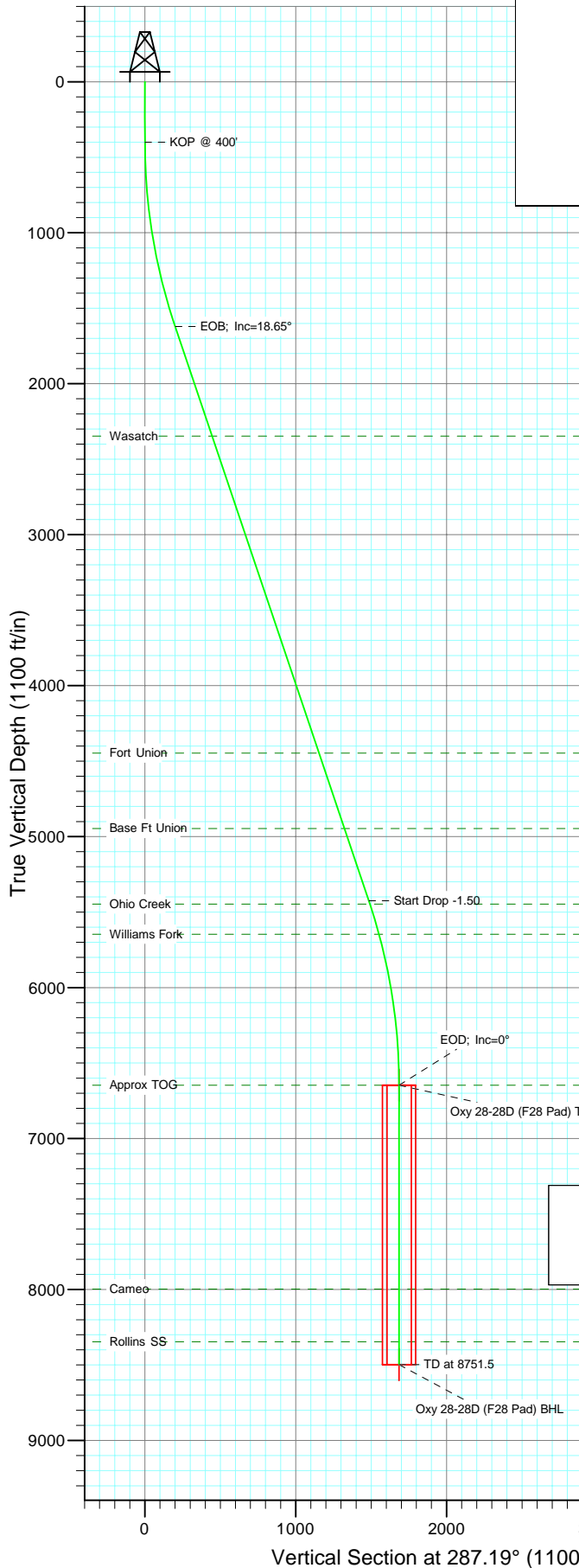


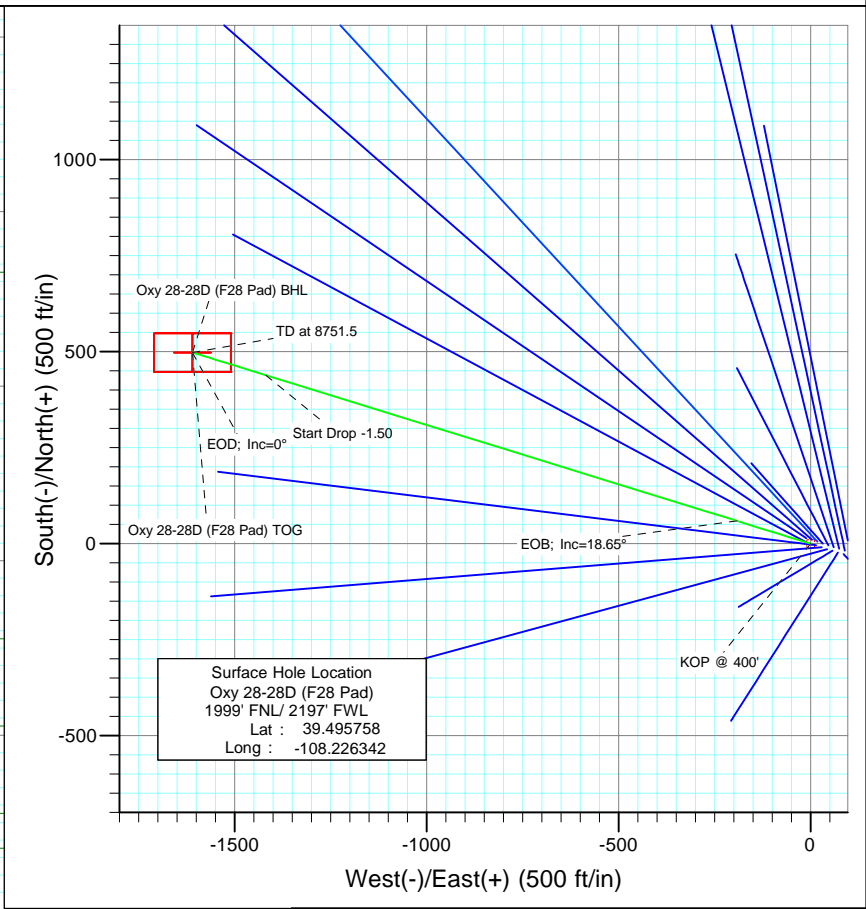


Berry Petroleum Company

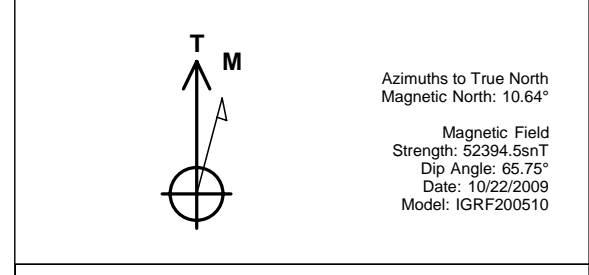
Project: Garfield County
Site: SENW S28-T6S-R97W (F28 Pad)
Well: Oxy 28-28D (F28 Pad)
Wellbore: DD
Design: Plan #1



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	1643.5	18.65	287.19	1621.6	59.3	-191.7	1.50	287.19	200.6	
4	5658.1	18.65	287.19	5425.4	438.7	-1418.3	0.00	0.00	1484.6	
5	6901.5	0.00	0.00	6647.0	498.0	-1609.9	1.50	180.00	1685.2	Oxy 28-28D (F28 Pad) TOG
6	8751.5	0.00	0.00	8497.0	498.0	-1609.9	0.00	0.00	1685.2	Oxy 28-28D (F28 Pad) BHL



FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
2347.0	2409.1	Wasatch
4447.0	4625.5	Fort Union
4947.0	5153.2	Base Ft Union
5447.0	5680.9	Ohio Creek
5647.0	5889.8	Williams Fork
6647.0	6901.5	Approx TOG
7997.0	8251.5	Cameo
8347.0	8601.5	Rollins SS



DESIGN DETAILS: Plan #1				
95XXX; BH				
KBE @ 8308.0ft (Original Well Elev)				
Target	Azimuth	Origin	N/S	E/W
Oxy 28-28D (F28 Pad) BH	287.19	Slot	0.0	0.0
				From TVD
				0.0

Directional Plus

Planning Report

Database:	EDM 2003.21 US Multi User Db	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site:	SENW S28-T6S-R97W (F28 Pad)	North Reference:	True
Well:	Oxy 28-28D (F28 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		SENW S28-T6S-R97W (F28 Pad)			
Site Position:		Northing:	1,616,975.87 ft	Latitude:	39.495683
From:	Lat/Long	Easting:	2,230,827.80 ft	Longitude:	-108.226036
Position Uncertainty:	0.0 ft	Slot Radius:	in	Grid Convergence:	-1.72 °

Well	Oxy 28-28D (F28 Pad)					
Well Position	+N/-S	0.0 ft	Northing:	1,617,005.76 ft	Latitude:	39.495758
	+E/-W	0.0 ft	Easting:	2,230,742.30 ft	Longitude:	-108.226342
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	8,293.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	10/22/2009	10.64	65.75	52,395

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	287.19

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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,643.5	18.65	287.19	1,621.6	59.3	-191.7	1.50	1.50	0.00	287.19	
5,658.1	18.65	287.19	5,425.4	438.7	-1,418.3	0.00	0.00	0.00	0.00	
6,901.5	0.00	0.00	6,647.0	498.0	-1,609.9	1.50	-1.50	0.00	180.00	Oxy 28-28D (F28 Pad
8,751.5	0.00	0.00	8,497.0	498.0	-1,609.9	0.00	0.00	0.00	0.00	Oxy 28-28D (F28 Pad

Directional Plus

Planning Report

Database:	EDM 2003.21 US Multi User Db	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site:	SENW S28-T6S-R97W (F28 Pad)	North Reference:	True
Well:	Oxy 28-28D (F28 Pad)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
30.0	0.00	0.00	30.0	0.0	0.0	0.0	0.00	0.00	
60.0	0.00	0.00	60.0	0.0	0.0	0.0	0.00	0.00	
90.0	0.00	0.00	90.0	0.0	0.0	0.0	0.00	0.00	
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	
150.0	0.00	0.00	150.0	0.0	0.0	0.0	0.00	0.00	
180.0	0.00	0.00	180.0	0.0	0.0	0.0	0.00	0.00	
210.0	0.00	0.00	210.0	0.0	0.0	0.0	0.00	0.00	
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	
270.0	0.00	0.00	270.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
330.0	0.00	0.00	330.0	0.0	0.0	0.0	0.00	0.00	
360.0	0.00	0.00	360.0	0.0	0.0	0.0	0.00	0.00	
390.0	0.00	0.00	390.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	KOP @ 400'
420.0	0.30	287.19	420.0	0.0	-0.1	0.1	1.50	1.50	
450.0	0.75	287.19	450.0	0.1	-0.3	0.3	1.50	1.50	
480.0	1.20	287.19	480.0	0.2	-0.8	0.8	1.50	1.50	
510.0	1.65	287.19	510.0	0.5	-1.5	1.6	1.50	1.50	
540.0	2.10	287.19	540.0	0.8	-2.5	2.6	1.50	1.50	
570.0	2.55	287.19	569.9	1.1	-3.6	3.8	1.50	1.50	
600.0	3.00	287.19	599.9	1.5	-5.0	5.2	1.50	1.50	
630.0	3.45	287.19	629.9	2.0	-6.6	6.9	1.50	1.50	
660.0	3.90	287.19	659.8	2.6	-8.5	8.8	1.50	1.50	
690.0	4.35	287.19	689.7	3.3	-10.5	11.0	1.50	1.50	
720.0	4.80	287.19	719.6	4.0	-12.8	13.4	1.50	1.50	
750.0	5.25	287.19	749.5	4.7	-15.3	16.0	1.50	1.50	
780.0	5.70	287.19	779.4	5.6	-18.0	18.9	1.50	1.50	
810.0	6.15	287.19	809.2	6.5	-21.0	22.0	1.50	1.50	
840.0	6.60	287.19	839.0	7.5	-24.2	25.3	1.50	1.50	
870.0	7.05	287.19	868.8	8.5	-27.6	28.9	1.50	1.50	
900.0	7.50	287.19	898.6	9.7	-31.2	32.7	1.50	1.50	
930.0	7.95	287.19	928.3	10.8	-35.1	36.7	1.50	1.50	
960.0	8.40	287.19	958.0	12.1	-39.1	41.0	1.50	1.50	
990.0	8.85	287.19	987.7	13.4	-43.4	45.5	1.50	1.50	
1,020.0	9.30	287.19	1,017.3	14.8	-48.0	50.2	1.50	1.50	
1,050.0	9.75	287.19	1,046.9	16.3	-52.7	55.2	1.50	1.50	
1,080.0	10.20	287.19	1,076.4	17.8	-57.7	60.4	1.50	1.50	
1,110.0	10.65	287.19	1,105.9	19.4	-62.9	65.8	1.50	1.50	
1,140.0	11.10	287.19	1,135.4	21.1	-68.3	71.5	1.50	1.50	
1,170.0	11.55	287.19	1,164.8	22.9	-73.9	77.3	1.50	1.50	
1,200.0	12.00	287.19	1,194.2	24.7	-79.7	83.5	1.50	1.50	
1,230.0	12.45	287.19	1,223.5	26.5	-85.8	89.8	1.50	1.50	
1,260.0	12.90	287.19	1,252.8	28.5	-92.1	96.4	1.50	1.50	
1,290.0	13.35	287.19	1,282.0	30.5	-98.6	103.2	1.50	1.50	
1,320.0	13.80	287.19	1,311.1	32.6	-105.3	110.3	1.50	1.50	
1,350.0	14.25	287.19	1,340.2	34.7	-112.3	117.5	1.50	1.50	
1,380.0	14.70	287.19	1,369.3	36.9	-119.4	125.0	1.50	1.50	
1,410.0	15.15	287.19	1,398.3	39.2	-126.8	132.8	1.50	1.50	
1,440.0	15.60	287.19	1,427.2	41.6	-134.4	140.7	1.50	1.50	
1,470.0	16.05	287.19	1,456.1	44.0	-142.2	148.9	1.50	1.50	
1,500.0	16.50	287.19	1,484.9	46.5	-150.3	157.3	1.50	1.50	

Directional Plus

Planning Report

Database:	EDM 2003.21 US Multi User Db	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site:	SENW S28-T6S-R97W (F28 Pad)	North Reference:	True
Well:	Oxy 28-28D (F28 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	16.95	287.19	1,513.6	49.0	-158.5	165.9	1.50	1.50	
1,560.0	17.40	287.19	1,542.3	51.7	-167.0	174.8	1.50	1.50	
1,590.0	17.85	287.19	1,570.8	54.3	-175.7	183.9	1.50	1.50	
1,620.0	18.30	287.19	1,599.4	57.1	-184.6	193.2	1.50	1.50	
1,643.5	18.65	287.19	1,621.6	59.3	-191.7	200.6	1.50	1.50	EOB; Inc=18.65°
1,650.0	18.65	287.19	1,627.8	59.9	-193.7	202.7	0.00	0.00	
1,680.0	18.65	287.19	1,656.2	62.7	-202.8	212.3	0.00	0.00	
1,710.0	18.65	287.19	1,684.7	65.6	-212.0	221.9	0.00	0.00	
1,740.0	18.65	287.19	1,713.1	68.4	-221.2	231.5	0.00	0.00	
1,770.0	18.65	287.19	1,741.5	71.2	-230.3	241.1	0.00	0.00	
1,800.0	18.65	287.19	1,769.9	74.1	-239.5	250.7	0.00	0.00	
1,830.0	18.65	287.19	1,798.4	76.9	-248.7	260.3	0.00	0.00	
1,860.0	18.65	287.19	1,826.8	79.7	-257.8	269.9	0.00	0.00	
1,890.0	18.65	287.19	1,855.2	82.6	-267.0	279.5	0.00	0.00	
1,920.0	18.65	287.19	1,883.6	85.4	-276.1	289.1	0.00	0.00	
1,950.0	18.65	287.19	1,912.1	88.3	-285.3	298.7	0.00	0.00	
1,980.0	18.65	287.19	1,940.5	91.1	-294.5	308.2	0.00	0.00	
2,010.0	18.65	287.19	1,968.9	93.9	-303.6	317.8	0.00	0.00	
2,040.0	18.65	287.19	1,997.3	96.8	-312.8	327.4	0.00	0.00	
2,070.0	18.65	287.19	2,025.8	99.6	-322.0	337.0	0.00	0.00	
2,100.0	18.65	287.19	2,054.2	102.4	-331.1	346.6	0.00	0.00	
2,130.0	18.65	287.19	2,082.6	105.3	-340.3	356.2	0.00	0.00	
2,160.0	18.65	287.19	2,111.0	108.1	-349.5	365.8	0.00	0.00	
2,190.0	18.65	287.19	2,139.4	110.9	-358.6	375.4	0.00	0.00	
2,220.0	18.65	287.19	2,167.9	113.8	-367.8	385.0	0.00	0.00	
2,250.0	18.65	287.19	2,196.3	116.6	-377.0	394.6	0.00	0.00	
2,280.0	18.65	287.19	2,224.7	119.4	-386.1	404.2	0.00	0.00	
2,310.0	18.65	287.19	2,253.1	122.3	-395.3	413.8	0.00	0.00	
2,340.0	18.65	287.19	2,281.6	125.1	-404.5	423.4	0.00	0.00	
2,370.0	18.65	287.19	2,310.0	127.9	-413.6	433.0	0.00	0.00	
2,400.0	18.65	287.19	2,338.4	130.8	-422.8	442.6	0.00	0.00	
2,409.1	18.65	287.19	2,347.0	131.6	-425.6	445.5	0.00	0.00	Wasatch
2,430.0	18.65	287.19	2,366.8	133.6	-432.0	452.2	0.00	0.00	
2,460.0	18.65	287.19	2,395.3	136.5	-441.1	461.8	0.00	0.00	
2,490.0	18.65	287.19	2,423.7	139.3	-450.3	471.4	0.00	0.00	

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Oxy 28-28D (F28 Pad) T	0.00	0.00	6,647.0	498.0	-1,609.9	1,617,551.82	2,229,148.04	39.497125	-108.232047
- plan misses target center by 4394.3ft at 2490.0ft MD (2423.7 TVD, 139.3 N, -450.3 E)									
- Point									
Oxy 28-28D (F28 Pad) E	0.00	0.00	8,497.0	498.0	-1,609.9	1,617,551.82	2,229,148.04	39.497125	-108.232047
- plan misses target center by 6193.4ft at 2490.0ft MD (2423.7 TVD, 139.3 N, -450.3 E)									
- Rectangle (sides W100.0 H200.0 D0.0)									

Directional Plus

Planning Report

Database:	EDM 2003.21 US Multi User Db	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site:	SENW S28-T6S-R97W (F28 Pad)	North Reference:	True
Well:	Oxy 28-28D (F28 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	18.65	287.19	2,433.2	140.2	-453.4	474.6	0.00	0.00	
2,600.0	18.65	287.19	2,527.9	149.7	-483.9	506.5	0.00	0.00	
2,700.0	18.65	287.19	2,622.7	159.1	-514.5	538.5	0.00	0.00	
2,800.0	18.65	287.19	2,717.4	168.6	-545.0	570.5	0.00	0.00	
2,900.0	18.65	287.19	2,812.2	178.0	-575.6	602.5	0.00	0.00	
3,000.0	18.65	287.19	2,906.9	187.5	-606.1	634.5	0.00	0.00	
3,100.0	18.65	287.19	3,001.7	196.9	-636.7	666.4	0.00	0.00	
3,200.0	18.65	287.19	3,096.4	206.4	-667.2	698.4	0.00	0.00	
3,300.0	18.65	287.19	3,191.1	215.8	-697.8	730.4	0.00	0.00	
3,400.0	18.65	287.19	3,285.9	225.3	-728.3	762.4	0.00	0.00	
3,500.0	18.65	287.19	3,380.6	234.7	-758.9	794.4	0.00	0.00	
3,600.0	18.65	287.19	3,475.4	244.2	-789.5	826.4	0.00	0.00	
3,700.0	18.65	287.19	3,570.1	253.6	-820.0	858.3	0.00	0.00	
3,800.0	18.65	287.19	3,664.9	263.1	-850.6	890.3	0.00	0.00	
3,900.0	18.65	287.19	3,759.6	272.5	-881.1	922.3	0.00	0.00	
4,000.0	18.65	287.19	3,854.4	282.0	-911.7	954.3	0.00	0.00	
4,100.0	18.65	287.19	3,949.1	291.4	-942.2	986.3	0.00	0.00	
4,200.0	18.65	287.19	4,043.9	300.9	-972.8	1,018.2	0.00	0.00	
4,300.0	18.65	287.19	4,138.6	310.3	-1,003.3	1,050.2	0.00	0.00	
4,400.0	18.65	287.19	4,233.4	319.8	-1,033.9	1,082.2	0.00	0.00	
4,500.0	18.65	287.19	4,328.1	329.2	-1,064.4	1,114.2	0.00	0.00	
4,600.0	18.65	287.19	4,422.9	338.7	-1,095.0	1,146.2	0.00	0.00	
4,625.5	18.65	287.19	4,447.0	341.1	-1,102.8	1,154.3	0.00	0.00	Fort Union
4,700.0	18.65	287.19	4,517.6	348.1	-1,125.5	1,178.2	0.00	0.00	
4,800.0	18.65	287.19	4,612.4	357.6	-1,156.1	1,210.1	0.00	0.00	
4,900.0	18.65	287.19	4,707.1	367.0	-1,186.7	1,242.1	0.00	0.00	
5,000.0	18.65	287.19	4,801.9	376.5	-1,217.2	1,274.1	0.00	0.00	
5,100.0	18.65	287.19	4,896.6	386.0	-1,247.8	1,306.1	0.00	0.00	
5,153.2	18.65	287.19	4,947.0	391.0	-1,264.0	1,323.1	0.00	0.00	Base Ft Union
5,200.0	18.65	287.19	4,991.4	395.4	-1,278.3	1,338.1	0.00	0.00	
5,300.0	18.65	287.19	5,086.1	404.9	-1,308.9	1,370.0	0.00	0.00	
5,400.0	18.65	287.19	5,180.9	414.3	-1,339.4	1,402.0	0.00	0.00	
5,500.0	18.65	287.19	5,275.6	423.8	-1,370.0	1,434.0	0.00	0.00	
5,600.0	18.65	287.19	5,370.3	433.2	-1,400.5	1,466.0	0.00	0.00	
5,658.1	18.65	287.19	5,425.4	438.7	-1,418.3	1,484.6	0.00	0.00	Start Drop -1.50
5,680.9	18.31	287.19	5,447.0	440.8	-1,425.2	1,491.8	1.50	-1.50	Ohio Creek
5,700.0	18.02	287.19	5,465.2	442.6	-1,430.9	1,497.8	1.50	-1.50	
5,800.0	16.52	287.19	5,560.7	451.4	-1,459.2	1,527.5	1.50	-1.50	
5,889.8	15.18	287.19	5,647.0	458.6	-1,482.7	1,552.0	1.50	-1.50	Williams Fork
5,900.0	15.02	287.19	5,656.9	459.4	-1,485.2	1,554.6	1.50	-1.50	
6,000.0	13.52	287.19	5,753.8	466.7	-1,508.8	1,579.3	1.50	-1.50	
6,100.0	12.02	287.19	5,851.3	473.2	-1,529.9	1,601.4	1.50	-1.50	
6,200.0	10.52	287.19	5,949.4	479.0	-1,548.6	1,620.9	1.50	-1.50	
6,300.0	9.02	287.19	6,047.9	484.0	-1,564.8	1,637.9	1.50	-1.50	
6,400.0	7.52	287.19	6,146.9	488.3	-1,578.5	1,652.3	1.50	-1.50	
6,500.0	6.02	287.19	6,246.2	491.7	-1,589.8	1,664.1	1.50	-1.50	
6,600.0	4.52	287.19	6,345.8	494.5	-1,598.6	1,673.3	1.50	-1.50	
6,700.0	3.02	287.19	6,445.5	496.4	-1,604.9	1,679.9	1.50	-1.50	
6,800.0	1.52	287.19	6,545.5	497.6	-1,608.6	1,683.8	1.50	-1.50	
6,900.0	0.02	287.19	6,645.5	498.0	-1,609.9	1,685.2	1.50	-1.50	
6,901.5	0.00	0.00	6,647.0	498.0	-1,609.9	1,685.2	1.50	-1.50	EOD; Inc=0° - Approx TOG - Oxy 28-28D (F28
7,000.0	0.00	0.00	6,745.5	498.0	-1,609.9	1,685.2	0.00	0.00	

Directional Plus

Planning Report

Database:	EDM 2003.21 US Multi User Db	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site:	SENW S28-T6S-R97W (F28 Pad)	North Reference:	True
Well:	Oxy 28-28D (F28 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	6,845.5	498.0	-1,609.9	1,685.2	0.00	0.00	
7,200.0	0.00	0.00	6,945.5	498.0	-1,609.9	1,685.2	0.00	0.00	
7,300.0	0.00	0.00	7,045.5	498.0	-1,609.9	1,685.2	0.00	0.00	
7,400.0	0.00	0.00	7,145.5	498.0	-1,609.9	1,685.2	0.00	0.00	
7,500.0	0.00	0.00	7,245.5	498.0	-1,609.9	1,685.2	0.00	0.00	
7,600.0	0.00	0.00	7,345.5	498.0	-1,609.9	1,685.2	0.00	0.00	
7,700.0	0.00	0.00	7,445.5	498.0	-1,609.9	1,685.2	0.00	0.00	
7,800.0	0.00	0.00	7,545.5	498.0	-1,609.9	1,685.2	0.00	0.00	
7,900.0	0.00	0.00	7,645.5	498.0	-1,609.9	1,685.2	0.00	0.00	
8,000.0	0.00	0.00	7,745.5	498.0	-1,609.9	1,685.2	0.00	0.00	
8,100.0	0.00	0.00	7,845.5	498.0	-1,609.9	1,685.2	0.00	0.00	
8,200.0	0.00	0.00	7,945.5	498.0	-1,609.9	1,685.2	0.00	0.00	
8,251.5	0.00	0.00	7,997.0	498.0	-1,609.9	1,685.2	0.00	0.00	Cameo
8,300.0	0.00	0.00	8,045.5	498.0	-1,609.9	1,685.2	0.00	0.00	
8,400.0	0.00	0.00	8,145.5	498.0	-1,609.9	1,685.2	0.00	0.00	
8,500.0	0.00	0.00	8,245.5	498.0	-1,609.9	1,685.2	0.00	0.00	
8,600.0	0.00	0.00	8,345.5	498.0	-1,609.9	1,685.2	0.00	0.00	
8,601.5	0.00	0.00	8,347.0	498.0	-1,609.9	1,685.2	0.00	0.00	Rollins SS
8,700.0	0.00	0.00	8,445.5	498.0	-1,609.9	1,685.2	0.00	0.00	
8,751.5	0.00	0.00	8,497.0	498.0	-1,609.9	1,685.2	0.00	0.00	TD at 8751.5 - Oxy 28-28D (F28 Pad) BHL

Targets									
Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	
- Shape									Latitude Longitude
Oxy 28-28D (F28 Pad) T	- plan hits target center	0.00	0.00	6,647.0	498.0	-1,609.9	1,617,551.82	2,229,148.04	39.497125 -108.232047
	- Point								
Oxy 28-28D (F28 Pad) E	- plan hits target center	0.00	0.00	8,497.0	498.0	-1,609.9	1,617,551.82	2,229,148.04	39.497125 -108.232047
	- Rectangle (sides W100.0 H200.0 D0.0)								

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,409.1	2,347.0	Wasatch		0.00		
4,625.5	4,447.0	Fort Union		0.00		
5,153.2	4,947.0	Base Ft Union		0.00		
5,680.9	5,447.0	Ohio Creek		0.00		
5,889.8	5,647.0	Williams Fork		0.00		
6,901.5	6,647.0	Approx TOG		0.00		
8,251.5	7,997.0	Cameo		0.00		
8,601.5	8,347.0	Rollins SS		0.00		

Directional Plus

Planning Report

Database:	EDM 2003.21 US Multi User Db	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Company:	Berry Petroleum Company (NAD 83)	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Project:	Garfield County	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site:	SENW S28-T6S-R97W (F28 Pad)	North Reference:	True
Well:	Oxy 28-28D (F28 Pad)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
400.0	400.0	0.0	0.0	KOP @ 400'
1,643.5	1,621.6	59.3	-191.7	EOB; Inc=18.65°
5,658.1	5,425.4	438.7	-1,418.3	Start Drop -1.50
6,901.5	6,647.0	498.0	-1,609.9	EOD; Inc=0°
8,751.5	8,497.0	498.0	-1,609.9	TD at 8751.5

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Reference Site:	SENW S28-T6S-R97W (F28 Pad)	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 28-28D (F28 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 200.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date	10/26/2009		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	8,751.5	Plan #1 (DD)	MWD	Geolink MWD	

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Reference Site:	SENW S28-T6S-R97W (F28 Pad)	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 28-28D (F28 Pad)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 US Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
SENW S28-T6S-R97W (F28 Pad)						
687-28A-18 (Marathon offset) - DD - Plan #1						Out of range
Oxy 28-15D (F28 Pad) - DD - Plan #1	400.0	400.0	90.6	89.2	67.394	CC, ES
Oxy 28-15D (F28 Pad) - DD - Plan #1	800.0	791.3	121.5	118.8	44.646	SF
Oxy 28-17D (F28 Pad) - DD - Plan #1	400.0	400.0	75.1	73.8	55.887	CC, ES
Oxy 28-17D (F28 Pad) - DD - Plan #1	900.0	900.1	105.4	102.3	33.988	SF
Oxy 28-18D (F28 pad) - DD - Plan #1	400.0	400.0	60.1	58.8	44.730	CC, ES
Oxy 28-18D (F28 pad) - DD - Plan #1	900.0	902.4	85.5	82.4	27.592	SF
Oxy 28-19D (F28 Pad) - DD - Plan #1	400.0	400.0	32.2	30.8	23.938	CC, ES
Oxy 28-19D (F28 Pad) - DD - Plan #1	800.0	801.2	48.7	46.0	17.759	SF
Oxy 28-20D (F28 Pad) - DD - Plan #1	400.0	400.0	46.5	45.1	34.567	CC, ES
Oxy 28-20D (F28 Pad) - DD - Plan #1	900.0	901.7	68.3	65.1	21.668	SF
Oxy 28-21D (F28 Pad) - DD - Plan #1	400.0	400.0	61.1	59.7	45.445	CC, ES
Oxy 28-21D (F28 Pad) - DD - Plan #1	1,000.0	1,001.1	93.0	89.3	24.972	SF
Oxy 28-22D (F28 Pad) - DD - Plan #1	400.0	400.0	106.2	104.8	78.993	CC, ES
Oxy 28-22D (F28 Pad) - DD - Plan #1	1,300.0	1,299.7	189.8	184.7	36.987	SF
Oxy 28-23D (F28 Pad) - DD - Plan #1	400.0	400.0	75.6	74.3	56.289	CC, ES
Oxy 28-23D (F28 Pad) - DD - Plan #1	1,200.0	1,199.8	141.2	136.6	30.745	SF
Oxy 28-24D (F28 Pad) - DD - Plan #1	460.4	461.9	90.5	88.9	57.849	CC
Oxy 28-24D (F28 Pad) - DD - Plan #1	500.0	501.8	90.6	88.9	53.111	ES
Oxy 28-24D (F28 Pad) - DD - Plan #1	1,300.0	1,292.2	180.4	174.5	30.746	SF
Oxy 28-25D (F28 Pad) - DD - Plan #1	400.0	400.0	45.5	44.1	33.822	CC
Oxy 28-25D (F28 Pad) - DD - Plan #1	500.0	501.0	45.7	44.0	26.944	ES
Oxy 28-25D (F28 Pad) - DD - Plan #1	1,600.0	1,602.7	125.5	116.9	14.692	SF
Oxy 28-26D (F28 Pad) - DD - Plan #1	400.0	400.0	30.5	29.1	22.665	CC
Oxy 28-26D (F28 Pad) - DD - Plan #1	600.0	601.5	30.9	28.8	15.094	ES
Oxy 28-26D (F28 Pad) - DD - Plan #1	1,500.0	1,504.8	71.7	64.1	9.491	SF
Oxy 28-27D (F28 Pad) - DD - Plan #1	400.0	400.0	15.5	14.1	11.522	CC
Oxy 28-27D (F28 Pad) - DD - Plan #1	800.0	801.6	16.0	13.3	5.827	ES
Oxy 28-27D (F28 Pad) - DD - Plan #1	1,500.0	1,503.7	32.4	24.9	4.326	SF
Oxy 28-29D (F28 Pad) - DD - Plan #1	604.1	603.4	15.0	12.9	7.287	CC
Oxy 28-29D (F28 Pad) - DD - Plan #1	800.0	798.4	15.3	12.5	5.567	ES
Oxy 28-29D (F28 Pad) - DD - Plan #1	1,400.0	1,395.6	28.2	21.8	4.363	SF
Oxy 28-30D (F28 Pad) - DD - Plan #1	200.0	200.0	18.0	17.3	27.827	CC, ES
Oxy 28-30D (F28 Pad) - DD - Plan #1	2,500.0	2,473.3	196.6	178.9	11.105	SF
Oxy 28-31D (F28 Pad) - DD - Plan #1	300.0	300.0	10.9	9.9	10.994	CC, ES
Oxy 28-31D (F28 Pad) - DD - Plan #1	500.0	499.7	13.3	11.6	7.828	SF
Oxy 28-32D (F28 Pad) - DD - Plan #1	434.7	435.0	16.9	15.4	11.326	CC, ES
Oxy 28-32D (F28 Pad) - DD - Plan #1	600.0	599.8	20.9	18.8	9.792	SF

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Reference Site:	SENW S28-T6S-R97W (F28 Pad)	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 28-28D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-15D (F28 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance					Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	107.55	-27.3	86.4	90.6					
100.0	100.0	100.0	100.0	0.1	0.1	107.55	-27.3	86.4	90.6	90.3	0.30	305.253		
200.0	200.0	200.0	200.0	0.3	0.3	107.55	-27.3	86.4	90.6	89.9	0.65	140.252		
300.0	300.0	300.0	300.0	0.5	0.5	107.55	-27.3	86.4	90.6	89.6	0.99	91.040		
400.0	400.0	400.0	400.0	0.7	0.7	107.55	-27.3	86.4	90.6	89.2	1.34	67.394 CC, ES		
500.0	500.0	500.0	500.0	0.8	0.8	-179.64	-27.3	86.4	91.9	90.2	1.69	54.284		
600.0	599.9	597.8	597.8	1.0	1.0	-179.28	-28.2	87.2	96.9	94.9	2.04	47.584		
700.0	699.7	695.0	694.9	1.2	1.2	-178.33	-31.0	89.7	106.8	104.4	2.38	44.875		
800.0	799.3	791.3	791.0	1.4	1.4	-177.05	-35.5	93.9	121.5	118.8	2.72	44.646 SF		
900.0	898.6	886.4	885.8	1.7	1.6	-175.66	-41.7	99.6	141.1	138.0	3.06	46.065		
1,000.0	997.5	979.9	978.7	2.0	1.8	-174.33	-49.5	106.7	165.4	162.0	3.40	48.628		
1,100.0	1,096.1	1,071.6	1,069.5	2.3	2.0	-173.13	-58.8	115.2	194.5	190.8	3.74	52.010		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Reference Site:	SENW S28-T6S-R97W (F28 Pad)	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 28-28D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-17D (F28 Pad) - DD - Plan #1													Offset Site Error: 0.0 ft			
Survey Program: 0-MWD															Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance									Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor				
0.0	0.0	0.0	0.0	0.0	0.0	108.08	-23.3	71.4	75.1							
100.0	100.0	100.0	100.0	0.1	0.1	108.08	-23.3	71.4	75.1	74.8	0.30	253.134				
200.0	200.0	200.0	200.0	0.3	0.3	108.08	-23.3	71.4	75.1	74.5	0.65	116.305				
300.0	300.0	300.0	300.0	0.5	0.5	108.08	-23.3	71.4	75.1	74.1	0.99	75.496				
400.0	400.0	400.0	400.0	0.7	0.7	108.08	-23.3	71.4	75.1	73.8	1.34	55.887	CC, ES			
500.0	500.0	500.0	500.0	0.8	0.8	-179.12	-23.3	71.4	76.4	74.7	1.69	45.147				
600.0	599.9	599.9	599.9	1.0	1.0	-179.16	-23.3	71.4	80.3	78.3	2.04	39.378				
700.0	699.7	700.2	700.2	1.2	1.2	-178.38	-24.4	70.7	86.6	84.2	2.39	36.243				
800.0	799.3	800.4	800.3	1.4	1.4	-176.21	-27.7	68.6	94.9	92.1	2.74	34.618				
900.0	898.6	900.1	899.8	1.7	1.6	-173.12	-33.3	65.1	105.4	102.3	3.10	33.988	SF			
1,000.0	997.5	999.2	998.5	2.0	1.8	-169.74	-40.6	60.4	118.6	115.1	3.48	34.108				
1,100.0	1,096.1	1,097.7	1,096.6	2.3	2.0	-167.16	-48.1	55.7	134.6	130.7	3.86	34.849				
1,200.0	1,194.2	1,195.9	1,194.4	2.6	2.2	-165.36	-55.5	50.9	153.3	149.1	4.26	36.016				
1,300.0	1,291.7	1,293.5	1,291.6	3.1	2.4	-164.15	-62.9	46.2	174.6	169.9	4.66	37.481				
1,400.0	1,388.6	1,390.6	1,388.4	3.5	2.6	-163.40	-70.3	41.5	198.4	193.3	5.06	39.163				

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Reference Site:	SENW S28-T6S-R97W (F28 Pad)	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 28-28D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-18D (F28 pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	107.64	-18.2	57.3	60.1					
100.0	100.0	100.0	100.0	0.1	0.1	107.64	-18.2	57.3	60.1	59.8	0.30	202.598		
200.0	200.0	200.0	200.0	0.3	0.3	107.64	-18.2	57.3	60.1	59.5	0.65	93.086		
300.0	300.0	300.0	300.0	0.5	0.5	107.64	-18.2	57.3	60.1	59.1	0.99	60.424		
400.0	400.0	400.0	400.0	0.7	0.7	107.64	-18.2	57.3	60.1	58.8	1.34	44.730 CC, ES		
500.0	500.0	500.0	500.0	0.8	0.8	-179.56	-18.2	57.3	61.4	59.7	1.69	36.288		
600.0	599.9	599.9	599.9	1.0	1.0	-179.59	-18.2	57.3	65.3	63.3	2.04	32.029		
700.0	699.7	700.9	700.9	1.2	1.2	-178.82	-18.9	56.1	71.0	68.6	2.39	29.725		
800.0	799.3	801.9	801.8	1.4	1.4	-176.71	-21.0	52.7	77.6	74.9	2.74	28.330		
900.0	898.6	902.4	902.1	1.7	1.6	-173.75	-24.3	47.1	85.5	82.4	3.10	27.592 SF		
1,000.0	997.5	1,001.8	1,001.2	2.0	1.8	-171.23	-27.9	41.1	95.7	92.3	3.46	27.678		
1,100.0	1,096.1	1,100.9	1,100.1	2.3	2.0	-169.45	-31.5	35.1	108.7	104.9	3.82	28.417		
1,200.0	1,194.2	1,199.7	1,198.6	2.6	2.2	-168.28	-35.1	29.1	124.3	120.1	4.19	29.624		
1,300.0	1,291.7	1,298.0	1,296.7	3.1	2.4	-167.58	-38.6	23.2	142.4	137.8	4.57	31.180		
1,400.0	1,388.6	1,395.8	1,394.3	3.5	2.6	-167.22	-42.2	17.3	163.0	158.1	4.94	33.005		
1,500.0	1,484.9	1,493.1	1,491.3	4.0	2.8	-167.11	-45.7	11.4	186.2	180.9	5.31	35.048		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Reference Site:	SENW S28-T6S-R97W (F28 Pad)	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 28-28D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-19D (F28 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	32.2	32.2					
100.0	100.0	100.0	100.0	0.1	0.1	90.00	0.0	32.2	32.2	31.9	0.30	108.427		
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	32.2	32.2	31.5	0.65	49.818		
300.0	300.0	300.0	300.0	0.5	0.5	90.00	0.0	32.2	32.2	31.2	0.99	32.338		
400.0	400.0	400.0	400.0	0.7	0.7	90.00	0.0	32.2	32.2	30.8	1.34	23.938 CC, ES		
500.0	500.0	500.0	500.0	0.8	0.8	163.47	0.0	32.2	33.4	31.7	1.69	19.746		
600.0	599.9	599.9	599.9	1.0	1.0	165.18	0.0	32.2	37.2	35.2	2.04	18.229		
700.0	699.7	700.5	700.5	1.2	1.2	166.14	1.0	31.3	42.6	40.2	2.39	17.830		
800.0	799.3	801.2	801.1	1.4	1.4	165.42	4.0	28.6	48.7	46.0	2.74	17.759 SF		
900.0	898.6	901.6	901.3	1.7	1.6	163.66	8.8	24.3	55.6	52.5	3.10	17.915		
1,000.0	997.5	1,001.1	1,000.6	2.0	1.8	162.56	14.1	19.6	64.6	61.1	3.47	18.613		
1,100.0	1,096.1	1,100.5	1,099.7	2.3	2.0	162.32	19.4	14.9	76.1	72.3	3.84	19.809		
1,200.0	1,194.2	1,199.5	1,198.4	2.6	2.2	162.63	24.6	10.2	90.1	85.8	4.21	21.378		
1,300.0	1,291.7	1,298.1	1,296.8	3.1	2.4	163.26	29.9	5.5	106.5	101.9	4.58	23.242		
1,400.0	1,388.6	1,396.3	1,394.7	3.5	2.6	164.02	35.1	0.9	125.4	120.5	4.95	25.346		
1,500.0	1,484.9	1,494.0	1,492.1	4.0	2.8	164.84	40.3	-3.7	146.9	141.5	5.31	27.648		
1,600.0	1,580.4	1,591.0	1,589.0	4.5	3.0	165.64	45.5	-8.3	170.8	165.1	5.67	30.121		
1,700.0	1,675.2	1,687.5	1,685.2	5.1	3.2	166.43	50.6	-12.9	196.8	190.8	6.03	32.615		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Reference Site:	SENW S28-T6S-R97W (F28 Pad)	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 28-28D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-20D (F28 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	94.95	-4.0	46.3	46.5					
100.0	100.0	100.0	100.0	0.1	0.1	94.95	-4.0	46.3	46.5	46.2	0.30	156.566		
200.0	200.0	200.0	200.0	0.3	0.3	94.95	-4.0	46.3	46.5	45.8	0.65	71.936		
300.0	300.0	300.0	300.0	0.5	0.5	94.95	-4.0	46.3	46.5	45.5	0.99	46.695		
400.0	400.0	400.0	400.0	0.7	0.7	94.95	-4.0	46.3	46.5	45.1	1.34	34.567 CC, ES		
500.0	500.0	500.0	500.0	0.8	0.8	168.09	-4.0	46.3	47.7	46.0	1.69	28.201		
600.0	599.9	600.6	600.6	1.0	1.0	167.74	-2.8	45.7	50.9	48.8	2.04	24.901		
700.0	699.7	701.2	701.2	1.2	1.2	165.68	0.7	43.9	55.2	52.8	2.40	23.018		
800.0	799.3	801.8	801.4	1.4	1.4	162.41	6.6	40.8	60.8	58.1	2.77	22.003		
900.0	898.6	901.7	901.0	1.7	1.6	158.87	14.3	36.9	68.3	65.1	3.15	21.668 SF		
1,000.0	997.5	1,001.1	1,000.1	2.0	1.8	156.67	22.1	32.8	78.2	74.7	3.55	22.038		
1,100.0	1,096.1	1,100.3	1,098.9	2.3	2.0	155.65	29.8	28.8	90.6	86.7	3.96	22.893		
1,200.0	1,194.2	1,199.2	1,197.4	2.6	2.3	155.44	37.6	24.8	105.4	101.0	4.37	24.094		
1,300.0	1,291.7	1,297.8	1,295.5	3.1	2.5	155.76	45.3	20.8	122.5	117.7	4.79	25.560		
1,400.0	1,388.6	1,395.8	1,393.2	3.5	2.7	156.40	53.0	16.9	142.0	136.8	5.21	27.242		
1,500.0	1,484.9	1,493.4	1,490.4	4.0	2.9	157.21	60.7	12.9	163.9	158.3	5.63	29.104		
1,600.0	1,580.4	1,590.3	1,587.0	4.5	3.1	158.10	68.3	9.0	188.2	182.1	6.05	31.121		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Reference Site:	SENW S28-T6S-R97W (F28 Pad)	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 28-28D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-21D (F28 Pad) - DD - Plan #1												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
0.0	0.0	0.0	0.0	0.0	0.0	98.57	-9.1	60.4	61.1				
100.0	100.0	100.0	100.0	0.1	0.1	98.57	-9.1	60.4	61.1	60.8	0.30	205.840	
200.0	200.0	200.0	200.0	0.3	0.3	98.57	-9.1	60.4	61.1	60.4	0.65	94.575	
300.0	300.0	300.0	300.0	0.5	0.5	98.57	-9.1	60.4	61.1	60.1	0.99	61.391	
400.0	400.0	400.0	400.0	0.7	0.7	98.57	-9.1	60.4	61.1	59.7	1.34	45.445 CC, ES	
500.0	500.0	500.7	500.7	0.8	0.8	170.47	-7.8	60.0	61.8	60.1	1.69	36.447	
600.0	599.9	601.3	601.3	1.0	1.0	167.85	-4.1	58.7	64.0	61.9	2.05	31.185	
700.0	699.7	701.8	701.5	1.2	1.2	163.88	2.2	56.6	67.9	65.5	2.42	28.039	
800.0	799.3	802.0	801.3	1.4	1.4	159.07	10.9	53.7	73.9	71.0	2.82	26.214	
900.0	898.6	901.9	900.4	1.7	1.7	153.97	22.1	49.9	82.1	78.9	3.25	25.249	
1,000.0	997.5	1,001.1	998.7	2.0	2.0	149.44	35.0	45.6	93.0	89.3	3.72	24.972 SF	
1,100.0	1,096.1	1,100.1	1,096.8	2.3	2.2	146.57	47.9	41.3	106.4	102.2	4.22	25.223	
1,200.0	1,194.2	1,198.8	1,194.5	2.6	2.5	145.02	60.8	37.0	122.2	117.5	4.74	25.794	
1,300.0	1,291.7	1,297.2	1,292.0	3.1	2.8	144.41	73.7	32.7	140.1	134.8	5.27	26.576	
1,400.0	1,388.6	1,395.2	1,389.0	3.5	3.1	144.44	86.5	28.4	160.1	154.3	5.82	27.515	
1,500.0	1,484.9	1,492.7	1,485.6	4.0	3.3	144.89	99.3	24.1	182.2	175.8	6.37	28.583	

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Reference Site:	SENW S28-T6S-R97W (F28 Pad)	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 28-28D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-22D (F28 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance					Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	102.68	-23.3	103.6	106.2					
100.0	100.0	100.0	100.0	0.1	0.1	102.68	-23.3	103.6	106.2	105.9	0.30	357.792		
200.0	200.0	200.0	200.0	0.3	0.3	102.68	-23.3	103.6	106.2	105.5	0.65	164.391		
300.0	300.0	300.0	300.0	0.5	0.5	102.68	-23.3	103.6	106.2	105.2	0.99	106.710		
400.0	400.0	400.0	400.0	0.7	0.7	102.68	-23.3	103.6	106.2	104.8	1.34	78.993 CC, ES		
500.0	500.0	500.0	500.0	0.8	0.8	175.55	-23.3	103.6	107.5	105.8	1.69	63.491		
600.0	599.9	601.1	601.1	1.0	1.0	175.07	-22.0	103.3	110.8	108.8	2.04	54.245		
700.0	699.7	702.1	702.0	1.2	1.2	173.53	-18.1	102.5	115.8	113.4	2.40	48.285		
800.0	799.3	802.9	802.6	1.4	1.4	171.11	-11.5	101.2	122.5	119.7	2.76	44.315		
900.0	898.6	903.3	902.6	1.7	1.6	168.06	-2.5	99.4	131.2	128.0	3.15	41.627		
1,000.0	997.5	1,003.3	1,001.9	2.0	1.9	164.62	9.1	97.0	142.1	138.5	3.57	39.790		
1,100.0	1,096.1	1,102.8	1,100.3	2.3	2.1	161.02	23.2	94.2	155.4	151.3	4.03	38.518		
1,200.0	1,194.2	1,201.7	1,197.7	2.6	2.4	157.43	39.7	90.8	171.3	166.7	4.55	37.619		
1,300.0	1,291.7	1,299.7	1,293.9	3.1	2.8	154.00	58.4	87.0	189.8	184.7	5.13	36.987 SF		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Reference Site:	SENW S28-T6S-R97W (F28 Pad)	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 28-28D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-23D (F28 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	99.98	-13.1	74.5	75.6					
100.0	100.0	100.0	100.0	0.1	0.1	99.98	-13.1	74.5	75.6	75.3	0.30	254.954		
200.0	200.0	200.0	200.0	0.3	0.3	99.98	-13.1	74.5	75.6	75.0	0.65	117.141		
300.0	300.0	300.0	300.0	0.5	0.5	99.98	-13.1	74.5	75.6	74.7	0.99	76.039		
400.0	400.0	400.0	400.0	0.7	0.7	99.98	-13.1	74.5	75.6	74.3	1.34	56.289 CC, ES		
500.0	500.0	500.0	500.0	0.8	0.8	172.91	-13.1	74.5	76.9	75.3	1.69	45.460		
600.0	599.9	600.8	600.7	1.0	1.0	172.39	-11.8	74.2	80.3	78.3	2.04	39.314		
700.0	699.7	701.4	701.3	1.2	1.2	170.50	-8.0	73.2	85.3	82.9	2.40	35.568		
800.0	799.3	801.9	801.6	1.4	1.4	167.59	-1.5	71.7	92.0	89.3	2.76	33.283		
900.0	898.6	902.1	901.3	1.7	1.6	164.01	7.4	69.5	100.8	97.6	3.16	31.941		
1,000.0	997.5	1,001.8	1,000.4	2.0	1.9	160.11	18.9	66.7	111.8	108.2	3.58	31.210		
1,100.0	1,096.1	1,101.1	1,098.6	2.3	2.1	156.19	32.7	63.3	125.2	121.2	4.06	30.864		
1,200.0	1,194.2	1,199.8	1,195.9	2.6	2.4	152.44	49.0	59.4	141.2	136.6	4.59	30.745 SF		
1,300.0	1,291.7	1,297.8	1,292.0	3.1	2.8	148.98	67.5	54.9	159.9	154.7	5.20	30.748		
1,400.0	1,388.6	1,395.1	1,386.9	3.5	3.1	145.84	88.3	49.8	181.1	175.3	5.88	30.816		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Reference Site:	SENW S28-T6S-R97W (F28 Pad)	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 28-28D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-24D (F28 Pad) - DD - Plan #1													Offset Site Error: 0.0 ft	
Survey Program: 0-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	101.51	-18.2	89.5	91.3					
100.0	100.0	100.0	100.0	0.1	0.1	101.51	-18.2	89.5	91.3	91.0	0.30	307.688		
200.0	200.0	200.0	200.0	0.3	0.3	101.51	-18.2	89.5	91.3	90.6	0.65	141.370		
300.0	300.0	300.0	300.0	0.5	0.5	101.51	-18.2	89.5	91.3	90.3	0.99	91.767		
400.0	400.0	400.9	400.9	0.7	0.7	100.74	-16.9	89.2	90.8	89.4	1.35	67.459		
460.4	460.4	461.9	461.8	0.8	0.8	172.36	-14.9	88.7	90.5	88.9	1.56	57.849 CC		
500.0	500.0	501.8	501.7	0.8	0.9	171.31	-13.0	88.3	90.6	88.9	1.71	53.111 ES		
600.0	599.9	602.4	602.1	1.0	1.1	167.82	-6.5	86.9	92.3	90.2	2.08	44.401		
700.0	699.7	702.7	701.9	1.2	1.3	163.37	2.5	85.0	96.3	93.8	2.48	38.869		
800.0	799.3	802.6	801.1	1.4	1.5	158.35	14.1	82.5	102.8	99.9	2.91	35.344		
900.0	898.6	901.9	899.4	1.7	1.8	153.21	28.1	79.5	112.2	108.9	3.39	33.152		
1,000.0	997.5	1,000.6	996.7	2.0	2.1	148.29	44.4	76.0	124.7	120.8	3.91	31.857		
1,100.0	1,096.1	1,098.7	1,092.9	2.3	2.5	143.83	63.1	72.0	140.3	135.7	4.50	31.152		
1,200.0	1,194.2	1,195.9	1,187.7	2.6	2.9	139.91	84.0	67.5	158.8	153.7	5.15	30.829		
1,300.0	1,291.7	1,292.2	1,281.1	3.1	3.3	136.54	107.1	62.5	180.4	174.5	5.87	30.746 SF		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Reference Site:	SENW S28-T6S-R97W (F28 Pad)	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 28-28D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-25D (F28 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	108.21	-14.2	43.2	45.5					
100.0	100.0	100.0	100.0	0.1	0.1	108.21	-14.2	43.2	45.5	0.30	153.194			
200.0	200.0	200.0	200.0	0.3	0.3	108.21	-14.2	43.2	45.5	0.65	70.387			
300.0	300.0	300.0	300.0	0.5	0.5	108.21	-14.2	43.2	45.5	0.99	45.690			
400.0	400.0	400.0	400.0	0.7	0.7	108.21	-14.2	43.2	45.5	1.34	33.822 CC			
500.0	500.0	501.0	501.0	0.8	0.8	-178.08	-14.6	41.9	44.0	1.69	26.944 ES			
600.0	599.9	602.0	601.9	1.0	1.0	-175.46	-15.6	38.0	46.4	2.05	22.642			
700.0	699.7	702.9	702.5	1.2	1.2	-171.27	-17.4	31.6	47.7	2.41	19.824			
800.0	799.3	803.7	802.9	1.4	1.5	-165.85	-19.8	22.6	50.0	2.79	17.958			
900.0	898.6	904.3	902.9	1.7	1.7	-159.64	-22.9	11.1	53.6	3.20	16.731			
1,000.0	997.5	1,004.8	1,002.3	2.0	2.0	-153.17	-26.7	-2.9	58.6	3.68	15.931			
1,100.0	1,096.1	1,105.1	1,101.1	2.3	2.3	-146.92	-31.2	-19.5	65.4	4.24	15.411			
1,200.0	1,194.2	1,205.2	1,199.3	2.6	2.7	-141.18	-36.4	-38.4	73.9	4.90	15.076			
1,300.0	1,291.7	1,305.1	1,296.6	3.1	3.1	-136.14	-42.2	-59.8	84.2	5.66	14.870			
1,400.0	1,388.6	1,404.6	1,393.1	3.5	3.5	-131.80	-48.7	-83.6	96.3	6.53	14.755			
1,500.0	1,484.9	1,503.8	1,488.5	4.0	4.0	-128.11	-55.7	-109.7	110.1	7.49	14.702			
1,600.0	1,580.4	1,602.7	1,583.0	4.5	4.6	-125.00	-63.5	-138.0	125.5	8.54	14.692 SF			
1,700.0	1,675.2	1,701.3	1,676.3	5.1	5.1	-122.40	-71.7	-168.5	142.2	9.66	14.723			
1,800.0	1,769.9	1,799.7	1,769.3	5.7	5.7	-120.31	-80.1	-199.5	159.3	10.80	14.752			
1,900.0	1,864.7	1,898.0	1,862.3	6.3	6.3	-118.62	-88.6	-230.4	176.6	11.95	14.780			
2,000.0	1,959.4	1,996.4	1,955.3	6.9	6.9	-117.23	-97.0	-261.3	194.0	13.10	14.807			

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Reference Site:	SENW S28-T6S-R97W (F28 Pad)	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 28-28D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-26D (F28 Pad) - DD - Plan #1													Offset Site Error: 0.0 ft	
Survey Program: 0-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	107.39	-9.1	29.1	30.5					
100.0	100.0	100.0	100.0	0.1	0.1	107.39	-9.1	29.1	30.5	30.2	0.30	102.660		
200.0	200.0	200.0	200.0	0.3	0.3	107.39	-9.1	29.1	30.5	29.8	0.65	47.168		
300.0	300.0	300.0	300.0	0.5	0.5	107.39	-9.1	29.1	30.5	29.5	0.99	30.618		
400.0	400.0	400.0	400.0	0.7	0.7	107.39	-9.1	29.1	30.5	29.1	1.34	22.665 CC		
500.0	500.0	500.7	500.7	0.8	0.8	-178.87	-9.2	27.7	30.6	28.9	1.69	18.033		
600.0	599.9	601.5	601.4	1.0	1.0	-176.13	-9.5	23.8	30.9	28.8	2.05	15.094 ES		
700.0	699.7	702.2	701.9	1.2	1.2	-171.72	-10.1	17.2	31.5	29.1	2.40	13.142		
800.0	799.3	802.8	802.1	1.4	1.5	-165.90	-10.8	7.9	32.8	30.0	2.77	11.836		
900.0	898.6	903.4	901.9	1.7	1.7	-159.13	-11.8	-4.0	34.8	31.7	3.18	10.971		
1,000.0	997.5	1,003.9	1,001.4	2.0	2.0	-151.98	-12.9	-18.4	37.9	34.3	3.65	10.400		
1,100.0	1,096.1	1,104.3	1,100.4	2.3	2.3	-145.00	-14.3	-35.5	42.2	38.0	4.21	10.022		
1,200.0	1,194.2	1,204.7	1,198.7	2.6	2.7	-138.61	-15.9	-55.1	47.7	42.8	4.88	9.773		
1,300.0	1,291.7	1,304.9	1,296.4	3.1	3.1	-132.99	-17.7	-77.3	54.4	48.8	5.66	9.617		
1,400.0	1,388.6	1,404.9	1,393.4	3.5	3.5	-128.20	-19.7	-101.9	62.5	55.9	6.56	9.529		
1,500.0	1,484.9	1,504.8	1,489.5	4.0	4.0	-124.18	-21.9	-129.1	71.7	64.1	7.55	9.491 SF		
1,600.0	1,580.4	1,604.5	1,584.7	4.5	4.6	-120.98	-24.2	-158.4	82.1	73.5	8.63	9.514		
1,700.0	1,675.2	1,703.8	1,679.4	5.1	5.1	-119.47	-26.6	-188.1	93.7	84.0	9.70	9.655		
1,800.0	1,769.9	1,803.1	1,774.1	5.7	5.6	-118.47	-29.0	-217.7	105.4	94.6	10.79	9.773		
1,900.0	1,864.7	1,902.3	1,868.9	6.3	6.2	-117.67	-31.4	-247.4	117.2	105.3	11.88	9.863		
2,000.0	1,959.4	2,001.6	1,963.6	6.9	6.7	-117.01	-33.8	-277.0	129.0	116.0	12.99	9.933		
2,100.0	2,054.2	2,100.9	2,058.3	7.5	7.3	-116.47	-36.2	-306.6	140.8	126.7	14.09	9.990		
2,200.0	2,148.9	2,200.2	2,153.1	8.1	7.9	-116.01	-38.5	-336.3	152.6	137.4	15.21	10.036		
2,300.0	2,243.7	2,299.5	2,247.8	8.7	8.4	-115.61	-40.9	-365.9	164.4	148.1	16.32	10.074		
2,400.0	2,338.4	2,398.8	2,342.6	9.3	9.0	-115.27	-43.3	-395.6	176.3	158.8	17.44	10.105		
2,500.0	2,433.2	2,498.1	2,437.3	9.9	9.5	-114.97	-45.7	-425.2	188.1	169.5	18.57	10.132		
2,600.0	2,527.9	2,597.4	2,532.0	10.5	10.1	-114.71	-48.1	-454.9	199.9	180.3	19.69	10.155		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Reference Site:	SENW S28-T6S-R97W (F28 Pad)	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 28-28D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-27D (F28 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	105.00	-4.0	15.0	15.5					
100.0	100.0	100.0	100.0	0.1	0.1	105.00	-4.0	15.0	15.5	15.2	0.30	52.187		
200.0	200.0	200.0	200.0	0.3	0.3	105.00	-4.0	15.0	15.5	14.8	0.65	23.978		
300.0	300.0	300.0	300.0	0.5	0.5	105.00	-4.0	15.0	15.5	14.5	0.99	15.564		
400.0	400.0	400.0	400.0	0.7	0.7	105.00	-4.0	15.0	15.5	14.1	1.34	11.522 CC		
500.0	500.0	500.4	500.4	0.8	0.8	178.67	-3.8	13.6	15.5	13.8	1.69	9.149		
600.0	599.9	600.8	600.7	1.0	1.0	-178.74	-3.4	9.7	15.5	13.5	2.04	7.608		
700.0	699.7	701.2	700.9	1.2	1.2	-174.49	-2.6	3.2	15.7	13.3	2.39	6.555		
800.0	799.3	801.6	800.8	1.4	1.4	-168.71	-1.4	-6.0	16.0	13.3	2.75	5.827 ES		
900.0	898.6	901.9	900.5	1.7	1.7	-161.74	0.0	-17.7	16.7	13.6	3.13	5.328		
1,000.0	997.5	1,002.3	999.8	2.0	2.0	-154.07	1.8	-32.1	17.8	14.2	3.57	4.984		
1,100.0	1,096.1	1,102.6	1,098.7	2.3	2.3	-146.32	3.8	-49.0	19.5	15.4	4.11	4.742		
1,200.0	1,194.2	1,202.9	1,197.0	2.6	2.7	-139.01	6.2	-68.5	21.8	17.0	4.77	4.568		
1,300.0	1,291.7	1,303.2	1,294.8	3.1	3.1	-132.49	8.9	-90.5	24.7	19.1	5.55	4.447		
1,400.0	1,388.6	1,403.4	1,391.9	3.5	3.5	-126.87	12.0	-115.1	28.3	21.8	6.47	4.370		
1,500.0	1,484.9	1,503.7	1,488.4	4.0	4.0	-122.15	15.3	-142.2	32.4	24.9	7.49	4.326 SF		
1,600.0	1,580.4	1,603.6	1,584.0	4.5	4.5	-119.08	18.9	-171.2	37.3	28.8	8.56	4.359		
1,700.0	1,675.2	1,703.4	1,679.4	5.1	5.1	-119.17	22.4	-200.2	43.3	33.7	9.56	4.530		
1,800.0	1,769.9	1,803.3	1,774.8	5.7	5.6	-119.52	26.0	-229.2	49.4	38.9	10.56	4.681		
1,900.0	1,864.7	1,903.1	1,870.3	6.3	6.2	-119.79	29.6	-258.3	55.5	44.0	11.56	4.802		
2,000.0	1,959.4	2,002.9	1,965.7	6.9	6.7	-120.00	33.1	-287.3	61.6	49.1	12.57	4.902		
2,100.0	2,054.2	2,102.7	2,061.1	7.5	7.2	-120.18	36.7	-316.4	67.7	54.1	13.59	4.984		
2,200.0	2,148.9	2,202.5	2,156.6	8.1	7.8	-120.33	40.3	-345.4	73.8	59.2	14.61	5.054		
2,300.0	2,243.7	2,302.3	2,252.0	8.7	8.3	-120.46	43.8	-374.5	80.0	64.3	15.64	5.113		
2,400.0	2,338.4	2,402.1	2,347.4	9.3	8.9	-120.56	47.4	-403.5	86.1	69.4	16.66	5.165		
2,500.0	2,433.2	2,502.0	2,442.8	9.9	9.4	-120.66	51.0	-432.6	92.2	74.5	17.69	5.209		
2,600.0	2,527.9	2,601.8	2,538.3	10.5	10.0	-120.74	54.5	-461.6	98.3	79.6	18.73	5.249		
2,700.0	2,622.7	2,701.6	2,633.7	11.1	10.5	-120.81	58.1	-490.7	104.4	84.6	19.76	5.284		
2,800.0	2,717.4	2,801.4	2,729.1	11.7	11.1	-120.87	61.7	-519.7	110.5	89.7	20.79	5.315		
2,900.0	2,812.2	2,901.2	2,824.5	12.3	11.7	-120.93	65.2	-548.7	116.6	94.8	21.83	5.342		
3,000.0	2,906.9	3,001.0	2,920.0	12.9	12.2	-120.98	68.8	-577.8	122.7	99.9	22.87	5.367		
3,100.0	3,001.7	3,100.8	3,015.4	13.5	12.8	-121.03	72.4	-606.8	128.8	104.9	23.90	5.390		
3,200.0	3,096.4	3,200.6	3,110.8	14.1	13.3	-121.07	75.9	-635.9	134.9	110.0	24.94	5.411		
3,300.0	3,191.1	3,300.5	3,206.2	14.7	13.9	-121.11	79.5	-664.9	141.1	115.1	25.98	5.429		
3,400.0	3,285.9	3,400.3	3,301.7	15.3	14.4	-121.15	83.1	-694.0	147.2	120.1	27.02	5.447		
3,500.0	3,380.6	3,500.1	3,397.1	15.9	15.0	-121.18	86.6	-723.0	153.3	125.2	28.06	5.463		
3,600.0	3,475.4	3,599.9	3,492.5	16.5	15.5	-121.21	90.2	-752.1	159.4	130.3	29.10	5.477		
3,700.0	3,570.1	3,699.7	3,588.0	17.1	16.1	-121.24	93.8	-781.1	165.5	135.4	30.14	5.491		
3,800.0	3,664.9	3,799.5	3,683.4	17.7	16.7	-121.26	97.3	-810.2	171.6	140.4	31.18	5.504		
3,900.0	3,759.6	3,899.3	3,778.8	18.3	17.2	-121.29	100.9	-839.2	177.7	145.5	32.22	5.515		
4,000.0	3,854.4	3,999.1	3,874.2	18.9	17.8	-121.31	104.5	-868.2	183.8	150.6	33.27	5.526		
4,100.0	3,949.1	4,099.0	3,969.7	19.5	18.3	-121.33	108.0	-897.3	189.9	155.6	34.31	5.536		
4,200.0	4,043.9	4,198.8	4,065.1	20.1	18.9	-121.35	111.6	-926.3	196.1	160.7	35.35	5.546		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Reference Site:	SENW S28-T6S-R97W (F28 Pad)	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 28-28D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-29D (F28 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	-70.13	5.1	-14.1	15.0					
100.0	100.0	100.0	100.0	0.1	0.1	-70.13	5.1	-14.1	15.0	14.7	50.566			
200.0	200.0	200.0	200.0	0.3	0.3	-70.13	5.1	-14.1	15.0	14.4	0.65	23.233		
300.0	300.0	300.0	300.0	0.5	0.5	-70.13	5.1	-14.1	15.0	14.0	0.99	15.081		
400.0	400.0	400.0	400.0	0.7	0.7	-70.13	5.1	-14.1	15.0	13.7	1.34	11.164		
500.0	500.0	499.6	499.6	0.8	0.8	3.64	5.7	-15.3	15.0	13.3	1.69	8.858		
600.0	599.9	599.2	599.1	1.0	1.0	6.51	7.6	-18.7	15.0	12.9	2.04	7.338		
604.1	604.1	603.4	603.3	1.0	1.0	6.67	7.7	-18.9	15.0	12.9	2.05	7.287 CC		
700.0	699.7	698.8	698.5	1.2	1.2	11.30	10.6	-24.4	15.0	12.6	2.39	6.290		
800.0	799.3	798.4	797.7	1.4	1.4	17.87	14.9	-32.4	15.3	12.5	2.74	5.567 ES		
900.0	898.6	898.0	896.6	1.7	1.7	25.87	20.4	-42.7	15.9	12.7	3.12	5.085		
1,000.0	997.5	997.6	995.1	2.0	2.0	34.66	27.2	-55.2	17.0	13.4	3.55	4.773		
1,100.0	1,096.1	1,097.1	1,093.2	2.3	2.3	43.45	35.1	-70.0	18.7	14.6	4.09	4.573		
1,200.0	1,194.2	1,196.6	1,190.8	2.6	2.6	51.55	44.3	-87.0	21.2	16.4	4.76	4.450		
1,300.0	1,291.7	1,296.1	1,287.9	3.1	3.0	58.57	54.6	-106.3	24.3	18.8	5.55	4.385		
1,400.0	1,388.6	1,395.6	1,384.3	3.5	3.5	64.44	66.1	-127.8	28.2	21.8	6.47	4.363 SF		
1,500.0	1,484.9	1,495.0	1,480.0	4.0	4.0	69.23	78.9	-151.4	32.8	25.3	7.49	4.372		
1,600.0	1,580.4	1,594.4	1,575.0	4.5	4.5	73.12	92.7	-177.3	37.9	29.3	8.61	4.400		
1,700.0	1,675.2	1,694.0	1,669.5	5.1	5.1	76.19	107.7	-205.1	43.6	33.8	9.79	4.453		
1,800.0	1,769.9	1,793.8	1,764.0	5.7	5.6	78.51	122.8	-233.2	49.5	38.5	10.97	4.506		
1,900.0	1,864.7	1,893.6	1,858.6	6.3	6.2	80.35	137.9	-261.3	55.4	43.2	12.16	4.553		
2,000.0	1,959.4	1,993.4	1,953.2	6.9	6.8	81.82	153.0	-289.4	61.4	48.0	13.36	4.593		
2,100.0	2,054.2	2,093.2	2,047.7	7.5	7.4	83.04	168.1	-317.6	67.4	52.8	14.56	4.628		
2,200.0	2,148.9	2,193.0	2,142.3	8.1	8.0	84.05	183.2	-345.7	73.4	57.6	15.75	4.658		
2,300.0	2,243.7	2,292.8	2,236.9	8.7	8.6	84.91	198.3	-373.8	79.4	62.5	16.95	4.685		
2,400.0	2,338.4	2,392.6	2,331.4	9.3	9.2	85.65	213.4	-401.9	85.5	67.3	18.16	4.710		
2,500.0	2,433.2	2,492.4	2,426.0	9.9	9.8	86.29	228.5	-430.1	91.6	72.2	19.36	4.731		
2,600.0	2,527.9	2,592.2	2,520.6	10.5	10.4	86.85	243.6	-458.2	97.7	77.1	20.56	4.750		
2,700.0	2,622.7	2,692.1	2,615.1	11.1	11.0	87.35	258.7	-486.3	103.8	82.0	21.76	4.768		
2,800.0	2,717.4	2,791.9	2,709.7	11.7	11.6	87.79	273.8	-514.4	109.9	86.9	22.97	4.784		
2,900.0	2,812.2	2,891.7	2,804.3	12.3	12.2	88.18	288.9	-542.5	116.0	91.8	24.17	4.798		
3,000.0	2,906.9	2,991.5	2,898.8	12.9	12.8	88.54	304.0	-570.7	122.1	96.7	25.38	4.811		
3,100.0	3,001.7	3,091.3	2,993.4	13.5	13.4	88.86	319.1	-598.8	128.2	101.6	26.58	4.823		
3,200.0	3,096.4	3,191.1	3,088.0	14.1	14.0	89.15	334.2	-626.9	134.3	106.5	27.79	4.834		
3,300.0	3,191.1	3,290.9	3,182.5	14.7	14.6	89.42	349.3	-655.0	140.5	111.5	28.99	4.845		
3,400.0	3,285.9	3,390.7	3,277.1	15.3	15.2	89.66	364.5	-683.2	146.6	116.4	30.20	4.854		
3,500.0	3,380.6	3,490.5	3,371.7	15.9	15.8	89.88	379.6	-711.3	152.7	121.3	31.40	4.863		
3,600.0	3,475.4	3,590.3	3,466.2	16.5	16.4	90.09	394.7	-739.4	158.8	126.2	32.61	4.871		
3,700.0	3,570.1	3,690.2	3,560.8	17.1	17.0	90.28	409.8	-767.5	165.0	131.2	33.81	4.879		
3,800.0	3,664.9	3,790.0	3,655.4	17.7	17.6	90.46	424.9	-795.6	171.1	136.1	35.02	4.886		
3,900.0	3,759.6	3,889.8	3,749.9	18.3	18.2	90.63	440.0	-823.8	177.2	141.0	36.23	4.893		
4,000.0	3,854.4	3,989.6	3,844.5	18.9	18.8	90.78	455.1	-851.9	183.4	146.0	37.43	4.899		
4,100.0	3,949.1	4,089.4	3,939.1	19.5	19.4	90.93	470.2	-880.0	189.5	150.9	38.64	4.905		
4,200.0	4,043.9	4,189.2	4,033.7	20.1	20.0	91.06	485.3	-908.1	195.7	155.8	39.85	4.911		

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

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Reference Site:	SENW S28-T6S-R97W (F28 Pad)	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 28-28D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-30D (F28 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-37.77	14.2	-11.0	18.0					
100.0	100.0	100.0	100.0	0.1	0.1	-37.77	14.2	-11.0	18.0	17.7	0.30	60.565		
200.0	200.0	200.0	200.0	0.3	0.3	-37.77	14.2	-11.0	18.0	17.3	0.65	27.827 CC, ES		
300.0	300.0	299.5	299.5	0.5	0.5	-38.97	14.9	-12.1	19.2	18.2	1.00	19.288		
400.0	400.0	398.9	398.8	0.7	0.7	-41.79	17.1	-15.3	23.0	21.6	1.36	16.949		
500.0	500.0	498.1	497.8	0.8	0.9	29.15	20.7	-20.6	28.2	26.5	1.69	16.655		
600.0	599.9	597.2	596.5	1.0	1.1	29.08	25.8	-28.1	33.6	31.6	2.04	16.463		
700.0	699.7	696.1	694.7	1.2	1.4	30.07	32.3	-37.6	39.4	37.0	2.40	16.390		
800.0	799.3	794.9	792.5	1.4	1.7	31.69	40.1	-49.3	45.3	42.6	2.77	16.360		
900.0	898.6	893.5	889.7	1.7	2.0	33.69	49.4	-63.0	51.7	48.5	3.16	16.324		
1,000.0	997.5	991.9	986.2	2.0	2.4	35.91	60.1	-78.7	58.3	54.7	3.59	16.241		
1,100.0	1,096.1	1,090.1	1,082.1	2.3	2.8	38.24	72.1	-96.5	65.4	61.3	4.07	16.083		
1,200.0	1,194.2	1,188.1	1,177.1	2.6	3.2	40.60	85.5	-116.2	72.9	68.3	4.61	15.835		
1,300.0	1,291.7	1,286.0	1,271.4	3.1	3.7	42.94	100.2	-138.0	81.0	75.7	5.22	15.501		
1,400.0	1,388.6	1,383.6	1,364.8	3.5	4.2	45.23	116.2	-161.6	89.5	83.6	5.93	15.094		
1,500.0	1,484.9	1,481.1	1,457.2	4.0	4.8	47.45	133.6	-187.2	98.6	91.8	6.73	14.637		
1,600.0	1,580.4	1,578.3	1,548.6	4.5	5.4	49.56	152.2	-214.7	108.2	100.5	7.64	14.160		
1,700.0	1,675.2	1,677.7	1,641.6	5.1	6.1	51.89	171.9	-243.7	117.7	109.0	8.66	13.585		
1,800.0	1,769.9	1,777.1	1,734.6	5.7	6.7	54.00	191.6	-272.9	127.2	117.4	9.73	13.068		
1,900.0	1,864.7	1,876.6	1,827.6	6.3	7.4	55.81	211.3	-302.0	136.8	126.0	10.83	12.634		
2,000.0	1,959.4	1,976.0	1,920.6	6.9	8.0	57.38	231.0	-331.1	146.6	134.6	11.95	12.269		
2,100.0	2,054.2	2,075.5	2,013.7	7.5	8.7	58.76	250.7	-360.2	156.4	143.4	13.08	11.961		
2,200.0	2,148.9	2,174.9	2,106.7	8.1	9.3	59.97	270.4	-389.3	166.4	152.2	14.22	11.697		
2,300.0	2,243.7	2,274.4	2,199.7	8.7	10.0	61.05	290.2	-418.4	176.4	161.0	15.38	11.471		
2,400.0	2,338.4	2,373.8	2,292.8	9.3	10.6	62.01	309.9	-447.5	186.5	169.9	16.54	11.275		
2,500.0	2,433.2	2,473.3	2,385.8	9.9	11.3	62.87	329.6	-476.6	196.6	178.9	17.70	11.105 SF		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Reference Site:	SENW S28-T6S-R97W (F28 Pad)	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 28-28D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-31D (F28 Pad) - DD - Plan #1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	21.18	10.2	4.0	10.9					
100.0	100.0	100.0	100.0	0.1	0.1	21.18	10.2	4.0	10.9	10.6	0.30	36.862		
200.0	200.0	200.0	200.0	0.3	0.3	21.18	10.2	4.0	10.9	10.3	0.65	16.937		
300.0	300.0	300.0	300.0	0.5	0.5	21.18	10.2	4.0	10.9	9.9	0.99	10.994 CC, ES		
400.0	400.0	399.9	399.9	0.7	0.7	15.02	11.1	3.0	11.5	10.1	1.34	8.517		
500.0	500.0	499.7	499.6	0.8	0.9	78.27	13.6	0.0	13.3	11.6	1.70	7.828 SF		
600.0	599.9	599.4	599.1	1.0	1.1	73.13	17.9	-4.9	16.4	14.3	2.07	7.920		
700.0	699.7	699.0	698.2	1.2	1.3	71.25	23.9	-11.7	20.5	18.0	2.46	8.316		
800.0	799.3	798.4	797.0	1.4	1.5	71.28	31.6	-20.5	25.5	22.6	2.89	8.814		
900.0	898.6	897.8	895.3	1.7	1.8	72.28	40.9	-31.2	31.4	28.1	3.38	9.316		
1,000.0	997.5	996.9	993.1	2.0	2.1	73.73	51.9	-43.8	38.3	34.4	3.92	9.772		
1,100.0	1,096.1	1,095.9	1,090.2	2.3	2.5	75.32	64.6	-58.2	46.2	41.6	4.54	10.161		
1,200.0	1,194.2	1,194.7	1,186.6	2.6	2.9	76.91	78.9	-74.6	55.0	49.7	5.25	10.477		
1,300.0	1,291.7	1,293.3	1,282.2	3.1	3.3	78.41	94.8	-92.7	64.8	58.8	6.04	10.726		
1,400.0	1,388.6	1,391.7	1,376.9	3.5	3.8	79.79	112.2	-112.7	75.6	68.7	6.92	10.918		
1,500.0	1,484.9	1,489.9	1,470.7	4.0	4.4	81.05	131.2	-134.4	87.4	79.5	7.90	11.063		
1,600.0	1,580.4	1,587.8	1,563.5	4.5	4.9	82.18	151.8	-157.9	100.2	91.2	8.97	11.171		
1,700.0	1,675.2	1,685.5	1,655.3	5.1	5.6	83.10	173.8	-183.1	114.0	103.9	10.10	11.285		
1,800.0	1,769.9	1,782.8	1,745.8	5.7	6.2	83.02	197.3	-210.0	129.0	117.8	11.24	11.478		
1,900.0	1,864.7	1,879.7	1,835.0	6.3	6.9	82.10	222.2	-238.4	145.3	132.9	12.38	11.743		
2,000.0	1,959.4	1,976.5	1,923.2	6.9	7.6	80.63	248.6	-268.5	162.9	149.4	13.49	12.082		
2,100.0	2,054.2	2,074.8	2,012.4	7.5	8.4	79.23	275.7	-299.5	181.0	166.4	14.59	12.406		
2,200.0	2,148.9	2,173.0	2,101.6	8.1	9.2	78.09	302.9	-330.6	199.2	183.5	15.70	12.690		

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Reference Site:	SENW S28-T6S-R97W (F28 Pad)	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 28-28D (F28 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 SENW S28-T6S-R97W (F28 Pad) - Oxy 28-32D (F28 Pad) - DD - Plan #1												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	
0.0	0.0	0.0	0.0	0.0	0.0	74.23	5.1	18.1	18.8				
100.0	100.0	100.0	100.0	0.1	0.1	74.23	5.1	18.1	18.8	18.5	0.30	63.251	
200.0	200.0	200.0	200.0	0.3	0.3	74.23	5.1	18.1	18.8	18.1	0.65	29.061	
300.0	300.0	300.2	300.2	0.5	0.5	70.55	6.1	17.2	18.2	17.2	1.00	18.297	
400.0	400.0	400.3	400.2	0.7	0.7	58.30	9.0	14.5	17.0	15.7	1.34	12.675	
434.7	434.7	435.0	434.8	0.7	0.8	124.92	10.4	13.2	16.9	15.4	1.49	11.326 CC, ES	
500.0	500.0	500.1	499.8	0.8	0.9	113.03	13.8	10.1	17.5	15.8	1.74	10.083	
600.0	599.9	599.8	599.1	1.0	1.1	97.83	20.5	3.9	20.9	18.8	2.13	9.792 SF	
700.0	699.7	699.3	697.9	1.2	1.4	88.24	29.0	-4.1	26.6	24.1	2.55	10.415	
800.0	799.3	798.5	796.1	1.4	1.7	82.99	39.5	-13.7	34.0	31.0	3.01	11.306	
900.0	898.6	897.5	893.6	1.7	2.0	80.39	51.7	-25.0	42.8	39.3	3.51	12.192	
1,000.0	997.5	996.2	990.5	2.0	2.4	79.28	65.8	-38.1	52.9	48.8	4.08	12.970	
1,100.0	1,096.1	1,094.6	1,086.4	2.3	2.8	79.02	81.7	-52.7	64.1	59.4	4.71	13.609	
1,200.0	1,194.2	1,192.7	1,181.5	2.6	3.2	79.25	99.3	-69.0	76.5	71.0	5.42	14.110	
1,300.0	1,291.7	1,290.4	1,275.6	3.1	3.7	79.73	118.6	-86.8	90.0	83.8	6.21	14.489	
1,400.0	1,388.6	1,387.7	1,368.7	3.5	4.2	80.35	139.6	-106.3	104.7	97.6	7.09	14.767	
1,500.0	1,484.9	1,484.7	1,460.6	4.0	4.8	81.03	162.3	-127.2	120.5	112.5	8.06	14.964	
1,600.0	1,580.4	1,581.2	1,551.3	4.5	5.4	81.72	186.5	-149.6	137.6	128.4	9.11	15.099	
1,700.0	1,675.2	1,677.4	1,640.8	5.1	6.1	82.41	212.3	-173.4	155.8	145.5	10.23	15.226	
1,800.0	1,769.9	1,773.0	1,728.9	5.7	6.8	82.47	239.6	-198.7	175.4	164.0	11.36	15.441	
1,900.0	1,864.7	1,868.0	1,815.5	6.3	7.5	81.94	268.4	-225.2	196.5	184.0	12.48	15.739	

Directional Plus

Anticollision Report

Company:	Berry Petroleum Company (NAD 83)	Local Co-ordinate Reference:	Well Oxy 28-28D (F28 Pad)
Project:	Garfield County	TVD Reference:	KBE @ 8308.0ft (Original Well Elev)
Reference Site:	SENW S28-T6S-R97W (F28 Pad)	MD Reference:	KBE @ 8308.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Oxy 28-28D (F28 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 @ 8308.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Oxy 28-28D (F28 Pad)
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: -1.72°

