

# PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Wiedeman 28G-312**

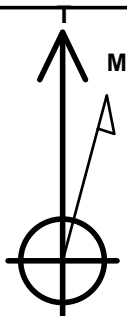
Surface Location: Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4761.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1348130.06	3198078.67	40.286840	-104.789970	
RKB - 15' WELL @ 4776.0ft (RKB - 15')						

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 1098'FNL & 540'FWL, SEC.28	1.0	0.0	0.0	Point
BHL 2126'FNL & 500'FEL, SEC.28	7116.0	-1012.4	4229.6	Point



Azimuths to True North  
Magnetic North: 8.45°

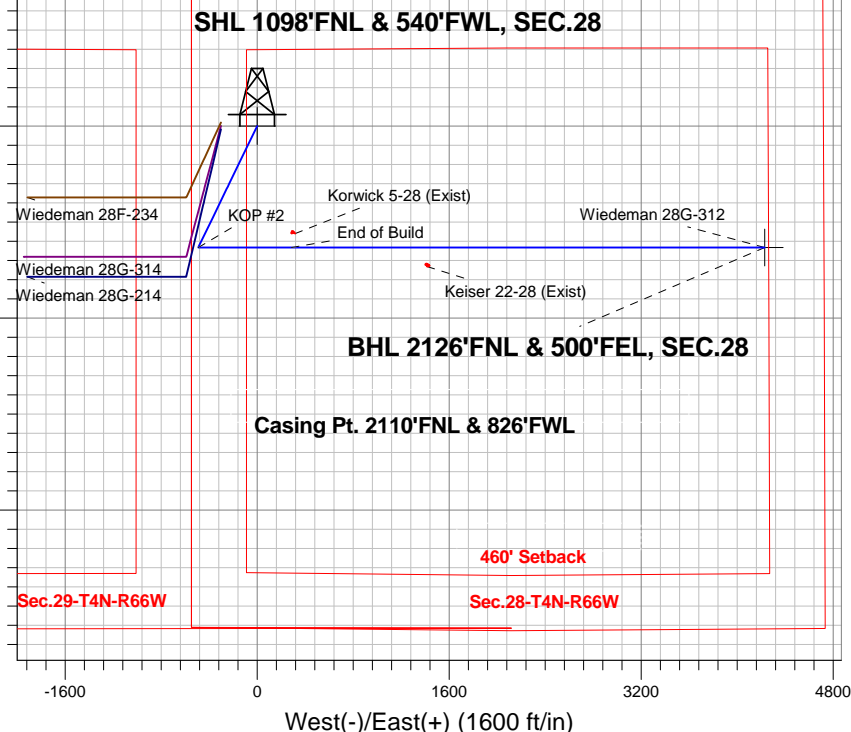
Magnetic Field  
Strength: 52742.3srT  
Dip Angle: 66.85°  
Date: 7/25/2014  
Model: IGRF2010

## ANNOTATIONS

TVD	MD	Annotation
400.0	400.0	KOP #1
6414.1	6527.8	KOP #2
7178.0	7739.8	End of Build

Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W  
Wiedeman 28G-312  
Plan #1 (7-25-14)

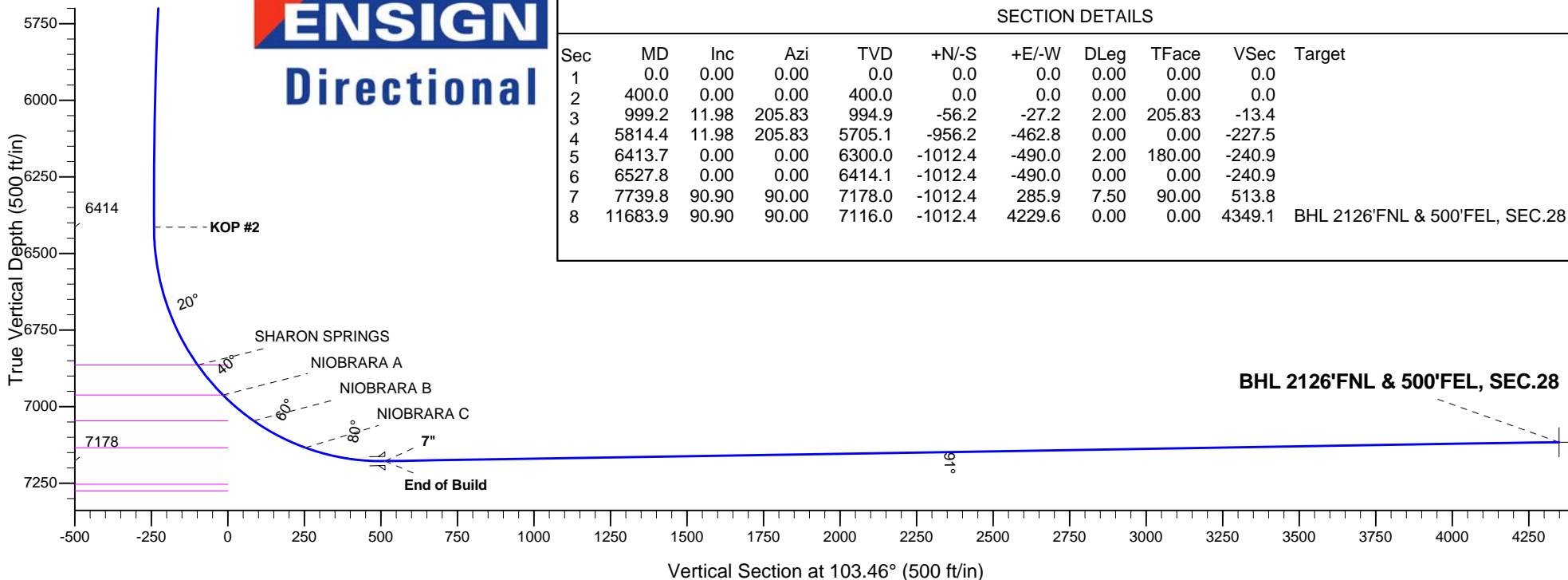
South(-)/North(+) (1600 ft/in)



**ENSIGN**  
Directional

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	999.2	11.98	205.83	994.9	-56.2	-27.2	2.00	205.83	-13.4	
4	5814.4	11.98	205.83	5705.1	-956.2	-462.8	0.00	0.00	-227.5	
5	6413.7	0.00	0.00	6300.0	-1012.4	-490.0	2.00	180.00	-240.9	
6	6527.8	0.00	0.00	6414.1	-1012.4	-490.0	0.00	0.00	-240.9	
7	7739.8	90.90	90.00	7178.0	-1012.4	285.9	7.50	90.00	513.8	
8	11683.9	90.90	90.00	7116.0	-1012.4	4229.6	0.00	0.00	4349.1	BHL 2126'FNL & 500'FEL, SEC.28





# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.28-T4N-R66W**

**Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W**

**Wiedeman 28G-312**

**Wellbore #1**

**Plan: Plan #1 (7-25-14)**

## **Standard Planning Report**

**11 August, 2014**

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28G-312
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Project:</b>	SEC.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Wiedeman 28G-312	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (7-25-14)		

<b>Project</b>	SEC.28-T4N-R66W, Weld County, Colorado		
<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						Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W											
Site Position:						Northing:			1,348,308.56 ft			Latitude:			40.287330		
From:			Lat/Long			Easting:			3,198,077.24 ft			Longitude:			-104.789970		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.46 °		

Well	Wiedeman 28G-312					
Well Position	+N-S	-178.5 ft	Northing:	1,348,130.06 ft	Latitude:	40.286840
	+E-W	0.0 ft	Easting:	3,198,078.67 ft	Longitude:	-104.789970
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,761.0 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	7/25/2014	8.45	66.85	52,742

<b>Design</b>	Plan #1 (7-25-14)			
<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	103.46

<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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
999.2	11.98	205.83	994.9	-56.2	-27.2	2.00	2.00	0.00	205.83	
5,814.4	11.98	205.83	5,705.1	-956.2	-462.8	0.00	0.00	0.00	0.00	
6,413.7	0.00	0.00	6,300.0	-1,012.4	-490.0	2.00	-2.00	0.00	180.00	
6,527.8	0.00	0.00	6,414.1	-1,012.4	-490.0	0.00	0.00	0.00	0.00	
7,739.8	90.90	90.00	7,178.0	-1,012.4	285.9	7.50	7.50	0.00	90.00	
11,683.9	90.90	90.00	7,116.0	-1,012.4	4,229.6	0.00	0.00	0.00	0.00	BHL 2126'FNL & 5C

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28G-312
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Project:</b>	SEC.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Wiedeman 28G-312	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (7-25-14)		

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
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
KOP #1									
500.0	2.00	205.83	500.0	-1.6	-0.8	-0.4	2.00	2.00	0.00
600.0	4.00	205.83	599.8	-6.3	-3.0	-1.5	2.00	2.00	0.00
700.0	6.00	205.83	699.5	-14.1	-6.8	-3.4	2.00	2.00	0.00
800.0	8.00	205.83	798.7	-25.1	-12.1	-6.0	2.00	2.00	0.00
900.0	10.00	205.83	897.5	-39.2	-19.0	-9.3	2.00	2.00	0.00
999.2	11.98	205.83	994.9	-56.2	-27.2	-13.4	2.00	2.00	0.00
1,000.0	11.98	205.83	995.6	-56.3	-27.3	-13.4	0.00	0.00	0.00
1,100.0	11.98	205.83	1,093.4	-75.0	-36.3	-17.9	0.00	0.00	0.00
1,200.0	11.98	205.83	1,191.3	-93.7	-45.4	-22.3	0.00	0.00	0.00
1,300.0	11.98	205.83	1,289.1	-112.4	-54.4	-26.7	0.00	0.00	0.00
1,400.0	11.98	205.83	1,386.9	-131.1	-63.5	-31.2	0.00	0.00	0.00
1,500.0	11.98	205.83	1,484.7	-149.8	-72.5	-35.6	0.00	0.00	0.00
1,600.0	11.98	205.83	1,582.5	-168.5	-81.6	-40.1	0.00	0.00	0.00
1,700.0	11.98	205.83	1,680.4	-187.2	-90.6	-44.5	0.00	0.00	0.00
1,800.0	11.98	205.83	1,778.2	-205.9	-99.6	-49.0	0.00	0.00	0.00
1,900.0	11.98	205.83	1,876.0	-224.6	-108.7	-53.4	0.00	0.00	0.00
2,000.0	11.98	205.83	1,973.8	-243.3	-117.7	-57.9	0.00	0.00	0.00
2,100.0	11.98	205.83	2,071.6	-261.9	-126.8	-62.3	0.00	0.00	0.00
2,200.0	11.98	205.83	2,169.5	-280.6	-135.8	-66.8	0.00	0.00	0.00
2,300.0	11.98	205.83	2,267.3	-299.3	-144.9	-71.2	0.00	0.00	0.00
2,400.0	11.98	205.83	2,365.1	-318.0	-153.9	-75.7	0.00	0.00	0.00
2,500.0	11.98	205.83	2,462.9	-336.7	-163.0	-80.1	0.00	0.00	0.00
2,600.0	11.98	205.83	2,560.7	-355.4	-172.0	-84.6	0.00	0.00	0.00
2,700.0	11.98	205.83	2,658.6	-374.1	-181.1	-89.0	0.00	0.00	0.00
2,800.0	11.98	205.83	2,756.4	-392.8	-190.1	-93.4	0.00	0.00	0.00
2,900.0	11.98	205.83	2,854.2	-411.5	-199.2	-97.9	0.00	0.00	0.00
3,000.0	11.98	205.83	2,952.0	-430.2	-208.2	-102.3	0.00	0.00	0.00
3,100.0	11.98	205.83	3,049.9	-448.9	-217.2	-106.8	0.00	0.00	0.00
3,200.0	11.98	205.83	3,147.7	-467.5	-226.3	-111.2	0.00	0.00	0.00
3,300.0	11.98	205.83	3,245.5	-486.2	-235.3	-115.7	0.00	0.00	0.00
3,400.0	11.98	205.83	3,343.3	-504.9	-244.4	-120.1	0.00	0.00	0.00
3,500.0	11.98	205.83	3,441.1	-523.6	-253.4	-124.6	0.00	0.00	0.00
3,600.0	11.98	205.83	3,539.0	-542.3	-262.5	-129.0	0.00	0.00	0.00
3,700.0	11.98	205.83	3,636.8	-561.0	-271.5	-133.5	0.00	0.00	0.00
3,800.0	11.98	205.83	3,734.6	-579.7	-280.6	-137.9	0.00	0.00	0.00
3,900.0	11.98	205.83	3,832.4	-598.4	-289.6	-142.4	0.00	0.00	0.00
4,000.0	11.98	205.83	3,930.2	-617.1	-298.7	-146.8	0.00	0.00	0.00
4,100.0	11.98	205.83	4,028.1	-635.8	-307.7	-151.3	0.00	0.00	0.00
4,200.0	11.98	205.83	4,125.9	-654.4	-316.8	-155.7	0.00	0.00	0.00
4,300.0	11.98	205.83	4,223.7	-673.1	-325.8	-160.2	0.00	0.00	0.00
4,400.0	11.98	205.83	4,321.5	-691.8	-334.8	-164.6	0.00	0.00	0.00
4,432.2	11.98	205.83	4,353.0	-697.8	-337.8	-166.0	0.00	0.00	0.00
SUSSEX									
4,500.0	11.98	205.83	4,419.3	-710.5	-343.9	-169.0	0.00	0.00	0.00
4,600.0	11.98	205.83	4,517.2	-729.2	-352.9	-173.5	0.00	0.00	0.00
4,700.0	11.98	205.83	4,615.0	-747.9	-362.0	-177.9	0.00	0.00	0.00

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28G-312
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Project:</b>	SEC.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Wiedeman 28G-312	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (7-25-14)		

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)
4,800.0	11.98	205.83	4,712.8	-766.6	-371.0	-182.4	0.00	0.00	0.00
4,872.8	11.98	205.83	4,784.0	-780.2	-377.6	-185.6	0.00	0.00	0.00
<b>SHANNON</b>									
4,900.0	11.98	205.83	4,810.6	-785.3	-380.1	-186.8	0.00	0.00	0.00
5,000.0	11.98	205.83	4,908.4	-804.0	-389.1	-191.3	0.00	0.00	0.00
5,100.0	11.98	205.83	5,006.3	-822.7	-398.2	-195.7	0.00	0.00	0.00
5,200.0	11.98	205.83	5,104.1	-841.4	-407.2	-200.2	0.00	0.00	0.00
5,300.0	11.98	205.83	5,201.9	-860.0	-416.3	-204.6	0.00	0.00	0.00
5,400.0	11.98	205.83	5,299.7	-878.7	-425.3	-209.1	0.00	0.00	0.00
5,500.0	11.98	205.83	5,397.5	-897.4	-434.4	-213.5	0.00	0.00	0.00
5,600.0	11.98	205.83	5,495.4	-916.1	-443.4	-218.0	0.00	0.00	0.00
5,700.0	11.98	205.83	5,593.2	-934.8	-452.4	-222.4	0.00	0.00	0.00
5,800.0	11.98	205.83	5,691.0	-953.5	-461.5	-226.9	0.00	0.00	0.00
5,814.4	11.98	205.83	5,705.1	-956.2	-462.8	-227.5	0.00	0.00	0.00
5,900.0	10.27	205.83	5,789.1	-971.1	-470.0	-231.0	2.00	-2.00	0.00
6,000.0	8.27	205.83	5,887.8	-985.6	-477.0	-234.5	2.00	-2.00	0.00
6,100.0	6.27	205.83	5,987.0	-997.0	-482.5	-237.2	2.00	-2.00	0.00
6,200.0	4.27	205.83	6,086.5	-1,005.2	-486.5	-239.2	2.00	-2.00	0.00
6,300.0	2.27	205.83	6,186.4	-1,010.4	-489.0	-240.4	2.00	-2.00	0.00
6,400.0	0.27	205.83	6,286.3	-1,012.4	-490.0	-240.9	2.00	-2.00	0.00
6,413.7	0.00	0.00	6,300.0	-1,012.4	-490.0	-240.9	2.00	-2.00	0.00
6,500.0	0.00	0.00	6,386.3	-1,012.4	-490.0	-240.9	0.00	0.00	0.00
6,527.8	0.00	0.00	6,414.1	-1,012.4	-490.0	-240.9	0.00	0.00	0.00
<b>KOP #2</b>									
6,600.0	5.42	90.00	6,486.2	-1,012.4	-486.6	-237.6	7.50	7.50	0.00
6,700.0	12.92	90.00	6,584.9	-1,012.4	-470.7	-222.1	7.50	7.50	0.00
6,800.0	20.42	90.00	6,680.6	-1,012.4	-442.0	-194.2	7.50	7.50	0.00
6,900.0	27.92	90.00	6,771.8	-1,012.4	-401.1	-154.4	7.50	7.50	0.00
7,000.0	35.42	90.00	6,856.8	-1,012.4	-348.6	-103.4	7.50	7.50	0.00
7,008.8	36.08	90.00	6,864.0	-1,012.4	-343.5	-98.4	7.50	7.50	0.00
<b>SHARON SPRINGS</b>									
7,100.0	42.92	90.00	6,934.3	-1,012.4	-285.5	-42.0	7.50	7.50	0.00
7,138.8	45.82	90.00	6,962.0	-1,012.4	-258.4	-15.7	7.50	7.50	0.00
<b>NIOBRARA A</b>									
7,200.0	50.42	90.00	7,002.9	-1,012.4	-212.8	28.7	7.50	7.50	0.00
7,271.9	55.81	90.00	7,046.0	-1,012.4	-155.4	84.6	7.50	7.50	0.00
<b>NIOBRARA B</b>									
7,300.0	57.92	90.00	7,061.4	-1,012.4	-131.8	107.5	7.50	7.50	0.00
7,400.0	65.42	90.00	7,108.8	-1,012.4	-43.9	193.0	7.50	7.50	0.00
7,467.1	70.45	90.00	7,134.0	-1,012.4	18.3	253.5	7.50	7.50	0.00
<b>NIOBRARA C</b>									
7,500.0	72.92	90.00	7,144.3	-1,012.4	49.5	283.8	7.50	7.50	0.00
7,600.0	80.42	90.00	7,167.4	-1,012.4	146.8	378.4	7.50	7.50	0.00
7,700.0	87.92	90.00	7,177.5	-1,012.4	246.2	475.1	7.50	7.50	0.00
7,739.8	90.90	90.00	7,178.0	-1,012.4	286.0	513.8	7.50	7.50	0.00
<b>End of Build - 7"</b>									
7,800.0	90.90	90.00	7,177.0	-1,012.4	346.2	572.3	0.00	0.00	0.00
7,900.0	90.90	90.00	7,175.4	-1,012.4	446.1	669.6	0.00	0.00	0.00
8,000.0	90.90	90.00	7,173.9	-1,012.4	546.1	766.8	0.00	0.00	0.00
8,100.0	90.90	90.00	7,172.3	-1,012.4	646.1	864.0	0.00	0.00	0.00
8,200.0	90.90	90.00	7,170.7	-1,012.4	746.1	961.3	0.00	0.00	0.00
8,300.0	90.90	90.00	7,169.2	-1,012.4	846.1	1,058.5	0.00	0.00	0.00

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28G-312
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<b>Project:</b>	SEC.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Wiedeman 28G-312	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (7-25-14)		

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)
8,400.0	90.90	90.00	7,167.6	-1,012.4	946.1	1,155.8	0.00	0.00	0.00
8,500.0	90.90	90.00	7,166.0	-1,012.4	1,046.1	1,253.0	0.00	0.00	0.00
8,600.0	90.90	90.00	7,164.4	-1,012.4	1,146.1	1,350.2	0.00	0.00	0.00
8,700.0	90.90	90.00	7,162.9	-1,012.4	1,246.0	1,447.5	0.00	0.00	0.00
8,800.0	90.90	90.00	7,161.3	-1,012.4	1,346.0	1,544.7	0.00	0.00	0.00
8,900.0	90.90	90.00	7,159.7	-1,012.4	1,446.0	1,642.0	0.00	0.00	0.00
9,000.0	90.90	90.00	7,158.2	-1,012.4	1,546.0	1,739.2	0.00	0.00	0.00
9,100.0	90.90	90.00	7,156.6	-1,012.4	1,646.0	1,836.5	0.00	0.00	0.00
9,200.0	90.90	90.00	7,155.0	-1,012.4	1,746.0	1,933.7	0.00	0.00	0.00
9,300.0	90.90	90.00	7,153.4	-1,012.4	1,846.0	2,030.9	0.00	0.00	0.00
9,400.0	90.90	90.00	7,151.9	-1,012.4	1,946.0	2,128.2	0.00	0.00	0.00
9,500.0	90.90	90.00	7,150.3	-1,012.4	2,046.0	2,225.4	0.00	0.00	0.00
9,600.0	90.90	90.00	7,148.7	-1,012.4	2,145.9	2,322.7	0.00	0.00	0.00
9,700.0	90.90	90.00	7,147.2	-1,012.4	2,245.9	2,419.9	0.00	0.00	0.00
9,800.0	90.90	90.00	7,145.6	-1,012.4	2,345.9	2,517.1	0.00	0.00	0.00
9,900.0	90.90	90.00	7,144.0	-1,012.4	2,445.9	2,614.4	0.00	0.00	0.00
10,000.0	90.90	90.00	7,142.5	-1,012.4	2,545.9	2,711.6	0.00	0.00	0.00
10,100.0	90.90	90.00	7,140.9	-1,012.4	2,645.9	2,808.9	0.00	0.00	0.00
10,200.0	90.90	90.00	7,139.3	-1,012.4	2,745.9	2,906.1	0.00	0.00	0.00
10,300.0	90.90	90.00	7,137.7	-1,012.4	2,845.9	3,003.3	0.00	0.00	0.00
10,400.0	90.90	90.00	7,136.2	-1,012.4	2,945.8	3,100.6	0.00	0.00	0.00
10,500.0	90.90	90.00	7,134.6	-1,012.4	3,045.8	3,197.8	0.00	0.00	0.00
10,600.0	90.90	90.00	7,133.0	-1,012.4	3,145.8	3,295.1	0.00	0.00	0.00
10,700.0	90.90	90.00	7,131.5	-1,012.4	3,245.8	3,392.3	0.00	0.00	0.00
10,800.0	90.90	90.00	7,129.9	-1,012.4	3,345.8	3,489.5	0.00	0.00	0.00
10,900.0	90.90	90.00	7,128.3	-1,012.4	3,445.8	3,586.8	0.00	0.00	0.00
11,000.0	90.90	90.00	7,126.7	-1,012.4	3,545.8	3,684.0	0.00	0.00	0.00
11,100.0	90.90	90.00	7,125.2	-1,012.4	3,645.8	3,781.3	0.00	0.00	0.00
11,200.0	90.90	90.00	7,123.6	-1,012.4	3,745.7	3,878.5	0.00	0.00	0.00
11,300.0	90.90	90.00	7,122.0	-1,012.4	3,845.7	3,975.8	0.00	0.00	0.00
11,400.0	90.90	90.00	7,120.5	-1,012.4	3,945.7	4,073.0	0.00	0.00	0.00
11,500.0	90.90	90.00	7,118.9	-1,012.4	4,045.7	4,170.2	0.00	0.00	0.00
11,600.0	90.90	90.00	7,117.3	-1,012.4	4,145.7	4,267.5	0.00	0.00	0.00
11,683.9	90.90	90.00	7,116.0	-1,012.4	4,229.6	4,349.1	0.00	0.00	0.00

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
7,739.8	7,178.0	7"	7	7-1/2	

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28G-312
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Project:</b>	SEC.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Site:</b>	Wiedeman 4N66W28F - East Pad	<b>North Reference:</b>	True
	Sec.28-T4N-R66W		
<b>Well:</b>	Wiedeman 28G-312	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (7-25-14)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,432.2	4,353.0	SUSSEX		0.00		
4,872.8	4,784.0	SHANNON		0.00		
7,008.8	6,864.0	SHARON SPRINGS		0.00		
7,138.8	6,962.0	NIOBRARA A		0.00		
7,271.9	7,046.0	NIOBRARA B		0.00		
7,467.1	7,134.0	NIOBRARA C		0.00		
	7,253.0	FT HAYS		0.00		
	7,275.0	CODELL		0.00		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
400.0	400.0	0.0	0.0	KOP #1
6,527.8	6,414.1	-1,012.4	-490.0	KOP #2
7,739.8	7,178.0	-1,012.4	286.0	End of Build



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.28-T4N-R66W**

**Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W**

**Wiedeman 28G-312**

**Wellbore #1**

**Plan #1 (7-25-14)**

## **Anticollision Report**

**11 August, 2014**





<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28G-312
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28G-312	<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 #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #1 (7-25-14)		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD Interval 100.0ft	<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 1,000.0ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b> 8/10/2014			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	11,683.9	Plan #1 (7-25-14) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
Existing Wells Sec.28-T4N-R66W						
Keiser 22-28 (Exist) - Wellbore #1 - Wellbore #1	8,874.3	7,133.0	157.5	95.5	2.540	CC, ES, SF
Korwick 5-28 (Exist) - Wellbore #1 - Wellbore #1	7,762.8	7,166.5	126.6	90.1	3.473	CC, ES, SF
Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W						
Wiedeman 28F-202 - Wellbore #1 - Plan #1 (8-07-14)	400.0	401.0	58.3	56.7	36.994	CC, ES
Wiedeman 28F-202 - Wellbore #1 - Plan #1 (8-07-14)	11,683.9	11,506.3	732.0	481.8	2.926	SF
Wiedeman 28G-212 - Wellbore #1 - Plan #1 (7-25-14)	200.0	200.0	29.1	28.5	43.222	CC
Wiedeman 28G-212 - Wellbore #1 - Plan #1 (7-25-14)	11,683.9	11,643.1	267.7	21.9	1.089	Level 2, ES, SF
Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W						
Wiedeman 28F-234 - Wellbore #1 - Plan #1 (8-07-14)	2,039.2	2,026.4	281.2	269.0	23.207	CC
Wiedeman 28F-234 - Wellbore #1 - Plan #1 (8-07-14)	2,400.0	2,386.2	282.5	267.6	18.971	ES
Wiedeman 28F-234 - Wellbore #1 - Plan #1 (8-07-14)	6,500.0	6,422.1	429.4	389.9	10.868	SF
Wiedeman 28G-214 - Wellbore #1 - Plan #1 (8-07-14)	6,414.8	6,444.9	263.2	230.9	8.151	CC
Wiedeman 28G-214 - Wellbore #1 - Plan #1 (8-07-14)	6,500.0	6,519.8	265.2	212.5	5.031	ES, SF
Wiedeman 28G-314 - Wellbore #1 - Plan #1 (8-07-14)	6,443.6	6,448.3	126.5	88.3	3.317	CC
Wiedeman 28G-314 - Wellbore #1 - Plan #1 (8-07-14)	6,500.0	6,504.7	126.6	80.5	2.746	ES, SF

<b>Offset Design</b> Existing Wells Sec.28-T4N-R66W - Keiser 22-28 (Exist) - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
<b>Survey Program:</b> 100-NS-GYRO-MS												<b>Offset Well Error:</b>	0.0 ft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Warning					
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,900.0	7,175.4	7,168.2	7,166.5	27.1	12.5	101.93	-1,170.3	1,419.5	986.3	948.9	37.32	26.430	
8,000.0	7,173.9	7,164.6	7,162.9	29.1	12.5	100.68	-1,170.2	1,419.6	887.7	848.2	39.56	22.441	
8,100.0	7,172.3	7,161.1	7,159.3	31.2	12.5	99.43	-1,170.2	1,419.7	789.6	747.7	41.92	18.835	
8,200.0	7,170.7	7,157.5	7,155.8	33.5	12.5	98.16	-1,170.1	1,419.7	692.0	647.6	44.37	15.594	
8,300.0	7,169.2	7,153.9	7,152.2	35.8	12.5	96.88	-1,170.1	1,419.8	595.1	548.2	46.90	12.689	
8,400.0	7,167.6	7,150.3	7,148.6	38.2	12.5	95.60	-1,170.1	1,419.9	499.4	449.9	49.47	10.095	
8,500.0	7,166.0	7,146.9	7,145.2	40.7	12.5	94.37	-1,170.0	1,420.0	405.8	353.7	52.08	7.792	
8,600.0	7,164.4	7,143.4	7,141.7	43.2	12.5	93.11	-1,170.0	1,420.0	316.1	261.4	54.71	5.777	
8,700.0	7,162.9	7,139.7	7,138.0	45.7	12.5	91.78	-1,170.0	1,420.1	234.8	177.4	57.37	4.093	
8,800.0	7,161.3	7,135.9	7,134.2	48.2	12.5	90.39	-1,169.9	1,420.2	174.1	114.1	60.03	2.900	

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 Wiedeman 28G-312
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28G-312	<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 #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Existing Wells Sec.28-T4N-R66W - Keiser 22-28 (Exist) - Wellbore #1 - Wellbore #1													<b>Offset Site Error:</b>	0.0 ft
Survey Program: 100-NS-GYRO-MS													<b>Offset Well Error:</b>	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		
8,874.3	7,160.1	7,133.0	7,131.3	50.2	12.5	89.32	-1,169.9	1,420.3	157.5	95.5	62.01	2.540	CC, ES, SF	
8,900.0	7,159.7	7,131.9	7,130.2	50.8	12.4	88.94	-1,169.9	1,420.3	159.6	96.9	62.69	2.546		
9,000.0	7,158.2	7,127.7	7,126.0	53.4	12.4	87.42	-1,169.8	1,420.4	201.5	136.1	65.32	3.084		
9,100.0	7,156.6	7,123.4	7,121.7	56.1	12.4	85.83	-1,169.8	1,420.5	275.1	207.2	67.93	4.050		
9,200.0	7,155.0	7,118.8	7,117.1	58.7	12.4	84.17	-1,169.7	1,420.6	361.6	291.1	70.48	5.130		
9,300.0	7,153.4	7,114.0	7,112.3	61.4	12.4	82.44	-1,169.6	1,420.8	453.6	380.6	72.97	6.216		
9,400.0	7,151.9	7,108.9	7,107.2	64.0	12.4	80.64	-1,169.6	1,420.9	548.4	473.0	75.38	7.275		
9,500.0	7,150.3	7,103.6	7,101.9	66.7	12.4	78.75	-1,169.5	1,421.1	644.7	567.0	77.69	8.298		
9,600.0	7,148.7	7,100.0	7,098.3	69.4	12.4	77.50	-1,169.4	1,421.2	742.0	661.9	80.06	9.268		
9,700.0	7,147.2	7,094.3	7,092.6	72.1	12.4	75.52	-1,169.3	1,421.3	839.8	757.7	82.16	10.222		
9,800.0	7,145.6	7,090.1	7,088.4	74.8	12.4	74.11	-1,169.3	1,421.5	938.1	853.8	84.34	11.124		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28G-312
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28G-312	<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 #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.28-T4N-R66W - Korwick 5-28 (Exist) - Wellbore #1 - Wellbore #1														Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS														Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	161.11	-888.9	304.1	939.7						
100.0	100.0	78.2	78.2	0.1	0.1	161.11	-889.0	304.2	939.6	939.4	0.22	4,344.150			
200.0	200.0	179.5	179.5	0.3	0.3	161.10	-889.4	304.5	940.1	939.4	0.66	1,420.433			
300.0	300.0	283.7	283.7	0.6	0.5	161.11	-889.5	304.4	940.1	939.1	1.04	899.736			
400.0	400.0	383.2	383.2	0.8	0.6	161.11	-889.3	304.2	939.9	938.5	1.40	673.299			
500.0	500.0	481.5	481.5	1.0	0.8	-44.78	-889.4	303.8	938.6	936.8	1.79	524.092			
600.0	599.8	583.8	583.8	1.2	1.0	-45.05	-889.4	303.6	934.9	932.7	2.16	432.156			
700.0	699.5	684.9	684.9	1.4	1.2	-45.53	-889.1	303.5	928.4	925.9	2.55	364.791			
800.0	798.7	779.0	779.0	1.7	1.3	-46.15	-889.1	303.2	919.8	916.8	2.96	310.704			
900.0	897.5	877.2	877.2	2.0	1.5	-47.00	-889.4	303.3	909.2	905.8	3.41	266.795			
1,000.0	995.6	974.7	974.7	2.3	1.7	-48.06	-889.7	303.2	896.5	892.6	3.91	229.307			
1,100.0	1,093.4	1,075.3	1,075.3	2.7	1.9	-49.04	-890.1	302.7	882.8	878.3	4.47	197.278			
1,200.0	1,191.3	1,173.3	1,173.3	3.1	2.2	-50.03	-890.3	302.3	869.1	864.1	5.06	171.671			
1,300.0	1,289.1	1,270.4	1,270.4	3.6	2.4	-51.05	-890.5	301.9	855.8	850.1	5.67	150.912			
1,400.0	1,386.9	1,371.1	1,371.1	4.0	2.7	-52.09	-890.9	301.0	842.7	836.4	6.30	133.761			
1,500.0	1,484.7	1,466.7	1,466.7	4.4	2.9	-53.12	-891.1	300.0	829.7	822.7	6.93	119.761			
1,600.0	1,582.5	1,565.6	1,565.6	4.9	3.1	-54.20	-891.7	299.1	817.2	809.7	7.58	107.827			
1,700.0	1,680.4	1,665.5	1,665.4	5.3	3.4	-55.32	-892.0	297.9	804.8	796.5	8.24	97.640			
1,800.0	1,778.2	1,762.3	1,762.2	5.8	3.6	-56.46	-892.1	296.9	792.6	783.7	8.91	88.984			
1,900.0	1,876.0	1,859.0	1,858.9	6.2	3.9	-57.64	-892.4	296.2	781.0	771.4	9.59	81.476			
2,000.0	1,973.8	1,954.5	1,954.4	6.7	4.1	-58.84	-892.8	295.5	769.8	759.6	10.27	74.971			
2,100.0	2,071.6	2,052.4	2,052.3	7.1	4.4	-60.08	-893.6	294.8	759.4	748.4	10.97	69.254			
2,200.0	2,169.5	2,151.7	2,151.7	7.6	4.6	-61.39	-894.1	294.1	749.1	737.4	11.68	64.148			
2,300.0	2,267.3	2,251.1	2,251.1	8.0	4.9	-62.70	-894.8	293.0	739.1	726.7	12.40	59.618			
2,400.0	2,365.1	2,352.0	2,351.9	8.5	5.1	-64.08	-895.1	291.8	729.2	716.1	13.12	55.591			
2,500.0	2,462.9	2,451.7	2,451.6	8.9	5.3	-65.52	-894.8	290.8	719.4	705.5	13.82	52.047			
2,600.0	2,560.7	2,550.3	2,550.2	9.4	5.6	-66.99	-894.4	289.8	709.8	695.3	14.52	48.884			
2,700.0	2,658.6	2,647.3	2,647.2	9.9	5.8	-68.47	-894.0	288.7	700.7	685.5	15.23	46.022			
2,800.0	2,756.4	2,742.6	2,742.5	10.3	6.0	-69.95	-893.8	287.8	692.4	676.5	15.94	43.428			
2,900.0	2,854.2	2,839.3	2,839.2	10.8	6.3	-71.46	-894.2	286.9	685.0	668.3	16.68	41.059			
3,000.0	2,952.0	2,938.1	2,938.0	11.2	6.5	-73.03	-894.4	285.9	678.0	660.6	17.43	38.896			
3,100.0	3,049.9	3,035.4	3,035.3	11.7	6.7	-74.66	-894.3	285.3	671.5	653.4	18.16	36.980			
3,200.0	3,147.7	3,132.3	3,132.2	12.1	7.0	-76.33	-894.0	284.9	665.8	646.9	18.87	35.285			
3,300.0	3,245.5	3,228.7	3,228.5	12.6	7.1	-78.02	-893.8	284.7	660.7	641.2	19.54	33.822			
3,400.0	3,343.3	3,323.2	3,323.1	13.1	7.2	-79.73	-893.5	285.0	656.7	636.6	20.12	32.648			
3,500.0	3,441.1	3,419.5	3,419.4	13.5	7.2	-81.49	-893.5	285.6	653.8	633.2	20.64	31.677			
3,600.0	3,539.0	3,519.0	3,518.9	14.0	7.3	-83.32	-893.4	286.2	651.4	630.2	21.17	30.771			
3,700.0	3,636.8	3,615.4	3,615.3	14.4	7.3	-85.13	-893.1	286.9	649.7	628.0	21.70	29.948			
3,800.0	3,734.6	3,715.6	3,715.4	14.9	7.4	-86.98	-893.1	287.3	648.6	626.4	22.23	29.173			
3,900.0	3,832.4	3,812.5	3,812.4	15.3	7.4	-88.77	-893.0	287.6	648.1	625.3	22.77	28.463			
4,000.0	3,930.2	3,914.1	3,914.0	15.8	7.5	-90.69	-892.5	287.9	648.0	624.7	23.33	27.773			
4,002.7	3,932.9	3,916.8	3,916.7	15.8	7.5	-90.74	-892.5	287.9	648.0	624.6	23.35	27.753			
4,100.0	4,028.1	4,011.7	4,011.6	16.3	7.7	-92.53	-891.9	287.9	648.3	624.4	23.92	27.104			
4,200.0	4,125.9	4,106.8	4,106.6	16.7	7.8	-94.29	-891.6	288.0	649.6	625.1	24.47	26.541			
4,300.0	4,223.7	4,204.9	4,204.8	17.2	7.9	-96.13	-891.1	288.3	651.7	626.7	25.00	26.066			
4,400.0	4,321.5	4,302.5	4,302.4	17.6	8.0	-97.97	-890.4	288.7	654.4	628.9	25.53	25.634			
4,500.0	4,419.3	4,404.1	4,403.9	18.1	8.1	-99.87	-889.5	288.9	657.6	631.5	26.08	25.217			
4,600.0	4,517.2	4,500.0	4,499.9	18.5	8.3	-101.66	-888.4	289.0	661.4	634.8	26.62	24.850			
4,700.0	4,615.0	4,602.1	4,601.9	19.0	8.5	-103.55	-887.1	289.0	665.7	638.5	27.16	24.510			
4,800.0	4,712.8	4,699.2	4,699.0	19.5	8.7	-105.31	-886.1	288.5	670.3	642.6	27.72	24.184			
4,900.0	4,810.6	4,793.9	4,793.8	19.9	8.8	-107.01	-884.9	288.3	675.8	647.5	28.24	23.926			

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 Wiedeman 28G-312
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28G-312	<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 #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.28-T4N-R66W - Korwick 5-28 (Exist) - Wellbore #1 - Wellbore #1														Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS														Offset Well Error:	0.0 ft
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		
5,000.0	4,908.4	4,893.1	4,892.9	20.4	9.0	-108.76	-883.7	288.2	682.0	653.3	28.76	23.714			
5,100.0	5,006.3	4,988.1	4,988.0	20.8	9.2	-110.40	-882.7	288.1	688.9	659.7	29.26	23.543			
5,200.0	5,104.1	5,084.3	5,084.2	21.3	9.4	-112.03	-881.7	288.4	696.8	667.0	29.73	23.435			
5,300.0	5,201.9	5,181.9	5,181.8	21.8	9.5	-113.61	-881.2	288.7	705.3	675.1	30.18	23.369			
5,400.0	5,299.7	5,282.2	5,282.0	22.2	9.7	-115.17	-880.8	288.9	714.2	683.5	30.64	23.310			
5,500.0	5,397.5	5,377.6	5,377.4	22.7	9.9	-116.63	-880.4	288.9	723.5	692.4	31.09	23.267			
5,600.0	5,495.4	5,474.8	5,474.6	23.1	10.0	-118.09	-879.9	289.3	733.6	702.1	31.52	23.272			
5,700.0	5,593.2	5,572.4	5,572.2	23.6	10.2	-119.50	-879.5	289.6	744.1	712.2	31.94	23.301			
5,800.0	5,691.0	5,671.1	5,670.9	24.0	10.4	-120.89	-879.1	289.9	755.1	722.8	32.35	23.342			
5,900.0	5,789.1	5,770.7	5,770.5	24.4	10.6	-122.33	-878.6	290.1	765.7	732.9	32.72	23.400			
6,000.0	5,887.8	5,867.5	5,867.3	24.7	10.8	-123.51	-878.0	290.1	774.6	741.6	33.02	23.459			
6,100.0	5,987.0	5,966.9	5,966.7	24.9	11.0	-124.46	-877.2	290.4	782.1	748.8	33.31	23.483			
6,200.0	6,086.5	6,064.6	6,064.4	25.1	11.1	-125.11	-876.9	290.6	787.7	754.1	33.57	23.462			
6,300.0	6,186.4	6,168.4	6,168.2	25.3	11.3	-125.55	-876.4	291.0	791.5	757.6	33.85	23.379			
6,400.0	6,286.3	6,266.3	6,266.1	25.4	11.5	-125.74	-875.9	290.9	792.7	758.6	34.13	23.226			
6,500.0	6,386.3	6,362.7	6,362.5	25.5	11.7	80.06	-875.5	291.4	793.3	762.0	31.34	25.314			
6,600.0	6,486.2	6,460.9	6,460.7	25.6	11.9	-10.03	-875.1	292.2	790.8	756.4	34.43	22.968			
6,700.0	6,584.9	6,557.0	6,556.8	25.6	12.0	-10.41	-875.2	293.3	776.2	742.4	33.83	22.944			
6,800.0	6,680.6	6,652.2	6,652.0	25.6	12.1	-11.18	-875.2	294.6	749.4	716.7	32.65	22.950			
6,900.0	6,771.8	6,742.1	6,741.9	25.5	12.2	-12.41	-875.6	296.0	710.5	679.6	30.94	22.966			
7,000.0	6,856.8	6,823.9	6,823.7	25.3	12.3	-14.27	-876.2	297.8	660.8	632.1	28.75	22.982			
7,100.0	6,934.3	6,900.3	6,900.0	25.2	12.4	-17.07	-877.3	300.0	601.2	574.9	26.24	22.906			
7,200.0	7,002.9	6,972.5	6,972.1	25.0	12.5	-21.51	-879.1	302.4	532.3	508.6	23.71	22.455			
7,300.0	7,061.4	7,033.5	7,033.1	24.9	12.6	-28.65	-881.1	304.4	455.6	433.7	21.91	20.792			
7,400.0	7,108.8	7,083.3	7,082.8	24.7	12.7	-40.30	-882.8	306.1	373.3	350.7	22.60	16.520			
7,500.0	7,144.3	7,122.5	7,122.0	24.6	12.7	-58.06	-884.2	307.5	288.1	260.9	27.19	10.597			
7,600.0	7,167.4	7,149.5	7,148.9	24.6	12.8	-77.84	-885.3	308.4	205.7	173.2	32.48	6.334			
7,700.0	7,177.5	7,163.2	7,162.6	24.7	12.8	-90.34	-885.8	308.9	141.3	106.1	35.27	4.007			
7,762.8	7,178.8	7,166.5	7,165.9	25.0	12.8	-92.32	-885.9	309.0	126.6	90.1	36.45	3.473 CC, ES, SF			
7,800.0	7,177.0	7,165.9	7,165.4	25.4	12.8	-92.61	-885.9	309.0	132.0	94.9	37.10	3.558			
7,900.0	7,175.4	7,167.7	7,167.1	27.1	12.8	-93.39	-886.0	309.1	186.7	147.7	39.04	4.783			
8,000.0	7,173.9	7,169.4	7,168.8	29.1	12.8	-94.16	-886.1	309.1	268.9	227.8	41.12	6.540			
8,100.0	7,172.3	7,171.1	7,170.5	31.2	12.8	-94.93	-886.1	309.2	360.2	316.9	43.30	8.318			
8,200.0	7,170.7	7,172.7	7,172.1	33.5	12.8	-95.68	-886.2	309.2	455.2	409.6	45.57	9.989			
8,300.0	7,169.2	7,174.4	7,173.8	35.8	12.8	-96.42	-886.3	309.3	551.9	504.0	47.90	11.523			
8,400.0	7,167.6	7,176.0	7,175.4	38.2	12.8	-97.16	-886.3	309.3	649.6	599.4	50.27	12.923			
8,500.0	7,166.0	7,177.6	7,177.0	40.7	12.8	-97.88	-886.4	309.4	748.0	695.3	52.68	14.199			
8,600.0	7,164.4	7,179.2	7,178.6	43.2	12.8	-98.60	-886.5	309.4	846.7	791.6	55.11	15.363			
8,700.0	7,162.9	7,180.8	7,180.2	45.7	12.8	-99.30	-886.5	309.5	945.7	888.1	57.56	16.428			

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28G-312
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28G-312	<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 #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W - Wiedeman 28F-202 - Wellbore #1 - Plan #1 (8-										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	1.0	1.0	0.0	0.0	0.00	58.3	0.0	58.3	58.3	0.00	N/A		
100.0	100.0	101.0	101.0	0.1	0.1	0.00	58.3	0.0	58.3	58.1	0.23	256.763		
200.0	200.0	201.0	201.0	0.3	0.3	0.00	58.3	0.0	58.3	57.6	0.68	86.156		
300.0	300.0	301.0	301.0	0.6	0.6	0.00	58.3	0.0	58.3	57.2	1.13	51.763		
400.0	400.0	401.0	401.0	0.8	0.8	0.00	58.3	0.0	58.3	56.7	1.58	36.994 CC, ES		
500.0	500.0	501.0	501.0	1.0	1.0	154.89	58.3	0.0	59.9	57.9	2.00	29.886		
600.0	599.8	600.8	600.8	1.2	1.2	156.82	58.3	0.0	64.6	62.2	2.42	26.693		
700.0	699.5	700.5	700.5	1.4	1.5	159.46	58.3	0.0	72.7	69.9	2.85	25.493		
800.0	798.7	799.7	799.7	1.7	1.7	162.30	58.3	0.0	84.3	81.0	3.29	25.591		
900.0	897.5	898.5	898.5	2.0	1.9	164.96	58.3	0.0	99.3	95.6	3.74	26.570		
1,000.0	995.6	996.6	996.6	2.3	2.1	167.29	58.3	0.0	117.8	113.7	4.18	28.163		
1,100.0	1,093.4	1,094.4	1,094.4	2.7	2.3	169.18	58.3	0.0	138.2	133.5	4.64	29.788		
1,200.0	1,191.3	1,192.3	1,192.3	3.1	2.6	170.59	58.3	0.0	158.6	153.5	5.10	31.113		
1,300.0	1,289.1	1,294.8	1,294.7	3.6	2.8	171.41	57.4	-1.3	178.0	172.4	5.55	32.069		
1,400.0	1,386.9	1,398.7	1,398.6	4.0	3.0	171.40	54.3	-5.6	194.5	188.6	5.99	32.470		
1,500.0	1,484.7	1,503.6	1,503.0	4.4	3.2	170.74	49.1	-13.2	208.3	201.8	6.45	32.266		
1,600.0	1,582.5	1,608.2	1,606.8	4.9	3.4	169.55	41.7	-23.8	219.2	212.3	6.94	31.576		
1,700.0	1,680.4	1,707.6	1,705.3	5.3	3.7	168.30	33.9	-35.0	229.2	221.7	7.45	30.778		
1,800.0	1,778.2	1,807.0	1,803.7	5.8	3.9	167.15	26.0	-46.2	239.3	231.3	7.97	30.033		
1,900.0	1,876.0	1,906.3	1,902.1	6.2	4.2	166.10	18.2	-57.4	249.4	240.9	8.50	29.339		
2,000.0	1,973.8	2,005.7	2,000.6	6.7	4.5	165.13	10.4	-68.6	259.6	250.6	9.05	28.696		
2,100.0	2,071.6	2,105.1	2,099.0	7.1	4.8	164.23	2.6	-79.8	269.9	260.3	9.61	28.101		
2,200.0	2,169.5	2,204.5	2,197.5	7.6	5.1	163.40	-5.3	-91.0	280.3	270.1	10.17	27.549		
2,300.0	2,267.3	2,303.9	2,295.9	8.0	5.4	162.63	-13.1	-102.2	290.7	280.0	10.75	27.037		
2,400.0	2,365.1	2,403.3	2,394.3	8.5	5.7	161.91	-20.9	-113.4	301.2	289.8	11.34	26.563		
2,500.0	2,462.9	2,502.6	2,492.8	8.9	6.0	161.24	-28.7	-124.6	311.7	299.8	11.93	26.123		
2,600.0	2,560.7	2,602.0	2,591.2	9.4	6.3	160.62	-36.5	-135.8	322.2	309.7	12.53	25.714		
2,700.0	2,658.6	2,701.4	2,689.6	9.9	6.6	160.03	-44.4	-147.1	332.8	319.7	13.14	25.334		
2,800.0	2,756.4	2,800.8	2,788.1	10.3	7.0	159.48	-52.2	-158.3	343.4	329.7	13.75	24.980		
2,900.0	2,854.2	2,900.2	2,886.5	10.8	7.3	158.96	-60.0	-169.5	354.1	339.7	14.36	24.651		
3,000.0	2,952.0	2,999.6	2,985.0	11.2	7.6	158.47	-67.8	-180.7	364.8	349.8	14.98	24.343		
3,100.0	3,049.9	3,098.9	3,083.4	11.7	8.0	158.01	-75.7	-191.9	375.5	359.9	15.61	24.055		
3,200.0	3,147.7	3,198.3	3,181.8	12.1	8.3	157.58	-83.5	-203.1	386.2	369.9	16.24	23.785		
3,300.0	3,245.5	3,297.7	3,280.3	12.6	8.6	157.17	-91.3	-214.3	396.9	380.1	16.87	23.532		
3,400.0	3,343.3	3,397.1	3,378.7	13.1	9.0	156.78	-99.1	-225.5	407.7	390.2	17.50	23.295		
3,500.0	3,441.1	3,496.5	3,477.2	13.5	9.3	156.41	-107.0	-236.7	418.5	400.3	18.14	23.071		
3,600.0	3,539.0	3,595.8	3,575.6	14.0	9.6	156.06	-114.8	-247.9	429.2	410.5	18.78	22.861		
3,700.0	3,636.8	3,695.2	3,674.0	14.4	10.0	155.73	-122.6	-259.1	440.1	420.6	19.42	22.663		
3,800.0	3,734.6	3,794.6	3,772.5	14.9	10.3	155.41	-130.4	-270.3	450.9	430.8	20.06	22.475		
3,900.0	3,832.4	3,894.0	3,870.9	15.3	10.6	155.11	-138.3	-281.5	461.7	441.0	20.71	22.298		
4,000.0	3,930.2	3,993.4	3,969.3	15.8	11.0	154.82	-146.1	-292.7	472.6	451.2	21.35	22.130		
4,100.0	4,028.1	4,092.8	4,067.8	16.3	11.3	154.55	-153.9	-303.9	483.4	461.4	22.00	21.971		
4,200.0	4,125.9	4,192.1	4,166.2	16.7	11.7	154.28	-161.7	-315.2	494.3	471.6	22.65	21.820		
4,300.0	4,223.7	4,291.5	4,264.7	17.2	12.0	154.03	-169.5	-326.4	505.2	481.9	23.31	21.676		
4,400.0	4,321.5	4,390.9	4,363.1	17.6	12.3	153.79	-177.4	-337.6	516.1	492.1	23.96	21.540		
4,500.0	4,419.3	4,490.3	4,461.5	18.1	12.7	153.56	-185.2	-348.8	527.0	502.3	24.61	21.410		
4,600.0	4,517.2	4,589.7	4,560.0	18.5	13.0	153.34	-193.0	-360.0	537.9	512.6	25.27	21.286		
4,700.0	4,615.0	4,689.1	4,658.4	19.0	13.4	153.12	-200.8	-371.2	548.8	522.9	25.93	21.168		
4,800.0	4,712.8	4,788.4	4,756.8	19.5	13.7	152.92	-208.7	-382.4	559.7	533.1	26.58	21.055		
4,900.0	4,810.6	4,887.8	4,855.3	19.9	14.0	152.72	-216.5	-393.6	570.6	543.4	27.24	20.947		
5,000.0	4,908.4	4,987.2	4,953.7	20.4	14.4	152.53	-224.3	-404.8	581.6	553.7	27.90	20.844		

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 Wiedeman 28G-312
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28G-312	<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 #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design				Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W - Wiedeman 28F-202 - Wellbore #1 - Plan #1 (8-								Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,100.0	5,006.3	5,086.6	5,052.2	20.8	14.7	152.35	-232.1	-416.0	592.5	563.9	28.56	20.745		
5,200.0	5,104.1	5,186.0	5,150.6	21.3	15.1	152.17	-240.0	-427.2	603.4	574.2	29.22	20.650		
5,300.0	5,201.9	5,285.4	5,249.0	21.8	15.4	152.00	-247.8	-438.4	614.4	584.5	29.88	20.559		
5,400.0	5,299.7	5,384.7	5,347.5	22.2	15.8	151.84	-255.6	-449.6	625.4	594.8	30.55	20.472		
5,500.0	5,397.5	5,484.1	5,445.9	22.7	16.1	151.68	-263.4	-460.8	636.3	605.1	31.21	20.388		
5,600.0	5,495.4	5,579.3	5,540.2	23.1	16.4	151.55	-270.8	-471.4	647.4	615.6	31.84	20.332		
5,700.0	5,593.2	5,667.6	5,628.0	23.6	16.6	151.60	-276.4	-479.4	659.8	627.5	32.36	20.393		
5,800.0	5,691.0	5,755.5	5,715.6	24.0	16.8	151.84	-280.4	-485.1	673.9	641.1	32.80	20.545		
5,900.0	5,789.1	5,842.9	5,802.9	24.4	17.0	152.33	-282.8	-488.7	688.6	655.4	33.18	20.752		
6,000.0	5,887.8	5,930.1	5,890.1	24.7	17.1	152.88	-283.8	-490.0	701.9	668.4	33.46	20.976		
6,100.0	5,987.0	6,028.0	5,988.0	24.9	17.2	153.44	-283.8	-490.0	713.2	679.5	33.71	21.155		
6,200.0	6,086.5	6,127.6	6,087.5	25.1	17.4	153.83	-283.8	-490.0	721.5	687.5	33.96	21.245		
6,300.0	6,186.4	6,227.4	6,187.4	25.3	17.5	154.08	-283.8	-490.0	726.6	692.4	34.20	21.247		
6,400.0	6,286.3	6,327.4	6,287.3	25.4	17.7	154.17	-283.8	-490.0	728.6	694.2	34.42	21.164		
6,500.0	6,386.3	6,427.1	6,387.0	25.5	17.8	0.28	-283.8	-486.4	728.6	689.1	39.55	18.421		
6,600.0	6,486.2	6,525.1	6,483.6	25.6	17.8	-88.74	-283.8	-470.8	728.8	694.2	34.57	21.079		
6,700.0	6,584.9	6,621.4	6,575.9	25.6	17.8	-87.74	-283.8	-443.5	729.2	694.8	34.35	21.225		
6,800.0	6,680.6	6,716.3	6,662.8	25.6	17.7	-86.79	-283.8	-405.4	729.8	695.7	34.04	21.436		
6,900.0	6,771.8	6,809.9	6,743.2	25.5	17.6	-85.90	-283.8	-357.6	730.5	696.8	33.73	21.660		
7,000.0	6,856.8	6,902.3	6,816.3	25.3	17.5	-85.07	-283.8	-301.1	731.3	697.8	33.50	21.830		
7,100.0	6,934.3	6,993.8	6,881.3	25.2	17.5	-84.33	-283.8	-237.0	732.2	698.7	33.50	21.856		
7,200.0	7,002.9	7,084.3	6,937.8	25.0	17.6	-83.68	-283.8	-166.2	733.1	699.2	33.86	21.648		
7,300.0	7,061.4	7,174.1	6,985.1	24.9	17.8	-83.14	-283.8	-90.0	733.9	699.2	34.70	21.149		
7,400.0	7,108.8	7,263.4	7,022.9	24.7	18.3	-82.69	-283.8	-9.2	734.6	698.5	36.09	20.353		
7,500.0	7,144.3	7,350.0	7,050.4	24.6	19.2	-82.37	-283.8	72.9	735.1	697.1	38.03	19.330		
7,600.0	7,167.4	7,440.6	7,069.0	24.6	20.5	-82.15	-283.8	161.5	735.5	694.9	40.57	18.127		
7,700.0	7,177.5	7,528.9	7,076.9	24.7	21.9	-82.06	-283.8	249.4	735.7	692.1	43.53	16.902		
7,800.0	7,177.0	7,624.9	7,076.8	25.4	23.7	-82.09	-283.8	345.4	735.6	688.6	47.00	15.653		
7,900.0	7,175.4	7,724.9	7,076.0	27.1	25.7	-82.15	-283.8	445.4	735.5	684.6	50.89	14.452		
8,000.0	7,173.9	7,824.9	7,075.3	29.1	27.8	-82.22	-283.8	545.4	735.4	680.3	55.08	13.351		
8,100.0	7,172.3	7,924.9	7,074.5	31.2	30.1	-82.28	-283.8	645.4	735.3	675.8	59.50	12.358		
8,200.0	7,170.7	8,024.8	7,073.7	33.5	32.4	-82.34	-283.8	745.4	735.2	671.1	64.10	11.470		
8,300.0	7,169.2	8,124.8	7,073.0	35.8	34.8	-82.40	-283.8	845.4	735.1	666.2	68.84	10.677		
8,400.0	7,167.6	8,224.8	7,072.2	38.2	37.3	-82.46	-283.8	945.3	735.0	661.3	73.71	9.971		
8,500.0	7,166.0	8,324.8	7,071.4	40.7	39.8	-82.53	-283.8	1,045.3	734.9	656.2	78.67	9.341		
8,600.0	7,164.4	8,424.8	7,070.7	43.2	42.4	-82.59	-283.8	1,145.3	734.7	651.0	83.71	8.778		
8,700.0	7,162.9	8,524.8	7,069.9	45.7	44.9	-82.65	-283.8	1,245.3	734.6	645.8	88.81	8.272		
8,800.0	7,161.3	8,624.8	7,069.1	48.2	47.5	-82.71	-283.8	1,345.3	734.5	640.6	93.97	7.816		
8,900.0	7,159.7	8,724.8	7,068.4	50.8	50.2	-82.77	-283.8	1,445.3	734.4	635.3	99.18	7.405		
9,000.0	7,158.2	8,824.8	7,067.6	53.4	52.8	-82.84	-283.8	1,545.3	734.3	629.9	104.43	7.032		
9,100.0	7,156.6	8,924.8	7,066.8	56.1	55.5	-82.90	-283.8	1,645.3	734.2	624.5	109.72	6.692		
9,200.0	7,155.0	9,024.8	7,066.1	58.7	58.1	-82.96	-283.8	1,745.3	734.1	619.1	115.03	6.382		
9,300.0	7,153.4	9,124.8	7,065.3	61.4	60.8	-83.02	-283.8	1,845.3	734.0	613.7	120.37	6.098		
9,400.0	7,151.9	9,224.8	7,064.5	64.0	63.5	-83.09	-283.8	1,945.3	733.9	608.2	125.74	5.837		
9,500.0	7,150.3	9,324.8	7,063.8	66.7	66.2	-83.15	-283.8	2,045.3	733.9	602.7	131.12	5.597		
9,600.0	7,148.7	9,424.8	7,063.0	69.4	68.9	-83.21	-283.8	2,145.3	733.8	597.2	136.52	5.375		
9,700.0	7,147.2	9,524.8	7,062.2	72.1	71.7	-83.27	-283.8	2,245.3	733.7	591.7	141.94	5.169		
9,800.0	7,145.6	9,624.8	7,061.4	74.8	74.4	-83.33	-283.8	2,345.3	733.6	586.2	147.37	4.978		
9,900.0	7,144.0	9,724.8	7,060.7	77.5	77.1	-83.40	-283.8	2,445.3	733.5	580.7	152.82	4.800		
10,000.0	7,142.5	9,824.8	7,059.9	80.2	79.9	-83.46	-283.8	2,545.2	733.4	575.1	158.28	4.634		

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 Wiedeman 28G-312
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28G-312	<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 #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W - Wiedeman 28F-202 - Wellbore #1 - Plan #1 (8-													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
10,100.0	7,140.9	9,924.8	7,059.1	82.9	82.6	-83.52	-283.8	2,645.2	733.3	569.5	163.75	4.478		
10,200.0	7,139.3	10,024.8	7,058.4	85.7	85.4	-83.58	-283.8	2,745.2	733.2	564.0	169.23	4.333		
10,300.0	7,137.7	10,124.8	7,057.6	88.4	88.1	-83.65	-283.8	2,845.2	733.1	558.4	174.71	4.196		
10,400.0	7,136.2	10,224.8	7,056.8	91.1	90.9	-83.71	-283.8	2,945.2	733.0	552.8	180.21	4.068		
10,500.0	7,134.6	10,324.8	7,056.1	93.9	93.6	-83.77	-283.8	3,045.2	732.9	547.2	185.71	3.947		
10,600.0	7,133.0	10,424.8	7,055.3	96.6	96.4	-83.83	-283.8	3,145.2	732.9	541.6	191.22	3.832		
10,700.0	7,131.5	10,524.8	7,054.5	99.4	99.1	-83.90	-283.8	3,245.2	732.8	536.0	196.74	3.725		
10,800.0	7,129.9	10,624.8	7,053.8	102.1	101.9	-83.96	-283.8	3,345.2	732.7	530.4	202.26	3.622		
10,900.0	7,128.3	10,724.8	7,053.0	104.9	104.7	-84.02	-283.8	3,445.2	732.6	524.8	207.79	3.526		
11,000.0	7,126.7	10,824.8	7,052.2	107.6	107.4	-84.08	-283.8	3,545.2	732.5	519.2	213.32	3.434		
11,100.0	7,125.2	10,924.8	7,051.5	110.4	110.2	-84.15	-283.8	3,645.2	732.4	513.6	218.86	3.347		
11,200.0	7,123.6	11,024.8	7,050.7	113.1	113.0	-84.21	-283.8	3,745.2	732.3	507.9	224.40	3.264		
11,300.0	7,122.0	11,124.7	7,049.9	115.9	115.8	-84.27	-283.8	3,845.2	732.3	502.3	229.95	3.184		
11,400.0	7,120.5	11,224.7	7,049.2	118.7	118.5	-84.33	-283.8	3,945.2	732.2	496.7	235.50	3.109		
11,500.0	7,118.9	11,324.7	7,048.4	121.4	121.3	-84.40	-283.8	4,045.2	732.1	491.1	241.06	3.037		
11,600.0	7,117.3	11,424.7	7,047.6	124.2	123.8	-84.46	-283.8	4,145.1	732.0	485.7	246.37	2.971		
11,664.1	7,116.3	11,488.8	7,047.1	126.0	125.0	-84.50	-283.8	4,209.2	732.0	482.7	249.29	2.936		
11,683.9	7,116.0	11,506.3	7,047.0	126.5	125.3	-84.51	-283.8	4,226.7	732.0	481.8	250.16	2.926 SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28G-312
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28G-312	<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 #1 (7-25-14)	<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		
0.0	0.0	0.0	0.0	0.0	0.0	-180.00	-29.1	0.0	29.1					
100.0	100.0	100.0	100.0	0.1	0.1	-180.00	-29.1	0.0	29.1	28.9	0.22	129.665		
200.0	200.0	200.0	200.0	0.3	0.3	-180.00	-29.1	0.0	29.1	28.5	0.67	43.222 CC		
300.0	300.0	299.0	299.0	0.6	0.5	-178.83	-30.7	-0.6	30.8	29.7	1.10	27.952		
400.0	400.0	397.8	397.7	0.8	0.7	-175.96	-35.5	-2.5	35.7	34.1	1.53	23.268		
500.0	500.0	496.3	495.8	1.0	1.0	-19.14	-43.4	-5.6	42.3	40.4	1.95	21.722		
600.0	599.8	594.5	593.3	1.2	1.3	-17.52	-54.4	-10.0	49.0	46.7	2.36	20.777		
700.0	699.5	692.6	690.1	1.4	1.6	-16.56	-68.4	-15.5	55.8	53.0	2.79	19.963		
800.0	798.7	790.3	786.2	1.7	2.0	-16.04	-85.5	-22.2	62.5	59.3	3.25	19.242		
900.0	897.5	887.9	881.3	2.0	2.4	-15.83	-105.6	-30.2	69.3	65.5	3.73	18.578		
1,000.0	995.6	987.3	977.7	2.3	2.9	-16.02	-128.2	-39.1	75.0	70.7	4.23	17.703		
1,100.0	1,093.4	1,087.2	1,074.5	2.7	3.4	-16.55	-150.9	-48.0	79.1	74.3	4.78	16.554		
1,200.0	1,191.3	1,187.1	1,171.4	3.1	3.9	-17.02	-173.7	-57.0	83.2	77.9	5.33	15.601		
1,300.0	1,289.1	1,287.0	1,268.3	3.6	4.4	-17.45	-196.4	-66.0	87.3	81.4	5.90	14.806		
1,400.0	1,386.9	1,386.9	1,365.2	4.0	4.9	-17.85	-219.2	-75.0	91.4	85.0	6.47	14.128		
1,500.0	1,484.7	1,486.8	1,462.0	4.4	5.4	-18.20	-241.9	-84.0	95.6	88.5	7.05	13.548		
1,600.0	1,582.5	1,586.7	1,558.9	4.9	5.9	-18.53	-264.7	-92.9	99.7	92.1	7.64	13.047		
1,700.0	1,680.4	1,686.7	1,655.8	5.3	6.4	-18.83	-287.4	-101.9	103.8	95.6	8.23	12.610		
1,800.0	1,778.2	1,786.6	1,752.6	5.8	6.9	-19.11	-310.2	-110.9	108.0	99.1	8.83	12.227		
1,900.0	1,876.0	1,886.5	1,849.5	6.2	7.4	-19.37	-332.9	-119.9	112.1	102.7	9.43	11.888		
2,000.0	1,973.8	1,986.4	1,946.4	6.7	8.0	-19.61	-355.7	-128.8	116.3	106.2	10.03	11.586		
2,100.0	2,071.6	2,086.3	2,043.3	7.1	8.5	-19.84	-378.4	-137.8	120.4	109.8	10.64	11.315		
2,200.0	2,169.5	2,186.2	2,140.1	7.6	9.0	-20.04	-401.2	-146.8	124.5	113.3	11.25	11.071		
2,300.0	2,267.3	2,286.1	2,237.0	8.0	9.5	-20.24	-423.9	-155.8	128.7	116.8	11.86	10.851		
2,400.0	2,365.1	2,386.0	2,333.9	8.5	10.0	-20.42	-446.7	-164.7	132.8	120.4	12.47	10.651		
2,500.0	2,462.9	2,486.0	2,430.8	8.9	10.6	-20.59	-469.4	-173.7	137.0	123.9	13.09	10.468		
2,600.0	2,560.7	2,585.9	2,527.6	9.4	11.1	-20.76	-492.2	-182.7	141.1	127.4	13.70	10.300		
2,700.0	2,658.6	2,685.8	2,624.5	9.9	11.6	-20.91	-514.9	-191.7	145.3	131.0	14.32	10.146		
2,800.0	2,756.4	2,785.7	2,721.4	10.3	12.1	-21.05	-537.7	-200.6	149.5	134.5	14.94	10.004		
2,900.0	2,854.2	2,885.6	2,818.3	10.8	12.6	-21.19	-560.4	-209.6	153.6	138.0	15.56	9.872		
3,000.0	2,952.0	2,985.5	2,915.1	11.2	13.1	-21.32	-583.2	-218.6	157.8	141.6	16.18	9.750		
3,100.0	3,049.9	3,085.4	3,012.0	11.7	13.7	-21.44	-605.9	-227.6	161.9	145.1	16.80	9.636		
3,200.0	3,147.7	3,185.3	3,108.9	12.1	14.2	-21.56	-628.7	-236.6	166.1	148.7	17.43	9.530		
3,300.0	3,245.5	3,285.3	3,205.7	12.6	14.7	-21.67	-651.4	-245.5	170.2	152.2	18.05	9.431		
3,400.0	3,343.3	3,385.2	3,302.6	13.1	15.2	-21.77	-674.2	-254.5	174.4	155.7	18.67	9.339		
3,500.0	3,441.1	3,485.1	3,399.5	13.5	15.7	-21.87	-697.0	-263.5	178.6	159.3	19.30	9.252		
3,600.0	3,539.0	3,585.0	3,496.4	14.0	16.3	-21.97	-719.7	-272.5	182.7	162.8	19.93	9.170		
3,700.0	3,636.8	3,684.9	3,593.2	14.4	16.8	-22.06	-742.5	-281.4	186.9	166.3	20.55	9.093		
3,800.0	3,734.6	3,784.8	3,690.1	14.9	17.3	-22.15	-765.2	-290.4	191.0	169.9	21.18	9.020		
3,900.0	3,832.4	3,884.7	3,787.0	15.3	17.8	-22.23	-788.0	-299.4	195.2	173.4	21.81	8.951		
4,000.0	3,930.2	3,984.7	3,883.9	15.8	18.3	-22.31	-810.7	-308.4	199.4	176.9	22.44	8.886		
4,100.0	4,028.1	4,084.6	3,980.7	16.3	18.9	-22.39	-833.5	-317.3	203.5	180.5	23.06	8.824		
4,200.0	4,125.9	4,184.5	4,077.6	16.7	19.4	-22.46	-856.2	-326.3	207.7	184.0	23.69	8.765		
4,300.0	4,223.7	4,284.4	4,174.5	17.2	19.9	-22.53	-879.0	-335.3	211.8	187.5	24.32	8.710		
4,400.0	4,321.5	4,384.3	4,271.3	17.6	20.4	-22.60	-901.7	-344.3	216.0	191.1	24.95	8.656		
4,500.0	4,419.3	4,484.2	4,368.2	18.1	20.9	-22.67	-924.5	-353.3	220.2	194.6	25.58	8.606		
4,600.0	4,517.2	4,584.1	4,465.1	18.5	21.5	-22.73	-947.2	-362.2	224.3	198.1	26.21	8.558		
4,700.0	4,615.0	4,684.0	4,562.0	19.0	22.0	-22.79	-970.0	-371.2	228.5	201.7	26.85	8.512		
4,800.0	4,712.8	4,784.0	4,658.8	19.5	22.5	-22.85	-992.7	-380.2	232.7	205.2	27.48	8.468		
4,900.0	4,810.6	4,883.9	4,755.7	19.9	23.0	-22.91	-1,015.5	-389.2	236.8	208.7	28.11	8.425		
5,000.0	4,908.4	4,983.8	4,852.6	20.4	23.5	-22.96	-1,038.2	-398.1	241.0	212.2	28.74	8.385		

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 Wiedeman 28G-312
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28G-312	<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 #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design				Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W - Wiedeman 28G-212 - Wellbore #1 - Plan #1 (7-25-14)										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					
5,100.0	5,006.3	5,083.7	4,949.5	20.8	24.1	-23.02	-1,061.0	-407.1	245.2	215.8	29.37	8.346					
5,200.0	5,104.1	5,183.6	5,046.3	21.3	24.6	-23.07	-1,083.7	-416.1	249.3	219.3	30.01	8.309					
5,300.0	5,201.9	5,283.5	5,143.2	21.8	25.1	-23.12	-1,106.5	-425.1	253.5	222.8	30.64	8.274					
5,400.0	5,299.7	5,383.4	5,240.1	22.2	25.6	-23.16	-1,129.2	-434.0	257.6	226.4	31.27	8.239					
5,500.0	5,397.5	5,483.3	5,337.0	22.7	26.1	-23.21	-1,152.0	-443.0	261.8	229.9	31.90	8.206					
5,600.0	5,495.4	5,583.3	5,433.8	23.1	26.7	-23.26	-1,174.7	-452.0	266.0	233.4	32.54	8.175					
5,700.0	5,593.2	5,686.4	5,533.9	23.6	27.2	-23.32	-1,198.0	-461.2	269.9	236.8	33.17	8.138					
5,800.0	5,691.0	5,796.2	5,641.1	24.0	27.5	-23.61	-1,219.9	-469.8	271.1	237.3	33.83	8.013					
5,900.0	5,789.1	5,905.9	5,749.1	24.4	27.8	-24.06	-1,237.8	-476.9	269.8	235.4	34.47	7.828					
6,000.0	5,887.8	6,015.5	5,857.7	24.7	28.1	-24.49	-1,252.0	-482.5	268.1	233.1	35.01	7.660					
6,100.0	5,987.0	6,125.1	5,966.7	24.9	28.3	-24.90	-1,262.2	-486.5	266.0	230.6	35.47	7.500					
6,200.0	6,086.5	6,234.5	6,075.9	25.1	28.5	-25.27	-1,268.6	-489.0	263.5	227.7	35.87	7.347					
6,300.0	6,186.4	6,343.8	6,185.1	25.3	28.6	-25.63	-1,271.0	-490.0	260.7	224.4	36.20	7.200					
6,400.0	6,286.3	6,445.0	6,286.3	25.4	28.7	-25.82	-1,271.1	-490.0	258.7	222.3	36.43	7.102					
6,444.7	6,331.0	6,489.7	6,331.0	25.4	28.7	-25.84	-1,271.1	-490.0	258.5	222.0	36.55	7.074					
6,500.0	6,386.3	6,544.9	6,386.2	25.5	28.8	179.53	-1,271.1	-487.9	258.7	207.3	51.38	5.034					
6,600.0	6,486.2	6,643.4	6,483.7	25.6	28.8	87.22	-1,271.1	-474.2	259.0	221.2	37.75	6.861					
6,700.0	6,584.9	6,740.5	6,577.3	25.6	28.8	84.88	-1,271.1	-448.6	259.7	221.2	38.49	6.747					
6,800.0	6,680.6	6,836.4	6,665.8	25.6	28.7	82.64	-1,271.1	-411.9	260.8	221.9	38.97	6.693					
6,900.0	6,771.8	6,931.2	6,748.1	25.5	28.6	80.56	-1,271.1	-365.0	262.2	223.1	39.16	6.696					
7,000.0	6,856.8	7,025.0	6,823.1	25.3	28.5	78.65	-1,271.1	-308.9	263.8	224.7	39.12	6.745					
7,100.0	6,934.3	7,117.8	6,890.2	25.2	28.3	76.95	-1,271.1	-244.7	265.5	226.6	38.94	6.819					
7,200.0	7,002.9	7,209.9	6,948.5	25.0	28.2	75.48	-1,271.1	-173.5	267.2	228.4	38.81	6.885					
7,300.0	7,061.4	7,300.0	6,996.8	24.9	28.1	74.26	-1,271.1	-97.5	268.8	229.9	38.93	6.904					
7,400.0	7,108.8	7,392.2	7,036.7	24.7	28.0	73.26	-1,271.1	-14.5	270.1	230.6	39.55	6.830					
7,500.0	7,144.3	7,482.7	7,065.8	24.6	27.9	72.53	-1,271.1	71.2	271.2	230.4	40.82	6.643					
7,600.0	7,167.4	7,572.9	7,084.6	24.6	27.9	72.06	-1,271.1	159.3	271.9	229.0	42.84	6.347					
7,700.0	7,177.5	7,662.9	7,092.8	24.7	28.0	71.85	-1,271.1	248.9	272.2	226.7	45.54	5.977					
7,800.0	7,177.0	7,759.2	7,092.4	25.4	28.3	71.89	-1,271.1	345.2	272.1	223.3	48.85	5.571					
7,900.0	7,175.4	7,859.2	7,091.3	27.1	29.2	71.97	-1,271.1	445.2	272.0	219.5	52.49	5.182					
8,000.0	7,173.9	7,959.2	7,090.1	29.1	30.6	72.05	-1,271.1	545.2	271.9	215.5	56.41	4.820					
8,100.0	7,172.3	8,059.2	7,088.9	31.2	32.4	72.13	-1,271.1	645.1	271.8	211.2	60.55	4.488					
8,200.0	7,170.7	8,159.2	7,087.7	33.5	34.4	72.21	-1,271.1	745.1	271.6	206.8	64.88	4.187					
8,300.0	7,169.2	8,259.2	7,086.6	35.8	36.7	72.29	-1,271.1	845.1	271.5	202.2	69.36	3.915					
8,400.0	7,167.6	8,359.2	7,085.4	38.2	39.0	72.37	-1,271.1	945.1	271.4	197.4	73.96	3.670					
8,500.0	7,166.0	8,459.2	7,084.2	40.7	41.3	72.46	-1,271.1	1,045.1	271.3	192.6	78.66	3.449					
8,600.0	7,164.4	8,559.2	7,083.1	43.2	43.8	72.54	-1,271.1	1,145.1	271.2	187.7	83.45	3.249					
8,700.0	7,162.9	8,659.2	7,081.9	45.7	46.3	72.62	-1,271.1	1,245.1	271.0	182.7	88.32	3.069					
8,800.0	7,161.3	8,759.2	7,080.7	48.2	48.8	72.70	-1,271.1	1,345.1	270.9	177.7	93.24	2.905					
8,900.0	7,159.7	8,859.2	7,079.6	50.8	51.3	72.78	-1,271.1	1,445.1	270.8	172.6	98.23	2.757					
9,000.0	7,158.2	8,959.2	7,078.4	53.4	53.9	72.86	-1,271.1	1,545.1	270.7	167.4	103.25	2.622					
9,100.0	7,156.6	9,059.2	7,077.2	56.1	56.5	72.94	-1,271.1	1,645.1	270.6	162.2	108.32	2.498					
9,200.0	7,155.0	9,159.2	7,076.1	58.7	59.1	73.02	-1,271.1	1,745.1	270.4	157.0	113.42	2.384					
9,300.0	7,153.4	9,259.2	7,074.9	61.4	61.8	73.10	-1,271.1	1,845.1	270.3	151.8	118.56	2.280					
9,400.0	7,151.9	9,359.2	7,073.7	64.0	64.4	73.19	-1,271.1	1,945.0	270.2	146.5	123.72	2.184					
9,500.0	7,150.3	9,459.2	7,072.5	66.7	67.1	73.27	-1,271.1	2,045.0	270.1	141.2	128.91	2.095					
9,600.0	7,148.7	9,559.2	7,071.4	69.4	69.7	73.35	-1,271.1	2,145.0	270.0	135.9	134.12	2.013					
9,700.0	7,147.2	9,659.1	7,070.2	72.1	72.4	73.43	-1,271.1	2,245.0	269.9	130.5	139.36	1.936					
9,800.0	7,145.6	9,759.1	7,069.0	74.8	75.1	73.51	-1,271.1	2,345.0	269.7	125.1	144.61	1.865					
9,900.0	7,144.0	9,859.1	7,067.9	77.5	77.8	73.59	-1,271.1	2,445.0	269.6	119.8	149.88	1.799					

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 Wiedeman 28G-312
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28G-312	<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 #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W - Wiedeman 28G-212 - Wellbore #1 - Plan #1 (7-25-14)														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			
10,000.0	7,142.5	9,959.1	7,066.7	80.2	80.5	73.68	-1,271.1	2,545.0	269.5	114.4	155.16	1.737			
10,100.0	7,140.9	10,059.1	7,065.5	82.9	83.2	73.76	-1,271.1	2,645.0	269.4	108.9	160.46	1.679			
10,200.0	7,139.3	10,159.1	7,064.4	85.7	85.9	73.84	-1,271.1	2,745.0	269.3	103.5	165.77	1.624			
10,300.0	7,137.7	10,259.1	7,063.2	88.4	88.7	73.92	-1,271.1	2,845.0	269.2	98.1	171.10	1.573			
10,400.0	7,136.2	10,359.1	7,062.0	91.1	91.4	74.00	-1,271.1	2,945.0	269.1	92.6	176.44	1.525			
10,500.0	7,134.6	10,459.1	7,060.9	93.9	94.1	74.09	-1,271.1	3,045.0	269.0	87.2	181.79	1.480	Level 3		
10,600.0	7,133.0	10,559.1	7,059.7	96.6	96.8	74.17	-1,271.1	3,145.0	268.9	81.7	187.15	1.437	Level 3		
10,700.0	7,131.5	10,659.1	7,058.5	99.4	99.6	74.25	-1,271.1	3,245.0	268.7	76.2	192.52	1.396	Level 3		
10,800.0	7,129.9	10,759.1	7,057.3	102.1	102.3	74.33	-1,271.1	3,344.9	268.6	70.7	197.90	1.357	Level 3		
10,900.0	7,128.3	10,859.1	7,056.2	104.9	105.1	74.42	-1,271.1	3,444.9	268.5	65.2	203.29	1.321	Level 3		
11,000.0	7,126.7	10,959.1	7,055.0	107.6	107.8	74.50	-1,271.1	3,544.9	268.4	59.7	208.69	1.286	Level 3		
11,100.0	7,125.2	11,059.1	7,053.8	110.4	110.6	74.58	-1,271.1	3,644.9	268.3	54.2	214.09	1.253	Level 3		
11,200.0	7,123.6	11,159.1	7,052.7	113.1	113.3	74.66	-1,271.1	3,744.9	268.2	48.7	219.51	1.222	Level 2		
11,300.0	7,122.0	11,259.1	7,051.5	115.9	116.1	74.75	-1,271.1	3,844.9	268.1	43.2	224.93	1.192	Level 2		
11,400.0	7,120.5	11,359.1	7,050.3	118.7	118.9	74.83	-1,271.1	3,944.9	268.0	37.6	230.36	1.163	Level 2		
11,500.0	7,118.9	11,459.1	7,049.2	121.4	121.6	74.91	-1,271.1	4,044.9	267.9	32.1	235.79	1.136	Level 2		
11,600.0	7,117.3	11,559.1	7,048.0	124.2	124.4	74.99	-1,271.1	4,144.9	267.8	26.6	241.23	1.110	Level 2		
11,683.9	7,116.0	11,643.1	7,047.0	126.5	126.7	75.06	-1,271.1	4,228.8	267.7	21.9	245.81	1.089	Level 2, ES, SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28G-312
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28G-312	<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 #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W - Wiedeman 28F-234 - Wellbore #1 - Plan #1 (8)										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	2.0	2.0	0.0	0.0	-84.47	29.1	-301.3	302.7					
100.0	100.0	102.0	102.0	0.1	0.1	-84.47	29.1	-301.3	302.7	302.5	0.23	1,320.383		
200.0	200.0	202.0	202.0	0.3	0.3	-84.47	29.1	-301.3	302.7	302.0	0.68	445.957		
300.0	300.0	302.0	302.0	0.6	0.6	-84.47	29.1	-301.3	302.7	301.6	1.13	268.285		
400.0	400.0	402.0	402.0	0.8	0.8	-84.47	29.1	-301.3	302.7	301.1	1.58	191.851		
500.0	500.0	502.0	502.0	1.0	1.0	70.02	29.1	-301.3	302.1	300.1	2.00	150.899		
600.0	599.8	601.8	601.8	1.2	1.2	70.99	29.1	-301.3	300.4	297.9	2.42	124.191		
700.0	699.5	698.5	698.5	1.4	1.4	72.26	27.6	-302.0	298.1	295.3	2.83	105.340		
800.0	798.7	795.5	795.3	1.7	1.6	73.56	23.1	-304.1	296.0	292.7	3.27	90.625		
900.0	897.5	892.6	892.1	2.0	1.8	74.90	15.6	-307.6	293.9	290.1	3.77	77.984		
1,000.0	995.6	990.2	989.0	2.3	2.0	76.27	5.1	-312.4	291.8	287.5	4.35	67.039		
1,100.0	1,093.4	1,089.9	1,087.8	2.7	2.3	77.70	-7.0	-318.0	289.9	284.9	5.02	57.803		
1,200.0	1,191.3	1,189.6	1,186.7	3.1	2.6	79.15	-19.1	-323.6	288.2	282.5	5.71	50.428		
1,300.0	1,289.1	1,289.4	1,285.5	3.6	2.9	80.62	-31.2	-329.2	286.6	280.2	6.44	44.509		
1,400.0	1,386.9	1,389.1	1,384.3	4.0	3.2	82.09	-43.3	-334.8	285.2	278.1	7.18	39.711		
1,500.0	1,484.7	1,488.8	1,483.1	4.4	3.5	83.59	-55.3	-340.4	284.1	276.1	7.94	35.777		
1,600.0	1,582.5	1,588.5	1,581.9	4.9	3.8	85.09	-67.4	-346.0	283.1	274.4	8.71	32.516		
1,700.0	1,680.4	1,688.2	1,680.8	5.3	4.2	86.60	-79.5	-351.6	282.3	272.8	9.48	29.784		
1,800.0	1,778.2	1,787.9	1,779.6	5.8	4.5	88.12	-91.6	-357.2	281.7	271.5	10.26	27.472		
1,900.0	1,876.0	1,887.7	1,878.4	6.2	4.8	89.65	-103.7	-362.7	281.4	270.3	11.03	25.501		
2,000.0	1,973.8	1,987.4	1,977.2	6.7	5.1	91.18	-115.7	-368.3	281.2	269.4	11.81	23.806		
2,039.2	2,012.2	2,026.4	2,016.0	6.9	5.3	91.78	-120.5	-370.5	281.2	269.0	12.12	23.207 CC		
2,100.0	2,071.6	2,087.1	2,076.1	7.1	5.5	92.71	-127.8	-373.9	281.2	268.6	12.59	22.341		
2,200.0	2,169.5	2,186.8	2,174.9	7.6	5.8	94.24	-139.9	-379.5	281.4	268.1	13.36	21.065		
2,300.0	2,267.3	2,286.5	2,273.7	8.0	6.1	95.76	-152.0	-385.1	281.8	267.7	14.13	19.950		
2,400.0	2,365.1	2,386.2	2,372.5	8.5	6.5	97.28	-164.1	-390.7	282.5	267.6	14.89	18.971 ES		
2,500.0	2,462.9	2,486.0	2,471.4	8.9	6.8	98.79	-176.1	-396.3	283.3	267.6	15.65	18.107		
2,600.0	2,560.7	2,585.7	2,570.2	9.4	7.1	100.29	-188.2	-401.9	284.3	267.9	16.39	17.344		
2,700.0	2,658.6	2,685.4	2,669.0	9.9	7.5	101.78	-200.3	-407.4	285.5	268.4	17.13	16.666		
2,800.0	2,756.4	2,785.1	2,767.8	10.3	7.8	103.26	-212.4	-413.0	286.9	269.1	17.86	16.064		
2,900.0	2,854.2	2,884.8	2,866.7	10.8	8.1	104.72	-224.5	-418.6	288.5	269.9	18.58	15.528		
3,000.0	2,952.0	2,984.5	2,965.5	11.2	8.5	106.16	-236.5	-424.2	290.3	271.0	19.29	15.049		
3,100.0	3,049.9	3,084.3	3,064.3	11.7	8.8	107.59	-248.6	-429.8	292.3	272.3	19.99	14.622		
3,200.0	3,147.7	3,184.0	3,163.1	12.1	9.2	108.99	-260.7	-435.4	294.4	273.7	20.68	14.240		
3,300.0	3,245.5	3,283.7	3,262.0	12.6	9.5	110.38	-272.8	-441.0	296.7	275.4	21.35	13.897		
3,400.0	3,343.3	3,383.4	3,360.8	13.1	9.8	111.74	-284.9	-446.6	299.2	277.2	22.02	13.591		
3,500.0	3,441.1	3,483.1	3,459.6	13.5	10.2	113.08	-296.9	-452.2	301.9	279.2	22.67	13.317		
3,600.0	3,539.0	3,582.8	3,558.4	14.0	10.5	114.40	-309.0	-457.7	304.7	281.4	23.31	13.071		
3,700.0	3,636.8	3,682.6	3,657.3	14.4	10.9	115.69	-321.1	-463.3	307.7	283.8	23.94	12.852		
3,800.0	3,734.6	3,782.3	3,756.1	14.9	11.2	116.95	-333.2	-468.9	310.8	286.3	24.56	12.655		
3,900.0	3,832.4	3,882.0	3,854.9	15.3	11.5	118.19	-345.3	-474.5	314.1	288.9	25.17	12.480		
4,000.0	3,930.2	3,981.7	3,953.7	15.8	11.9	119.41	-357.4	-480.1	317.5	291.8	25.77	12.323		
4,100.0	4,028.1	4,081.4	4,052.5	16.3	12.2	120.59	-369.4	-485.7	321.1	294.8	26.36	12.184		
4,200.0	4,125.9	4,181.1	4,151.4	16.7	12.6	121.75	-381.5	-491.3	324.8	297.9	26.93	12.060		
4,300.0	4,223.7	4,280.8	4,250.2	17.2	12.9	122.89	-393.6	-496.9	328.6	301.1	27.50	11.950		
4,400.0	4,321.5	4,380.6	4,349.0	17.6	13.2	124.00	-405.7	-502.5	332.6	304.5	28.06	11.853		
4,500.0	4,419.3	4,480.3	4,447.8	18.1	13.6	125.08	-417.8	-508.0	336.7	308.1	28.61	11.767		
4,600.0	4,517.2	4,580.0	4,546.7	18.5	13.9	126.13	-429.8	-513.6	340.9	311.7	29.15	11.692		
4,700.0	4,615.0	4,679.7	4,645.5	19.0	14.3	127.16	-441.9	-519.2	345.2	315.5	29.69	11.627		
4,800.0	4,712.8	4,779.4	4,744.3	19.5	14.6	128.17	-454.0	-524.8	349.6	319.4	30.22	11.571		
4,900.0	4,810.6	4,879.1	4,843.1	19.9	14.9	129.15	-466.1	-530.4	354.1	323.4	30.74	11.522		

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 Wiedeman 28G-312
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28G-312	<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 #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W - Wiedeman 28F-234 - Wellbore #1 - Plan #1 (8)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,000.0	4,908.4	4,978.9	4,942.0	20.4	15.3	130.10	-478.2	-536.0	358.8	327.5	31.25	11.481		
5,100.0	5,006.3	5,078.6	5,040.8	20.8	15.6	131.03	-490.2	-541.6	363.5	331.7	31.76	11.446		
5,200.0	5,104.1	5,178.3	5,139.6	21.3	16.0	131.93	-502.3	-547.2	368.3	336.0	32.26	11.417		
5,300.0	5,201.9	5,278.0	5,238.4	21.8	16.3	132.82	-514.4	-552.7	373.2	340.5	32.76	11.394		
5,400.0	5,299.7	5,377.7	5,337.3	22.2	16.6	133.67	-526.5	-558.3	378.2	345.0	33.25	11.375		
5,500.0	5,397.5	5,477.4	5,436.1	22.7	17.0	134.51	-538.6	-563.9	383.3	349.5	33.74	11.361		
5,600.0	5,495.4	5,577.2	5,534.9	23.1	17.3	135.32	-550.6	-569.5	388.4	354.2	34.22	11.351		
5,700.0	5,593.2	5,676.9	5,633.7	23.6	17.7	136.12	-562.7	-575.1	393.7	359.0	34.70	11.345		
5,800.0	5,691.0	5,775.2	5,731.2	24.0	18.0	136.88	-574.6	-580.6	399.0	363.8	35.17	11.346		
5,900.0	5,789.1	5,865.4	5,820.8	24.4	18.2	137.70	-583.9	-584.9	405.0	369.5	35.49	11.410		
6,000.0	5,887.8	5,955.4	5,910.4	24.7	18.4	138.46	-590.5	-588.0	410.8	375.1	35.72	11.503		
6,100.0	5,987.0	6,045.1	6,000.1	24.9	18.5	139.17	-594.7	-589.9	416.5	380.6	35.90	11.604		
6,200.0	6,086.5	6,134.8	6,089.7	25.1	18.7	139.83	-596.2	-590.6	422.0	386.0	36.04	11.709		
6,300.0	6,186.4	6,233.4	6,188.4	25.3	18.8	140.37	-596.2	-590.6	426.4	390.2	36.19	11.784		
6,400.0	6,286.3	6,333.4	6,288.3	25.4	18.9	140.58	-596.2	-590.6	428.1	391.8	36.36	11.773		
6,500.0	6,386.3	6,422.1	6,376.9	25.5	19.1	-14.17	-596.2	-595.1	429.4	389.9	39.51	10.868 SF		
6,600.0	6,486.2	6,507.3	6,460.9	25.6	19.3	-105.99	-596.2	-609.0	434.6	397.0	37.66	11.540		
6,700.0	6,584.9	6,583.6	6,534.4	25.6	19.5	-108.95	-596.2	-629.3	448.4	409.9	38.59	11.619		
6,800.0	6,680.6	6,650.0	6,596.5	25.6	19.8	-111.93	-596.2	-652.9	474.4	435.2	39.22	12.098		
6,900.0	6,771.8	6,700.0	6,641.7	25.5	20.0	-113.33	-596.2	-674.2	515.0	475.8	39.15	13.155		
7,000.0	6,856.8	6,730.0	6,668.2	25.3	20.1	-111.79	-596.2	-688.3	570.0	531.7	38.34	14.869		
7,100.0	6,934.3	6,750.0	6,685.5	25.2	20.2	-107.54	-596.2	-698.3	637.6	600.4	37.22	17.130		
7,200.0	7,002.9	6,764.7	6,698.0	25.0	20.3	-100.57	-596.2	-706.0	714.5	678.4	36.15	19.766		
7,300.0	7,061.4	6,768.3	6,701.1	24.9	20.3	-89.86	-596.2	-707.9	797.7	762.7	35.01	22.788		
7,400.0	7,108.8	6,765.0	6,698.3	24.7	20.3	-76.53	-596.2	-706.1	884.3	850.8	33.44	26.444		
7,500.0	7,144.3	6,750.0	6,685.5	24.6	20.2	-62.05	-596.2	-698.3	972.1	941.2	30.81	31.546		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28G-312
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28G-312	<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 #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W - Wiedeman 28G-214 - Wellbore #1 - Plan #1 (8														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
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	1.0	1.0	0.0	0.0	-95.52	-29.1	-301.3	302.7						
100.0	100.0	101.0	101.0	0.1	0.1	-95.52	-29.1	-301.3	302.7	302.5	0.23	1,333.458			
166.3	166.3	167.3	167.3	0.3	0.3	-95.52	-29.1	-301.3	302.7	302.2	0.53	576.390			
200.0	200.0	200.0	200.0	0.3	0.3	-95.52	-29.1	-301.3	302.7	302.0	0.67	448.933			
300.0	300.0	297.6	297.6	0.6	0.5	-95.82	-30.8	-301.7	303.3	302.2	1.10	276.544			
400.0	400.0	394.1	393.9	0.8	0.7	-96.69	-35.5	-302.8	305.0	303.5	1.52	200.316			
500.0	500.0	490.2	489.7	1.0	1.0	56.28	-43.4	-304.7	307.0	305.0	1.95	157.544			
600.0	599.8	586.2	585.0	1.2	1.2	55.08	-54.4	-307.3	308.4	306.0	2.40	128.421			
700.0	699.5	681.9	679.6	1.4	1.6	53.85	-68.5	-310.6	309.3	306.4	2.91	106.132			
800.0	798.7	777.4	773.5	1.7	1.9	52.59	-85.6	-314.6	309.6	306.1	3.49	88.667			
900.0	897.5	872.7	866.5	2.0	2.3	51.31	-105.7	-319.4	309.3	305.2	4.13	74.832			
1,000.0	995.6	972.1	963.2	2.3	2.8	50.17	-128.4	-324.7	307.9	303.0	4.86	63.384			
1,100.0	1,093.4	1,072.0	1,060.3	2.7	3.3	49.24	-151.2	-330.1	305.4	299.8	5.62	54.367			
1,200.0	1,191.3	1,171.8	1,157.3	3.1	3.7	48.29	-174.0	-335.5	303.0	296.6	6.39	47.445			
1,300.0	1,289.1	1,271.7	1,254.4	3.6	4.2	47.33	-196.8	-340.9	300.7	293.6	7.16	42.019			
1,400.0	1,386.9	1,371.5	1,351.4	4.0	4.7	46.35	-219.6	-346.2	298.5	290.6	7.93	37.670			
1,500.0	1,484.7	1,471.4	1,448.5	4.4	5.2	45.36	-242.4	-351.6	296.4	287.7	8.69	34.124			
1,600.0	1,582.5	1,571.2	1,545.5	4.9	5.7	44.35	-265.3	-357.0	294.4	285.0	9.44	31.188			
1,700.0	1,680.4	1,671.1	1,642.6	5.3	6.2	43.33	-288.1	-362.4	292.5	282.3	10.18	28.724			
1,800.0	1,778.2	1,770.9	1,739.6	5.8	6.7	42.30	-310.9	-367.8	290.7	279.7	10.91	26.632			
1,900.0	1,876.0	1,870.7	1,836.7	6.2	7.2	41.26	-333.7	-373.1	288.9	277.3	11.63	24.839			
2,000.0	1,973.8	1,970.6	1,933.7	6.7	7.7	40.20	-356.5	-378.5	287.3	274.9	12.34	23.287			
2,100.0	2,071.6	2,070.4	2,030.8	7.1	8.2	39.13	-379.3	-383.9	285.7	272.7	13.03	21.935			
2,200.0	2,169.5	2,170.3	2,127.9	7.6	8.7	38.05	-402.1	-389.3	284.3	270.6	13.70	20.750			
2,300.0	2,267.3	2,270.1	2,224.9	8.0	9.2	36.96	-424.9	-394.7	282.9	268.6	14.36	19.703			
2,400.0	2,365.1	2,370.0	2,322.0	8.5	9.7	35.86	-447.8	-400.0	281.7	266.7	15.00	18.776			
2,500.0	2,462.9	2,469.8	2,419.0	8.9	10.2	34.75	-470.6	-405.4	280.6	264.9	15.63	17.950			
2,600.0	2,560.7	2,569.7	2,516.1	9.4	10.7	33.63	-493.4	-410.8	279.6	263.3	16.24	17.211			
2,700.0	2,658.6	2,669.5	2,613.1	9.9	11.2	32.51	-516.2	-416.2	278.6	261.8	16.84	16.549			
2,800.0	2,756.4	2,769.4	2,710.2	10.3	11.7	31.37	-539.0	-421.6	277.8	260.4	17.42	15.953			
2,900.0	2,854.2	2,869.2	2,807.2	10.8	12.2	30.24	-561.8	-427.0	277.1	259.2	17.98	15.415			
3,000.0	2,952.0	2,969.0	2,904.3	11.2	12.7	29.09	-584.6	-432.3	276.5	258.0	18.52	14.929			
3,100.0	3,049.9	3,068.9	3,001.3	11.7	13.2	27.94	-607.4	-437.7	276.1	257.0	19.05	14.489			
3,200.0	3,147.7	3,168.7	3,098.4	12.1	13.7	26.79	-630.3	-443.1	275.7	256.1	19.57	14.089			
3,300.0	3,245.5	3,268.6	3,195.5	12.6	14.2	25.63	-653.1	-448.5	275.4	255.4	20.07	13.725			
3,400.0	3,343.3	3,368.4	3,292.5	13.1	14.7	24.48	-675.9	-453.9	275.3	254.7	20.56	13.393			
3,475.2	3,416.8	3,443.5	3,365.5	13.4	15.1	23.61	-693.0	-457.9	275.3	254.4	20.91	13.164			
3,500.0	3,441.1	3,468.3	3,389.6	13.5	15.2	23.32	-698.7	-459.2	275.3	254.2	21.03	13.091			
3,600.0	3,539.0	3,568.1	3,486.6	14.0	15.7	22.16	-721.5	-464.6	275.4	253.9	21.49	12.815			
3,700.0	3,636.8	3,668.0	3,583.7	14.4	16.2	21.01	-744.3	-470.0	275.6	253.6	21.94	12.562			
3,800.0	3,734.6	3,767.8	3,680.7	14.9	16.7	19.85	-767.1	-475.4	275.9	253.5	22.37	12.330			
3,900.0	3,832.4	3,867.6	3,777.8	15.3	17.2	18.70	-790.0	-480.8	276.3	253.5	22.80	12.118			
4,000.0	3,930.2	3,967.5	3,874.8	15.8	17.7	17.56	-812.8	-486.1	276.8	253.6	23.22	11.922			
4,100.0	4,028.1	4,067.3	3,971.9	16.3	18.2	16.41	-835.6	-491.5	277.5	253.8	23.63	11.741			
4,200.0	4,125.9	4,167.2	4,068.9	16.7	18.7	15.28	-858.4	-496.9	278.2	254.2	24.04	11.575			
4,300.0	4,223.7	4,267.0	4,166.0	17.2	19.2	14.15	-881.2	-502.3	279.1	254.6	24.44	11.420			
4,400.0	4,321.5	4,366.9	4,263.1	17.6	19.7	13.03	-904.0	-507.7	280.1	255.2	24.83	11.277			
4,500.0	4,419.3	4,466.7	4,360.1	18.1	20.2	11.91	-926.8	-513.0	281.1	255.9	25.23	11.143			
4,600.0	4,517.2	4,566.6	4,457.2	18.5	20.7	10.81	-949.6	-518.4	282.3	256.7	25.62	11.018			
4,700.0	4,615.0	4,666.4	4,554.2	19.0	21.2	9.71	-972.5	-523.8	283.6	257.6	26.02	10.901			
4,800.0	4,712.8	4,766.2	4,651.3	19.5	21.7	8.63	-995.3	-529.2	285.0	258.6	26.41	10.791			

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 Wiedeman 28G-312
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28G-312	<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 #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W - Wiedeman 28G-214 - Wellbore #1 - Plan #1 (8														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	4,810.6	4,866.1	4,748.3	19.9	22.2	7.55	-1,018.1	-534.6	286.5	259.7	26.81	10.686			
5,000.0	4,908.4	4,965.9	4,845.4	20.4	22.7	6.49	-1,040.9	-540.0	288.1	260.9	27.21	10.587			
5,100.0	5,006.3	5,065.8	4,942.4	20.8	23.2	5.44	-1,063.7	-545.3	289.8	262.1	27.62	10.492			
5,200.0	5,104.1	5,165.6	5,039.5	21.3	23.7	4.40	-1,086.5	-550.7	291.6	263.5	28.03	10.401			
5,300.0	5,201.9	5,265.5	5,136.6	21.8	24.2	3.37	-1,109.3	-556.1	293.4	265.0	28.45	10.314			
5,400.0	5,299.7	5,365.3	5,233.6	22.2	24.7	2.36	-1,132.1	-561.5	295.4	266.5	28.88	10.229			
5,500.0	5,397.5	5,465.2	5,330.7	22.7	25.2	1.36	-1,155.0	-566.9	297.5	268.2	29.32	10.146			
5,600.0	5,495.4	5,565.0	5,427.7	23.1	25.7	0.38	-1,177.8	-572.2	299.6	269.9	29.77	10.066			
5,700.0	5,593.2	5,676.3	5,536.4	23.6	26.1	-0.62	-1,201.1	-577.8	300.0	269.8	30.20	9.934			
5,800.0	5,691.0	5,787.5	5,645.8	24.0	26.4	-1.46	-1,220.4	-582.3	296.6	265.9	30.63	9.683			
5,900.0	5,789.1	5,898.5	5,755.7	24.4	26.7	-2.15	-1,235.4	-585.8	290.7	259.6	31.04	9.365			
6,000.0	5,887.8	6,009.2	5,865.9	24.7	26.9	-2.69	-1,246.3	-588.4	284.5	253.1	31.38	9.065			
6,100.0	5,987.0	6,119.7	5,976.1	24.9	27.1	-3.06	-1,253.0	-590.0	278.0	246.3	31.67	8.776			
6,200.0	6,086.5	6,229.9	6,086.2	25.1	27.2	-3.26	-1,255.6	-590.6	271.1	239.2	31.92	8.495			
6,300.0	6,186.4	6,331.0	6,187.4	25.3	27.3	-3.33	-1,255.6	-590.6	265.5	233.4	32.11	8.267			
6,400.0	6,286.3	6,430.9	6,287.3	25.4	27.4	-3.36	-1,255.6	-590.6	263.3	231.0	32.25	8.163			
6,414.8	6,301.1	6,444.9	6,301.2	25.4	27.4	-3.35	-1,255.6	-590.6	263.2	230.9	32.29	8.151 CC			
6,500.0	6,386.3	6,519.8	6,376.0	25.5	27.5	-156.65	-1,255.6	-595.0	265.2	212.5	52.71	5.031 ES, SF			
6,600.0	6,486.2	6,605.0	6,460.1	25.6	27.6	116.09	-1,255.6	-608.8	273.6	240.7	32.83	8.332			
6,700.0	6,584.9	6,681.3	6,533.6	25.6	27.8	120.40	-1,255.6	-629.1	294.9	261.9	33.01	8.934			
6,800.0	6,680.6	6,750.0	6,597.8	25.6	27.9	124.78	-1,255.6	-653.5	333.0	300.0	32.97	10.101			
6,900.0	6,771.8	6,800.0	6,643.0	25.5	28.1	126.67	-1,255.6	-674.8	388.5	356.3	32.23	12.055			
7,000.0	6,856.8	6,828.0	6,667.7	25.3	28.2	124.38	-1,255.6	-688.1	458.8	427.9	30.97	14.815			
7,100.0	6,934.3	6,850.0	6,686.7	25.2	28.2	118.77	-1,255.6	-699.1	540.4	510.0	30.40	17.773			
7,200.0	7,002.9	6,862.7	6,697.6	25.0	28.3	107.78	-1,255.6	-705.7	629.2	597.1	32.14	19.575			
7,300.0	7,061.4	6,866.4	6,700.7	24.9	28.3	89.86	-1,255.6	-707.6	722.2	685.7	36.50	19.785			
7,400.0	7,108.8	6,863.1	6,697.9	24.7	28.3	67.82	-1,255.6	-705.9	816.8	777.8	38.97	20.957			
7,500.0	7,144.3	6,850.0	6,686.7	24.6	28.2	48.07	-1,255.6	-699.1	911.0	874.8	36.24	25.140			



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28G-312
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28G-312	<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 #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W - Wiedeman 28G-314 - Wellbore #1 - Plan #1 (8)										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	2.0	2.0	0.0	0.0	-90.00	0.0	-301.3	301.3							
100.0	100.0	102.0	102.0	0.1	0.1	-90.00	0.0	-301.3	301.3	301.1	0.23	1,314.250				
200.0	200.0	202.0	202.0	0.3	0.3	-90.00	0.0	-301.3	301.3	300.6	0.68	443.886				
300.0	300.0	302.0	302.0	0.6	0.6	-90.00	0.0	-301.3	301.3	300.2	1.13	267.039				
366.0	366.0	368.0	368.0	0.7	0.7	-90.00	0.0	-301.3	301.3	299.9	1.42	211.450				
400.0	400.0	401.9	401.9	0.8	0.8	-90.00	0.0	-301.3	301.3	299.7	1.58	191.036				
500.0	500.0	500.0	500.0	1.0	1.0	64.15	-1.7	-301.8	301.0	299.0	1.97	152.718				
600.0	599.8	596.7	596.5	1.2	1.2	64.12	-6.5	-303.0	300.0	297.7	2.35	127.833				
700.0	699.5	694.0	693.5	1.4	1.4	64.07	-14.6	-305.2	298.4	295.7	2.78	107.443				
800.0	798.7	791.4	790.2	1.7	1.6	64.00	-25.8	-308.2	296.2	292.9	3.27	90.449				
900.0	897.5	888.7	886.3	2.0	1.9	63.92	-40.2	-312.0	293.3	289.5	3.85	76.137				
1,000.0	995.6	986.0	981.9	2.3	2.3	63.81	-57.7	-316.6	289.8	285.3	4.52	64.078				
1,100.0	1,093.4	1,085.2	1,078.9	2.7	2.7	63.47	-78.0	-322.0	286.2	280.9	5.27	54.266				
1,200.0	1,191.3	1,185.1	1,176.5	3.1	3.1	63.08	-98.5	-327.5	282.6	276.6	6.06	46.624				
1,300.0	1,289.1	1,285.0	1,274.2	3.6	3.5	62.69	-119.0	-332.9	279.1	272.2	6.87	40.632				
1,400.0	1,386.9	1,385.0	1,371.8	4.0	3.9	62.28	-139.5	-338.4	275.6	267.9	7.69	35.846				
1,500.0	1,484.7	1,484.9	1,469.4	4.4	4.4	61.87	-160.0	-343.8	272.0	263.5	8.51	31.958				
1,600.0	1,582.5	1,584.8	1,567.1	4.9	4.8	61.44	-180.5	-349.3	268.5	259.2	9.34	28.745				
1,700.0	1,680.4	1,684.7	1,664.7	5.3	5.3	61.00	-201.0	-354.7	265.1	254.9	10.17	26.053				
1,800.0	1,778.2	1,784.6	1,762.4	5.8	5.7	60.55	-221.6	-360.2	261.6	250.6	11.01	23.769				
1,900.0	1,876.0	1,884.5	1,860.0	6.2	6.2	60.09	-242.1	-365.6	258.1	246.3	11.84	21.809				
2,000.0	1,973.8	1,984.5	1,957.6	6.7	6.7	59.62	-262.6	-371.1	254.7	242.0	12.66	20.111				
2,100.0	2,071.6	2,084.4	2,055.3	7.1	7.1	59.13	-283.1	-376.5	251.3	237.8	13.49	18.627				
2,200.0	2,169.5	2,184.3	2,152.9	7.6	7.6	58.63	-303.6	-381.9	247.9	233.6	14.31	17.319				
2,300.0	2,267.3	2,284.2	2,250.5	8.0	8.0	58.12	-324.1	-387.4	244.5	229.4	15.13	16.159				
2,400.0	2,365.1	2,384.1	2,348.2	8.5	8.5	57.59	-344.6	-392.8	241.1	225.2	15.94	15.124				
2,500.0	2,462.9	2,484.1	2,445.8	8.9	8.9	57.04	-365.1	-398.3	237.8	221.1	16.75	14.196				
2,600.0	2,560.7	2,584.0	2,543.5	9.4	9.4	56.49	-385.7	-403.7	234.5	216.9	17.55	13.358				
2,700.0	2,658.6	2,683.9	2,641.1	9.9	9.9	55.91	-406.2	-409.2	231.2	212.8	18.35	12.600				
2,800.0	2,756.4	2,783.8	2,738.7	10.3	10.3	55.32	-426.7	-414.6	227.9	208.8	19.14	11.910				
2,900.0	2,854.2	2,883.7	2,836.4	10.8	10.8	54.71	-447.2	-420.1	224.7	204.8	19.92	11.281				
3,000.0	2,952.0	2,983.7	2,934.0	11.2	11.3	54.09	-467.7	-425.5	221.5	200.8	20.69	10.704				
3,100.0	3,049.9	3,083.6	3,031.7	11.7	11.7	53.44	-488.2	-431.0	218.3	196.8	21.45	10.174				
3,200.0	3,147.7	3,183.5	3,129.3	12.1	12.2	52.78	-508.7	-436.4	215.1	192.9	22.21	9.687				
3,300.0	3,245.5	3,283.4	3,226.9	12.6	12.6	52.09	-529.2	-441.9	212.0	189.0	22.95	9.236				
3,400.0	3,343.3	3,383.3	3,324.6	13.1	13.1	51.39	-549.8	-447.3	208.9	185.2	23.68	8.820				
3,500.0	3,441.1	3,483.2	3,422.2	13.5	13.6	50.67	-570.3	-452.8	205.8	181.4	24.40	8.433				
3,600.0	3,539.0	3,583.2	3,519.8	14.0	14.0	49.92	-590.8	-458.2	202.8	177.7	25.11	8.075				
3,700.0	3,636.8	3,683.1	3,617.5	14.4	14.5	49.15	-611.3	-463.7	199.8	174.0	25.81	7.741				
3,800.0	3,734.6	3,783.0	3,715.1	14.9	15.0	48.36	-631.8	-469.1	196.8	170.3	26.49	7.430				
3,900.0	3,832.4	3,882.9	3,812.8	15.3	15.4	47.54	-652.3	-474.6	193.9	166.7	27.15	7.140				
4,000.0	3,930.2	3,982.8	3,910.4	15.8	15.9	46.70	-672.8	-480.0	191.0	163.2	27.81	6.869				
4,100.0	4,028.1	4,082.8	4,008.0	16.3	16.3	45.84	-693.3	-485.5	188.2	159.7	28.44	6.616				
4,200.0	4,125.9	4,182.7	4,105.7	16.7	16.8	44.94	-713.9	-490.9	185.4	156.3	29.06	6.379				
4,300.0	4,223.7	4,282.6	4,203.3	17.2	17.3	44.02	-734.4	-496.4	182.6	152.9	29.66	6.158				
4,400.0	4,321.5	4,382.5	4,301.0	17.6	17.7	43.07	-754.9	-501.8	179.9	149.7	30.23	5.950				
4,500.0	4,419.3	4,482.4	4,398.6	18.1	18.2	42.10	-775.4	-507.3	177.2	146.5	30.79	5.756				
4,600.0	4,517.2	4,582.3	4,496.2	18.5	18.7	41.09	-795.9	-512.7	174.6	143.3	31.33	5.574				
4,700.0	4,615.0	4,682.3	4,593.9	19.0	19.1	40.06	-816.4	-518.2	172.1	140.3	31.85	5.404				
4,800.0	4,712.8	4,782.2	4,691.5	19.5	19.6	38.99	-836.9	-523.6	169.6	137.3	32.34	5.245				
4,900.0	4,810.6	4,882.1	4,789.1	19.9	20.1	37.89	-857.5	-529.1	167.2	134.4	32.81	5.096				

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 Wiedeman 28G-312
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28G-312	<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 #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W - Wiedeman 28G-314 - Wellbore #1 - Plan #1 (8)														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	4,908.4	4,982.0	4,886.8	20.4	20.5	36.76	-878.0	-534.5	164.8	131.6	33.25	4.957			
5,100.0	5,006.3	5,081.9	4,984.4	20.8	21.0	35.60	-898.5	-539.9	162.5	128.9	33.67	4.827			
5,200.0	5,104.1	5,181.9	5,082.1	21.3	21.5	34.40	-919.0	-545.4	160.3	126.2	34.07	4.706			
5,300.0	5,201.9	5,281.8	5,179.7	21.8	21.9	33.18	-939.5	-550.8	158.2	123.7	34.44	4.593			
5,400.0	5,299.7	5,381.7	5,277.3	22.2	22.4	31.92	-960.0	-556.3	156.1	121.3	34.78	4.488			
5,500.0	5,397.5	5,481.6	5,375.0	22.7	22.8	30.62	-980.5	-561.7	154.1	119.0	35.09	4.390			
5,600.0	5,495.4	5,581.5	5,472.6	23.1	23.3	29.29	-1,001.0	-567.2	152.2	116.8	35.38	4.300			
5,700.0	5,593.2	5,681.5	5,570.2	23.6	23.8	27.93	-1,021.6	-572.6	150.3	114.7	35.65	4.217			
5,800.0	5,691.0	5,784.7	5,671.4	24.0	24.2	26.76	-1,041.7	-578.0	147.7	111.8	35.92	4.111			
5,900.0	5,789.1	5,888.8	5,774.0	24.4	24.5	26.15	-1,058.4	-582.4	143.4	107.1	36.28	3.953			
6,000.0	5,887.8	5,992.8	5,877.2	24.7	24.7	25.79	-1,071.6	-585.9	139.3	102.7	36.59	3.808			
6,100.0	5,987.0	6,096.8	5,980.6	24.9	24.9	25.69	-1,081.1	-588.4	135.5	98.6	36.93	3.670			
6,200.0	6,086.5	6,200.6	6,084.3	25.1	25.1	25.88	-1,086.9	-590.0	131.9	94.6	37.29	3.538			
6,300.0	6,186.4	6,304.3	6,187.9	25.3	25.2	26.38	-1,089.2	-590.6	128.6	90.9	37.68	3.412			
6,400.0	6,286.3	6,404.7	6,288.3	25.4	25.3	26.81	-1,089.2	-590.6	126.6	88.6	38.00	3.332			
6,443.6	6,329.9	6,448.3	6,331.9	25.4	25.4	26.84	-1,089.2	-590.6	126.5	88.3	38.12	3.317 CC			
6,500.0	6,386.3	6,504.7	6,388.3	25.5	25.4	-127.36	-1,089.2	-590.6	126.6	80.5	46.10	2.746 ES, SF			
6,600.0	6,486.2	6,592.9	6,476.4	25.6	25.5	144.31	-1,089.2	-595.1	133.5	94.8	38.63	3.455			
6,700.0	6,584.9	6,674.4	6,556.8	25.6	25.7	148.91	-1,089.2	-608.2	160.4	121.1	39.29	4.082			
6,800.0	6,680.6	6,744.3	6,624.3	25.6	25.8	153.24	-1,089.2	-626.3	208.0	168.8	39.17	5.309			
6,900.0	6,771.8	6,800.0	6,676.7	25.5	26.0	155.70	-1,089.2	-645.0	273.5	235.7	37.78	7.240			
7,000.0	6,856.8	6,840.9	6,714.3	25.3	26.1	155.81	-1,089.2	-661.2	352.8	317.6	35.16	10.034			
7,100.0	6,934.3	6,868.8	6,739.4	25.2	26.2	152.88	-1,089.2	-673.4	441.7	410.1	31.58	13.987			
7,200.0	7,002.9	6,885.5	6,754.2	25.0	26.2	143.86	-1,089.2	-681.1	536.6	508.8	27.85	19.269			
7,300.0	7,061.4	6,900.0	6,766.9	24.9	26.3	119.94	-1,089.2	-688.0	634.9	605.5	29.47	21.544			
7,400.0	7,108.8	6,900.0	6,766.9	24.7	26.3	59.77	-1,089.2	-688.0	734.2	696.3	37.91	19.365			
7,500.0	7,144.3	6,885.9	6,754.6	24.6	26.2	25.67	-1,089.2	-681.3	832.7	803.6	29.12	28.596			
7,600.0	7,167.4	6,874.3	6,744.3	24.6	26.2	15.22	-1,089.2	-675.9	929.1	905.7	23.46	39.613			



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28G-312
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28G-312	<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 #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4776.0ft (RKB - 15')

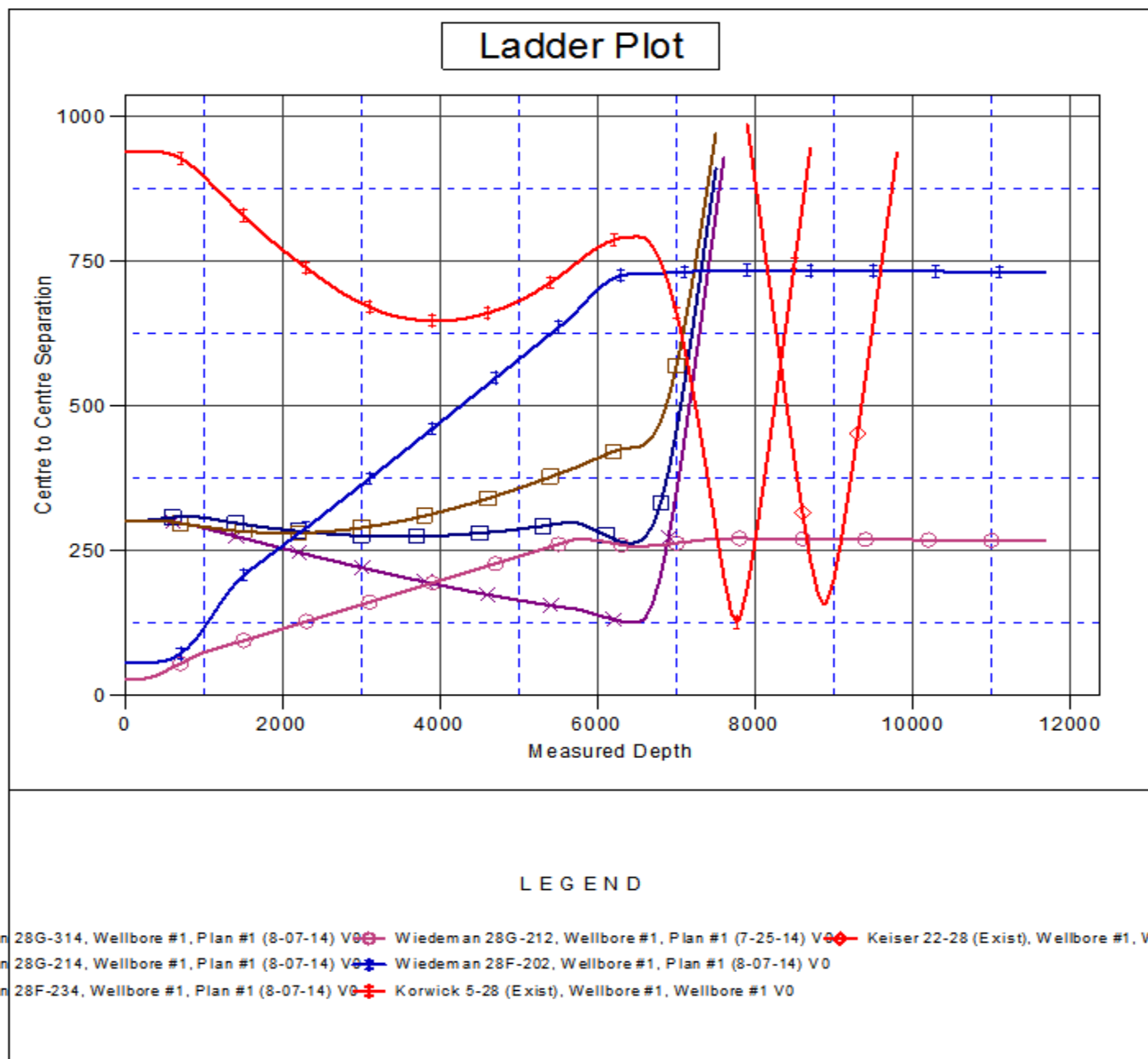
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Wiedeman 28G-312

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 Wiedeman 28G-312
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4776.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28G-312	<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 #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4776.0ft (RKB - 15')  
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