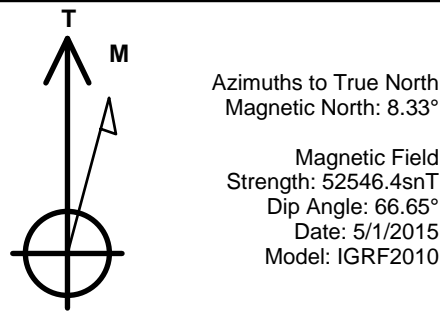


Well Name: **Fitzsimmons 9J-243**  
 Surface Location: Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W  
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
 Ground Elevation: 4992.0  

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1269271.01	3199852.00	40.070330	-104.785890	

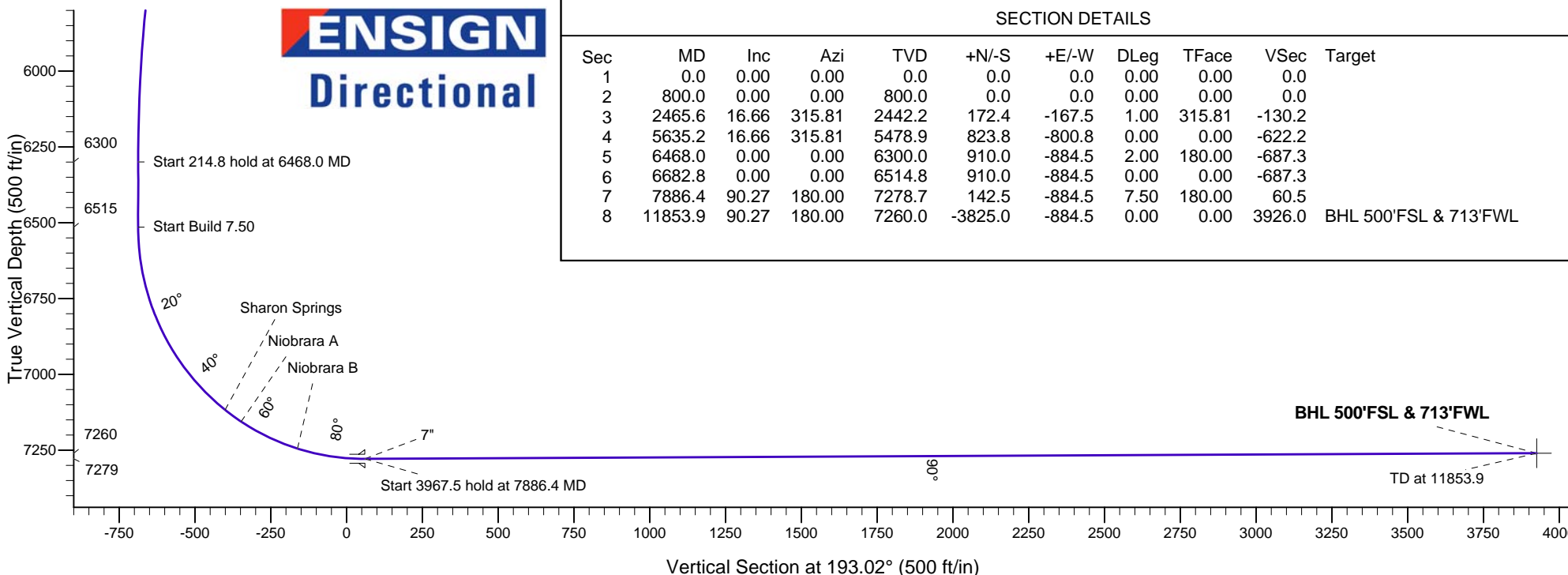
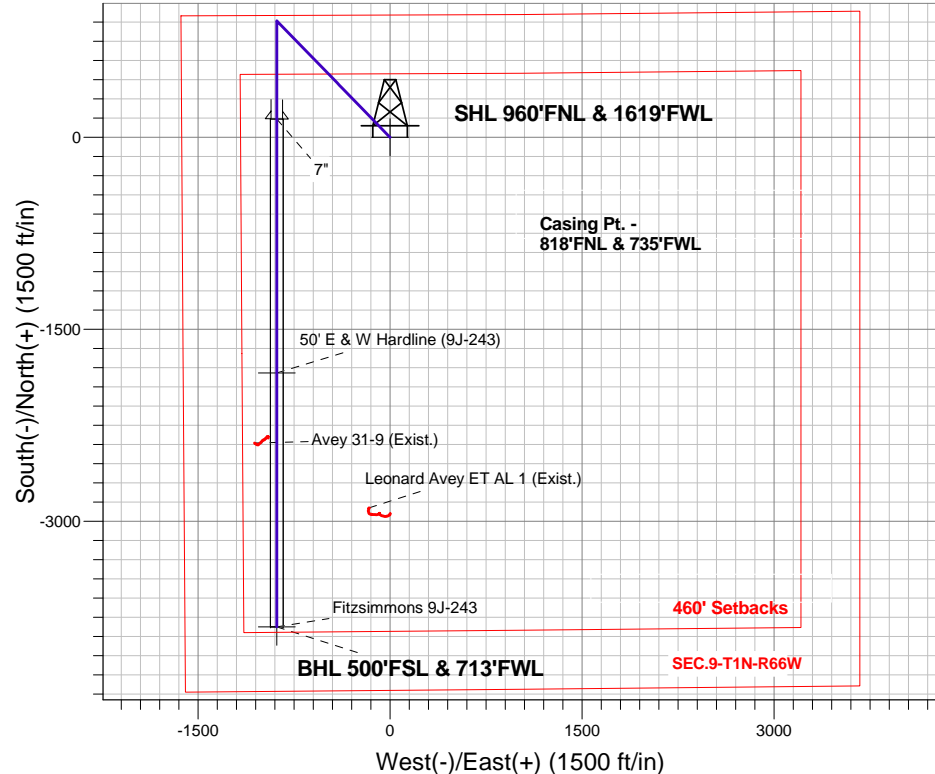
RKB - 13' WELL @ 5005.0ft (RKB - 13')

WELLBORE TARGET DETAILS				
Name	TVD	+N/-S	+E/-W	Shape
50' E & W Hardline (9J-243)	1.0	-1841.2	-884.5	Rectangle (Sides: L3967.5 W100.0)
SHL 960'FNL & 1619'FWL	1.0	0.0	0.0	Point
BHL 500'FSL & 713'FWL	7260.0	-3825.0	-884.5	Point



Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W  
Fitzsimmons 9J-243  
Plan #2 (4-30-15)  
11:18, May 01 2015

ANNOTATIONS		
TVD	MD	Annotation
800.0	800.0	KOP - Start Build 1.00
5478.9	5635.2	Start Drop -2.00
6300.0	6468.0	Start 214.8 hold at 6468.0 MD
6514.8	6682.8	Start Build 7.50
7278.7	7886.4	Start 3967.5 hold at 7886.4 MD
7260.0	11853.9	TD at 11853.9





# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.9-T1N-R66W**

**Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W**

**Fitzsimmons 9J-243**

**Wellbore #1**

**Plan: Plan #2 (4-30-15)**

## **Standard Planning Report**

**01 May, 2015**

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Project:</b>	SEC.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (4-30-15)		

<b>Project</b>	SEC.9-T1N-R66W, Weld County, CO		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site						Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W											
Site Position:						Northing:			1,269,248.97 ft			Latitude:			40.070270		
From:			Lat/Long			Easting:			3,199,826.99 ft			Longitude:			-104.785980		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.46 °		

Well	Fitzsimmons 9J-243					
Well Position	+N/-S	21.8 ft	Northing:	1,269,271.01 ft	Latitude:	40.070330
	+E/-W	25.2 ft	Easting:	3,199,852.00 ft	Longitude:	-104.785890
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,992.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	5/1/2015	8.33	66.65	52,546

<b>Design</b>	Plan #2 (4-30-15)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	193.02

<b>Plan Sections</b>										
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	
800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,465.6	16.66	315.81	2,442.2	172.4	-167.5	1.00	1.00	0.00	315.81	
5,635.2	16.66	315.81	5,478.9	823.8	-800.8	0.00	0.00	0.00	0.00	
6,468.0	0.00	0.00	6,300.0	910.0	-884.5	2.00	-2.00	0.00	180.00	
6,682.8	0.00	0.00	6,514.8	910.0	-884.5	0.00	0.00	0.00	0.00	
7,886.4	90.27	180.00	7,278.7	142.5	-884.5	7.50	7.50	0.00	180.00	
11,853.9	90.27	180.00	7,260.0	-3,825.0	-884.5	0.00	0.00	0.00	0.00	BHL 500'FSL & 713

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Project:</b>	SEC.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (4-30-15)		

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)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>SHL 960'FNL &amp; 1619'FWL - 50' E &amp; W Hardline (9J-243)</b>									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP - Start Build 1.00</b>									
900.0	1.00	315.81	900.0	0.6	-0.6	-0.5	1.00	1.00	0.00
1,000.0	2.00	315.81	1,000.0	2.5	-2.4	-1.9	1.00	1.00	0.00
1,100.0	3.00	315.81	1,099.9	5.6	-5.5	-4.3	1.00	1.00	0.00
1,200.0	4.00	315.81	1,199.7	10.0	-9.7	-7.6	1.00	1.00	0.00
1,300.0	5.00	315.81	1,299.4	15.6	-15.2	-11.8	1.00	1.00	0.00
1,400.0	6.00	315.81	1,398.9	22.5	-21.9	-17.0	1.00	1.00	0.00
1,500.0	7.00	315.81	1,498.3	30.6	-29.8	-23.1	1.00	1.00	0.00
1,600.0	8.00	315.81	1,597.4	40.0	-38.9	-30.2	1.00	1.00	0.00
1,700.0	9.00	315.81	1,696.3	50.6	-49.2	-38.2	1.00	1.00	0.00
1,800.0	10.00	315.81	1,794.9	62.4	-60.7	-47.1	1.00	1.00	0.00
1,900.0	11.00	315.81	1,893.3	75.5	-73.4	-57.0	1.00	1.00	0.00
2,000.0	12.00	315.81	1,991.2	89.8	-87.3	-67.8	1.00	1.00	0.00
2,100.0	13.00	315.81	2,088.9	105.3	-102.4	-79.5	1.00	1.00	0.00
2,200.0	14.00	315.81	2,186.1	122.0	-118.6	-92.2	1.00	1.00	0.00
2,300.0	15.00	315.81	2,282.9	140.0	-136.1	-105.7	1.00	1.00	0.00
2,400.0	16.00	315.81	2,379.3	159.2	-154.7	-120.2	1.00	1.00	0.00
2,465.6	16.66	315.81	2,442.2	172.4	-167.5	-130.2	1.00	1.00	0.00
2,500.0	16.66	315.81	2,475.2	179.4	-174.4	-135.5	0.00	0.00	0.00
2,600.0	16.66	315.81	2,571.0	200.0	-194.4	-151.1	0.00	0.00	0.00
2,700.0	16.66	315.81	2,666.8	220.6	-214.4	-166.6	0.00	0.00	0.00
2,800.0	16.66	315.81	2,762.6	241.1	-234.4	-182.1	0.00	0.00	0.00
2,900.0	16.66	315.81	2,858.4	261.7	-254.3	-197.6	0.00	0.00	0.00
3,000.0	16.66	315.81	2,954.2	282.2	-274.3	-213.1	0.00	0.00	0.00
3,100.0	16.66	315.81	3,050.0	302.8	-294.3	-228.7	0.00	0.00	0.00
3,200.0	16.66	315.81	3,145.8	323.3	-314.3	-244.2	0.00	0.00	0.00
3,300.0	16.66	315.81	3,241.6	343.9	-334.2	-259.7	0.00	0.00	0.00
3,400.0	16.66	315.81	3,337.4	364.4	-354.2	-275.2	0.00	0.00	0.00
3,500.0	16.66	315.81	3,433.2	385.0	-374.2	-290.8	0.00	0.00	0.00
3,600.0	16.66	315.81	3,529.0	405.5	-394.2	-306.3	0.00	0.00	0.00
3,700.0	16.66	315.81	3,624.9	426.1	-414.2	-321.8	0.00	0.00	0.00
3,800.0	16.66	315.81	3,720.7	446.6	-434.1	-337.3	0.00	0.00	0.00
3,900.0	16.66	315.81	3,816.5	467.2	-454.1	-352.9	0.00	0.00	0.00
4,000.0	16.66	315.81	3,912.3	487.7	-474.1	-368.4	0.00	0.00	0.00
4,100.0	16.66	315.81	4,008.1	508.3	-494.1	-383.9	0.00	0.00	0.00
4,200.0	16.66	315.81	4,103.9	528.8	-514.0	-399.4	0.00	0.00	0.00
4,300.0	16.66	315.81	4,199.7	549.4	-534.0	-414.9	0.00	0.00	0.00
4,300.3	16.66	315.81	4,200.0	549.5	-534.1	-415.0	0.00	0.00	0.00
<b>Parkman</b>									
4,400.0	16.66	315.81	4,295.5	569.9	-554.0	-430.5	0.00	0.00	0.00
4,500.0	16.66	315.81	4,391.3	590.5	-574.0	-446.0	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Project:</b>	SEC.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (4-30-15)		

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)	Turn Rate (°/100ft)
4,600.0	16.66	315.81	4,487.1	611.0	-594.0	-461.5	0.00	0.00	0.00
4,700.0	16.66	315.81	4,582.9	631.6	-613.9	-477.0	0.00	0.00	0.00
4,749.2	16.66	315.81	4,630.0	641.7	-623.8	-484.7	0.00	0.00	0.00
<b>Sussex</b>									
4,800.0	16.66	315.81	4,678.7	652.2	-633.9	-492.6	0.00	0.00	0.00
4,900.0	16.66	315.81	4,774.5	672.7	-653.9	-508.1	0.00	0.00	0.00
5,000.0	16.66	315.81	4,870.3	693.3	-673.9	-523.6	0.00	0.00	0.00
5,100.0	16.66	315.81	4,966.1	713.8	-693.8	-539.1	0.00	0.00	0.00
5,200.0	16.66	315.81	5,061.9	734.4	-713.8	-554.7	0.00	0.00	0.00
5,239.7	16.66	315.81	5,100.0	742.5	-721.8	-560.8	0.00	0.00	0.00
<b>Shannon</b>									
5,300.0	16.66	315.81	5,157.7	754.9	-733.8	-570.2	0.00	0.00	0.00
5,400.0	16.66	315.81	5,253.5	775.5	-753.8	-585.7	0.00	0.00	0.00
5,500.0	16.66	315.81	5,349.3	796.0	-773.8	-601.2	0.00	0.00	0.00
5,600.0	16.66	315.81	5,445.1	816.6	-793.7	-616.7	0.00	0.00	0.00
5,635.2	16.66	315.81	5,478.9	823.8	-800.8	-622.2	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
5,700.0	15.36	315.81	5,541.1	836.6	-813.2	-631.9	2.00	-2.00	0.00
5,800.0	13.36	315.81	5,638.0	854.4	-830.5	-645.3	2.00	-2.00	0.00
5,900.0	11.36	315.81	5,735.7	869.8	-845.4	-656.9	2.00	-2.00	0.00
6,000.0	9.36	315.81	5,834.1	882.6	-858.0	-666.6	2.00	-2.00	0.00
6,100.0	7.36	315.81	5,933.0	893.1	-868.1	-674.5	2.00	-2.00	0.00
6,200.0	5.36	315.81	6,032.4	901.0	-875.8	-680.5	2.00	-2.00	0.00
6,300.0	3.36	315.81	6,132.1	906.5	-881.1	-684.6	2.00	-2.00	0.00
6,400.0	1.36	315.81	6,232.0	909.4	-884.0	-686.9	2.00	-2.00	0.00
6,468.0	0.00	315.81	6,300.0	910.0	-884.5	-687.3	2.00	-2.00	0.00
<b>Start 214.8 hold at 6468.0 MD</b>									
6,500.0	0.00	0.00	6,332.0	910.0	-884.5	-687.3	0.00	0.00	0.00
6,600.0	0.00	0.00	6,432.0	910.0	-884.5	-687.3	0.00	0.00	0.00
6,682.8	0.00	0.00	6,514.8	910.0	-884.5	-687.3	0.00	0.00	0.00
<b>Start Build 7.50</b>									
6,700.0	1.29	180.00	6,532.0	909.8	-884.5	-687.1	7.51	7.51	0.00
6,800.0	8.79	180.00	6,631.5	901.0	-884.5	-678.6	7.50	7.50	0.00
6,900.0	16.29	180.00	6,729.1	879.3	-884.5	-657.4	7.50	7.50	0.00
7,000.0	23.79	180.00	6,822.9	845.1	-884.5	-624.1	7.50	7.50	0.00
7,100.0	31.29	180.00	6,911.5	798.9	-884.5	-579.0	7.50	7.50	0.00
7,200.0	38.79	180.00	6,993.4	741.5	-884.5	-523.1	7.50	7.50	0.00
7,300.0	46.29	180.00	7,067.0	673.9	-884.5	-457.3	7.50	7.50	0.00
7,376.5	52.03	180.00	7,117.0	616.1	-884.5	-400.9	7.50	7.50	0.00
<b>Sharon Springs</b>									
7,400.0	53.79	180.00	7,131.2	597.3	-884.5	-382.7	7.50	7.50	0.00
7,443.8	57.07	180.00	7,156.0	561.3	-884.5	-347.6	7.50	7.50	0.00
<b>Niobrara A</b>									
7,500.0	61.29	180.00	7,184.8	513.0	-884.5	-300.5	7.50	7.50	0.00
7,600.0	68.79	180.00	7,227.0	422.4	-884.5	-212.3	7.50	7.50	0.00
7,655.0	72.92	180.00	7,245.0	370.5	-884.5	-161.6	7.50	7.50	0.00
<b>Niobrara B</b>									
7,700.0	76.29	180.00	7,256.9	327.1	-884.5	-119.4	7.50	7.50	0.00
7,800.0	83.79	180.00	7,274.2	228.7	-884.5	-23.5	7.50	7.50	0.00
7,886.4	90.27	180.00	7,278.7	142.4	-884.5	60.5	7.50	7.50	0.00
<b>Start 3967.5 hold at 7886.4 MD - 7"</b>									

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Project:</b>	SEC.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (4-30-15)		

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)	Turn Rate (°/100ft)
7,900.0	90.27	180.00	7,278.6	128.8	-884.5	73.8	0.00	0.00	0.00
8,000.0	90.27	180.00	7,278.2	28.8	-884.5	171.2	0.00	0.00	0.00
8,100.0	90.27	180.00	7,277.7	-71.2	-884.5	268.6	0.00	0.00	0.00
8,200.0	90.27	180.00	7,277.2	-171.2	-884.5	366.1	0.00	0.00	0.00
8,300.0	90.27	180.00	7,276.7	-271.2	-884.5	463.5	0.00	0.00	0.00
8,400.0	90.27	180.00	7,276.3	-371.2	-884.5	560.9	0.00	0.00	0.00
8,500.0	90.27	180.00	7,275.8	-471.2	-884.5	658.3	0.00	0.00	0.00
8,600.0	90.27	180.00	7,275.3	-571.2	-884.5	755.8	0.00	0.00	0.00
8,700.0	90.27	180.00	7,274.9	-671.2	-884.5	853.2	0.00	0.00	0.00
8,800.0	90.27	180.00	7,274.4	-771.2	-884.5	950.6	0.00	0.00	0.00
8,900.0	90.27	180.00	7,273.9	-871.2	-884.5	1,048.0	0.00	0.00	0.00
9,000.0	90.27	180.00	7,273.4	-971.1	-884.5	1,145.5	0.00	0.00	0.00
9,100.0	90.27	180.00	7,273.0	-1,071.1	-884.5	1,242.9	0.00	0.00	0.00
9,200.0	90.27	180.00	7,272.5	-1,171.1	-884.5	1,340.3	0.00	0.00	0.00
9,300.0	90.27	180.00	7,272.0	-1,271.1	-884.5	1,437.8	0.00	0.00	0.00
9,400.0	90.27	180.00	7,271.6	-1,371.1	-884.5	1,535.2	0.00	0.00	0.00
9,500.0	90.27	180.00	7,271.1	-1,471.1	-884.5	1,632.6	0.00	0.00	0.00
9,600.0	90.27	180.00	7,270.6	-1,571.1	-884.5	1,730.0	0.00	0.00	0.00
9,700.0	90.27	180.00	7,270.2	-1,671.1	-884.5	1,827.5	0.00	0.00	0.00
9,800.0	90.27	180.00	7,269.7	-1,771.1	-884.5	1,924.9	0.00	0.00	0.00
9,900.0	90.27	180.00	7,269.2	-1,871.1	-884.5	2,022.3	0.00	0.00	0.00
10,000.0	90.27	180.00	7,268.7	-1,971.1	-884.5	2,119.7	0.00	0.00	0.00
10,100.0	90.27	180.00	7,268.3	-2,071.1	-884.5	2,217.2	0.00	0.00	0.00
10,200.0	90.27	180.00	7,267.8	-2,171.1	-884.5	2,314.6	0.00	0.00	0.00
10,300.0	90.27	180.00	7,267.3	-2,271.1	-884.5	2,412.0	0.00	0.00	0.00
10,400.0	90.27	180.00	7,266.9	-2,371.1	-884.5	2,509.5	0.00	0.00	0.00
10,500.0	90.27	180.00	7,266.4	-2,471.1	-884.5	2,606.9	0.00	0.00	0.00
10,600.0	90.27	180.00	7,265.9	-2,571.1	-884.5	2,704.3	0.00	0.00	0.00
10,700.0	90.27	180.00	7,265.4	-2,671.1	-884.5	2,801.7	0.00	0.00	0.00
10,800.0	90.27	180.00	7,265.0	-2,771.1	-884.5	2,899.2	0.00	0.00	0.00
10,900.0	90.27	180.00	7,264.5	-2,871.1	-884.5	2,996.6	0.00	0.00	0.00
11,000.0	90.27	180.00	7,264.0	-2,971.1	-884.5	3,094.0	0.00	0.00	0.00
11,100.0	90.27	180.00	7,263.6	-3,071.1	-884.5	3,191.5	0.00	0.00	0.00
11,200.0	90.27	180.00	7,263.1	-3,171.1	-884.5	3,288.9	0.00	0.00	0.00
11,300.0	90.27	180.00	7,262.6	-3,271.1	-884.5	3,386.3	0.00	0.00	0.00
11,400.0	90.27	180.00	7,262.1	-3,371.1	-884.5	3,483.7	0.00	0.00	0.00
11,500.0	90.27	180.00	7,261.7	-3,471.1	-884.5	3,581.2	0.00	0.00	0.00
11,600.0	90.27	180.00	7,261.2	-3,571.1	-884.5	3,678.6	0.00	0.00	0.00
11,700.0	90.27	180.00	7,260.7	-3,671.1	-884.5	3,776.0	0.00	0.00	0.00
11,800.0	90.27	180.00	7,260.3	-3,771.1	-884.5	3,873.4	0.00	0.00	0.00
11,853.9	90.27	180.00	7,260.0	-3,825.0	-884.5	3,926.0	0.00	0.00	0.00
TD at 11853.9 - BHL 500'FSL & 713'FWL									

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Project:</b>	SEC.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (4-30-15)		

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N-S	+E-W	Northing	Easting		
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	Latitude	Longitude
SHL 960'FNL & 1619'	0.00	0.00	1.0	0.0	0.0	1,269,271.03	3,199,852.00	40.070330	-104.785890
- plan hits target center									
- Point									
BHL 500'FSL & 713'F	0.00	0.00	7,260.0	-3,825.0	-884.5	1,265,439.14	3,198,998.33	40.059830	-104.789050
- plan hits target center									
- Point									
50' E & W Hardline (9.	0.00	0.00	1.0	-1,841.2	-884.5	1,267,422.78	3,198,982.40	40.065276	-104.789050
- plan misses target center by 2042.7ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E)									
- Rectangle (sides W3,967.5 H100.0 D0.0)									

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,886.4	7,278.7	7"	7	7-1/2

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,300.3	4,200.0	Parkman		0.00	
4,749.2	4,630.0	Sussex		0.00	
5,239.7	5,100.0	Shannon		0.00	
7,376.5	7,117.0	Sharon Springs		0.00	
7,443.8	7,156.0	Niobrara A		0.00	
7,655.0	7,245.0	Niobrara B		0.00	
	7,330.0	Niobrara C		0.00	
	7,473.0	Ft Hays		0.00	
	7,495.0	Codell		0.00	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
800.0	800.0	0.0	0.0	KOP - Start Build 1.00
5,635.2	5,478.9	823.8	-800.8	Start Drop -2.00
6,468.0	6,300.0	910.0	-884.5	Start 214.8 hold at 6468.0 MD
6,682.8	6,514.8	910.0	-884.5	Start Build 7.50
7,886.4	7,278.7	142.4	-884.5	Start 3967.5 hold at 7886.4 MD
11,853.9	7,260.0	-3,825.0	-884.5	TD at 11853.9



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.9-T1N-R66W**

**Fitzsimmons 1N66W9JM (West) Pad**

**Sec.9-T1N-R66W**

**Fitzsimmons 9J-243**

**Wellbore #1**

**Plan #2 (4-30-15)**

## **Anticollision Report**

**01 May, 2015**





<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Project:</b>	SEC.9-T1N-R66W	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Reference Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #2 (4-30-15)		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	Stations	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 800.0ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b> 5/1/2015			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	11,853.9	Plan #2 (4-30-15) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
Existing Wells Sec.9-T1N-R66W						
Avey 31-9 (Exist.) - Wellbore #1 - Wellbore #1	10,424.2	7,251.8	165.2	95.6	2.373	CC, ES, SF
Leonard Avey ET AL 1 (Exist.) - Wellbore #1 - Wellbore #	10,926.3	7,263.1	722.0	643.6	9.216	CC, ES
Leonard Avey ET AL 1 (Exist.) - Wellbore #1 - Wellbore #	11,000.0	7,262.7	725.7	646.0	9.108	SF
Fitzsimmons 1N66W9JM (East) Pad Sec.9-T1N-R66W						
Fitzsimmons 9J-303 - Wellbore #1 - Plan #2 (4-30-15)	3,704.7	3,735.9	558.1	534.2	23.366	CC
Fitzsimmons 9J-303 - Wellbore #1 - Plan #2 (4-30-15)	11,853.9	11,856.0	575.1	411.3	3.511	ES, SF
Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W						
Fitzsimmons 9E-223 - Wellbore #1 - Plan #2 (5-01-15)	400.0	400.0	62.2	60.6	39.535	CC
Fitzsimmons 9E-223 - Wellbore #1 - Plan #2 (5-01-15)	500.0	499.6	62.5	60.5	31.008	ES
Fitzsimmons 9E-223 - Wellbore #1 - Plan #2 (5-01-15)	11,853.9	11,927.7	490.0	330.1	3.064	SF
Fitzsimmons 9E-323 - Wellbore #1 - Plan #2 (4-30-15)	600.0	600.0	33.4	30.9	13.491	CC
Fitzsimmons 9E-323 - Wellbore #1 - Plan #2 (4-30-15)	700.0	699.8	33.6	30.7	11.523	ES
Fitzsimmons 9E-323 - Wellbore #1 - Plan #2 (4-30-15)	11,853.9	11,972.5	290.6	135.7	1.876	SF
Fitzsimmons 9E-403 - Wellbore #1 - Plan #2 (4-30-15)	200.0	200.0	93.2	92.6	138.275	CC
Fitzsimmons 9E-403 - Wellbore #1 - Plan #2 (4-30-15)	300.0	299.2	93.7	92.5	83.774	ES
Fitzsimmons 9E-403 - Wellbore #1 - Plan #2 (4-30-15)	11,853.9	12,161.6	700.5	549.9	4.653	SF
Fitzsimmons 9J-443 - Wellbore #1 - Plan #2 (5-01-15)	800.0	800.0	28.9	25.5	8.561	CC
Fitzsimmons 9J-443 - Wellbore #1 - Plan #2 (5-01-15)	1,000.0	1,000.0	29.4	25.1	6.896	ES
Fitzsimmons 9J-443 - Wellbore #1 - Plan #2 (5-01-15)	11,853.9	12,010.5	351.6	218.2	2.636	SF

<b>Offset Design</b>	Existing Wells Sec.9-T1N-R66W - Avey 31-9 (Exist.) - Wellbore #1 - Wellbore #1											<b>Offset Site Error:</b>	0.0ft
<b>Survey Program:</b>	100-NS-GYRO-MS											<b>Offset Well Error:</b>	0.0ft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Warning					
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)	Minimum Separation (ft)	Separation Factor			
9,700.0	7,270.2	7,256.4	7,254.6	42.5	15.7	90.98	-2,395.4	-1,049.8	742.8	685.9	56.93	13.048	
9,800.0	7,269.7	7,255.8	7,253.9	44.2	15.7	90.75	-2,395.4	-1,049.8	645.7	587.1	58.64	11.012	
9,900.0	7,269.2	7,255.2	7,253.3	45.9	15.7	90.53	-2,395.4	-1,049.8	549.6	489.3	60.36	9.106	
10,000.0	7,268.7	7,254.5	7,252.6	47.6	15.7	90.31	-2,395.4	-1,049.8	455.3	393.2	62.10	7.331	
10,100.0	7,268.3	7,253.9	7,252.0	49.3	15.7	90.09	-2,395.4	-1,049.7	363.9	300.0	63.85	5.699	
10,200.0	7,267.8	7,253.2	7,251.3	51.0	15.7	89.86	-2,395.4	-1,049.7	278.5	212.9	65.62	4.245	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Project:</b>	SEC.9-T1N-R66W	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Reference Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.9-T1N-R66W - Avey 31-9 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													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)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
10,300.0	7,267.3	7,252.6	7,250.7	52.7	15.7	89.64	-2,395.4	-1,049.7	206.7	139.3	67.39	3.067		
10,400.0	7,266.9	7,251.9	7,250.0	54.5	15.7	89.41	-2,395.4	-1,049.7	167.0	97.8	69.17	2.414		
10,424.2	7,266.7	7,251.8	7,249.9	54.9	15.7	89.36	-2,395.4	-1,049.7	165.2	95.6	69.61	2.373 CC, ES, SF		
10,500.0	7,266.4	7,251.3	7,249.4	56.3	15.7	89.19	-2,395.4	-1,049.7	181.7	110.8	70.97	2.561		
10,600.0	7,265.9	7,250.6	7,248.7	58.0	15.7	88.96	-2,395.4	-1,049.7	241.2	168.4	72.77	3.315		
10,700.0	7,265.4	7,250.0	7,248.1	59.8	15.7	88.74	-2,395.4	-1,049.7	321.4	246.9	74.57	4.310		
10,800.0	7,265.0	7,249.3	7,247.4	61.6	15.7	88.51	-2,395.4	-1,049.7	410.5	334.1	76.39	5.373		
10,900.0	7,264.5	7,248.7	7,246.8	63.4	15.7	88.29	-2,395.4	-1,049.7	503.6	425.4	78.20	6.440		
11,000.0	7,264.0	7,248.0	7,246.1	65.2	15.7	88.06	-2,395.4	-1,049.7	599.0	518.9	80.03	7.485		
11,100.0	7,263.6	7,247.4	7,245.5	67.0	15.7	87.83	-2,395.4	-1,049.7	695.6	613.8	81.85	8.499		
11,200.0	7,263.1	7,246.7	7,244.8	68.8	15.7	87.61	-2,395.4	-1,049.7	793.1	709.5	83.68	9.478		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Project:</b>	SEC.9-T1N-R66W	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Reference Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b>													Offset Site Error:	0.0 ft
Existing Wells Sec.9-T1N-R66W - Leonard Avey ET AL 1 (Exist.) - Wellbore #1 - Wellbore #1													Offset Well Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
10,600.0	7,265.9	7,264.9	7,260.1	58.0	15.5	-90.14	-2,897.4	-162.6	792.3	719.8	72.46	10.935		
10,700.0	7,265.4	7,264.4	7,259.5	59.8	15.5	-90.09	-2,897.4	-162.6	756.6	682.3	74.25	10.190		
10,800.0	7,265.0	7,263.8	7,259.0	61.6	15.5	-90.05	-2,897.4	-162.6	732.9	656.9	76.05	9.637		
10,900.0	7,264.5	7,263.3	7,258.4	63.4	15.5	-90.00	-2,897.4	-162.6	722.4	644.6	77.86	9.278		
10,926.3	7,264.4	7,263.1	7,258.3	63.9	15.5	-89.99	-2,897.4	-162.6	722.0	643.6	78.34	9.216 CC, ES		
11,000.0	7,264.0	7,262.7	7,257.9	65.2	15.5	-89.96	-2,897.4	-162.6	725.7	646.0	79.68	9.108 SF		
11,100.0	7,263.6	7,262.1	7,257.3	67.0	15.5	-89.92	-2,897.4	-162.6	742.6	661.1	81.50	9.111		
11,200.0	7,263.1	7,261.6	7,256.7	68.8	15.5	-89.87	-2,897.4	-162.6	772.1	688.8	83.33	9.266		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Project:</b>	SEC.9-T1N-R66W	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Reference Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Fitzsimmons 1N66W9JM (East) Pad Sec.9-T1N-R66W - Fitzsimmons 9J-303 - Wellbore #1 - Plan #2 (4														Offset Well Error:	0.0 ft
Survey Program: 0-MWD															
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	51.79	367.9	467.4	594.8						
100.0	100.0	98.0	98.0	0.1	0.1	51.79	367.9	467.4	594.8	594.6	0.22	2,673.158			
200.0	200.0	198.0	198.0	0.3	0.3	51.79	367.9	467.4	594.8	594.2	0.67	888.078			
300.0	300.0	298.0	298.0	0.6	0.6	51.79	367.9	467.4	594.8	593.7	1.12	531.420			
400.0	400.0	398.0	398.0	0.8	0.8	51.79	367.9	467.4	594.8	593.3	1.57	379.151			
500.0	500.0	498.0	498.0	1.0	1.0	51.79	367.9	467.4	594.8	592.8	2.02	294.708			
600.0	600.0	598.0	598.0	1.2	1.2	51.79	367.9	467.4	594.8	592.4	2.47	241.027			
700.0	700.0	698.0	698.0	1.5	1.5	51.79	367.9	467.4	594.8	591.9	2.92	203.889			
800.0	800.0	798.0	798.0	1.7	1.7	51.79	367.9	467.4	594.8	591.5	3.37	176.667			
900.0	900.0	898.0	898.0	1.9	1.9	96.06	367.9	467.4	594.9	591.1	3.81	156.043			
1,000.0	1,000.0	998.0	998.0	2.1	2.1	96.31	367.9	467.4	595.2	591.0	4.26	139.851			
1,100.0	1,099.9	1,101.0	1,101.0	2.4	2.4	96.65	368.5	466.7	595.4	590.7	4.70	126.587			
1,200.0	1,199.7	1,204.3	1,204.2	2.6	2.6	97.00	370.0	464.4	595.4	590.2	5.15	115.529			
1,300.0	1,299.4	1,307.5	1,307.4	2.8	2.8	97.36	372.7	460.6	594.9	589.3	5.61	105.969			
1,400.0	1,398.9	1,410.9	1,410.5	3.1	3.0	97.72	376.4	455.3	594.2	588.1	6.09	97.551			
1,500.0	1,498.3	1,514.2	1,513.5	3.3	3.3	98.09	381.1	448.5	593.2	586.6	6.59	90.024			
1,600.0	1,597.4	1,617.7	1,616.5	3.6	3.5	98.47	387.0	440.1	591.8	584.7	7.11	83.206			
1,700.0	1,696.3	1,721.2	1,719.2	3.9	3.8	98.85	393.8	430.2	590.1	582.5	7.67	76.969			
1,800.0	1,794.9	1,824.7	1,821.8	4.2	4.1	99.24	401.8	418.8	588.1	579.9	8.26	71.225			
1,900.0	1,893.3	1,928.2	1,924.2	4.6	4.4	99.64	410.8	405.8	585.8	576.9	8.89	65.911			
2,000.0	1,991.2	2,031.9	2,026.3	4.9	4.7	100.05	420.9	391.3	583.2	573.6	9.56	60.981			
2,100.0	2,088.9	2,135.5	2,128.1	5.3	5.1	100.47	432.0	375.4	580.2	569.9	10.29	56.408			
2,200.0	2,186.1	2,237.5	2,228.0	5.7	5.5	100.91	443.9	358.3	577.0	566.0	11.05	52.210			
2,300.0	2,282.9	2,337.3	2,325.6	6.2	5.8	101.49	455.7	341.3	574.1	562.3	11.85	48.451			
2,400.0	2,379.3	2,437.0	2,423.1	6.7	6.2	102.23	467.5	324.4	571.6	558.9	12.68	45.085			
2,465.6	2,442.2	2,502.3	2,487.0	7.0	6.5	102.82	475.3	313.3	570.2	557.0	13.24	43.078			
2,500.0	2,475.2	2,536.6	2,520.6	7.2	6.6	103.13	479.3	307.5	569.6	556.0	13.54	42.080			
2,600.0	2,571.0	2,636.2	2,618.0	7.7	7.0	104.06	491.1	290.6	567.8	553.4	14.41	39.413			
2,700.0	2,666.8	2,735.7	2,715.4	8.3	7.4	105.00	502.8	273.7	566.1	550.8	15.28	37.047			
2,800.0	2,762.6	2,835.3	2,812.8	8.8	7.9	105.94	514.6	256.8	564.6	548.5	16.16	34.941			
2,900.0	2,858.4	2,934.8	2,910.2	9.4	8.3	106.89	526.4	239.9	563.3	546.2	17.04	33.063			
3,000.0	2,954.2	3,034.4	3,007.6	9.9	8.7	107.84	538.2	223.0	562.1	544.2	17.91	31.381			
3,100.0	3,050.0	3,133.9	3,105.0	10.5	9.1	108.79	549.9	206.1	561.0	542.2	18.78	29.871			
3,200.0	3,145.8	3,233.5	3,202.4	11.1	9.6	109.74	561.7	189.2	560.1	540.5	19.65	28.510			
3,300.0	3,241.6	3,333.0	3,299.8	11.6	10.0	110.70	573.5	172.3	559.4	538.9	20.51	27.282			
3,400.0	3,337.4	3,432.6	3,397.2	12.2	10.4	111.67	585.2	155.4	558.9	537.5	21.36	26.169			
3,500.0	3,433.2	3,532.1	3,494.6	12.8	10.9	112.63	597.0	138.5	558.4	536.3	22.20	25.159			
3,600.0	3,529.0	3,631.7	3,592.0	13.4	11.3	113.59	608.8	121.6	558.2	535.2	23.03	24.241			
3,700.0	3,624.9	3,731.2	3,689.4	14.0	11.7	114.56	620.6	104.7	558.1	534.3	23.85	23.403			
3,704.7	3,629.3	3,735.9	3,693.9	14.0	11.7	114.60	621.1	103.9	558.1	534.2	23.89	23.366 CC			
3,800.0	3,720.7	3,830.8	3,786.8	14.5	12.2	115.52	632.3	87.8	558.2	533.5	24.66	22.638			
3,900.0	3,816.5	3,930.4	3,884.2	15.1	12.6	116.49	644.1	70.9	558.4	533.0	25.45	21.939			
4,000.0	3,912.3	4,029.9	3,981.6	15.7	13.0	117.45	655.9	54.0	558.8	532.6	26.24	21.298			
4,100.0	4,008.1	4,129.5	4,079.0	16.3	13.5	118.41	667.6	37.1	559.4	532.4	27.01	20.710			
4,200.0	4,103.9	4,229.0	4,176.4	16.9	13.9	119.37	679.4	20.2	560.1	532.3	27.77	20.170			
4,300.0	4,199.7	4,328.6	4,273.8	17.5	14.4	120.33	691.2	3.3	560.9	532.4	28.51	19.673			
4,400.0	4,295.5	4,428.1	4,371.2	18.1	14.8	121.28	703.0	-13.6	562.0	532.7	29.24	19.216			
4,500.0	4,391.3	4,527.7	4,468.6	18.6	15.2	122.23	714.7	-30.5	563.1	533.2	29.96	18.796			
4,600.0	4,487.1	4,627.2	4,566.0	19.2	15.7	123.18	726.5	-47.4	564.5	533.8	30.66	18.408			
4,700.0	4,582.9	4,726.8	4,663.4	19.8	16.1	124.12	738.3	-64.3	566.0	534.6	31.35	18.051			
4,800.0	4,678.7	4,826.3	4,760.8	20.4	16.6	125.05	750.0	-81.2	567.6	535.6	32.03	17.722			

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Project:</b>	SEC.9-T1N-R66W	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Reference Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design										Fitzsimmons 1N66W9JM (East) Pad Sec.9-T1N-R66W - Fitzsimmons 9J-303 - Wellbore #1 - Plan #2 (4				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)	Minimum Separation (ft)	Separation Factor				
4,900.0	4,774.5	4,925.9	4,858.2	21.0	17.0	125.98	761.8	-98.1	569.4	536.7	32.69	17.419				
5,000.0	4,870.3	5,025.4	4,955.6	21.6	17.5	126.91	773.6	-115.0	571.4	538.0	33.34	17.139				
5,100.0	4,966.1	5,125.0	5,053.0	22.2	17.9	127.83	785.4	-131.9	573.5	539.5	33.97	16.881				
5,200.0	5,061.9	5,224.5	5,150.4	22.8	18.4	128.74	797.1	-148.8	575.7	541.1	34.59	16.643				
5,300.0	5,157.7	5,324.1	5,247.8	23.4	18.8	129.64	808.9	-165.7	578.1	542.9	35.20	16.424				
5,400.0	5,253.5	5,423.7	5,345.2	24.0	19.3	130.54	820.7	-182.5	580.6	544.8	35.79	16.222				
5,500.0	5,349.3	5,523.2	5,442.6	24.6	19.7	131.42	832.4	-199.4	583.3	546.9	36.37	16.037				
5,600.0	5,445.1	5,622.8	5,540.0	25.1	20.2	132.30	844.2	-216.3	586.1	549.2	36.94	15.866				
5,635.2	5,478.9	5,657.8	5,574.3	25.4	20.3	132.61	848.4	-222.3	587.1	550.0	37.14	15.809				
5,700.0	5,541.1	5,722.4	5,637.4	25.7	20.6	133.15	856.0	-233.3	588.5	551.1	37.48	15.703				
5,800.0	5,638.0	5,822.2	5,735.1	26.1	21.0	133.74	867.8	-250.2	588.9	550.9	37.99	15.498				
5,900.0	5,735.7	5,918.4	5,829.2	26.5	21.5	134.05	879.1	-266.5	586.9	548.3	38.52	15.235				
6,000.0	5,834.1	6,000.0	5,909.4	26.8	21.7	134.20	887.8	-278.9	584.3	545.3	38.96	14.997				
6,100.0	5,933.0	6,089.7	5,998.0	27.1	22.0	134.30	895.7	-290.3	581.6	542.3	39.37	14.775				
6,200.0	6,032.4	6,175.4	6,083.0	27.3	22.2	134.33	901.9	-299.2	579.1	539.3	39.73	14.575				
6,300.0	6,132.1	6,261.1	6,168.4	27.5	22.4	134.29	906.6	-305.9	576.5	536.4	40.05	14.394				
6,400.0	6,232.0	6,346.9	6,254.0	27.6	22.5	134.18	909.8	-310.5	574.0	533.6	40.33	14.230				
6,468.0	6,300.0	6,400.0	6,307.0	27.7	22.6	89.89	911.1	-312.3	572.3	531.8	40.50	14.131				
6,500.0	6,332.0	6,432.8	6,339.8	27.7	22.7	89.84	911.6	-313.1	571.6	531.0	40.60	14.077				
6,600.0	6,432.0	6,523.0	6,430.0	27.8	22.8	89.81	911.9	-313.6	571.0	530.1	40.88	13.966				
6,682.8	6,514.8	6,605.8	6,512.8	27.9	22.9	89.81	911.9	-313.6	571.0	529.8	41.12	13.884				
6,700.0	6,532.0	6,623.0	6,530.0	27.9	22.9	-90.21	911.9	-313.6	571.0	529.8	41.18	13.866				
6,750.0	6,581.9	6,672.9	6,579.9	28.0	23.0	-90.49	911.9	-313.6	571.0	529.6	41.38	13.800				
6,800.0	6,631.5	6,723.0	6,630.0	28.0	23.0	-91.00	911.1	-313.6	571.0	529.5	41.59	13.729				
6,850.0	6,680.6	6,773.6	6,680.4	27.9	23.1	-91.53	907.0	-313.6	571.2	529.4	41.75	13.681				
6,900.0	6,729.1	6,824.5	6,730.8	27.9	23.1	-92.05	899.5	-313.6	571.3	529.5	41.83	13.657				
6,950.0	6,776.6	6,875.8	6,780.9	27.8	23.1	-92.56	888.6	-313.6	571.5	529.7	41.85	13.657				
7,000.0	6,822.9	6,927.4	6,830.5	27.7	23.0	-93.06	874.3	-313.6	571.8	530.0	41.79	13.681				
7,050.0	6,868.0	6,979.5	6,879.3	27.5	23.0	-93.55	856.5	-313.6	572.1	530.4	41.67	13.727				
7,100.0	6,911.5	7,031.8	6,927.2	27.4	22.9	-94.03	835.2	-313.6	572.4	530.9	41.49	13.796				
7,150.0	6,953.4	7,084.6	6,973.8	27.2	22.8	-94.49	810.6	-313.6	572.7	531.5	41.25	13.885				
7,200.0	6,993.4	7,137.7	7,018.9	27.0	22.7	-94.93	782.6	-313.6	573.1	532.1	40.96	13.991				
7,250.0	7,031.3	7,191.1	7,062.2	26.8	22.6	-95.35	751.3	-313.6	573.5	532.8	40.63	14.114				
7,300.0	7,067.0	7,244.9	7,103.4	26.6	22.5	-95.75	716.8	-313.6	573.9	533.6	40.28	14.247				
7,350.0	7,100.3	7,298.9	7,142.4	26.4	22.4	-96.12	679.4	-313.6	574.2	534.3	39.91	14.388				
7,400.0	7,131.2	7,353.3	7,178.8	26.1	22.3	-96.46	639.0	-313.6	574.6	535.1	39.55	14.530				
7,450.0	7,159.4	7,407.9	7,212.4	25.9	22.2	-96.77	595.9	-313.6	575.0	535.8	39.20	14.668				
7,500.0	7,184.8	7,462.9	7,243.0	25.7	22.0	-97.06	550.3	-313.6	575.3	536.4	38.89	14.794				
7,550.0	7,207.4	7,518.0	7,270.3	25.4	21.9	-97.31	502.4	-313.6	575.6	537.0	38.63	14.901				
7,600.0	7,227.0	7,573.3	7,294.2	25.2	21.8	-97.52	452.5	-313.6	575.9	537.5	38.44	14.982				
7,650.0	7,243.5	7,628.9	7,314.4	25.0	21.7	-97.70	400.8	-313.6	576.2	537.8	38.33	15.031				
7,700.0	7,256.9	7,684.5	7,330.9	24.7	21.6	-97.85	347.7	-313.6	576.4	538.0	38.32	15.042				
7,750.0	7,267.2	7,740.3	7,343.5	24.5	21.6	-97.95	293.3	-313.6	576.5	538.1	38.41	15.011				
7,800.0	7,274.2	7,796.1	7,352.1	24.3	21.6	-98.02	238.2	-313.6	576.6	538.0	38.60	14.936				
7,850.0	7,278.0	7,852.0	7,356.7	24.1	21.6	-98.05	182.5	-313.6	576.6	537.7	38.91	14.819				
7,886.4	7,278.7	7,892.7	7,357.4	24.0	21.7	-98.05	141.8	-313.6	576.6	537.4	39.20	14.708				
7,900.0	7,278.6	7,906.3	7,357.3	23.9	21.7	-98.05	128.2	-313.6	576.6	537.3	39.33	14.662				
8,000.0	7,278.2	8,006.3	7,356.6	23.6	22.1	-98.02	28.2	-313.6	576.6	536.2	40.39	14.275				
8,100.0	7,277.7	8,106.3	7,355.8	23.3	22.8	-97.99	-71.8	-313.6	576.5	534.8	41.77	13.804				
8,200.0	7,277.2	8,206.3	7,355.0	23.1	23.7	-97.96	-171.8	-313.6	576.5	533.1	43.43	13.275				

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Project:</b>	SEC.9-T1N-R66W	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Reference Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design										Fitzsimmons 1N66W9JM (East) Pad Sec.9-T1N-R66W - Fitzsimmons 9J-303 - Wellbore #1 - Plan #2 (4				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)	Minimum Separation (ft)	Separation Factor					
8,300.0	7,276.7	8,306.3	7,354.3	23.2	24.7	-97.93	-271.8	-313.6	576.5	531.1	45.34	12.713					
8,400.0	7,276.3	8,406.3	7,353.5	23.8	25.9	-97.90	-371.8	-313.6	576.4	528.9	47.48	12.139					
8,500.0	7,275.8	8,506.3	7,352.7	24.9	27.2	-97.87	-471.8	-313.6	576.4	526.6	49.82	11.569					
8,600.0	7,275.3	8,606.3	7,352.0	26.0	28.5	-97.84	-571.8	-313.6	576.3	524.0	52.33	11.014					
8,700.0	7,274.9	8,706.3	7,351.2	27.3	29.9	-97.81	-671.8	-313.6	576.3	521.3	54.99	10.481					
8,800.0	7,274.4	8,806.3	7,350.4	28.6	31.4	-97.78	-771.8	-313.6	576.3	518.5	57.77	9.975					
8,900.0	7,273.9	8,906.3	7,349.7	30.0	32.9	-97.75	-871.7	-313.6	576.2	515.6	60.67	9.498					
9,000.0	7,273.4	9,006.3	7,348.9	31.5	34.5	-97.72	-971.7	-313.6	576.2	512.5	63.66	9.051					
9,100.0	7,273.0	9,106.3	7,348.1	32.9	36.1	-97.69	-1,071.7	-313.6	576.1	509.4	66.73	8.634					
9,200.0	7,272.5	9,206.3	7,347.3	34.5	37.7	-97.67	-1,171.7	-313.6	576.1	506.2	69.88	8.244					
9,300.0	7,272.0	9,306.3	7,346.6	36.0	39.3	-97.64	-1,271.7	-313.6	576.1	503.0	73.09	7.882					
9,400.0	7,271.6	9,406.3	7,345.8	37.6	41.0	-97.61	-1,371.7	-313.6	576.0	499.7	76.35	7.544					
9,500.0	7,271.1	9,506.3	7,345.0	39.2	42.7	-97.58	-1,471.7	-313.6	576.0	496.3	79.67	7.230					
9,600.0	7,270.6	9,606.3	7,344.3	40.8	44.4	-97.55	-1,571.7	-313.6	575.9	492.9	83.02	6.937					
9,700.0	7,270.2	9,706.3	7,343.5	42.5	46.1	-97.52	-1,671.7	-313.6	575.9	489.5	86.42	6.664					
9,800.0	7,269.7	9,806.3	7,342.7	44.2	47.8	-97.49	-1,771.7	-313.6	575.9	486.0	89.85	6.410					
9,900.0	7,269.2	9,906.3	7,342.0	45.9	49.5	-97.46	-1,871.7	-313.6	575.8	482.5	93.30	6.172					
10,000.0	7,268.7	10,006.3	7,341.2	47.6	51.3	-97.43	-1,971.7	-313.6	575.8	479.0	96.79	5.949					
10,100.0	7,268.3	10,106.3	7,340.4	49.3	53.1	-97.40	-2,071.7	-313.6	575.8	475.5	100.30	5.741					
10,200.0	7,267.8	10,206.3	7,339.7	51.0	54.9	-97.37	-2,171.7	-313.6	575.7	471.9	103.82	5.545					
10,300.0	7,267.3	10,306.3	7,338.9	52.7	56.6	-97.34	-2,271.7	-313.6	575.7	468.3	107.37	5.361					
10,400.0	7,266.9	10,406.3	7,338.1	54.5	58.4	-97.31	-2,371.7	-313.6	575.6	464.7	110.94	5.189					
10,500.0	7,266.4	10,506.3	7,337.4	56.3	60.2	-97.28	-2,471.7	-313.6	575.6	461.1	114.52	5.026					
10,600.0	7,265.9	10,606.3	7,336.6	58.0	62.0	-97.26	-2,571.7	-313.6	575.6	457.4	118.12	4.873					
10,700.0	7,265.4	10,706.3	7,335.8	59.8	63.9	-97.23	-2,671.7	-313.6	575.5	453.8	121.73	4.728					
10,800.0	7,265.0	10,806.3	7,335.1	61.6	65.7	-97.20	-2,771.7	-313.6	575.5	450.1	125.35	4.591					
10,900.0	7,264.5	10,906.3	7,334.3	63.4	67.5	-97.17	-2,871.7	-313.6	575.5	446.5	128.99	4.461					
11,000.0	7,264.0	11,006.3	7,333.5	65.2	69.3	-97.14	-2,971.7	-313.6	575.4	442.8	132.63	4.338					
11,100.0	7,263.6	11,106.3	7,332.8	67.0	71.2	-97.11	-3,071.7	-313.6	575.4	439.1	136.28	4.222					
11,200.0	7,263.1	11,206.3	7,332.0	68.8	73.0	-97.08	-3,171.7	-313.6	575.3	435.4	139.95	4.111					
11,300.0	7,262.6	11,306.3	7,331.2	70.6	74.8	-97.05	-3,271.7	-313.6	575.3	431.7	143.62	4.006					
11,400.0	7,262.1	11,406.3	7,330.5	72.5	76.7	-97.02	-3,371.7	-313.6	575.3	428.0	147.29	3.906					
11,500.0	7,261.7	11,506.3	7,329.7	74.3	78.5	-96.99	-3,471.7	-313.6	575.2	424.3	150.98	3.810					
11,600.0	7,261.2	11,606.3	7,328.9	76.1	80.4	-96.96	-3,571.7	-313.6	575.2	420.5	154.67	3.719					
11,700.0	7,260.7	11,706.3	7,328.1	78.0	82.2	-96.93	-3,671.7	-313.6	575.2	416.8	158.37	3.632					
11,800.0	7,260.3	11,806.3	7,327.4	79.8	84.1	-96.90	-3,771.6	-313.6	575.1	413.1	162.05	3.549					
11,840.9	7,260.1	11,847.2	7,327.1	80.5	84.7	-96.89	-3,812.5	-313.6	575.1	411.7	163.41	3.519					
11,853.9	7,260.0	11,856.0	7,327.0	80.8	84.9	-96.89	-3,821.4	-313.6	575.1	411.3	163.79	3.511 ES, SF					



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Project:</b>	SEC.9-T1N-R66W	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Reference Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W - Fitzsimmons 9E-223 - Wellbore #1 - Plan #2 (										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)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-130.10	-40.1	-47.6	62.2					
100.0	100.0	100.0	100.0	0.1	0.1	-130.10	-40.1	-47.6	62.2	62.0	0.22	276.745		
200.0	200.0	200.0	200.0	0.3	0.3	-130.10	-40.1	-47.6	62.2	61.5	0.67	92.248		
300.0	300.0	300.0	300.0	0.6	0.6	-130.10	-40.1	-47.6	62.2	61.1	1.12	55.349		
400.0	400.0	400.0	400.0	0.8	0.8	-130.10	-40.1	-47.6	62.2	60.6	1.57	39.535 CC		
500.0	500.0	499.6	499.6	1.0	1.0	-128.95	-39.3	-48.6	62.5	60.5	2.02	31.008 ES		
600.0	600.0	599.0	598.9	1.2	1.2	-125.58	-37.1	-51.8	63.7	61.2	2.46	25.888		
700.0	700.0	698.2	697.9	1.5	1.5	-120.28	-33.3	-57.0	66.1	63.2	2.91	22.722		
800.0	800.0	797.0	796.2	1.7	1.7	-113.59	-28.1	-64.4	70.3	67.0	3.36	20.926		
900.0	900.0	895.3	893.9	1.9	2.0	-62.55	-21.4	-73.7	76.6	72.7	3.84	19.938		
1,000.0	1,000.0	993.3	990.9	2.1	2.3	-56.52	-13.4	-85.0	84.6	80.3	4.31	19.618		
1,100.0	1,099.9	1,090.8	1,087.1	2.4	2.6	-51.38	-3.9	-98.3	94.2	89.4	4.79	19.667		
1,200.0	1,199.7	1,187.9	1,182.4	2.6	2.9	-47.07	7.0	-113.5	105.2	100.0	5.27	19.957		
1,300.0	1,299.4	1,284.6	1,276.7	2.8	3.3	-43.49	19.2	-130.6	117.6	111.9	5.77	20.400		
1,400.0	1,398.9	1,380.8	1,370.1	3.1	3.8	-40.53	32.7	-149.5	131.2	125.0	6.27	20.937		
1,500.0	1,498.3	1,476.5	1,462.3	3.3	4.3	-38.08	47.5	-170.2	146.0	139.2	6.78	21.524		
1,600.0	1,597.4	1,571.7	1,553.4	3.6	4.8	-36.05	63.5	-192.7	161.7	154.4	7.31	22.139		
1,700.0	1,696.3	1,668.3	1,645.2	3.9	5.4	-34.37	81.0	-217.2	178.2	170.4	7.85	22.712		
1,800.0	1,794.9	1,767.0	1,738.9	4.2	6.0	-33.18	99.0	-242.4	193.7	185.3	8.41	23.038		
1,900.0	1,893.3	1,866.0	1,832.8	4.6	6.6	-32.42	117.1	-267.8	207.8	198.8	8.99	23.121		
2,000.0	1,991.2	1,965.1	1,927.0	4.9	7.2	-32.00	135.2	-293.1	220.4	210.8	9.59	22.993		
2,100.0	2,088.9	2,064.5	2,021.3	5.3	7.8	-31.86	153.4	-318.6	231.6	221.4	10.21	22.684		
2,200.0	2,186.1	2,164.0	2,115.8	5.7	8.5	-31.95	171.5	-344.0	241.3	230.4	10.86	22.217		
2,300.0	2,282.9	2,263.7	2,210.4	6.2	9.1	-32.25	189.7	-369.5	249.5	237.9	11.54	21.616		
2,400.0	2,379.3	2,363.4	2,305.1	6.7	9.8	-32.75	207.9	-395.1	256.2	244.0	12.26	20.899		
2,465.6	2,442.2	2,428.9	2,367.2	7.0	10.2	-33.17	219.9	-411.8	259.9	247.1	12.76	20.375		
2,500.0	2,475.2	2,463.2	2,399.8	7.2	10.4	-33.43	226.2	-420.6	261.7	248.6	13.03	20.086		
2,600.0	2,571.0	2,563.1	2,494.6	7.7	11.0	-34.15	244.4	-446.1	266.8	253.0	13.83	19.293		
2,700.0	2,666.8	2,662.9	2,589.3	8.3	11.7	-34.84	262.6	-471.7	272.0	257.3	14.65	18.565		
2,800.0	2,762.6	2,762.7	2,684.1	8.8	12.3	-35.51	280.9	-497.2	277.2	261.7	15.49	17.896		
2,900.0	2,858.4	2,862.5	2,778.8	9.4	13.0	-36.15	299.1	-522.8	282.5	266.1	16.35	17.280		
3,000.0	2,954.2	2,962.3	2,873.6	9.9	13.6	-36.77	317.3	-548.3	287.8	270.6	17.22	16.713		
3,100.0	3,050.0	3,062.1	2,968.3	10.5	14.3	-37.36	335.6	-573.9	293.1	275.0	18.10	16.189		
3,200.0	3,145.8	3,161.9	3,063.1	11.1	14.9	-37.94	353.8	-599.4	298.5	279.4	19.00	15.705		
3,300.0	3,241.6	3,261.7	3,157.8	11.6	15.6	-38.49	372.0	-624.9	303.8	283.9	19.92	15.256		
3,400.0	3,337.4	3,361.6	3,252.6	12.2	16.2	-39.02	390.3	-650.5	309.3	288.4	20.84	14.840		
3,500.0	3,433.2	3,461.4	3,347.4	12.8	16.9	-39.54	408.5	-676.0	314.7	292.9	21.77	14.453		
3,600.0	3,529.0	3,561.2	3,442.1	13.4	17.6	-40.04	426.7	-701.6	320.2	297.4	22.72	14.093		
3,700.0	3,624.9	3,661.0	3,536.9	14.0	18.2	-40.52	444.9	-727.1	325.6	302.0	23.67	13.757		
3,800.0	3,720.7	3,760.8	3,631.6	14.5	18.9	-40.99	463.2	-752.7	331.2	306.5	24.63	13.444		
3,900.0	3,816.5	3,860.6	3,726.4	15.1	19.5	-41.44	481.4	-778.2	336.7	311.1	25.60	13.150		
4,000.0	3,912.3	3,960.4	3,821.1	15.7	20.2	-41.87	499.6	-803.7	342.2	315.7	26.58	12.875		
4,100.0	4,008.1	4,060.2	3,915.9	16.3	20.8	-42.30	517.9	-829.3	347.8	320.2	27.57	12.617		
4,200.0	4,103.9	4,160.1	4,010.6	16.9	21.5	-42.71	536.1	-854.8	353.4	324.8	28.56	12.374		
4,300.0	4,199.7	4,259.9	4,105.4	17.5	22.1	-43.10	554.3	-880.4	359.0	329.4	29.56	12.146		
4,400.0	4,295.5	4,359.7	4,200.1	18.1	22.8	-43.49	572.6	-905.9	364.6	334.1	30.56	11.931		
4,500.0	4,391.3	4,459.5	4,294.9	18.6	23.5	-43.86	590.8	-931.5	370.3	338.7	31.57	11.728		
4,600.0	4,487.1	4,559.3	4,389.6	19.2	24.1	-44.22	609.0	-957.0	375.9	343.3	32.59	11.536		
4,700.0	4,582.9	4,659.1	4,484.4	19.8	24.8	-44.57	627.3	-982.5	381.6	348.0	33.61	11.354		
4,800.0	4,678.7	4,758.9	4,579.1	20.4	25.4	-44.91	645.5	-1,008.1	387.3	352.6	34.63	11.182		
4,900.0	4,774.5	4,858.7	4,673.9	21.0	26.1	-45.24	663.7	-1,033.6	393.0	357.3	35.66	11.019		

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Project:</b>	SEC.9-T1N-R66W	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Reference Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W - Fitzsimmons 9E-223 - Wellbore #1 - Plan #2 (										Offset Site Error:		0.0 ft
Survey Program:		0-MWWD										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)	Minimum Separation (ft)	Separation Factor		
5,000.0	4,870.3	4,958.6	4,768.6	21.6	26.7	-45.56	681.9	-1,059.2	398.7	362.0	36.70	10.864		
5,100.0	4,966.1	5,058.4	4,863.4	22.2	27.4	-45.87	700.2	-1,084.7	404.4	366.6	37.73	10.717		
5,200.0	5,061.9	5,158.2	4,958.1	22.8	28.1	-46.18	718.4	-1,110.3	410.1	371.3	38.78	10.577		
5,300.0	5,157.7	5,258.0	5,052.9	23.4	28.7	-46.47	736.6	-1,135.8	415.9	376.0	39.82	10.443		
5,400.0	5,253.5	5,357.8	5,147.6	24.0	29.4	-46.76	754.9	-1,161.3	421.6	380.7	40.87	10.316		
5,500.0	5,349.3	5,457.6	5,242.4	24.6	30.0	-47.04	773.1	-1,186.9	427.4	385.5	41.92	10.195		
5,600.0	5,445.1	5,557.4	5,337.1	25.1	30.7	-47.31	791.3	-1,212.4	433.1	390.2	42.98	10.079		
5,635.2	5,478.9	5,592.6	5,370.5	25.4	30.9	-47.40	797.8	-1,221.4	435.2	391.8	43.35	10.039		
5,700.0	5,541.1	5,657.2	5,431.8	25.7	31.3	-47.56	809.6	-1,238.0	439.4	395.4	43.98	9.991		
5,800.0	5,638.0	5,760.9	5,530.3	26.1	32.0	-47.57	828.4	-1,264.4	447.8	403.0	44.78	10.000		
5,900.0	5,735.7	5,874.8	5,639.5	26.5	32.6	-47.46	847.2	-1,290.7	456.1	410.7	45.44	10.039		
6,000.0	5,834.1	5,989.1	5,750.3	26.8	33.0	-47.33	863.6	-1,313.6	463.7	417.7	45.99	10.084		
6,100.0	5,933.0	6,103.8	5,862.4	27.1	33.4	-47.16	877.4	-1,333.0	470.5	424.0	46.44	10.131		
6,200.0	6,032.4	6,218.8	5,975.8	27.3	33.8	-46.97	888.6	-1,348.7	476.4	429.6	46.79	10.182		
6,300.0	6,132.1	6,334.1	6,090.2	27.5	34.1	-46.76	897.2	-1,360.7	481.5	434.5	47.04	10.236		
6,400.0	6,232.0	6,449.7	6,205.3	27.6	34.3	-46.51	903.1	-1,369.0	485.8	438.6	47.20	10.293		
6,468.0	6,300.0	6,528.5	6,284.0	27.7	34.4	-90.52	905.6	-1,372.5	488.2	441.0	47.25	10.333		
6,500.0	6,332.0	6,565.6	6,321.1	27.7	34.4	-90.43	906.3	-1,373.5	489.1	441.8	47.29	10.342		
6,600.0	6,432.0	6,676.5	6,432.0	27.8	34.6	-90.36	906.9	-1,374.4	489.9	442.3	47.51	10.310		
6,682.8	6,514.8	6,759.3	6,514.8	27.9	34.6	-90.36	906.9	-1,374.4	489.9	442.1	47.71	10.266		
6,700.0	6,532.0	6,776.4	6,531.9	27.9	34.6	89.64	906.7	-1,374.4	489.9	442.1	47.75	10.259		
6,750.0	6,581.9	6,826.2	6,581.6	28.0	34.7	89.65	904.0	-1,374.4	489.9	442.1	47.80	10.249		
6,800.0	6,631.5	6,876.0	6,631.1	28.0	34.6	89.65	898.1	-1,374.4	489.9	442.1	47.77	10.254		
6,850.0	6,680.6	6,925.8	6,680.0	27.9	34.6	89.66	888.9	-1,374.4	489.9	442.2	47.68	10.275		
6,900.0	6,729.1	6,975.6	6,728.3	27.9	34.6	89.67	876.6	-1,374.4	489.9	442.3	47.51	10.310		
6,950.0	6,776.6	7,025.5	6,775.6	27.8	34.5	89.68	861.2	-1,374.4	489.9	442.6	47.29	10.359		
7,000.0	6,822.9	7,075.3	6,821.9	27.7	34.4	89.69	842.7	-1,374.4	489.9	442.9	47.01	10.421		
7,050.0	6,868.0	7,125.1	6,866.8	27.5	34.3	89.70	821.2	-1,374.4	489.9	443.2	46.67	10.496		
7,100.0	6,911.5	7,175.0	6,910.3	27.4	34.1	89.72	796.8	-1,374.4	489.9	443.6	46.29	10.582		
7,150.0	6,953.4	7,224.8	6,952.1	27.2	34.0	89.73	769.7	-1,374.4	489.9	444.0	45.88	10.678		
7,200.0	6,993.4	7,274.7	6,992.0	27.0	33.8	89.75	739.8	-1,374.4	489.9	444.4	45.43	10.783		
7,250.0	7,031.3	7,324.5	7,029.9	26.8	33.6	89.77	707.5	-1,374.4	489.9	444.9	44.96	10.894		
7,300.0	7,067.0	7,374.4	7,065.7	26.6	33.4	89.79	672.7	-1,374.4	489.9	445.4	44.49	11.011		
7,350.0	7,100.3	7,424.3	7,099.1	26.4	33.3	89.81	635.6	-1,374.4	489.9	445.8	44.01	11.131		
7,400.0	7,131.2	7,474.2	7,130.0	26.1	33.0	89.83	596.5	-1,374.4	489.9	446.3	43.54	11.251		
7,450.0	7,159.4	7,524.1	7,158.3	25.9	32.8	89.85	555.4	-1,374.4	489.9	446.8	43.09	11.368		
7,500.0	7,184.8	7,574.0	7,183.8	25.7	32.6	89.87	512.5	-1,374.4	489.9	447.2	42.67	11.480		
7,550.0	7,207.4	7,624.0	7,206.5	25.4	32.4	89.89	468.0	-1,374.4	489.9	447.6	42.29	11.584		
7,600.0	7,227.0	7,673.9	7,226.3	25.2	32.2	89.91	422.2	-1,374.4	489.9	447.9	41.95	11.676		
7,650.0	7,243.5	7,723.9	7,243.0	25.0	32.0	89.94	375.1	-1,374.4	489.9	448.2	41.68	11.753		
7,700.0	7,256.9	7,773.8	7,256.6	24.7	31.8	89.96	327.0	-1,374.4	489.9	448.4	41.47	11.813		
7,750.0	7,267.2	7,823.8	7,267.1	24.5	31.6	89.99	278.1	-1,374.4	489.9	448.5	41.33	11.853		
7,781.5	7,272.0	7,855.3	7,272.0	24.4	31.5	90.00	247.0	-1,374.4	489.9	448.6	41.28	11.867		
7,800.0	7,274.2	7,873.8	7,274.3	24.3	31.4	90.01	228.7	-1,374.4	489.9	448.6	41.26	11.872		
7,850.0	7,278.0	7,923.8	7,278.3	24.1	31.2	90.03	178.8	-1,374.4	489.9	448.6	41.27	11.870		
7,886.4	7,278.7	7,960.2	7,279.1	24.0	31.1	90.05	142.5	-1,374.4	489.9	448.5	41.32	11.855		
7,900.0	7,278.6	7,973.8	7,279.0	23.9	31.1	90.05	128.8	-1,374.4	489.9	448.5	41.36	11.845		
8,000.0	7,278.2	8,073.8	7,278.3	23.6	30.8	90.02	28.8	-1,374.4	489.9	448.0	41.82	11.714		
8,054.6	7,277.9	8,128.5	7,277.9	23.4	30.6	90.00	-25.8	-1,374.4	489.9	447.6	42.23	11.601		
8,100.0	7,277.7	8,173.8	7,277.6	23.3	30.5	89.99	-71.2	-1,374.4	489.9	447.2	42.60	11.498		

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



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Project:</b>	SEC.9-T1N-R66W	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Reference Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W - Fitzsimmons 9E-223 - Wellbore #1 - Plan #2 (										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)	Minimum Separation (ft)	Separation Factor		
8,200.0	7,277.2	8,273.8	7,276.8	23.1	30.4	89.96	-171.2	-1,374.4	489.9	446.1	43.71	11.206		
8,300.0	7,276.7	8,373.8	7,276.1	23.2	30.3	89.92	-271.2	-1,374.4	489.9	444.7	45.12	10.856		
8,400.0	7,276.3	8,473.8	7,275.4	23.8	30.3	89.89	-371.1	-1,374.4	489.9	443.0	46.81	10.466		
8,500.0	7,275.8	8,573.8	7,274.6	24.9	30.5	89.86	-471.1	-1,374.4	489.9	441.1	48.73	10.052		
8,600.0	7,275.3	8,673.8	7,273.9	26.0	30.9	89.83	-571.1	-1,374.4	489.9	439.0	50.87	9.629		
8,700.0	7,274.9	8,773.8	7,273.2	27.3	31.5	89.80	-671.1	-1,374.4	489.9	436.6	53.21	9.207		
8,800.0	7,274.4	8,873.8	7,272.4	28.6	32.3	89.77	-771.1	-1,374.4	489.9	434.1	55.71	8.794		
8,900.0	7,273.9	8,973.8	7,271.7	30.0	33.3	89.74	-871.1	-1,374.4	489.9	431.5	58.35	8.395		
9,000.0	7,273.4	9,073.8	7,271.0	31.5	34.4	89.71	-971.1	-1,374.4	489.9	428.7	61.12	8.015		
9,100.0	7,273.0	9,173.8	7,270.2	32.9	35.7	89.68	-1,071.1	-1,374.4	489.9	425.9	64.00	7.654		
9,200.0	7,272.5	9,273.8	7,269.5	34.5	37.0	89.65	-1,171.1	-1,374.4	489.9	422.9	66.98	7.314		
9,300.0	7,272.0	9,373.8	7,268.8	36.0	38.4	89.62	-1,271.1	-1,374.4	489.9	419.8	70.03	6.995		
9,400.0	7,271.6	9,473.8	7,268.0	37.6	39.8	89.59	-1,371.1	-1,374.4	489.9	416.7	73.17	6.695		
9,500.0	7,271.1	9,573.8	7,267.3	39.2	41.3	89.56	-1,471.1	-1,374.4	489.9	413.5	76.36	6.415		
9,600.0	7,270.6	9,673.8	7,266.6	40.8	42.8	89.53	-1,571.1	-1,374.4	489.9	410.3	79.62	6.153		
9,700.0	7,270.2	9,773.8	7,265.8	42.5	44.4	89.50	-1,671.1	-1,374.4	489.9	407.0	82.92	5.908		
9,800.0	7,269.7	9,873.8	7,265.1	44.2	46.0	89.47	-1,771.1	-1,374.4	489.9	403.6	86.26	5.679		
9,900.0	7,269.2	9,973.8	7,264.4	45.9	47.6	89.43	-1,871.1	-1,374.4	489.9	400.2	89.65	5.464		
10,000.0	7,268.7	10,073.8	7,263.6	47.6	49.2	89.40	-1,971.1	-1,374.4	489.9	396.8	93.07	5.264		
10,100.0	7,268.3	10,173.8	7,262.9	49.3	50.9	89.37	-2,071.1	-1,374.4	489.9	393.4	96.52	5.075		
10,200.0	7,267.8	10,273.8	7,262.2	51.0	52.5	89.34	-2,171.1	-1,374.4	489.9	389.9	100.00	4.899		
10,300.0	7,267.3	10,373.8	7,261.4	52.7	54.2	89.31	-2,271.1	-1,374.4	489.9	386.4	103.50	4.733		
10,400.0	7,266.9	10,473.8	7,260.7	54.5	55.9	89.28	-2,371.1	-1,374.4	489.9	382.9	107.03	4.577		
10,500.0	7,266.4	10,573.8	7,260.0	56.3	57.6	89.25	-2,471.1	-1,374.4	489.9	379.3	110.58	4.430		
10,600.0	7,265.9	10,673.8	7,259.2	58.0	59.3	89.22	-2,571.1	-1,374.4	489.9	375.8	114.14	4.292		
10,700.0	7,265.4	10,773.8	7,258.5	59.8	61.1	89.19	-2,671.1	-1,374.4	489.9	372.2	117.72	4.161		
10,800.0	7,265.0	10,873.8	7,257.8	61.6	62.8	89.16	-2,771.1	-1,374.4	489.9	368.6	121.32	4.038		
10,900.0	7,264.5	10,973.8	7,257.0	63.4	64.6	89.13	-2,871.1	-1,374.4	489.9	365.0	124.93	3.921		
11,000.0	7,264.0	11,073.8	7,256.3	65.2	66.3	89.10	-2,971.1	-1,374.4	489.9	361.4	128.56	3.811		
11,100.0	7,263.6	11,173.8	7,255.6	67.0	68.1	89.07	-3,071.1	-1,374.4	489.9	357.7	132.19	3.706		
11,200.0	7,263.1	11,273.8	7,254.8	68.8	69.9	89.04	-3,171.1	-1,374.4	489.9	354.1	135.84	3.607		
11,300.0	7,262.6	11,373.8	7,254.1	70.6	71.6	89.01	-3,271.1	-1,374.4	489.9	350.4	139.50	3.512		
11,400.0	7,262.1	11,473.8	7,253.4	72.5	73.4	88.98	-3,371.1	-1,374.4	489.9	346.8	143.16	3.422		
11,500.0	7,261.7	11,573.8	7,252.6	74.3	75.2	88.95	-3,471.1	-1,374.4	489.9	343.1	146.84	3.337		
11,600.0	7,261.2	11,673.8	7,251.9	76.1	77.0	88.91	-3,571.1	-1,374.4	489.9	339.4	150.52	3.255		
11,700.0	7,260.7	11,773.8	7,251.2	78.0	78.8	88.88	-3,671.0	-1,374.4	489.9	335.7	154.21	3.177		
11,800.0	7,260.3	11,873.8	7,250.4	79.8	80.6	88.85	-3,771.0	-1,374.4	489.9	332.0	157.91	3.103		
11,853.9	7,260.0	11,927.7	7,250.1	80.8	81.6	88.84	-3,825.0	-1,374.4	490.0	330.1	159.90	3.064 SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Project:</b>	SEC.9-T1N-R66W	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Reference Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design											Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W - Fitzsimmons 9E-323 - Wellbore #1 - Plan #2 (			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)	Minimum Separation (ft)	Separation Factor				
0.0	0.0	0.0	0.0	0.0	0.0	-130.96	-21.9	-25.2	33.4							
100.0	100.0	100.0	100.0	0.1	0.1	-130.96	-21.9	-25.2	33.4	33.1	0.22	148.401				
200.0	200.0	200.0	200.0	0.3	0.3	-130.96	-21.9	-25.2	33.4	32.7	0.67	49.467				
300.0	300.0	300.0	300.0	0.6	0.6	-130.96	-21.9	-25.2	33.4	32.2	1.12	29.680				
400.0	400.0	400.0	400.0	0.8	0.8	-130.96	-21.9	-25.2	33.4	31.8	1.57	21.200				
500.0	500.0	500.0	500.0	1.0	1.0	-130.96	-21.9	-25.2	33.4	31.3	2.02	16.489				
600.0	600.0	600.0	600.0	1.2	1.2	-130.96	-21.9	-25.2	33.4	30.9	2.47	13.491	CC			
700.0	700.0	699.8	699.8	1.5	1.5	-128.77	-21.0	-26.2	33.6	30.7	2.92	11.523	ES			
800.0	800.0	799.5	799.4	1.7	1.7	-122.45	-18.6	-29.2	34.7	31.3	3.36	10.315				
900.0	900.0	899.0	898.7	1.9	1.9	-69.99	-14.5	-34.3	36.9	33.1	3.80	9.711				
1,000.0	1,000.0	998.3	997.5	2.1	2.1	-61.96	-8.8	-41.3	40.6	36.3	4.25	9.540				
1,100.0	1,099.9	1,097.3	1,095.9	2.4	2.4	-54.72	-1.5	-50.3	45.6	40.9	4.71	9.681				
1,200.0	1,199.7	1,196.1	1,193.6	2.6	2.7	-48.52	7.3	-61.3	52.0	46.8	5.17	10.045				
1,300.0	1,299.4	1,294.5	1,290.7	2.8	3.0	-43.38	17.7	-74.1	59.6	54.0	5.64	10.562				
1,400.0	1,398.9	1,392.7	1,387.0	3.1	3.4	-39.20	29.7	-88.9	68.5	62.3	6.12	11.180				
1,500.0	1,498.3	1,490.5	1,482.4	3.3	3.7	-35.82	43.1	-105.5	78.4	71.8	6.61	11.860				
1,600.0	1,597.4	1,587.9	1,576.9	3.6	4.2	-33.08	58.0	-124.0	89.4	82.3	7.11	12.576				
1,700.0	1,696.3	1,684.9	1,670.4	3.9	4.6	-30.85	74.4	-144.2	101.3	93.7	7.61	13.307				
1,800.0	1,794.9	1,783.6	1,764.9	4.2	5.2	-29.14	92.1	-166.1	113.5	105.4	8.13	13.955				
1,900.0	1,893.3	1,882.9	1,860.2	4.6	5.7	-28.12	109.9	-188.2	124.3	115.6	8.67	14.331				
2,000.0	1,991.2	1,982.5	1,955.6	4.9	6.2	-27.61	127.8	-210.3	133.6	124.4	9.23	14.471				
2,100.0	2,088.9	2,082.2	2,051.1	5.3	6.8	-27.49	145.7	-232.4	141.4	131.5	9.81	14.406				
2,200.0	2,186.1	2,182.0	2,146.8	5.7	7.4	-27.70	163.7	-254.6	147.6	137.1	10.42	14.163				
2,300.0	2,282.9	2,281.9	2,242.5	6.2	7.9	-28.21	181.6	-276.8	152.2	141.2	11.06	13.769				
2,400.0	2,379.3	2,381.8	2,338.2	6.7	8.5	-29.00	199.6	-299.0	155.4	143.7	11.73	13.243				
2,465.6	2,442.2	2,447.3	2,401.0	7.0	8.9	-29.67	211.4	-313.6	156.7	144.5	12.20	12.836				
2,500.0	2,475.2	2,481.8	2,434.0	7.2	9.1	-30.06	217.5	-321.2	157.2	144.7	12.47	12.608				
2,600.0	2,571.0	2,581.7	2,529.8	7.7	9.7	-31.17	235.5	-343.4	158.7	145.4	13.24	11.981				
2,700.0	2,666.8	2,681.6	2,625.5	8.3	10.3	-32.27	253.5	-365.7	160.2	146.2	14.05	11.406				
2,800.0	2,762.6	2,781.6	2,721.3	8.8	10.8	-33.34	271.4	-387.9	161.8	147.0	14.88	10.878				
2,900.0	2,858.4	2,881.5	2,817.1	9.4	11.4	-34.39	289.4	-410.1	163.5	147.8	15.73	10.392				
3,000.0	2,954.2	2,981.5	2,912.9	9.9	12.0	-35.42	307.4	-432.3	165.2	148.6	16.61	9.945				
3,100.0	3,050.0	3,081.4	3,008.6	10.5	12.6	-36.43	325.3	-454.5	167.0	149.5	17.52	9.534				
3,200.0	3,145.8	3,181.3	3,104.4	11.1	13.2	-37.42	343.3	-476.7	168.8	150.4	18.44	9.154				
3,300.0	3,241.6	3,281.3	3,200.2	11.6	13.8	-38.38	361.3	-498.9	170.7	151.3	19.39	8.804				
3,400.0	3,337.4	3,381.2	3,296.0	12.2	14.4	-39.33	379.2	-521.1	172.6	152.3	20.35	8.481				
3,500.0	3,433.2	3,481.2	3,391.7	12.8	15.0	-40.25	397.2	-543.4	174.6	153.3	21.34	8.182				
3,600.0	3,529.0	3,581.1	3,487.5	13.4	15.6	-41.15	415.1	-565.6	176.6	154.3	22.34	7.905				
3,700.0	3,624.9	3,681.1	3,583.3	14.0	16.2	-42.03	433.1	-587.8	178.7	155.3	23.36	7.648				
3,800.0	3,720.7	3,781.0	3,679.0	14.5	16.8	-42.89	451.1	-610.0	180.8	156.4	24.40	7.409				
3,900.0	3,816.5	3,880.9	3,774.8	15.1	17.4	-43.73	469.0	-632.2	182.9	157.5	25.45	7.187				
4,000.0	3,912.3	3,980.9	3,870.6	15.7	17.9	-44.56	487.0	-654.4	185.1	158.6	26.51	6.981				
4,100.0	4,008.1	4,080.8	3,966.4	16.3	18.5	-45.36	505.0	-676.6	187.3	159.7	27.59	6.788				
4,200.0	4,103.9	4,180.8	4,062.1	16.9	19.1	-46.14	522.9	-698.8	189.5	160.9	28.68	6.609				
4,300.0	4,199.7	4,280.7	4,157.9	17.5	19.7	-46.91	540.9	-721.0	191.8	162.0	29.78	6.441				
4,400.0	4,295.5	4,380.6	4,253.7	18.1	20.3	-47.65	558.8	-743.3	194.1	163.2	30.89	6.285				
4,500.0	4,391.3	4,480.6	4,349.4	18.6	20.9	-48.38	576.8	-765.5	196.5	164.5	32.01	6.138				
4,600.0	4,487.1	4,580.5	4,445.2	19.2	21.5	-49.10	594.8	-787.7	198.9	165.7	33.14	6.000				
4,700.0	4,582.9	4,680.5	4,541.0	19.8	22.1	-49.79	612.7	-809.9	201.3	167.0	34.28	5.871				
4,800.0	4,678.7	4,780.4	4,636.8	20.4	22.7	-50.47	630.7	-832.1	203.7	168.3	35.43	5.750				
4,900.0	4,774.5	4,880.4	4,732.5	21.0	23.3	-51.13	648.7	-854.3	206.2	169.6	36.59	5.636				

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Project:</b>	SEC.9-T1N-R66W	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Reference Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W - Fitzsimmons 9E-323 - Wellbore #1 - Plan #2 (										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)	Minimum Separation (ft)	Separation Factor					
5,000.0	4,870.3	4,980.3	4,828.3	21.6	23.9	-51.78	666.6	-876.5	208.7	170.9	37.75	5.528					
5,100.0	4,966.1	5,080.2	4,924.1	22.2	24.5	-52.41	684.6	-898.7	211.2	172.3	38.92	5.427					
5,200.0	5,061.9	5,180.2	5,019.8	22.8	25.1	-53.03	702.5	-921.0	213.7	173.7	40.09	5.331					
5,300.0	5,157.7	5,280.1	5,115.6	23.4	25.7	-53.63	720.5	-943.2	216.3	175.0	41.27	5.241					
5,400.0	5,253.5	5,380.1	5,211.4	24.0	26.3	-54.21	738.5	-965.4	218.9	176.4	42.46	5.156					
5,500.0	5,349.3	5,480.0	5,307.2	24.6	26.9	-54.79	756.4	-987.6	221.5	177.9	43.65	5.075					
5,600.0	5,445.1	5,579.9	5,402.9	25.1	27.5	-55.35	774.4	-1,009.8	224.2	179.3	44.84	4.999					
5,635.2	5,478.9	5,615.2	5,436.7	25.4	27.7	-55.54	780.7	-1,017.6	225.1	179.8	45.26	4.973					
5,700.0	5,541.1	5,679.9	5,498.7	25.7	28.1	-55.78	792.4	-1,032.0	227.2	181.3	45.95	4.945					
5,800.0	5,638.0	5,779.7	5,594.4	26.1	28.7	-55.57	810.3	-1,054.2	232.1	185.4	46.73	4.968					
5,900.0	5,735.7	5,880.0	5,690.4	26.5	29.3	-54.72	828.3	-1,076.5	239.1	191.8	47.20	5.064					
6,000.0	5,834.1	5,985.6	5,792.3	26.8	29.8	-53.58	845.9	-1,098.2	246.6	199.2	47.43	5.199					
6,100.0	5,933.0	6,091.6	5,895.5	27.1	30.2	-52.47	861.2	-1,117.1	253.8	206.3	47.57	5.336					
6,200.0	6,032.4	6,198.0	5,999.9	27.3	30.5	-51.39	874.1	-1,133.1	260.7	213.1	47.61	5.475					
6,300.0	6,132.1	6,304.8	6,105.3	27.5	30.8	-50.33	884.6	-1,146.0	267.2	219.6	47.57	5.616					
6,400.0	6,232.0	6,411.9	6,211.7	27.6	31.1	-49.29	892.6	-1,155.9	273.2	225.8	47.45	5.759					
6,468.0	6,300.0	6,484.9	6,284.4	27.7	31.2	-92.77	896.6	-1,160.9	277.2	229.8	47.31	5.858					
6,500.0	6,332.0	6,519.3	6,318.7	27.7	31.3	-92.44	898.1	-1,162.8	278.8	231.6	47.26	5.899					
6,600.0	6,432.0	6,627.2	6,426.5	27.8	31.4	-91.80	901.1	-1,166.5	282.2	234.9	47.26	5.970					
6,682.8	6,514.8	6,715.5	6,514.8	27.9	31.5	-91.67	901.7	-1,167.3	282.8	235.4	47.42	5.964					
6,700.0	6,532.0	6,732.7	6,532.0	27.9	31.6	88.37	901.7	-1,167.3	282.8	235.4	47.45	5.961					
6,750.0	6,581.9	6,782.6	6,581.9	28.0	31.6	88.93	901.7	-1,167.3	282.8	235.5	47.29	5.980					
6,797.2	6,628.7	6,829.4	6,628.7	28.0	31.6	90.00	901.5	-1,167.3	282.7	235.9	46.85	6.034					
6,800.0	6,631.5	6,832.2	6,631.5	28.0	31.6	90.07	901.4	-1,167.3	282.7	235.9	46.82	6.038					
6,850.0	6,680.6	6,882.1	6,681.3	27.9	31.7	91.30	898.2	-1,167.3	282.8	236.5	46.26	6.113					
6,900.0	6,729.1	6,932.3	6,731.1	27.9	31.6	92.53	891.8	-1,167.3	283.0	237.4	45.63	6.202					
6,950.0	6,776.6	6,983.0	6,780.8	27.8	31.6	93.75	881.9	-1,167.3	283.3	238.4	44.96	6.302					
7,000.0	6,822.9	7,034.1	6,830.1	27.7	31.5	94.96	868.7	-1,167.3	283.8	239.5	44.25	6.414					
7,050.0	6,868.0	7,085.6	6,878.9	27.5	31.5	96.15	852.1	-1,167.3	284.4	240.9	43.51	6.535					
7,100.0	6,911.5	7,137.5	6,926.8	27.4	31.3	97.31	832.0	-1,167.3	285.1	242.3	42.77	6.665					
7,150.0	6,953.4	7,189.9	6,973.6	27.2	31.2	98.44	808.6	-1,167.3	285.8	243.8	42.02	6.803					
7,200.0	6,993.4	7,242.7	7,019.0	27.0	31.1	99.53	781.7	-1,167.3	286.7	245.4	41.28	6.946					
7,250.0	7,031.3	7,295.9	7,062.9	26.8	30.9	100.57	751.6	-1,167.3	287.7	247.1	40.56	7.093					
7,300.0	7,067.0	7,349.6	7,104.8	26.6	30.7	101.57	718.1	-1,167.3	288.6	248.8	39.86	7.240					
7,350.0	7,100.3	7,403.6	7,144.6	26.4	30.5	102.51	681.6	-1,167.3	289.7	250.4	39.21	7.387					
7,400.0	7,131.2	7,458.1	7,182.0	26.1	30.3	103.40	642.0	-1,167.3	290.7	252.1	38.61	7.528					
7,450.0	7,159.4	7,512.9	7,216.6	25.9	30.0	104.22	599.5	-1,167.3	291.7	253.6	38.07	7.662					
7,500.0	7,184.8	7,568.1	7,248.4	25.7	29.8	104.98	554.4	-1,167.3	292.7	255.1	37.60	7.785					
7,550.0	7,207.4	7,623.6	7,276.9	25.4	29.5	105.66	506.8	-1,167.3	293.7	256.5	37.21	7.893					
7,600.0	7,227.0	7,679.4	7,302.1	25.2	29.3	106.27	457.0	-1,167.3	294.6	257.7	36.90	7.982					
7,650.0	7,243.5	7,735.5	7,323.6	25.0	29.1	106.81	405.2	-1,167.3	295.4	258.7	36.68	8.052					
7,700.0	7,256.9	7,791.9	7,341.4	24.7	28.8	107.27	351.7	-1,167.3	296.1	259.5	36.56	8.098					
7,750.0	7,267.2	7,848.4	7,355.2	24.5	28.6	107.64	296.9	-1,167.3	296.7	260.1	36.54	8.119					
7,800.0	7,274.2	7,905.1	7,364.9	24.3	28.4	107.94	241.1	-1,167.3	297.2	260.5	36.62	8.115					
7,850.0	7,278.0	7,962.0	7,370.5	24.1	28.1	108.15	184.5	-1,167.3	297.5	260.7	36.80	8.085					
7,886.4	7,278.7	8,003.4	7,371.9	24.0	28.0	108.25	143.1	-1,167.3	297.7	260.7	36.98	8.050					
7,900.0	7,278.6	8,018.7	7,371.9	23.9	27.9	108.26	127.8	-1,167.3	297.7	260.7	37.00	8.046					
8,000.0	7,278.2	8,118.7	7,370.8	23.6	27.6	108.13	27.8	-1,167.3	297.5	260.1	37.40	7.954					
8,100.0	7,277.7	8,218.7	7,369.6	23.3	27.4	108.01	-72.2	-1,167.3	297.3	259.1	38.14	7.794					
8,200.0	7,277.2	8,318.7	7,368.5	23.1	27.3	107.89	-172.2	-1,167.3	297.1	257.9	39.22	7.575					

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Project:</b>	SEC.9-T1N-R66W	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Reference Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W - Fitzsimmons 9E-323 - Wellbore #1 - Plan #2 (										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre		Between	Between	Minimum	Separation		
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	Toolface (°)	+N/-S (ft)	+E/-W (ft)	Centres (ft)	Ellipses (ft)	Separation (ft)	Factor		
8,300.0	7,276.7	8,418.7	7,367.3	23.2	27.2	107.77	-272.2	-1,167.3	296.9	256.3	40.60	7.312		
8,400.0	7,276.3	8,518.7	7,366.2	23.8	27.4	107.65	-372.2	-1,167.3	296.7	254.4	42.26	7.020		
8,500.0	7,275.8	8,618.7	7,365.1	24.9	27.8	107.53	-472.2	-1,167.3	296.5	252.3	44.18	6.711		
8,600.0	7,275.3	8,718.7	7,363.9	26.0	28.5	107.40	-572.2	-1,167.3	296.3	250.0	46.31	6.398		
8,700.0	7,274.9	8,818.7	7,362.8	27.3	29.4	107.28	-672.2	-1,167.3	296.1	247.5	48.63	6.088		
8,800.0	7,274.4	8,918.7	7,361.7	28.6	30.5	107.16	-772.1	-1,167.3	295.9	244.8	51.12	5.788		
8,900.0	7,273.9	9,018.7	7,360.5	30.0	31.7	107.04	-872.1	-1,167.3	295.7	241.9	53.75	5.501		
9,000.0	7,273.4	9,118.7	7,359.4	31.5	33.0	106.91	-972.1	-1,167.3	295.5	239.0	56.51	5.229		
9,100.0	7,273.0	9,218.7	7,358.3	32.9	34.4	106.79	-1,072.1	-1,167.3	295.3	235.9	59.37	4.974		
9,200.0	7,272.5	9,318.7	7,357.1	34.5	35.8	106.67	-1,172.1	-1,167.3	295.1	232.8	62.33	4.735		
9,300.0	7,272.0	9,418.7	7,356.0	36.0	37.3	106.54	-1,272.1	-1,167.3	294.9	229.6	65.37	4.511		
9,400.0	7,271.6	9,518.7	7,354.9	37.6	38.8	106.42	-1,372.1	-1,167.3	294.7	226.3	68.48	4.304		
9,500.0	7,271.1	9,618.7	7,353.7	39.2	40.3	106.30	-1,472.1	-1,167.3	294.5	222.9	71.66	4.110		
9,600.0	7,270.6	9,718.7	7,352.6	40.8	41.9	106.17	-1,572.1	-1,167.3	294.4	219.5	74.89	3.931		
9,700.0	7,270.2	9,818.7	7,351.5	42.5	43.5	106.05	-1,672.1	-1,167.3	294.2	216.0	78.17	3.764		
9,800.0	7,269.7	9,918.7	7,350.3	44.2	45.2	105.92	-1,772.1	-1,167.3	294.0	212.5	81.49	3.608		
9,900.0	7,269.2	10,018.7	7,349.2	45.9	46.8	105.80	-1,872.0	-1,167.3	293.8	209.0	84.85	3.463		
10,000.0	7,268.7	10,118.7	7,348.1	47.6	48.5	105.67	-1,972.0	-1,167.3	293.6	205.4	88.24	3.328		
10,100.0	7,268.3	10,218.7	7,346.9	49.3	50.1	105.55	-2,072.0	-1,167.3	293.5	201.8	91.67	3.201		
10,200.0	7,267.8	10,318.7	7,345.8	51.0	51.8	105.42	-2,172.0	-1,167.3	293.3	198.2	95.13	3.083		
10,300.0	7,267.3	10,418.7	7,344.7	52.7	53.5	105.30	-2,272.0	-1,167.3	293.1	194.5	98.61	2.972		
10,400.0	7,266.9	10,518.7	7,343.5	54.5	55.3	105.17	-2,372.0	-1,167.3	292.9	190.8	102.11	2.869		
10,500.0	7,266.4	10,618.7	7,342.4	56.3	57.0	105.05	-2,472.0	-1,167.3	292.8	187.1	105.64	2.771		
10,600.0	7,265.9	10,718.7	7,341.3	58.0	58.7	104.92	-2,572.0	-1,167.3	292.6	183.4	109.19	2.680		
10,700.0	7,265.4	10,818.7	7,340.1	59.8	60.5	104.80	-2,672.0	-1,167.3	292.4	179.7	112.75	2.593		
10,800.0	7,265.0	10,918.7	7,339.0	61.6	62.3	104.67	-2,772.0	-1,167.3	292.2	175.9	116.33	2.512		
10,900.0	7,264.5	11,018.7	7,337.9	63.4	64.0	104.55	-2,872.0	-1,167.3	292.1	172.2	119.93	2.435		
11,000.0	7,264.0	11,118.7	7,336.7	65.2	65.8	104.42	-2,972.0	-1,167.3	291.9	168.4	123.54	2.363		
11,100.0	7,263.6	11,218.6	7,335.6	67.0	67.6	104.29	-3,071.9	-1,167.3	291.7	164.6	127.16	2.294		
11,200.0	7,263.1	11,318.6	7,334.5	68.8	69.4	104.17	-3,171.9	-1,167.3	291.6	160.8	130.80	2.229		
11,300.0	7,262.6	11,418.6	7,333.3	70.6	71.2	104.04	-3,271.9	-1,167.3	291.4	157.0	134.45	2.168		
11,400.0	7,262.1	11,518.6	7,332.2	72.5	73.0	103.92	-3,371.9	-1,167.3	291.3	153.2	138.11	2.109		
11,500.0	7,261.7	11,618.6	7,331.0	74.3	74.8	103.79	-3,471.9	-1,167.3	291.1	149.3	141.78	2.053		
11,600.0	7,261.2	11,718.6	7,329.9	76.1	76.6	103.66	-3,571.9	-1,167.3	290.9	145.5	145.46	2.000		
11,700.0	7,260.7	11,818.6	7,328.8	78.0	78.4	103.53	-3,671.9	-1,167.3	290.8	141.6	149.15	1.950		
11,800.0	7,260.3	11,918.6	7,327.6	79.8	80.2	103.41	-3,771.9	-1,167.3	290.6	137.8	152.85	1.902		
11,853.9	7,260.0	11,972.5	7,327.0	80.8	81.2	103.34	-3,825.8	-1,167.3	290.6	135.7	154.84	1.876 SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Project:</b>	SEC.9-T1N-R66W	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Reference Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design										Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W - Fitzsimmons 9E-403 - Wellbore #1 - Plan #2 (				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)	Minimum Separation (ft)	Separation Factor				
0.0	0.0	0.0	0.0	0.0	0.0	-128.70	-58.3	-72.8	93.2							
100.0	100.0	100.0	100.0	0.1	0.1	-128.70	-58.3	-72.8	93.2	93.0	0.22	414.826				
200.0	200.0	200.0	200.0	0.3	0.3	-128.70	-58.3	-72.8	93.2	92.6	0.67	138.275	CC			
300.0	300.0	299.2	299.2	0.6	0.6	-127.95	-57.6	-73.8	93.7	92.5	1.12	83.774	ES			
400.0	400.0	398.3	398.2	0.8	0.8	-125.75	-55.5	-77.1	95.0	93.4	1.57	60.686				
500.0	500.0	497.1	496.8	1.0	1.0	-122.23	-52.0	-82.4	97.5	95.5	2.02	48.327				
600.0	600.0	595.6	594.9	1.2	1.3	-117.65	-47.1	-89.9	101.6	99.1	2.47	41.081				
700.0	700.0	693.5	692.1	1.5	1.5	-112.35	-40.9	-99.4	107.8	104.8	2.93	36.765				
800.0	800.0	790.7	788.4	1.7	1.9	-106.73	-33.3	-110.9	116.4	113.0	3.39	34.325				
900.0	900.0	887.4	883.7	1.9	2.2	-57.19	-24.5	-124.4	127.3	123.4	3.96	32.186				
1,000.0	1,000.0	983.5	978.0	2.1	2.6	-52.61	-14.4	-139.8	140.1	135.7	4.45	31.497				
1,100.0	1,099.9	1,079.0	1,071.3	2.4	3.0	-48.74	-3.2	-157.0	154.5	149.5	4.95	31.237				
1,200.0	1,199.7	1,174.0	1,163.5	2.6	3.4	-45.49	9.3	-176.1	170.3	164.8	5.45	31.250				
1,300.0	1,299.4	1,268.4	1,254.5	2.8	3.9	-42.76	23.0	-197.0	187.4	181.4	5.96	31.436				
1,400.0	1,398.9	1,362.2	1,344.3	3.1	4.4	-40.48	37.8	-219.6	205.6	199.2	6.48	31.724				
1,500.0	1,498.3	1,455.4	1,432.9	3.3	5.0	-38.55	53.7	-243.8	225.0	218.0	7.01	32.088				
1,600.0	1,597.4	1,552.0	1,524.2	3.6	5.6	-36.94	71.0	-270.3	244.7	237.2	7.57	32.340				
1,700.0	1,696.3	1,650.1	1,616.9	3.9	6.3	-35.76	88.7	-297.3	263.3	255.2	8.14	32.357				
1,800.0	1,794.9	1,748.6	1,709.9	4.2	6.9	-34.94	106.4	-324.3	280.5	271.8	8.72	32.157				
1,900.0	1,893.3	1,847.3	1,803.1	4.6	7.6	-34.40	124.1	-351.5	296.4	287.0	9.33	31.770				
2,000.0	1,991.2	1,946.2	1,896.6	4.9	8.3	-34.10	141.9	-378.7	310.8	300.8	9.95	31.220				
2,100.0	2,088.9	2,045.4	1,990.2	5.3	8.9	-34.01	159.7	-405.9	323.8	313.2	10.61	30.530				
2,200.0	2,186.1	2,144.7	2,084.0	5.7	9.6	-34.09	177.6	-433.2	335.3	324.1	11.28	29.719				
2,300.0	2,282.9	2,244.2	2,178.0	6.2	10.3	-34.33	195.5	-460.5	345.5	333.5	11.99	28.805				
2,400.0	2,379.3	2,343.8	2,272.0	6.7	11.0	-34.72	213.4	-487.9	354.2	341.4	12.74	27.803				
2,465.6	2,442.2	2,409.1	2,333.7	7.0	11.4	-35.06	225.1	-505.8	359.1	345.9	13.25	27.104				
2,500.0	2,475.2	2,443.4	2,366.2	7.2	11.6	-35.27	231.3	-515.3	361.6	348.1	13.53	26.727				
2,600.0	2,571.0	2,543.1	2,460.3	7.7	12.3	-35.85	249.2	-542.6	368.7	354.4	14.35	25.695				
2,700.0	2,666.8	2,642.8	2,554.5	8.3	13.0	-36.41	267.2	-570.0	375.9	360.7	15.19	24.749				
2,800.0	2,762.6	2,742.5	2,648.6	8.8	13.7	-36.95	285.1	-597.4	383.1	367.0	16.04	23.881				
2,900.0	2,858.4	2,842.1	2,742.8	9.4	14.4	-37.47	303.0	-624.8	390.3	373.4	16.91	23.084				
3,000.0	2,954.2	2,941.8	2,836.9	9.9	15.1	-37.97	320.9	-652.2	397.6	379.8	17.79	22.349				
3,100.0	3,050.0	3,041.5	2,931.1	10.5	15.7	-38.46	338.9	-679.6	404.9	386.2	18.68	21.671				
3,200.0	3,145.8	3,141.2	3,025.2	11.1	16.4	-38.92	356.8	-707.0	412.2	392.6	19.59	21.044				
3,300.0	3,241.6	3,240.8	3,119.4	11.6	17.1	-39.37	374.7	-734.4	419.5	399.0	20.50	20.463				
3,400.0	3,337.4	3,340.5	3,213.5	12.2	17.8	-39.81	392.6	-761.8	426.9	405.5	21.43	19.924				
3,500.0	3,433.2	3,440.2	3,307.7	12.8	18.5	-40.23	410.6	-789.1	434.3	411.9	22.36	19.423				
3,600.0	3,529.0	3,539.9	3,401.8	13.4	19.2	-40.63	428.5	-816.5	441.7	418.4	23.30	18.956				
3,700.0	3,624.9	3,639.5	3,496.0	14.0	19.8	-41.03	446.4	-843.9	449.1	424.9	24.25	18.520				
3,800.0	3,720.7	3,739.2	3,590.1	14.5	20.5	-41.41	464.3	-871.3	456.6	431.4	25.21	18.113				
3,900.0	3,816.5	3,838.9	3,684.3	15.1	21.2	-41.77	482.3	-898.7	464.1	437.9	26.17	17.731				
4,000.0	3,912.3	3,938.6	3,778.4	15.7	21.9	-42.13	500.2	-926.1	471.6	444.4	27.14	17.373				
4,100.0	4,008.1	4,038.3	3,872.6	16.3	22.6	-42.47	518.1	-953.5	479.1	451.0	28.12	17.037				
4,200.0	4,103.9	4,137.9	3,966.7	16.9	23.3	-42.81	536.0	-980.9	486.6	457.5	29.10	16.720				
4,300.0	4,199.7	4,237.6	4,060.9	17.5	24.0	-43.13	554.0	-1,008.2	494.1	464.1	30.09	16.422				
4,400.0	4,295.5	4,337.3	4,155.0	18.1	24.7	-43.44	571.9	-1,035.6	501.7	470.6	31.08	16.140				
4,500.0	4,391.3	4,437.0	4,249.2	18.6	25.3	-43.75	589.8	-1,063.0	509.3	477.2	32.08	15.874				
4,600.0	4,487.1	4,536.6	4,343.3	19.2	26.0	-44.04	607.7	-1,090.4	516.9	483.8	33.08	15.623				
4,700.0	4,582.9	4,636.3	4,437.5	19.8	26.7	-44.33	625.7	-1,117.8	524.5	490.4	34.09	15.384				
4,800.0	4,678.7	4,736.0	4,531.6	20.4	27.4	-44.61	643.6	-1,145.2	532.1	497.0	35.10	15.158				
4,900.0	4,774.5	4,835.7	4,625.7	21.0	28.1	-44.88	661.5	-1,172.6	539.7	503.6	36.12	14.943				

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Project:</b>	SEC.9-T1N-R66W	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Reference Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design										Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W - Fitzsimmons 9E-403 - Wellbore #1 - Plan #2 (			Offset Site Error:		0.0 ft
Survey Program: 0-MWWD													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)	Minimum Separation (ft)	Separation Factor			
5,000.0	4,870.3	4,935.3	4,719.9	21.6	28.8	-45.14	679.4	-1,200.0	547.3	510.2	37.14	14.739			
5,100.0	4,966.1	5,035.0	4,814.0	22.2	29.5	-45.40	697.4	-1,227.3	555.0	516.8	38.16	14.545			
5,200.0	5,061.9	5,134.7	4,908.2	22.8	30.1	-45.65	715.3	-1,254.7	562.7	523.5	39.18	14.359			
5,300.0	5,157.7	5,234.4	5,002.3	23.4	30.8	-45.89	733.2	-1,282.1	570.3	530.1	40.21	14.183			
5,400.0	5,253.5	5,334.0	5,096.5	24.0	31.5	-46.13	751.1	-1,309.5	578.0	536.8	41.24	14.014			
5,500.0	5,349.3	5,433.7	5,190.6	24.6	32.2	-46.36	769.1	-1,336.9	585.7	543.4	42.28	13.853			
5,600.0	5,445.1	5,533.4	5,284.8	25.1	32.9	-46.58	787.0	-1,364.3	593.4	550.1	43.32	13.699			
5,635.2	5,478.9	5,568.5	5,318.0	25.4	33.1	-46.66	793.3	-1,373.9	596.1	552.4	43.68	13.647			
5,700.0	5,541.1	5,633.0	5,378.9	25.7	33.6	-46.83	804.9	-1,391.7	601.6	557.3	44.31	13.577			
5,800.0	5,638.0	5,735.6	5,475.8	26.1	34.3	-46.92	823.3	-1,419.8	612.0	566.9	45.13	13.560			
5,900.0	5,735.7	5,856.4	5,590.9	26.5	34.9	-46.89	843.3	-1,450.4	622.6	576.8	45.85	13.578			
6,000.0	5,834.1	5,977.9	5,708.1	26.8	35.5	-46.83	860.8	-1,477.0	632.1	585.7	46.46	13.607			
6,100.0	5,933.0	6,099.9	5,827.1	27.1	35.9	-46.74	875.5	-1,499.6	640.5	593.6	46.96	13.641			
6,200.0	6,032.4	6,222.4	5,947.6	27.3	36.3	-46.63	887.5	-1,517.9	647.8	600.4	47.35	13.682			
6,300.0	6,132.1	6,345.3	6,069.4	27.5	36.6	-46.48	896.7	-1,532.0	653.9	606.3	47.64	13.728			
6,400.0	6,232.0	6,468.7	6,192.2	27.6	36.9	-46.31	903.1	-1,541.7	658.9	611.1	47.83	13.777			
6,468.0	6,300.0	6,552.8	6,276.2	27.7	37.0	-90.37	905.7	-1,545.7	661.6	613.7	47.90	13.814			
6,500.0	6,332.0	6,592.3	6,315.7	27.7	37.0	-90.30	906.5	-1,546.9	662.6	614.6	47.95	13.818			
6,600.0	6,432.0	6,708.6	6,432.0	27.8	37.1	-90.24	907.2	-1,548.0	663.4	615.2	48.18	13.770			
6,682.8	6,514.8	6,791.4	6,514.8	27.9	37.2	-90.24	907.2	-1,548.0	663.4	615.0	48.38	13.713			
6,700.0	6,532.0	6,808.6	6,532.0	27.9	37.2	89.78	907.2	-1,548.0	663.4	615.0	48.41	13.704			
6,748.1	6,580.0	6,856.7	6,580.0	28.0	37.3	90.00	907.2	-1,548.0	663.4	615.0	48.37	13.715			
6,750.0	6,581.9	6,858.5	6,581.9	28.0	37.3	90.01	907.2	-1,548.0	663.4	615.1	48.37	13.716			
6,800.0	6,631.5	6,908.2	6,631.5	28.0	37.3	90.53	907.2	-1,548.0	663.5	615.3	48.15	13.779			
6,850.0	6,680.6	6,957.3	6,680.6	27.9	37.3	91.30	907.2	-1,548.0	663.6	615.8	47.76	13.894			
6,900.0	6,729.1	7,006.2	6,729.5	27.9	37.4	92.31	907.1	-1,548.0	664.0	616.8	47.22	14.062			
6,950.0	6,776.6	7,056.7	6,779.9	27.8	37.4	93.41	904.6	-1,548.0	664.7	618.1	46.59	14.266			
7,000.0	6,822.9	7,108.1	6,831.0	27.7	37.4	94.50	898.6	-1,548.0	665.6	619.7	45.93	14.494			
7,050.0	6,868.0	7,160.5	6,882.6	27.5	37.4	95.59	889.0	-1,548.0	666.8	621.6	45.23	14.743			
7,100.0	6,911.5	7,214.0	6,934.3	27.4	37.3	96.65	875.6	-1,548.0	668.2	623.7	44.51	15.013			
7,150.0	6,953.4	7,268.6	6,986.0	27.2	37.2	97.70	858.2	-1,548.0	669.9	626.1	43.78	15.300			
7,200.0	6,993.4	7,324.2	7,037.4	27.0	37.1	98.72	836.7	-1,548.0	671.7	628.6	43.05	15.601			
7,250.0	7,031.3	7,381.1	7,088.0	26.8	37.0	99.71	811.0	-1,548.0	673.6	631.3	42.33	15.913			
7,300.0	7,067.0	7,439.0	7,137.6	26.6	36.8	100.67	780.9	-1,548.0	675.7	634.1	41.63	16.231			
7,350.0	7,100.3	7,498.2	7,185.7	26.4	36.6	101.58	746.5	-1,548.0	677.8	636.9	40.96	16.550			
7,400.0	7,131.2	7,558.5	7,231.8	26.1	36.4	102.44	707.6	-1,548.0	680.0	639.7	40.32	16.864			
7,450.0	7,159.4	7,620.0	7,275.5	25.9	36.2	103.24	664.4	-1,548.0	682.2	642.4	39.74	17.164			
7,500.0	7,184.8	7,682.6	7,316.3	25.7	36.0	103.98	616.9	-1,548.0	684.3	645.0	39.23	17.443			
7,550.0	7,207.4	7,746.3	7,353.6	25.4	35.7	104.66	565.4	-1,548.0	686.2	647.5	38.79	17.692			
7,600.0	7,227.0	7,811.0	7,387.0	25.2	35.5	105.25	510.0	-1,548.0	688.1	649.6	38.44	17.901			
7,650.0	7,243.5	7,876.5	7,416.0	25.0	35.2	105.77	451.2	-1,548.0	689.7	651.5	38.18	18.063			
7,700.0	7,256.9	7,942.9	7,440.1	24.7	34.9	106.20	389.4	-1,548.0	691.1	653.0	38.03	18.171			
7,750.0	7,267.2	8,009.9	7,458.9	24.5	34.7	106.53	325.2	-1,548.0	692.2	654.2	37.99	18.219			
7,800.0	7,274.2	8,077.4	7,472.0	24.3	34.4	106.77	259.0	-1,548.0	692.9	654.9	38.07	18.204			
7,850.0	7,278.0	8,145.2	7,479.3	24.1	34.2	106.91	191.6	-1,548.0	693.4	655.2	38.25	18.130			
7,886.4	7,278.7	8,194.1	7,480.8	24.0	34.0	106.95	142.7	-1,548.0	693.5	655.1	38.45	18.039			
7,900.0	7,278.6	8,207.7	7,480.9	23.9	34.0	106.95	129.0	-1,548.0	693.6	655.1	38.46	18.032			
8,000.0	7,278.2	8,307.7	7,481.0	23.6	33.7	107.00	29.0	-1,548.0	693.7	655.0	38.74	17.909			
8,100.0	7,277.7	8,407.7	7,481.1	23.3	33.5	107.04	-71.0	-1,548.0	693.9	654.5	39.35	17.632			
8,200.0	7,277.2	8,507.7	7,481.2	23.1	33.3	107.09	-170.9	-1,548.0	694.1	653.8	40.30	17.222			

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



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Project:</b>	SEC.9-T1N-R66W	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Reference Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
8,300.0	7,276.7	8,607.7	7,481.3	23.2	33.2	107.13	-270.9	-1,548.0	694.2	652.7	41.55	16.707		
8,400.0	7,276.3	8,707.7	7,481.4	23.8	33.2	107.18	-370.9	-1,548.0	694.4	651.3	43.08	16.118		
8,500.0	7,275.8	8,807.7	7,481.5	24.9	33.3	107.22	-470.9	-1,548.0	694.6	649.7	44.86	15.483		
8,600.0	7,275.3	8,907.7	7,481.6	26.0	33.5	107.27	-570.9	-1,548.0	694.7	647.9	46.86	14.826		
8,700.0	7,274.9	9,007.7	7,481.7	27.3	33.9	107.32	-670.9	-1,548.0	694.9	645.9	49.05	14.167		
8,800.0	7,274.4	9,107.7	7,481.8	28.6	34.5	107.36	-770.9	-1,548.0	695.1	643.7	51.41	13.519		
8,900.0	7,273.9	9,207.7	7,481.9	30.0	35.3	107.41	-870.9	-1,548.0	695.3	641.3	53.92	12.894		
9,000.0	7,273.4	9,307.7	7,482.0	31.5	36.2	107.45	-970.9	-1,548.0	695.4	638.9	56.55	12.297		
9,100.0	7,273.0	9,407.7	7,482.1	32.9	37.3	107.50	-1,070.9	-1,548.0	695.6	636.3	59.30	11.731		
9,200.0	7,272.5	9,507.7	7,482.2	34.5	38.4	107.54	-1,170.9	-1,548.0	695.8	633.6	62.13	11.198		
9,300.0	7,272.0	9,607.7	7,482.3	36.0	39.7	107.59	-1,270.9	-1,548.0	695.9	630.9	65.05	10.698		
9,400.0	7,271.6	9,707.7	7,482.4	37.6	41.0	107.63	-1,370.9	-1,548.0	696.1	628.1	68.04	10.231		
9,500.0	7,271.1	9,807.7	7,482.5	39.2	42.4	107.68	-1,470.9	-1,548.0	696.3	625.2	71.09	9.794		
9,600.0	7,270.6	9,907.7	7,482.6	40.8	43.9	107.72	-1,570.9	-1,548.0	696.5	622.3	74.20	9.386		
9,700.0	7,270.2	10,007.7	7,482.7	42.5	45.4	107.77	-1,670.9	-1,548.0	696.6	619.3	77.35	9.006		
9,800.0	7,269.7	10,107.7	7,482.8	44.2	46.9	107.81	-1,770.9	-1,548.0	696.8	616.3	80.55	8.651		
9,900.0	7,269.2	10,207.7	7,482.9	45.9	48.5	107.86	-1,870.9	-1,548.0	697.0	613.2	83.78	8.319		
10,000.0	7,268.7	10,307.7	7,483.1	47.6	50.1	107.90	-1,970.9	-1,548.0	697.2	610.1	87.04	8.010		
10,100.0	7,268.3	10,407.7	7,483.2	49.3	51.7	107.95	-2,070.9	-1,548.0	697.3	607.0	90.33	7.720		
10,200.0	7,267.8	10,507.7	7,483.3	51.0	53.3	107.99	-2,170.9	-1,548.0	697.5	603.9	93.65	7.448		
10,300.0	7,267.3	10,607.7	7,483.4	52.7	54.9	108.04	-2,270.9	-1,548.0	697.7	600.7	96.99	7.193		
10,400.0	7,266.9	10,707.7	7,483.5	54.5	56.6	108.08	-2,370.9	-1,547.9	697.9	597.5	100.35	6.954		
10,500.0	7,266.4	10,807.7	7,483.6	56.3	58.3	108.13	-2,470.9	-1,547.9	698.1	594.3	103.73	6.729		
10,600.0	7,265.9	10,907.7	7,483.7	58.0	60.0	108.17	-2,570.9	-1,547.9	698.2	591.1	107.13	6.518		
10,700.0	7,265.4	11,007.7	7,483.8	59.8	61.7	108.22	-2,670.9	-1,547.9	698.4	587.9	110.54	6.318		
10,800.0	7,265.0	11,107.7	7,483.9	61.6	63.4	108.26	-2,770.9	-1,547.9	698.6	584.6	113.96	6.130		
10,900.0	7,264.5	11,207.7	7,484.0	63.4	65.1	108.31	-2,870.9	-1,547.9	698.8	581.4	117.39	5.952		
11,000.0	7,264.0	11,307.7	7,484.1	65.2	66.9	108.35	-2,970.9	-1,547.9	699.0	578.1	120.84	5.784		
11,100.0	7,263.6	11,407.7	7,484.2	67.0	68.6	108.40	-3,070.9	-1,547.9	699.1	574.8	124.29	5.625		
11,200.0	7,263.1	11,507.7	7,484.3	68.8	70.4	108.44	-3,170.9	-1,547.9	699.3	571.6	127.76	5.474		
11,300.0	7,262.6	11,607.7	7,484.4	70.6	72.1	108.49	-3,270.9	-1,547.9	699.5	568.3	131.23	5.330		
11,400.0	7,262.1	11,707.7	7,484.5	72.5	73.9	108.53	-3,370.9	-1,547.9	699.7	565.0	134.71	5.194		
11,500.0	7,261.7	11,807.7	7,484.6	74.3	75.7	108.58	-3,470.9	-1,547.9	699.9	561.7	138.19	5.064		
11,600.0	7,261.2	11,907.7	7,484.7	76.1	77.5	108.62	-3,570.9	-1,547.9	700.0	558.4	141.68	4.941		
11,700.0	7,260.7	12,007.7	7,484.8	78.0	79.3	108.67	-3,670.9	-1,547.9	700.2	555.1	145.18	4.823		
11,800.0	7,260.3	12,107.7	7,484.9	79.8	81.0	108.71	-3,770.9	-1,547.9	700.4	551.7	148.68	4.711		
11,853.9	7,260.0	12,161.6	7,485.0	80.8	82.0	108.73	-3,824.8	-1,547.9	700.5	549.9	150.57	4.653 SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Project:</b>	SEC.9-T1N-R66W	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Reference Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design											Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W - Fitzsimmons 9J-443 - Wellbore #1 - Plan #2 (		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)	Minimum Separation (ft)	Separation Factor			
0.0	0.0	0.0	0.0	0.0	0.0	50.87	18.2	22.4	28.9						
100.0	100.0	100.0	100.0	0.1	0.1	50.87	18.2	22.4	28.9	28.6	0.22	128.415			
200.0	200.0	200.0	200.0	0.3	0.3	50.87	18.2	22.4	28.9	28.2	0.67	42.805			
300.0	300.0	300.0	300.0	0.6	0.6	50.87	18.2	22.4	28.9	27.7	1.12	25.683			
400.0	400.0	400.0	400.0	0.8	0.8	50.87	18.2	22.4	28.9	27.3	1.57	18.345			
500.0	500.0	500.0	500.0	1.0	1.0	50.87	18.2	22.4	28.9	26.8	2.02	14.268			
600.0	600.0	600.0	600.0	1.2	1.2	50.87	18.2	22.4	28.9	26.4	2.47	11.674			
700.0	700.0	700.0	700.0	1.5	1.5	50.87	18.2	22.4	28.9	25.9	2.92	9.878			
800.0	800.0	800.0	800.0	1.7	1.7	50.87	18.2	22.4	28.9	25.5	3.37	8.561 CC			
900.0	900.0	900.0	900.0	1.9	1.9	96.78	18.2	22.4	29.0	25.1	3.82	7.585			
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	101.85	18.2	22.4	29.4	25.1	4.26	6.896 ES			
1,100.0	1,099.9	1,099.9	1,099.9	2.4	2.4	109.86	18.2	22.4	30.6	25.9	4.71	6.497			
1,200.0	1,199.7	1,199.7	1,199.7	2.6	2.6	119.79	18.2	22.4	33.1	28.0	5.15	6.433			
1,300.0	1,299.4	1,299.7	1,299.7	2.8	2.8	129.05	18.9	21.9	37.2	31.6	5.60	6.650			
1,400.0	1,398.9	1,399.8	1,399.8	3.1	3.0	136.11	21.0	20.3	42.3	36.2	6.04	6.995			
1,500.0	1,498.3	1,500.1	1,500.0	3.3	3.3	141.37	24.6	17.8	48.0	41.5	6.49	7.394			
1,600.0	1,597.4	1,600.5	1,600.2	3.6	3.5	145.28	29.6	14.2	54.1	47.2	6.94	7.806			
1,700.0	1,696.3	1,701.0	1,700.4	3.9	3.7	148.17	36.0	9.6	60.7	53.3	7.39	8.208			
1,800.0	1,794.9	1,801.6	1,800.5	4.2	4.0	150.31	43.8	3.9	67.4	59.6	7.85	8.589			
1,900.0	1,893.3	1,902.3	1,900.6	4.6	4.2	151.88	53.1	-2.8	74.4	66.1	8.32	8.943			
2,000.0	1,991.2	2,003.2	2,000.6	4.9	4.5	153.02	63.8	-10.5	81.6	72.8	8.80	9.266			
2,100.0	2,088.9	2,104.2	2,100.4	5.3	4.8	153.83	75.9	-19.3	88.8	79.5	9.30	9.557			
2,200.0	2,186.1	2,205.2	2,200.1	5.7	5.1	154.38	89.5	-29.1	96.3	86.4	9.80	9.817			
2,300.0	2,282.9	2,306.4	2,299.5	6.2	5.4	154.72	104.5	-40.0	103.8	93.4	10.33	10.044			
2,400.0	2,379.3	2,407.7	2,398.8	6.7	5.7	154.88	121.0	-51.9	111.4	100.5	10.88	10.238			
2,465.6	2,442.2	2,474.2	2,463.7	7.0	6.0	154.92	132.6	-60.2	116.4	105.2	11.25	10.348			
2,500.0	2,475.2	2,509.1	2,497.8	7.2	6.1	154.91	138.9	-64.8	119.0	107.6	11.46	10.384			
2,600.0	2,571.0	2,610.7	2,596.5	7.7	6.5	154.57	158.3	-78.8	125.5	113.4	12.10	10.378			
2,700.0	2,666.8	2,710.7	2,693.4	8.3	7.0	154.02	178.1	-93.2	131.2	118.4	12.76	10.284			
2,800.0	2,762.6	2,810.5	2,790.2	8.8	7.4	153.52	198.0	-107.5	136.8	123.4	13.43	10.188			
2,900.0	2,858.4	2,910.4	2,887.0	9.4	7.8	153.06	217.8	-121.8	142.5	128.4	14.12	10.092			
3,000.0	2,954.2	3,010.2	2,983.8	9.9	8.3	152.64	237.6	-136.1	148.2	133.4	14.82	9.996			
3,100.0	3,050.0	3,110.0	3,080.6	10.5	8.8	152.24	257.4	-150.5	153.9	138.3	15.54	9.902			
3,200.0	3,145.8	3,209.9	3,177.4	11.1	9.2	151.87	277.3	-164.8	159.6	143.3	16.26	9.811			
3,300.0	3,241.6	3,309.7	3,274.2	11.6	9.7	151.53	297.1	-179.1	165.3	148.3	17.00	9.722			
3,400.0	3,337.4	3,409.5	3,371.0	12.2	10.2	151.22	316.9	-193.4	171.0	153.2	17.74	9.637			
3,500.0	3,433.2	3,509.4	3,467.8	12.8	10.7	150.92	336.8	-207.8	176.7	158.2	18.49	9.555			
3,600.0	3,529.0	3,609.2	3,564.5	13.4	11.1	150.64	356.6	-222.1	182.4	163.2	19.25	9.476			
3,700.0	3,624.9	3,709.0	3,661.3	14.0	11.6	150.38	376.4	-236.4	188.1	168.1	20.01	9.400			
3,800.0	3,720.7	3,808.9	3,758.1	14.5	12.1	150.13	396.2	-250.7	193.8	173.1	20.78	9.327			
3,900.0	3,816.5	3,908.7	3,854.9	15.1	12.6	149.90	416.1	-265.1	199.6	178.0	21.56	9.258			
4,000.0	3,912.3	4,008.5	3,951.7	15.7	13.1	149.68	435.9	-279.4	205.3	183.0	22.34	9.192			
4,100.0	4,008.1	4,108.4	4,048.5	16.3	13.6	149.47	455.7	-293.7	211.0	187.9	23.12	9.128			
4,200.0	4,103.9	4,208.2	4,145.3	16.9	14.1	149.27	475.6	-308.0	216.8	192.9	23.91	9.068			
4,300.0	4,199.7	4,308.0	4,242.1	17.5	14.6	149.09	495.4	-322.4	222.5	197.8	24.70	9.010			
4,400.0	4,295.5	4,407.9	4,338.9	18.1	15.1	148.91	515.2	-336.7	228.2	202.8	25.49	8.954			
4,500.0	4,391.3	4,507.7	4,435.6	18.6	15.6	148.74	535.0	-351.0	234.0	207.7	26.29	8.901			
4,600.0	4,487.1	4,607.5	4,532.4	19.2	16.1	148.58	554.9	-365.3	239.7	212.6	27.09	8.850			
4,700.0	4,582.9	4,707.4	4,629.2	19.8	16.6	148.43	574.7	-379.7	245.5	217.6	27.89	8.802			
4,800.0	4,678.7	4,807.2	4,726.0	20.4	17.1	148.28	594.5	-394.0	251.2	222.5	28.69	8.755			
4,900.0	4,774.5	4,907.0	4,822.8	21.0	17.6	148.14	614.4	-408.3	257.0	227.5	29.50	8.711			

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



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Project:</b>	SEC.9-T1N-R66W	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Reference Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W - Fitzsimmons 9J-443 - Wellbore #1 - Plan #2 (										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)	Minimum Separation (ft)	Separation Factor			
5,000.0	4,870.3	5,006.9	4,919.6	21.6	18.1	148.01	634.2	-422.7	262.7	232.4	30.31	8.668			
5,100.0	4,966.1	5,106.7	5,016.4	22.2	18.6	147.88	654.0	-437.0	268.5	237.4	31.12	8.627			
5,200.0	5,061.9	5,206.5	5,113.2	22.8	19.1	147.76	673.8	-451.3	274.2	242.3	31.93	8.587			
5,300.0	5,157.7	5,306.3	5,210.0	23.4	19.6	147.64	693.7	-465.6	280.0	247.2	32.75	8.549			
5,400.0	5,253.5	5,406.2	5,306.8	24.0	20.1	147.53	713.5	-480.0	285.7	252.2	33.56	8.513			
5,500.0	5,349.3	5,506.0	5,403.5	24.6	20.6	147.42	733.3	-494.3	291.5	257.1	34.38	8.478			
5,600.0	5,445.1	5,605.8	5,500.3	25.1	21.1	147.32	753.2	-508.6	297.3	262.1	35.20	8.444			
5,635.2	5,478.9	5,641.0	5,534.4	25.4	21.3	147.28	760.1	-513.7	299.3	263.8	35.49	8.433			
5,700.0	5,541.1	5,705.7	5,597.1	25.7	21.6	147.18	773.0	-522.9	302.4	266.4	36.04	8.390			
5,800.0	5,638.0	5,805.6	5,694.0	26.1	22.1	146.70	792.8	-537.3	304.8	267.9	36.94	8.252			
5,900.0	5,735.7	5,905.5	5,790.9	26.5	22.7	145.83	812.7	-551.6	304.3	266.4	37.92	8.026			
6,000.0	5,834.1	6,005.3	5,887.6	26.8	23.2	144.55	832.5	-565.9	301.1	262.1	39.00	7.720			
6,100.0	5,933.0	6,100.0	5,979.7	27.1	23.6	143.07	850.3	-578.8	296.1	256.0	40.07	7.390			
6,200.0	6,032.4	6,191.6	6,069.4	27.3	23.9	141.62	865.2	-589.6	290.8	249.8	41.02	7.090			
6,300.0	6,132.1	6,284.8	6,161.3	27.5	24.2	140.11	878.0	-598.8	285.2	243.3	41.93	6.802			
6,400.0	6,232.0	6,378.2	6,253.9	27.6	24.4	138.58	888.4	-606.3	279.3	236.5	42.78	6.529			
6,468.0	6,300.0	6,442.0	6,317.2	27.7	24.6	93.33	894.1	-610.4	275.1	231.8	43.33	6.349			
6,500.0	6,332.0	6,472.0	6,347.1	27.7	24.7	92.87	896.3	-612.1	273.2	229.6	43.59	6.268			
6,600.0	6,432.0	6,566.2	6,441.1	27.8	24.8	91.74	901.8	-616.0	268.8	224.5	44.28	6.070			
6,682.8	6,514.8	6,644.5	6,519.3	27.9	25.0	91.18	904.5	-618.0	266.7	222.0	44.70	5.966			
6,700.0	6,532.0	6,660.8	6,535.6	27.9	25.0	-88.95	904.8	-618.2	266.4	221.6	44.79	5.949			
6,750.0	6,581.9	6,708.1	6,582.8	28.0	25.0	-89.66	905.4	-618.6	266.0	220.8	45.12	5.895			
6,768.1	6,599.9	6,725.2	6,600.0	28.0	25.1	-90.04	905.4	-618.6	265.9	220.7	45.26	5.875			
6,800.0	6,631.5	6,756.8	6,631.5	28.0	25.1	-90.93	905.4	-618.6	266.0	220.4	45.59	5.834			
6,850.0	6,680.6	6,805.9	6,680.6	27.9	25.1	-92.87	905.4	-618.6	266.3	220.0	46.22	5.761			
6,900.0	6,729.1	6,854.7	6,729.4	27.9	25.2	-95.39	905.3	-618.6	267.2	220.2	46.95	5.690			
6,950.0	6,776.6	6,905.0	6,779.7	27.8	25.2	-98.12	903.0	-618.6	268.8	221.2	47.60	5.647			
7,000.0	6,822.9	6,956.3	6,830.6	27.7	25.2	-100.82	897.2	-618.6	271.1	223.0	48.06	5.641			
7,050.0	6,868.0	7,008.6	6,882.1	27.5	25.2	-103.45	887.8	-618.6	274.0	225.7	48.31	5.672			
7,100.0	6,911.5	7,061.9	6,933.7	27.4	25.1	-106.01	874.7	-618.6	277.4	229.1	48.33	5.740			
7,150.0	6,953.4	7,116.3	6,985.4	27.2	25.0	-108.46	857.5	-618.6	281.3	233.2	48.12	5.845			
7,200.0	6,993.4	7,171.9	7,036.7	27.0	24.9	-110.80	836.3	-618.6	285.6	237.9	47.70	5.987			
7,250.0	7,031.3	7,228.6	7,087.3	26.8	24.7	-113.02	810.8	-618.6	290.2	243.2	47.08	6.165			
7,300.0	7,067.0	7,286.5	7,137.0	26.6	24.5	-115.10	781.0	-618.6	295.1	248.8	46.27	6.378			
7,350.0	7,100.3	7,345.5	7,185.1	26.4	24.3	-117.04	746.8	-618.6	300.1	254.8	45.30	6.623			
7,400.0	7,131.2	7,405.8	7,231.4	26.1	24.1	-118.83	708.2	-618.6	305.0	260.8	44.22	6.898			
7,450.0	7,159.4	7,467.3	7,275.3	25.9	23.8	-120.46	665.2	-618.6	309.9	266.9	43.06	7.198			
7,500.0	7,184.8	7,529.9	7,316.3	25.7	23.5	-121.93	617.9	-618.6	314.7	272.8	41.86	7.517			
7,550.0	7,207.4	7,593.6	7,353.9	25.4	23.2	-123.24	566.5	-618.6	319.1	278.4	40.68	7.843			
7,600.0	7,227.0	7,658.3	7,387.6	25.2	22.9	-124.37	511.3	-618.6	323.1	283.6	39.57	8.166			
7,650.0	7,243.5	7,724.0	7,416.9	25.0	22.6	-125.34	452.5	-618.6	326.7	288.1	38.58	8.469			
7,700.0	7,256.9	7,790.5	7,441.3	24.7	22.3	-126.13	390.7	-618.6	329.8	292.0	37.75	8.734			
7,750.0	7,267.2	7,857.6	7,460.4	24.5	22.0	-126.75	326.4	-618.6	332.2	295.0	37.14	8.944			
7,800.0	7,274.2	7,925.3	7,473.8	24.3	21.7	-127.20	260.0	-618.6	334.0	297.2	36.77	9.082			
7,850.0	7,278.0	7,993.4	7,481.4	24.1	21.5	-127.46	192.4	-618.6	335.1	298.4	36.67	9.137			
7,886.4	7,278.7	8,043.0	7,483.1	24.0	21.3	-127.54	142.8	-618.6	335.4	298.6	36.76	9.123			
7,900.0	7,278.6	8,056.7	7,483.1	23.9	21.3	-127.56	129.2	-618.6	335.4	298.6	36.85	9.102			
8,000.0	7,278.2	8,156.6	7,483.3	23.6	21.0	-127.64	29.2	-618.6	335.8	298.2	37.62	8.926			
8,100.0	7,277.7	8,256.6	7,483.4	23.3	20.8	-127.73	-70.8	-618.6	336.2	297.6	38.63	8.705			
8,200.0	7,277.2	8,356.6	7,483.6	23.1	21.0	-127.82	-170.8	-618.6	336.6	296.8	39.85	8.447			

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Project:</b>	SEC.9-T1N-R66W	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Reference Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design											Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W - Fitzsimmons 9J-443 - Wellbore #1 - Plan #2 (		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)	Minimum Separation (ft)			Separation Factor	
8,300.0	7,276.7	8,456.6	7,483.8	23.2	21.9	-127.90	-270.8	-618.6	337.0	295.7	41.28	8.164			
8,400.0	7,276.3	8,556.6	7,484.0	23.8	22.9	-127.99	-370.8	-618.6	337.4	294.5	42.90	7.866			
8,500.0	7,275.8	8,656.6	7,484.1	24.9	24.1	-128.08	-470.8	-618.6	337.8	293.1	44.67	7.563			
8,600.0	7,275.3	8,756.6	7,484.3	26.0	25.3	-128.16	-570.8	-618.6	338.2	291.6	46.58	7.260			
8,700.0	7,274.9	8,856.6	7,484.5	27.3	26.6	-128.25	-670.8	-618.6	338.6	290.0	48.62	6.964			
8,800.0	7,274.4	8,956.6	7,484.7	28.6	28.0	-128.33	-770.8	-618.6	339.0	288.2	50.77	6.678			
8,900.0	7,273.9	9,056.6	7,484.8	30.0	29.4	-128.42	-870.8	-618.6	339.4	286.4	53.01	6.403			
9,000.0	7,273.4	9,156.6	7,485.0	31.5	30.8	-128.51	-970.8	-618.6	339.8	284.5	55.33	6.142			
9,100.0	7,273.0	9,256.6	7,485.2	32.9	32.3	-128.59	-1,070.8	-618.6	340.2	282.5	57.72	5.895			
9,200.0	7,272.5	9,356.6	7,485.4	34.5	33.9	-128.68	-1,170.8	-618.6	340.6	280.5	60.17	5.661			
9,300.0	7,272.0	9,456.6	7,485.5	36.0	35.5	-128.76	-1,270.8	-618.6	341.0	278.4	62.67	5.441			
9,400.0	7,271.6	9,556.6	7,485.7	37.6	37.1	-128.84	-1,370.8	-618.6	341.4	276.2	65.22	5.235			
9,500.0	7,271.1	9,656.6	7,485.9	39.2	38.7	-128.93	-1,470.8	-618.6	341.8	274.0	67.82	5.041			
9,600.0	7,270.6	9,756.6	7,486.1	40.8	40.3	-129.01	-1,570.8	-618.6	342.2	271.8	70.44	4.859			
9,700.0	7,270.2	9,856.6	7,486.2	42.5	42.0	-129.10	-1,670.8	-618.6	342.6	269.6	73.10	4.688			
9,800.0	7,269.7	9,956.6	7,486.4	44.2	43.7	-129.18	-1,770.8	-618.6	343.1	267.3	75.78	4.527			
9,900.0	7,269.2	10,056.6	7,486.6	45.9	45.4	-129.26	-1,870.8	-618.6	343.5	265.0	78.49	4.376			
10,000.0	7,268.7	10,156.6	7,486.8	47.6	47.1	-129.35	-1,970.8	-618.6	343.9	262.7	81.21	4.234			
10,100.0	7,268.3	10,256.6	7,486.9	49.3	48.9	-129.43	-2,070.8	-618.6	344.3	260.3	83.96	4.101			
10,200.0	7,267.8	10,356.6	7,487.1	51.0	50.6	-129.51	-2,170.8	-618.6	344.7	258.0	86.72	3.975			
10,300.0	7,267.3	10,456.6	7,487.3	52.7	52.4	-129.60	-2,270.8	-618.6	345.1	255.6	89.49	3.856			
10,400.0	7,266.9	10,556.6	7,487.5	54.5	54.1	-129.68	-2,370.7	-618.6	345.5	253.2	92.28	3.744			
10,500.0	7,266.4	10,656.6	7,487.6	56.3	55.9	-129.76	-2,470.7	-618.6	345.9	250.9	95.07	3.639			
10,600.0	7,265.9	10,756.6	7,487.8	58.0	57.7	-129.84	-2,570.7	-618.6	346.3	248.5	97.87	3.539			
10,700.0	7,265.4	10,856.6	7,488.0	59.8	59.5	-129.93	-2,670.7	-618.6	346.8	246.1	100.68	3.444			
10,800.0	7,265.0	10,956.6	7,488.2	61.6	61.3	-130.01	-2,770.7	-618.6	347.2	243.7	103.50	3.354			
10,900.0	7,264.5	11,056.6	7,488.3	63.4	63.1	-130.09	-2,870.7	-618.6	347.6	241.3	106.32	3.269			
11,000.0	7,264.0	11,156.6	7,488.5	65.2	64.9	-130.17	-2,970.7	-618.6	348.0	238.9	109.15	3.188			
11,100.0	7,263.6	11,256.6	7,488.7	67.0	66.7	-130.25	-3,070.7	-618.6	348.4	236.4	111.98	3.111			
11,200.0	7,263.1	11,356.6	7,488.9	68.8	68.6	-130.33	-3,170.7	-618.6	348.8	234.0	114.82	3.038			
11,300.0	7,262.6	11,456.6	7,489.0	70.6	70.4	-130.41	-3,270.7	-618.6	349.3	231.6	117.65	2.969			
11,400.0	7,262.1	11,556.6	7,489.2	72.5	72.2	-130.49	-3,370.7	-618.6	349.7	229.2	120.49	2.902			
11,500.0	7,261.7	11,656.6	7,489.4	74.3	74.1	-130.57	-3,470.7	-618.6	350.1	226.8	123.33	2.839			
11,600.0	7,261.2	11,756.6	7,489.6	76.1	75.9	-130.65	-3,570.7	-618.6	350.5	224.3	126.17	2.778			
11,700.0	7,260.7	11,856.6	7,489.7	78.0	77.7	-130.73	-3,670.7	-618.6	350.9	221.9	129.01	2.720			
11,800.0	7,260.3	11,956.6	7,489.9	79.8	79.6	-130.81	-3,770.7	-618.6	351.4	219.5	131.85	2.665			
11,853.9	7,260.0	12,010.5	7,490.0	80.8	80.6	-130.86	-3,824.6	-618.6	351.6	218.2	133.38	2.636 SF			

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
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<b>Reference Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 5005.0ft (RKB - 13')

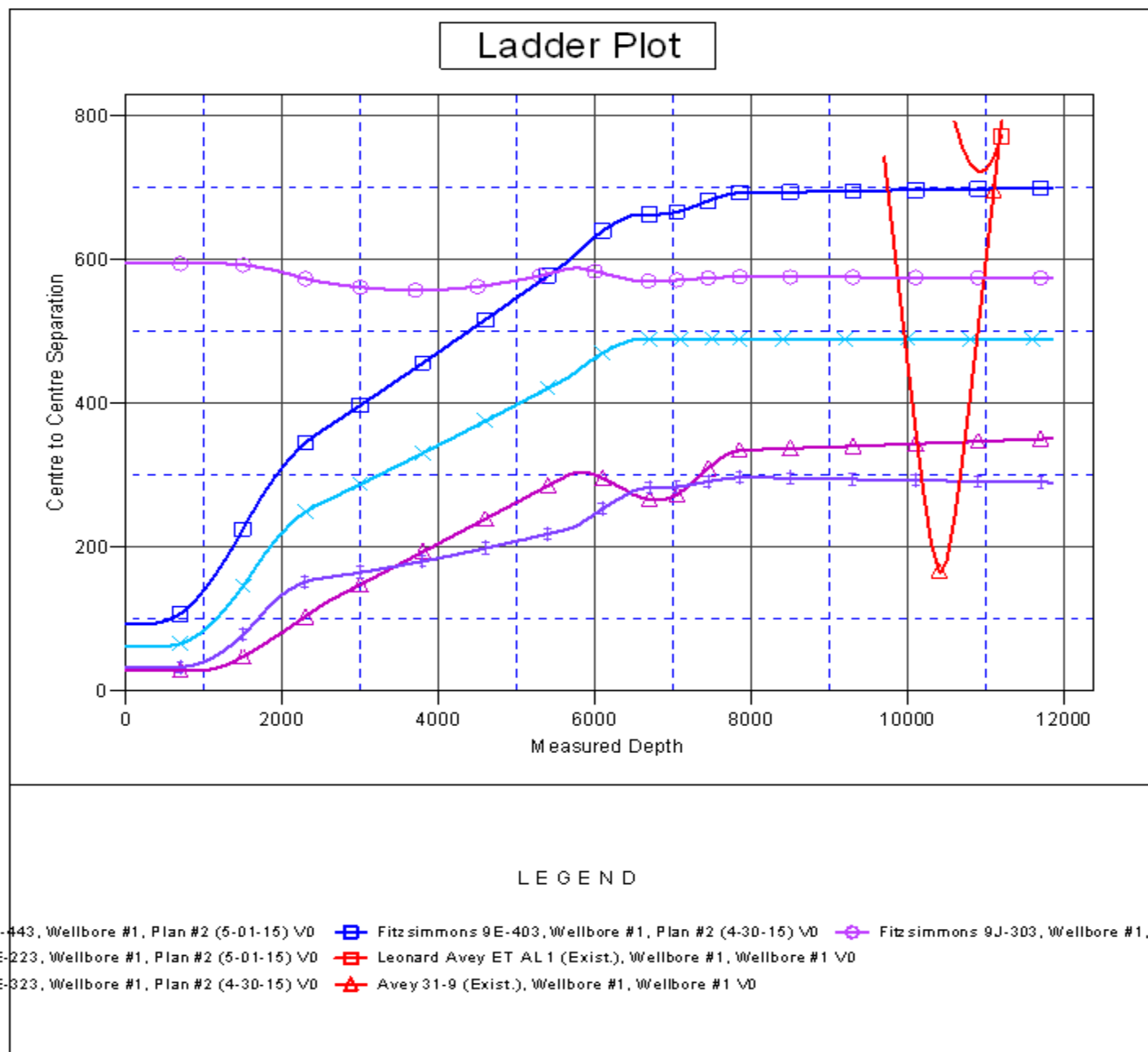
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Fitzsimmons 9J-243

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.46°



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Fitzsimmons 9J-243
<b>Project:</b>	SEC.9-T1N-R66W	<b>TVD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Reference Site:</b>	Fitzsimmons 1N66W9JM (West) Pad Sec.9-T1N-R66W	<b>MD Reference:</b>	WELL @ 5005.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Fitzsimmons 9J-243	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (4-30-15)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 5005.0ft (RKB - 13')  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000 °

Coordinates are relative to: Fitzsimmons 9J-243  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.46°

