	1,870.7	1,868.4	1,862.2	6.1	3.9	-141.40	-193.0	31.9	319.0	310.7	8.37	38.122	
2,000.0	1,967.7	1,965.9	1,959.1	6.5	4.1	-142.13	-203.8	30.4	340.9	332.0	8.89	38.361	
2,100.0	2,064.7	2,063.4	2,056.0	7.0	4.4	-142.77	-214.6	28.9	362.9	353.5	9.41	38.580	
2,200.0	2,161.7	2,160.9	2,152.9	7.5	4.6	-143.34	-225.4	27.4	384.8	374.9	9.92	38.780	
2,300.0	2,258.6	2,258.4	2,249.7	7.9	4.9	-143.85	-236.2	25.9	406.9	396.4	10.44	38.964	
2,400.0	2,355.6	2,355.8	2,346.6	8.4	5.1	-144.31	-247.0	24.4	428.9	417.9	10.96	39.134	
2,500.0	2,452.6	2,453.3	2,443.5	8.9	5.4	-144.72	-257.8	23.0	451.0	439.5	11.48	39.292	
2,600.0	2,549.6	2,550.8	2,540.4	9.3	5.6	-145.10	-268.6	21.5	473.0	461.1	11.99	39.437	
2,700.0	2,646.6	2,648.3	2,637.2	9.8	5.9	-145.44	-279.4	20.0	495.1	482.6	12.51	39.573	
2,800.0	2,743.6	2,745.8	2,734.1	10.3	6.1	-145.75	-290.2	18.5	517.3	504.2	13.03	39.699	
2,900.0	2,840.6	2,843.3	2,831.0	10.7	6.4	-146.03	-301.0	17.0	539.4	525.8	13.55	39.816	
3,000.0	2,937.6	2,940.8	2,927.9	11.2	6.6	-146.30	-311.8	15.5	561.5	547.5	14.06	39.927	
3,100.0	3,034.6	3,038.3	3,024.7	11.7	6.9	-146.54	-322.6	14.0	583.7	569.1	14.58	40.030	
3,200.0	3,131.6	3,135.7	3,121.6	12.1	7.1	-146.77	-333.4	12.5	605.9	590.8	15.10	40.127	
3,300.0	3,228.6	3,233.2	3,218.5	12.6	7.4	-146.98	-344.2	11.1	628.0	612.4	15.62	40.218	
3,400.0	3,325.5	3,330.7	3,315.4	13.1	7.7	-147.17	-355.0	9.6	650.2	634.1	16.13	40.304	
3,500.0	3,422.5	3,428.2	3,412.2	13.5	7.9	-147.35	-365.8	8.1	672.4	655.7	16.65	40.386	
3,600.0	3,519.5	3,525.7	3,509.1	14.0	8.2	-147.52	-376.6	6.6	694.6	677.4	17.17	40.462	
3,700.0	3,616.5	3,623.2	3,606.0	14.5	8.4	-147.68	-387.4	5.1	716.8	699.1	17.68	40.535	
3,800.0	3,713.5	3,720.7	3,702.9	15.0	8.7	-147.84	-398.2	3.6	739.0	720.8	18.20	40.604	
3,900.0	3,810.5	3,818.1	3,799.7	15.4	8.9	-147.98	-409.0	2.1	761.2	742.5	18.72	40.670	
4,000.0	3,907.5	3,915.6	3,896.6	15.9	9.2	-148.11	-419.8	0.6	783.4	764.1	19.23	40.732	
4,100.0	4,004.5	4,013.1	3,993.5	16.4	9.4	-148.24	-430.6	-0.8	805.6	785.8	19.75	40.791	
4,200.0	4,101.5	4,110.6	4,090.4	16.8	9.7	-148.36	-441.4	-2.3	827.8	807.5	20.27	40.848	
4,300.0	4,198.5	4,208.1	4,187.2	17.3	9.9	-148.47	-452.2	-3.8	850.0	829.2	20.78	40.902	
4,400.0	4,295.5	4,305.6	4,284.1	17.8	10.2	-148.58	-463.0	-5.3	872.3	851.0	21.30	40.953	
4,500.0	4,392.4	4,403.1	4,381.0	18.2	10.4	-148.68	-473.8	-6.8	894.5	872.7	21.82	41.002	
4,600.0	4,489.4	4,500.6	4,477.9	18.7	10.7	-148.78	-484.6	-8.3	916.7	894.4	22.33	41.050	
4,700.0	4,586.4	4,598.0	4,574.8	19.2	11.0	-148.87	-495.4	-9.8	938.9	916.1	22.85	41.095	
4,800.0	4,683.4	4,695.5	4,671.6	19.6	11.2	-148.96	-506.2	-11.3	961.2	937.8	23.36	41.138	
4,900.0	4,780.4	4,793.0	4,768.5	20.1	11.5	-149.04	-517.0	-12.7	983.4	959.5	23.88	41.179	
5,000.0	4,877.4	4,890.5	4,865.4	20.6	11.7	-149.12	-527.8	-14.2	1,005.6	981.2	24.40	41.219	
5,100.0	4,974.4	4,988.0	4,962.3	21.0	12.0	-149.20	-538.6	-15.7	1,027.9	1,003.0	24.91	41.258	

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

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,071.4	5,085.5	5,059.1	21.5	12.2	-149.27	-549.4	-17.2	1,050.1	1,024.7	25.43	41.294	
5,300.0	5,168.4	5,183.0	5,156.0	22.0	12.5	-149.35	-560.1	-18.7	1,072.4	1,046.4	25.95	41.330	
5,400.0	5,265.4	5,280.4	5,252.9	22.5	12.7	-149.41	-570.9	-20.2	1,094.6	1,068.1	26.46	41.364	

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	147.85	-63.7	40.1	75.3				
100.0	100.0	100.0	100.0	0.1	0.1	147.85	-63.7	40.1	75.3	75.0	0.30	253.749	
200.0	200.0	200.0	200.0	0.3	0.3	147.85	-63.7	40.1	75.3	74.6	0.65	116.587	
300.0	300.0	300.0	300.0	0.5	0.5	147.85	-63.7	40.1	75.3	74.3	0.99	75.680	CC, ES
400.0	400.0	400.0	400.0	0.7	0.7	-107.02	-63.7	40.1	75.7	74.3	1.35	56.242	
500.0	499.9	499.9	499.9	0.9	0.8	-109.80	-63.7	40.1	76.9	75.2	1.70	45.172	
600.0	599.7	599.7	599.7	1.1	1.0	-114.20	-63.7	40.1	79.4	77.3	2.07	38.316	
700.0	699.3	698.1	698.1	1.3	1.2	-119.07	-65.0	39.8	84.2	81.8	2.45	34.354	
800.0	798.6	796.4	796.3	1.5	1.4	-123.30	-68.7	39.1	92.4	89.5	2.85	32.400	
900.0	897.5	894.5	894.2	1.8	1.6	-126.68	-74.9	37.9	103.6	100.3	3.27	31.656	
1,000.0	996.1	993.3	992.8	2.1	1.8	-129.86	-82.1	36.4	117.2	113.5	3.72	31.557	SF
1,100.0	1,094.2	1,091.8	1,091.0	2.5	1.9	-133.17	-89.4	35.0	132.9	128.8	4.17	31.896	
1,200.0	1,191.7	1,189.8	1,188.7	2.9	2.2	-136.41	-96.6	33.6	150.9	146.3	4.63	32.618	
1,300.0	1,288.7	1,287.4	1,286.0	3.4	2.4	-139.51	-103.8	32.2	170.9	165.8	5.08	33.638	
1,400.0	1,385.7	1,385.0	1,383.3	3.8	2.6	-142.05	-111.0	30.7	191.4	185.8	5.53	34.619	
1,500.0	1,482.7	1,482.5	1,480.6	4.3	2.8	-144.11	-118.1	29.3	212.2	206.2	5.97	35.526	
1,600.0	1,579.7	1,580.1	1,577.8	4.7	3.0	-145.79	-125.3	27.9	233.2	226.8	6.41	36.360	
1,700.0	1,676.7	1,677.6	1,675.1	5.2	3.2	-147.20	-132.5	26.5	254.4	247.5	6.85	37.122	
1,800.0	1,773.7	1,775.2	1,772.4	5.6	3.4	-148.39	-139.7	25.1	275.7	268.4	7.29	37.820	
1,900.0	1,870.7	1,872.7	1,869.7	6.1	3.6	-149.41	-146.9	23.7	297.1	289.4	7.73	38.459	
2,000.0	1,967.7	1,970.3	1,967.0	6.5	3.8	-150.30	-154.0	22.2	318.6	310.4	8.16	39.044	
2,100.0	2,064.7	2,067.8	2,064.2	7.0	4.0	-151.07	-161.2	20.8	340.2	331.6	8.59	39.583	
2,200.0	2,161.7	2,165.4	2,161.5	7.5	4.2	-151.75	-168.4	19.4	361.8	352.7	9.03	40.078	
2,300.0	2,258.6	2,262.9	2,258.8	7.9	4.4	-152.35	-175.6	18.0	383.4	373.9	9.46	40.536	
2,400.0	2,355.6	2,360.5	2,356.1	8.4	4.6	-152.89	-182.8	16.6	405.1	395.2	9.89	40.960	
2,500.0	2,452.6	2,458.1	2,453.4	8.9	4.8	-153.38	-189.9	15.2	426.8	416.5	10.32	41.353	
2,600.0	2,549.6	2,555.6	2,550.6	9.3	5.1	-153.81	-197.1	13.7	448.5	437.8	10.75	41.718	
2,700.0	2,646.6	2,653.2	2,647.9	9.8	5.3	-154.21	-204.3	12.3	470.3	459.1	11.18	42.059	
2,800.0	2,743.6	2,750.7	2,745.2	10.3	5.5	-154.57	-211.5	10.9	492.1	480.5	11.61	42.376	
2,900.0	2,840.6	2,848.3	2,842.5	10.7	5.7	-154.90	-218.6	9.5	513.9	501.8	12.04	42.674	
3,000.0	2,937.6	2,945.8	2,939.8	11.2	5.9	-155.21	-225.8	8.1	535.7	523.2	12.47	42.953	
3,100.0	3,034.6	3,043.4	3,037.0	11.7	6.1	-155.49	-233.0	6.7	557.5	544.6	12.90	43.215	
3,200.0	3,131.6	3,140.9	3,134.3	12.1	6.3	-155.75	-240.2	5.2	579.4	566.0	13.33	43.461	
3,300.0	3,228.6	3,238.5	3,231.6	12.6	6.5	-155.99	-247.4	3.8	601.2	587.4	13.76	43.693	
3,400.0	3,325.5	3,336.0	3,328.9	13.1	6.7	-156.21	-254.5	2.4	623.1	608.9	14.19	43.913	
3,500.0	3,422.5	3,433.6	3,426.2	13.5	7.0	-156.42	-261.7	1.0	644.9	630.3	14.62	44.120	
3,600.0	3,519.5	3,531.2	3,523.4	14.0	7.2	-156.61	-268.9	-0.4	666.8	651.8	15.05	44.316	
3,700.0	3,616.5	3,628.7	3,620.7	14.5	7.4	-156.80	-276.1	-1.9	688.7	673.2	15.48	44.502	
3,800.0	3,713.5	3,726.3	3,718.0	15.0	7.6	-156.97	-283.3	-3.3	710.6	694.7	15.90	44.679	
3,900.0	3,810.5	3,823.8	3,815.3	15.4	7.8	-157.13	-290.4	-4.7	732.5	716.1	16.33	44.847	
4,000.0	3,907.5	3,921.4	3,912.5	15.9	8.0	-157.28	-297.6	-6.1	754.4	737.6	16.76	45.007	
4,100.0	4,004.5	4,018.9	4,009.8	16.4	8.2	-157.42	-304.8	-7.5	776.3	759.1	17.19	45.159	
4,200.0	4,101.5	4,116.5	4,107.1	16.8	8.4	-157.56	-312.0	-8.9	798.2	780.6	17.62	45.304	
4,300.0	4,198.5	4,214.0	4,204.4	17.3	8.7	-157.69	-319.2	-10.4	820.1	802.0	18.05	45.443	
4,400.0	4,295.5	4,311.6	4,301.7	17.8	8.9	-157.81	-326.3	-11.8	842.0	823.5	18.47	45.576	
4,500.0	4,392.4	4,409.1	4,398.9	18.2	9.1	-157.92	-333.5	-13.2	863.9	845.0	18.90	45.703	
4,600.0	4,489.4	4,506.7	4,496.2	18.7	9.3	-158.03	-340.7	-14.6	885.8	866.5	19.33	45.824	
4,700.0	4,586.4	4,604.2	4,593.5	19.2	9.5	-158.14	-347.9	-16.0	907.8	888.0	19.76	45.941	
4,800.0	4,683.4	4,701.8	4,690.8	19.6	9.7	-158.24	-355.1	-17.4	929.7	909.5	20.19	46.052	
4,900.0	4,780.4	4,799.4	4,788.1	20.1	9.9	-158.33	-362.2	-18.9	951.6	931.0	20.62	46.160	
5,000.0	4,877.4	4,896.9	4,885.3	20.6	10.1	-158.42	-369.4	-20.3	973.6	952.5	21.04	46.263	
5,100.0	4,974.4	4,994.5	4,982.6	21.0	10.4	-158.51	-376.6	-21.7	995.5	974.0	21.47	46.362	

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

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,071.4	5,092.0	5,079.9	21.5	10.6	-158.59	-383.8	-23.1	1,017.4	995.5	21.90	46.457	
5,300.0	5,168.4	5,189.6	5,177.2	22.0	10.8	-158.67	-391.0	-24.5	1,039.4	1,017.0	22.33	46.549	
5,400.0	5,265.4	5,287.1	5,274.5	22.5	11.0	-158.75	-398.1	-25.9	1,061.3	1,038.6	22.76	46.638	
5,500.0	5,362.4	5,384.7	5,371.7	22.9	11.2	-158.82	-405.3	-27.4	1,083.3	1,060.1	23.18	46.723	
5,600.0	5,459.4	5,482.2	5,469.0	23.4	11.4	-158.89	-412.5	-28.8	1,105.2	1,081.6	23.61	46.806	

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	300.0	300.0	0.0	0.0	57.16	5.1	7.9	9.4				
100.0	100.0	400.0	400.0	0.1	0.1	57.16	5.1	7.9	9.4	9.1	0.30	31.692	
200.0	200.0	500.0	500.0	0.3	0.3	57.16	5.1	7.9	9.4	8.8	0.65	14.561	CC
300.0	300.0	599.9	599.9	0.5	0.5	64.84	4.1	8.8	9.7	8.7	1.00	9.727	ES
400.0	400.0	699.7	699.6	0.7	0.7	-170.87	1.2	11.3	12.7	11.3	1.35	9.389	SF
500.0	499.9	799.1	798.8	0.9	0.9	-157.77	-3.6	15.6	20.7	19.0	1.71	12.130	
600.0	599.7	898.4	897.9	1.1	1.1	-153.47	-9.0	20.3	32.1	30.1	2.07	15.519	
700.0	699.3	997.5	996.7	1.3	1.3	-152.93	-14.3	24.9	45.9	43.5	2.44	18.835	
800.0	798.6	1,096.2	1,095.1	1.5	1.5	-153.71	-19.6	29.6	62.0	59.2	2.81	22.065	
900.0	897.5	1,194.5	1,193.1	1.8	1.7	-154.93	-24.9	34.2	80.4	77.2	3.19	25.243	
1,000.0	996.1	1,292.2	1,290.7	2.1	1.9	-156.27	-30.2	38.8	101.2	97.6	3.56	28.396	
1,100.0	1,094.2	1,389.5	1,387.7	2.5	2.1	-157.57	-35.4	43.4	124.4	120.5	3.94	31.543	
1,200.0	1,191.7	1,486.1	1,484.0	2.9	2.3	-158.79	-40.6	48.0	150.0	145.7	4.32	34.697	
1,300.0	1,288.7	1,582.1	1,579.8	3.4	2.5	-159.94	-45.8	52.5	177.6	172.9	4.71	37.723	
1,400.0	1,385.7	1,678.1	1,675.6	3.8	2.7	-160.85	-50.9	57.0	205.5	200.4	5.10	40.302	
1,500.0	1,482.7	1,774.1	1,771.3	4.3	2.9	-161.54	-56.1	61.6	233.3	227.9	5.49	42.522	
1,600.0	1,579.7	1,874.5	1,871.5	4.7	3.1	-162.31	-60.6	65.5	260.5	254.6	5.87	44.379	
1,700.0	1,676.7	1,975.9	1,972.9	5.2	3.3	-163.34	-63.1	67.8	286.0	279.8	6.23	45.890	
1,800.0	1,773.7	2,076.7	2,073.7	5.6	3.5	-164.57	-63.7	68.3	309.9	303.3	6.58	47.132	
1,900.0	1,870.7	2,173.7	2,170.7	6.1	3.6	-165.68	-63.7	68.3	333.5	326.6	6.91	48.272	
2,000.0	1,967.7	2,270.7	2,267.7	6.5	3.8	-166.64	-63.7	68.3	357.2	349.9	7.24	49.328	
2,100.0	2,064.7	2,367.7	2,364.7	7.0	3.9	-167.49	-63.7	68.3	380.9	373.4	7.57	50.306	
2,200.0	2,161.7	2,464.7	2,461.7	7.5	4.1	-168.23	-63.7	68.3	404.8	396.9	7.90	51.213	
2,300.0	2,258.6	2,561.7	2,558.6	7.9	4.2	-168.90	-63.7	68.3	428.7	420.4	8.24	52.054	
2,400.0	2,355.6	2,658.7	2,655.6	8.4	4.4	-169.49	-63.7	68.3	452.6	444.0	8.57	52.835	
2,500.0	2,452.6	2,755.7	2,752.6	8.9	4.6	-170.02	-63.7	68.3	476.6	467.7	8.90	53.561	
2,600.0	2,549.6	2,852.7	2,849.6	9.3	4.7	-170.51	-63.7	68.3	500.6	491.4	9.23	54.237	
2,700.0	2,646.6	2,949.7	2,946.6	9.8	4.9	-170.94	-63.7	68.3	524.6	515.1	9.56	54.868	
2,800.0	2,743.6	3,046.6	3,043.6	10.3	5.0	-171.34	-63.7	68.3	548.7	538.8	9.89	55.458	
2,900.0	2,840.6	3,143.6	3,140.6	10.7	5.2	-171.71	-63.7	68.3	572.8	562.6	10.23	56.010	
3,000.0	2,937.6	3,240.6	3,237.6	11.2	5.4	-172.05	-63.7	68.3	596.9	586.4	10.56	56.527	
3,100.0	3,034.6	3,337.6	3,334.6	11.7	5.5	-172.36	-63.7	68.3	621.1	610.2	10.89	57.012	
3,200.0	3,131.6	3,434.6	3,431.6	12.1	5.7	-172.64	-63.7	68.3	645.2	634.0	11.23	57.468	
3,300.0	3,228.6	3,531.6	3,528.6	12.6	5.8	-172.91	-63.7	68.3	669.4	657.8	11.56	57.898	
3,400.0	3,325.5	3,628.6	3,625.5	13.1	6.0	-173.16	-63.7	68.3	693.6	681.7	11.90	58.303	
3,500.0	3,422.5	3,725.6	3,722.5	13.5	6.2	-173.39	-63.7	68.3	717.7	705.5	12.23	58.686	
3,600.0	3,519.5	3,822.6	3,819.5	14.0	6.3	-173.61	-63.7	68.3	741.9	729.4	12.57	59.047	
3,700.0	3,616.5	3,919.6	3,916.5	14.5	6.5	-173.81	-63.7	68.3	766.2	753.3	12.90	59.389	
3,800.0	3,713.5	4,016.6	4,013.5	15.0	6.7	-174.00	-63.7	68.3	790.4	777.1	13.24	59.714	
3,900.0	3,810.5	4,113.5	4,110.5	15.4	6.8	-174.18	-63.7	68.3	814.6	801.0	13.57	60.022	
4,000.0	3,907.5	4,210.5	4,207.5	15.9	7.0	-174.35	-63.7	68.3	838.8	824.9	13.91	60.314	
4,100.0	4,004.5	4,307.5	4,304.5	16.4	7.2	-174.51	-63.7	68.3	863.1	848.8	14.24	60.593	
4,200.0	4,101.5	4,404.5	4,401.5	16.8	7.3	-174.66	-63.7	68.3	887.3	872.7	14.58	60.858	
4,300.0	4,198.5	4,501.5	4,498.5	17.3	7.5	-174.80	-63.7	68.3	911.6	896.6	14.92	61.110	
4,400.0	4,295.5	4,598.5	4,595.5	17.8	7.6	-174.93	-63.7	68.3	935.8	920.6	15.25	61.351	
4,500.0	4,392.4	4,695.5	4,692.4	18.2	7.8	-175.06	-63.7	68.3	960.1	944.5	15.59	61.581	
4,600.0	4,489.4	4,792.5	4,789.4	18.7	8.0	-175.19	-63.7	68.3	984.3	968.4	15.93	61.801	
4,700.0	4,586.4	4,889.5	4,886.4	19.2	8.1	-175.30	-63.7	68.3	1,008.6	992.3	16.26	62.012	
4,800.0	4,683.4	4,986.5	4,983.4	19.6	8.3	-175.41	-63.7	68.3	1,032.9	1,016.3	16.60	62.213	
4,900.0	4,780.4	5,083.5	5,080.4	20.1	8.5	-175.52	-63.7	68.3	1,057.1	1,040.2	16.94	62.407	
5,000.0	4,877.4	5,180.5	5,177.4	20.6	8.6	-175.62	-63.7	68.3	1,081.4	1,064.1	17.28	62.592	
5,100.0	4,974.4	5,277.4	5,274.4	21.0	8.8	-175.71	-63.7	68.3	1,105.7	1,088.1	17.62	62.770	

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

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	0.00	17.1	0.0	17.1				
100.0	100.0	100.0	100.0	0.1	0.1	0.00	17.1	0.0	17.1	16.8	0.30	57.698	
200.0	200.0	200.0	200.0	0.3	0.3	0.00	17.1	0.0	17.1	16.5	0.65	26.510	
300.0	300.0	300.0	300.0	0.5	0.5	0.00	17.1	0.0	17.1	16.1	0.99	17.208	CC, ES
400.0	400.0	400.0	400.0	0.7	0.7	110.19	17.1	0.0	17.5	16.2	1.35	13.029	
500.0	499.9	499.9	499.9	0.9	0.8	121.20	17.1	0.0	19.2	17.5	1.70	11.313	SF
600.0	599.7	599.1	599.1	1.1	1.0	133.75	18.4	0.1	24.5	22.4	2.06	11.905	
700.0	699.3	697.8	697.7	1.3	1.2	142.08	22.2	0.5	34.8	32.4	2.42	14.396	
800.0	798.6	795.9	795.6	1.5	1.4	146.49	28.5	1.1	49.7	46.9	2.78	17.861	
900.0	897.5	894.3	893.7	1.8	1.6	149.54	35.5	1.8	67.7	64.5	3.16	21.432	
1,000.0	996.1	992.1	991.3	2.1	1.8	152.08	42.6	2.4	88.0	84.4	3.53	24.898	
1,100.0	1,094.2	1,089.4	1,088.4	2.5	2.0	154.21	49.6	3.1	110.7	106.8	3.91	28.299	
1,200.0	1,191.7	1,186.1	1,184.8	2.9	2.2	156.02	56.5	3.8	135.9	131.6	4.29	31.660	
1,300.0	1,288.7	1,282.3	1,280.7	3.4	2.4	157.62	63.4	4.4	163.0	158.4	4.68	34.873	
1,400.0	1,385.7	1,378.3	1,376.5	3.8	2.6	158.82	70.3	5.1	190.5	185.4	5.06	37.617	
1,500.0	1,482.7	1,474.4	1,472.4	4.3	2.8	159.73	77.2	5.7	218.0	212.5	5.45	39.974	
1,600.0	1,579.7	1,570.5	1,568.2	4.7	3.0	160.43	84.1	6.4	245.5	239.7	5.84	42.020	
1,700.0	1,676.7	1,666.6	1,664.1	5.2	3.2	160.99	91.0	7.1	273.1	266.9	6.23	43.810	
1,800.0	1,773.7	1,762.7	1,759.9	5.6	3.4	161.44	97.9	7.7	300.7	294.1	6.63	45.389	
1,900.0	1,870.7	1,858.8	1,855.7	6.1	3.6	161.82	104.9	8.4	328.3	321.3	7.02	46.791	
2,000.0	1,967.7	1,954.9	1,951.6	6.5	3.8	162.15	111.8	9.0	355.9	348.5	7.41	48.045	
2,100.0	2,064.7	2,051.0	2,047.4	7.0	4.0	162.42	118.7	9.7	383.6	375.8	7.80	49.173	
2,200.0	2,161.7	2,147.1	2,143.3	7.5	4.2	162.66	125.6	10.4	411.2	403.0	8.19	50.192	
2,300.0	2,258.6	2,243.2	2,239.1	7.9	4.4	162.87	132.5	11.0	438.8	430.3	8.58	51.118	
2,400.0	2,355.6	2,339.3	2,335.0	8.4	4.6	163.05	139.4	11.7	466.5	457.5	8.98	51.962	
2,500.0	2,452.6	2,435.4	2,430.8	8.9	4.8	163.21	146.3	12.3	494.1	484.8	9.37	52.735	
2,600.0	2,549.6	2,531.5	2,526.6	9.3	5.0	163.36	153.2	13.0	521.8	512.0	9.76	53.446	
2,700.0	2,646.6	2,627.6	2,622.5	9.8	5.2	163.49	160.1	13.7	549.4	539.3	10.16	54.101	
2,800.0	2,743.6	2,723.6	2,718.3	10.3	5.4	163.61	167.0	14.3	577.1	566.5	10.55	54.707	
2,900.0	2,840.6	2,819.7	2,814.2	10.7	5.6	163.72	173.9	15.0	604.8	593.8	10.94	55.270	
3,000.0	2,937.6	2,915.8	2,910.0	11.2	5.8	163.81	180.8	15.6	632.4	621.1	11.34	55.793	
3,100.0	3,034.6	3,011.9	3,005.8	11.7	6.1	163.90	187.7	16.3	660.1	648.3	11.73	56.281	
3,200.0	3,131.6	3,108.0	3,101.7	12.1	6.3	163.99	194.6	17.0	687.7	675.6	12.12	56.737	
3,300.0	3,228.6	3,213.4	3,206.9	12.6	6.5	164.13	201.3	17.6	714.9	702.4	12.52	57.113	
3,400.0	3,325.5	3,322.4	3,315.8	13.1	6.7	164.46	205.2	18.0	740.5	727.6	12.89	57.466	
3,500.0	3,422.5	3,429.2	3,422.5	13.5	6.8	164.94	206.2	18.1	764.5	751.3	13.22	57.814	
3,600.0	3,519.5	3,526.2	3,519.5	14.0	7.0	165.40	206.2	18.1	788.1	774.6	13.55	58.179	
3,700.0	3,616.5	3,623.1	3,616.5	14.5	7.1	165.83	206.2	18.1	811.8	797.9	13.87	58.529	
3,800.0	3,713.5	3,720.1	3,713.5	15.0	7.3	166.24	206.2	18.1	835.4	821.2	14.19	58.866	
3,900.0	3,810.5	3,817.1	3,810.5	15.4	7.4	166.62	206.2	18.1	859.1	844.6	14.51	59.190	
4,000.0	3,907.5	3,914.1	3,907.5	15.9	7.6	166.99	206.2	18.1	882.9	868.0	14.84	59.500	
4,100.0	4,004.5	4,011.1	4,004.5	16.4	7.7	167.33	206.2	18.1	906.6	891.5	15.16	59.799	
4,200.0	4,101.5	4,108.1	4,101.5	16.8	7.9	167.66	206.2	18.1	930.4	915.0	15.49	60.086	
4,300.0	4,198.5	4,205.1	4,198.5	17.3	8.0	167.97	206.2	18.1	954.3	938.5	15.81	60.362	
4,400.0	4,295.5	4,302.1	4,295.5	17.8	8.2	168.27	206.2	18.1	978.1	962.0	16.13	60.627	
4,500.0	4,392.4	4,399.1	4,392.4	18.2	8.3	168.55	206.2	18.1	1,002.0	985.5	16.46	60.881	
4,600.0	4,489.4	4,496.1	4,489.4	18.7	8.5	168.82	206.2	18.1	1,025.9	1,009.1	16.78	61.126	
4,700.0	4,586.4	4,593.1	4,586.4	19.2	8.7	169.08	206.2	18.1	1,049.8	1,032.7	17.11	61.362	
4,800.0	4,683.4	4,690.0	4,683.4	19.6	8.8	169.33	206.2	18.1	1,073.8	1,056.3	17.43	61.588	
4,900.0	4,780.4	4,787.0	4,780.4	20.1	9.0	169.56	206.2	18.1	1,097.7	1,080.0	17.76	61.806	

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-14.65	30.2	-7.9	31.2				
100.0	100.0	100.0	100.0	0.1	0.1	-14.65	30.2	-7.9	31.2	31.0	0.30	105.314	
200.0	200.0	200.0	200.0	0.3	0.3	-14.65	30.2	-7.9	31.2	30.6	0.65	48.388	
300.0	300.0	300.0	300.0	0.5	0.5	-14.65	30.2	-7.9	31.2	30.3	0.99	31.409	CC
400.0	400.0	400.0	400.0	0.7	0.7	93.83	30.2	-7.9	31.3	30.0	1.35	23.270	ES
500.0	499.9	499.9	499.9	0.9	0.8	100.89	30.2	-7.9	31.8	30.1	1.70	18.675	
600.0	599.7	598.8	598.8	1.1	1.0	111.49	31.5	-7.9	34.9	32.9	2.07	16.875	SF
700.0	699.3	697.2	697.2	1.3	1.2	122.12	35.3	-8.0	42.9	40.5	2.45	17.547	
800.0	798.6	795.0	794.7	1.5	1.4	130.16	41.6	-8.1	55.9	53.1	2.83	19.774	
900.0	897.5	892.9	892.3	1.8	1.6	135.78	49.8	-8.2	73.1	69.8	3.22	22.694	
1,000.0	996.1	990.7	989.8	2.1	1.8	140.21	58.0	-8.3	92.7	89.1	3.62	25.620	
1,100.0	1,094.2	1,088.0	1,086.7	2.5	2.0	143.81	66.2	-8.4	114.8	110.8	4.02	28.537	
1,200.0	1,191.7	1,184.7	1,183.1	2.9	2.2	146.78	74.3	-8.6	139.3	134.9	4.43	31.453	
1,300.0	1,288.7	1,280.9	1,278.9	3.4	2.4	149.31	82.4	-8.7	165.9	161.1	4.84	34.291	
1,400.0	1,385.7	1,377.0	1,374.7	3.8	2.6	151.24	90.5	-8.8	192.9	187.7	5.25	36.742	
1,500.0	1,482.7	1,473.1	1,470.4	4.3	2.8	152.69	98.5	-8.9	220.1	214.4	5.66	38.860	
1,600.0	1,579.7	1,569.2	1,566.2	4.7	3.1	153.83	106.6	-9.1	247.3	241.3	6.08	40.704	
1,700.0	1,676.7	1,665.4	1,662.0	5.2	3.3	154.74	114.7	-9.2	274.7	268.2	6.49	42.321	
1,800.0	1,773.7	1,761.5	1,757.8	5.6	3.5	155.48	122.8	-9.3	302.0	295.1	6.90	43.749	
1,900.0	1,870.7	1,857.6	1,853.5	6.1	3.7	156.10	130.9	-9.4	329.5	322.1	7.32	45.019	
2,000.0	1,967.7	1,953.7	1,949.3	6.5	3.9	156.63	138.9	-9.5	356.9	349.2	7.73	46.155	
2,100.0	2,064.7	2,049.8	2,045.1	7.0	4.1	157.08	147.0	-9.7	384.4	376.2	8.15	47.176	
2,200.0	2,161.7	2,145.9	2,140.8	7.5	4.3	157.47	155.1	-9.8	411.9	403.3	8.56	48.100	
2,300.0	2,258.6	2,242.0	2,236.6	7.9	4.6	157.81	163.2	-9.9	439.4	430.4	8.98	48.938	
2,400.0	2,355.6	2,338.1	2,332.4	8.4	4.8	158.11	171.3	-10.0	466.9	457.5	9.39	49.703	
2,500.0	2,452.6	2,434.2	2,428.1	8.9	5.0	158.38	179.3	-10.2	494.5	484.6	9.81	50.404	
2,600.0	2,549.6	2,530.3	2,523.9	9.3	5.2	158.62	187.4	-10.3	522.0	511.8	10.23	51.047	
2,700.0	2,646.6	2,626.5	2,619.7	9.8	5.4	158.84	195.5	-10.4	549.5	538.9	10.64	51.640	
2,800.0	2,743.6	2,722.6	2,715.5	10.3	5.6	159.03	203.6	-10.5	577.1	566.0	11.06	52.189	
2,900.0	2,840.6	2,818.7	2,811.2	10.7	5.9	159.21	211.7	-10.6	604.7	593.2	11.47	52.698	
3,000.0	2,937.6	2,914.8	2,907.0	11.2	6.1	159.37	219.7	-10.8	632.2	620.3	11.89	53.172	
3,100.0	3,034.6	3,010.9	3,002.8	11.7	6.3	159.52	227.8	-10.9	659.8	647.5	12.31	53.613	
3,200.0	3,131.6	3,107.0	3,098.5	12.1	6.5	159.66	235.9	-11.0	687.4	674.7	12.72	54.026	
3,300.0	3,228.6	3,203.1	3,194.3	12.6	6.7	159.78	244.0	-11.1	715.0	701.8	13.14	54.412	
3,400.0	3,325.5	3,299.2	3,290.1	13.1	7.0	159.90	252.1	-11.3	742.5	729.0	13.56	54.774	
3,500.0	3,422.5	3,395.3	3,385.8	13.5	7.2	160.01	260.1	-11.4	770.1	756.2	13.97	55.115	
3,600.0	3,519.5	3,491.5	3,481.6	14.0	7.4	160.11	268.2	-11.5	797.7	783.3	14.39	55.436	
3,700.0	3,616.5	3,587.6	3,577.4	14.5	7.6	160.20	276.3	-11.6	825.3	810.5	14.81	55.739	
3,800.0	3,713.5	3,683.7	3,673.2	15.0	7.8	160.29	284.4	-11.7	852.9	837.7	15.22	56.026	
3,900.0	3,810.5	3,779.8	3,768.9	15.4	8.0	160.37	292.5	-11.9	880.5	864.8	15.64	56.297	
4,000.0	3,907.5	3,875.9	3,864.7	15.9	8.3	160.45	300.5	-12.0	908.1	892.0	16.06	56.554	
4,100.0	4,004.5	3,972.0	3,960.5	16.4	8.5	160.52	308.6	-12.1	935.7	919.2	16.47	56.798	
4,200.0	4,101.5	4,068.1	4,056.2	16.8	8.7	160.59	316.7	-12.2	963.3	946.4	16.89	57.030	
4,300.0	4,198.5	4,164.2	4,152.0	17.3	8.9	160.65	324.8	-12.4	990.9	973.6	17.31	57.250	
4,400.0	4,295.5	4,260.3	4,247.8	17.8	9.1	160.72	332.9	-12.5	1,018.5	1,000.7	17.72	57.461	
4,500.0	4,392.4	4,356.4	4,343.5	18.2	9.4	160.77	340.9	-12.6	1,046.1	1,027.9	18.14	57.661	
4,600.0	4,489.4	4,452.6	4,439.3	18.7	9.6	160.83	349.0	-12.7	1,073.7	1,055.1	18.56	57.853	
4,700.0	4,586.4	4,548.7	4,535.1	19.2	9.8	160.88	357.1	-12.9	1,101.3	1,082.3	18.98	58.036	

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
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	202.164	
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	CC, ES
300.0	300.0	299.5	299.5	0.5	0.5	148.75	-51.6	31.3	60.4	59.4	0.99	60.699	
400.0	400.0	399.0	398.9	0.7	0.7	-102.89	-54.6	28.8	62.0	60.6	1.36	45.722	
500.0	499.9	498.3	498.0	0.9	0.9	-100.86	-59.5	24.6	65.2	63.4	1.74	37.510	
600.0	599.7	597.5	596.7	1.1	1.1	-99.17	-66.3	18.7	69.9	67.7	2.15	32.456	
700.0	699.3	696.5	695.1	1.3	1.4	-97.85	-75.1	11.2	76.1	73.5	2.62	29.105	
800.0	798.6	795.3	792.8	1.5	1.7	-96.89	-85.8	2.0	83.9	80.7	3.13	26.756	
900.0	897.5	893.8	890.0	1.8	2.0	-96.24	-98.3	-8.8	93.0	89.3	3.72	25.034	
1,000.0	996.1	992.1	986.4	2.1	2.4	-95.83	-112.7	-21.1	103.7	99.3	4.37	23.724	
1,100.0	1,094.2	1,090.1	1,082.1	2.5	2.8	-95.61	-129.0	-35.1	115.7	110.6	5.10	22.698	
1,200.0	1,191.7	1,187.8	1,176.8	2.9	3.2	-95.53	-147.0	-50.6	129.1	123.2	5.90	21.875	
1,300.0	1,288.7	1,285.1	1,270.6	3.4	3.7	-95.49	-166.8	-67.6	143.9	137.2	6.77	21.262	
1,400.0	1,385.7	1,382.1	1,363.3	3.8	4.2	-94.79	-188.3	-86.0	159.9	152.2	7.67	20.855	
1,500.0	1,482.7	1,478.5	1,454.8	4.3	4.8	-93.52	-211.5	-105.9	177.0	168.4	8.58	20.626	
1,600.0	1,579.7	1,574.3	1,544.9	4.7	5.4	-91.85	-236.2	-127.2	195.5	186.0	9.51	20.557	SF
1,700.0	1,676.7	1,669.4	1,633.5	5.2	6.0	-89.92	-262.5	-149.7	215.4	204.9	10.44	20.636	
1,800.0	1,773.7	1,764.3	1,720.9	5.6	6.7	-87.84	-290.3	-173.5	236.8	225.5	11.35	20.865	
1,900.0	1,870.7	1,861.4	1,810.2	6.1	7.4	-85.91	-319.3	-198.5	259.0	246.8	12.26	21.127	
2,000.0	1,967.7	1,958.6	1,899.5	6.5	8.1	-84.28	-348.4	-223.4	281.4	268.3	13.16	21.388	
2,100.0	2,064.7	2,055.8	1,988.8	7.0	8.8	-82.90	-377.4	-248.4	304.0	290.0	14.05	21.640	
2,200.0	2,161.7	2,152.9	2,078.1	7.5	9.5	-81.70	-406.5	-273.3	326.8	311.9	14.94	21.881	
2,300.0	2,258.6	2,250.1	2,167.5	7.9	10.2	-80.66	-435.5	-298.2	349.7	333.9	15.82	22.109	
2,400.0	2,355.6	2,347.3	2,256.8	8.4	10.9	-79.75	-464.6	-323.2	372.7	356.0	16.69	22.324	
2,500.0	2,452.6	2,444.4	2,346.1	8.9	11.6	-78.95	-493.6	-348.1	395.7	378.1	17.57	22.527	
2,600.0	2,549.6	2,541.6	2,435.4	9.3	12.3	-78.23	-522.7	-373.0	418.8	400.4	18.44	22.717	
2,700.0	2,646.6	2,638.8	2,524.7	9.8	13.0	-77.59	-551.7	-398.0	442.0	422.7	19.30	22.896	
2,800.0	2,743.6	2,735.9	2,614.0	10.3	13.7	-77.01	-580.7	-422.9	465.2	445.0	20.17	23.064	
2,900.0	2,840.6	2,833.1	2,703.3	10.7	14.4	-76.48	-609.8	-447.9	488.5	467.4	21.03	23.222	
3,000.0	2,937.6	2,930.2	2,792.6	11.2	15.1	-76.01	-638.8	-472.8	511.8	489.9	21.90	23.371	
3,100.0	3,034.6	3,027.4	2,881.9	11.7	15.8	-75.57	-667.9	-497.7	535.1	512.3	22.76	23.511	
3,200.0	3,131.6	3,124.6	2,971.2	12.1	16.5	-75.17	-696.9	-522.7	558.4	534.8	23.62	23.643	
3,300.0	3,228.6	3,221.7	3,060.5	12.6	17.2	-74.81	-726.0	-547.6	581.8	557.3	24.48	23.767	
3,400.0	3,325.5	3,318.9	3,149.8	13.1	17.9	-74.47	-755.0	-572.5	605.2	579.9	25.34	23.885	
3,500.0	3,422.5	3,416.1	3,239.1	13.5	18.6	-74.16	-784.1	-597.5	628.6	602.4	26.20	23.996	
3,600.0	3,519.5	3,513.2	3,328.4	14.0	19.3	-73.87	-813.1	-622.4	652.1	625.0	27.05	24.101	
3,700.0	3,616.5	3,610.4	3,417.7	14.5	20.0	-73.60	-842.2	-647.3	675.5	647.6	27.91	24.201	
3,800.0	3,713.5	3,707.6	3,507.0	15.0	20.8	-73.34	-871.2	-672.3	699.0	670.2	28.77	24.296	
3,900.0	3,810.5	3,804.7	3,596.3	15.4	21.5	-73.11	-900.3	-697.2	722.4	692.8	29.62	24.386	
4,000.0	3,907.5	3,901.9	3,685.6	15.9	22.2	-72.89	-929.3	-722.2	745.9	715.4	30.48	24.472	
4,100.0	4,004.5	3,999.1	3,774.9	16.4	22.9	-72.68	-958.4	-747.1	769.4	738.1	31.34	24.554	
4,200.0	4,101.5	4,096.2	3,864.2	16.8	23.6	-72.48	-987.4	-772.0	792.9	760.7	32.19	24.632	
4,300.0	4,198.5	4,193.4	3,953.5	17.3	24.3	-72.30	-1,016.5	-797.0	816.4	783.4	33.04	24.706	
4,400.0	4,295.5	4,290.6	4,042.8	17.8	25.0	-72.13	-1,045.5	-821.9	839.9	806.0	33.90	24.777	
4,500.0	4,392.4	4,387.7	4,132.2	18.2	25.7	-71.96	-1,074.6	-846.8	863.5	828.7	34.75	24.845	
4,600.0	4,489.4	4,484.9	4,221.5	18.7	26.4	-71.81	-1,103.6	-871.8	887.0	851.4	35.61	24.910	
4,700.0	4,586.4	4,582.1	4,310.8	19.2	27.1	-71.66	-1,132.7	-896.7	910.5	874.1	36.46	24.972	
4,800.0	4,683.4	4,679.2	4,400.1	19.6	27.8	-71.52	-1,161.7	-921.7	934.1	896.7	37.31	25.032	
4,900.0	4,780.4	4,776.4	4,489.4	20.1	28.6	-71.39	-1,190.8	-946.6	957.6	919.4	38.17	25.089	
5,000.0	4,877.4	4,873.5	4,578.7	20.6	29.3	-71.26	-1,219.8	-971.5	981.2	942.1	39.02	25.144	
5,100.0	4,974.4	4,970.7	4,668.0	21.0	30.0	-71.14	-1,248.9	-996.5	1,004.7	964.8	39.87	25.197	

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

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,071.4	5,067.9	4,757.3	21.5	30.7	-71.02	-1,277.9	-1,021.4	1,028.3	987.5	40.73	25.248	
5,300.0	5,168.4	5,165.0	4,846.6	22.0	31.4	-70.91	-1,307.0	-1,046.3	1,051.8	1,010.3	41.58	25.297	
5,400.0	5,265.4	5,262.2	4,935.9	22.5	32.1	-70.81	-1,336.0	-1,071.3	1,075.4	1,033.0	42.43	25.344	
5,500.0	5,362.4	5,359.4	5,025.2	22.9	32.8	-70.71	-1,365.1	-1,096.2	1,099.0	1,055.7	43.28	25.389	

Company:	Berry Petroleum Company (NAD 83)	**Local Co-ordinate Reference:**	Well Oxy 21-13D (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 21-13D (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 21-13D (Oxy I21 Pad)
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: -1.71°