

# PETROLEUM DEVELOPMENT CORP Weld County CO

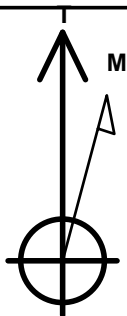
Well Name: **Wiedeman 28E-202**

Surface Location: Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
Ground Elevation: 4762.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1348308.54	3198077.24	40.287330	-104.789970	
Original Well Elev WELL @ 4777.0ft (Original Well Elev)						

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 918'FNL & 540'FWL, SEC.28	1.0	0.0	0.0	Point
BHL 75'FNL & 500'FEL, SEC.28	7050.0	860.1	4220.9	Point



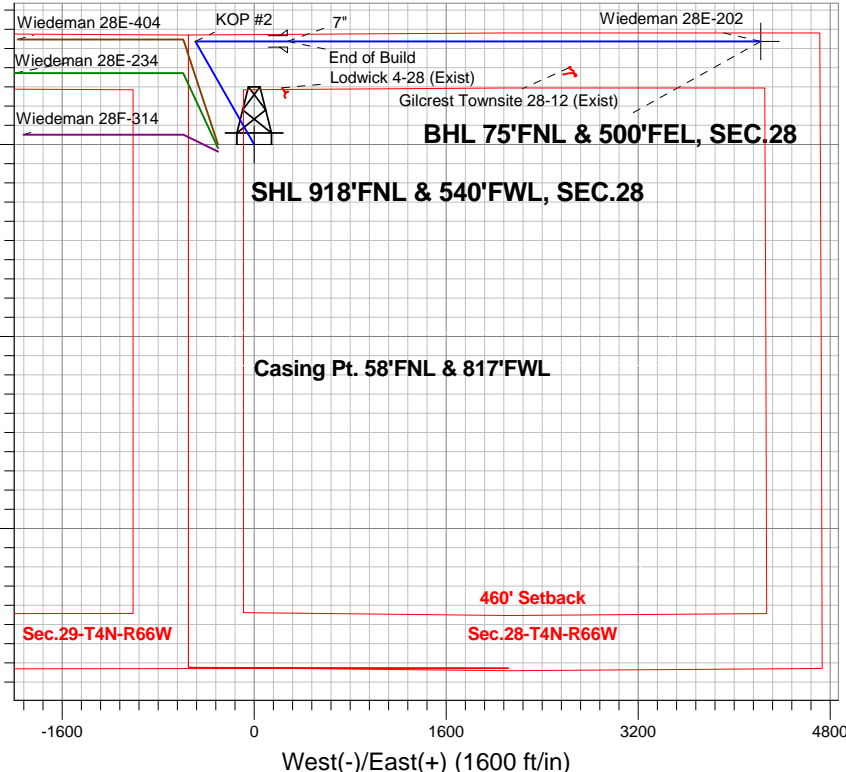
Azimuths to True North  
Magnetic North: 8.44°  
  
Magnetic Field  
Strength: 52738.8srT  
Dip Angle: 66.85°  
Date: 8/7/2014  
Model: IGRF2010

## ANNOTATIONS

TVD	MD	Annotation
800.0	800.0	KOP #1
6303.9	6400.6	KOP #2
7067.9	7604.1	End of Build

Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W  
Wiedeman 28E-202  
Plan #1 (8-07-14)

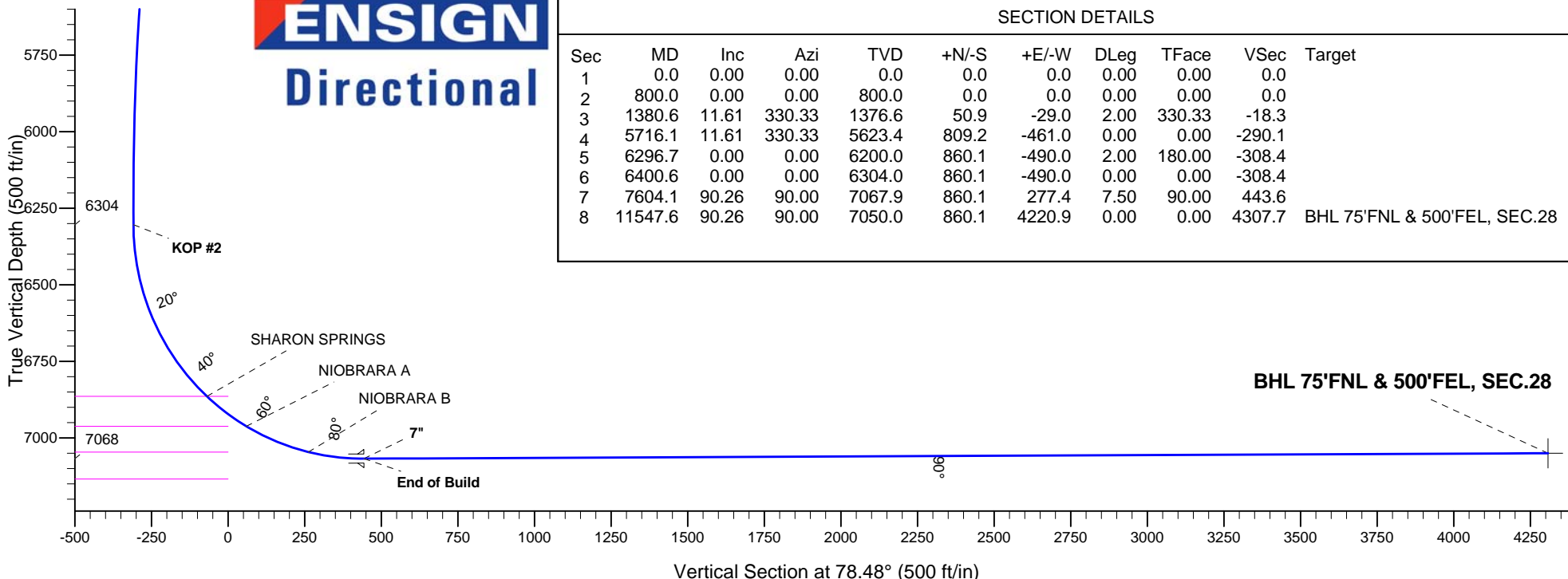
South(-)/North(+) (1600 ft/in)



**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	800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.0	
3	1380.6	11.61	330.33	1376.6	50.9	-29.0	2.00	330.33	-18.3	
4	5716.1	11.61	330.33	5623.4	809.2	-461.0	0.00	0.00	-290.1	
5	6296.7	0.00	0.00	6200.0	860.1	-490.0	2.00	180.00	-308.4	
6	6400.6	0.00	0.00	6304.0	860.1	-490.0	0.00	0.00	-308.4	
7	7604.1	90.26	90.00	7067.9	860.1	277.4	7.50	90.00	443.6	
8	11547.6	90.26	90.00	7050.0	860.1	4220.9	0.00	0.00	4307.7	BHL 75'FNL & 500'FEL, SEC.28





# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.28-T4N-R66W**

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

**Wiedeman 28E-202**

**Wellbore #1**

**Plan: Plan #1 (8-07-14)**

## **Standard Planning Report**

**11 August, 2014**

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28E-202
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Project:</b>	SEC.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Wiedeman 28E-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (8-07-14)		

<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 28E-202					
Well Position	+N-S	0.0 ft	Northing:	1,348,308.54 ft	Latitude:	40.287330
	+E-W	0.0 ft	Easting:	3,198,077.24 ft	Longitude:	-104.789970
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,762.0 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	8/7/2014	8.44	66.85	52,739

<b>Design</b>	Plan #1 (8-07-14)			
<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	78.48

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,380.6	11.61	330.33	1,376.6	50.9	-29.0	2.00	2.00	0.00	330.33	
5,716.1	11.61	330.33	5,623.4	809.2	-461.0	0.00	0.00	0.00	0.00	
6,296.7	0.00	0.00	6,200.0	860.1	-490.0	2.00	-2.00	0.00	180.00	
6,400.6	0.00	0.00	6,304.0	860.1	-490.0	0.00	0.00	0.00	0.00	
7,604.1	90.26	90.00	7,067.9	860.1	277.4	7.50	7.50	0.00	90.00	
11,547.6	90.26	90.00	7,050.0	860.1	4,220.9	0.00	0.00	0.00	0.00	BHL 75'FNL & 500'

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28E-202
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Project:</b>	SEC.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Wiedeman 28E-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (8-07-14)		

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
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP #1</b>									
900.0	2.00	330.33	900.0	1.5	-0.9	-0.5	2.00	2.00	0.00
1,000.0	4.00	330.33	999.8	6.1	-3.5	-2.2	2.00	2.00	0.00
1,100.0	6.00	330.33	1,099.5	13.6	-7.8	-4.9	2.00	2.00	0.00
1,200.0	8.00	330.33	1,198.7	24.2	-13.8	-8.7	2.00	2.00	0.00
1,300.0	10.00	330.33	1,297.5	37.8	-21.5	-13.6	2.00	2.00	0.00
1,380.6	11.61	330.33	1,376.6	50.9	-29.0	-18.3	2.00	2.00	0.00
1,400.0	11.61	330.33	1,395.6	54.3	-31.0	-19.5	0.00	0.00	0.00
1,500.0	11.61	330.33	1,493.6	71.8	-40.9	-25.8	0.00	0.00	0.00
1,600.0	11.61	330.33	1,591.5	89.3	-50.9	-32.0	0.00	0.00	0.00
1,700.0	11.61	330.33	1,689.5	106.8	-60.8	-38.3	0.00	0.00	0.00
1,800.0	11.61	330.33	1,787.5	124.3	-70.8	-44.6	0.00	0.00	0.00
1,900.0	11.61	330.33	1,885.4	141.8	-80.8	-50.8	0.00	0.00	0.00
2,000.0	11.61	330.33	1,983.4	159.3	-90.7	-57.1	0.00	0.00	0.00
2,100.0	11.61	330.33	2,081.3	176.8	-100.7	-63.4	0.00	0.00	0.00
2,200.0	11.61	330.33	2,179.3	194.2	-110.7	-69.6	0.00	0.00	0.00
2,300.0	11.61	330.33	2,277.2	211.7	-120.6	-75.9	0.00	0.00	0.00
2,400.0	11.61	330.33	2,375.2	229.2	-130.6	-82.2	0.00	0.00	0.00
2,500.0	11.61	330.33	2,473.1	246.7	-140.6	-88.5	0.00	0.00	0.00
2,600.0	11.61	330.33	2,571.1	264.2	-150.5	-94.7	0.00	0.00	0.00
2,700.0	11.61	330.33	2,669.0	281.7	-160.5	-101.0	0.00	0.00	0.00
2,800.0	11.61	330.33	2,767.0	299.2	-170.4	-107.3	0.00	0.00	0.00
2,900.0	11.61	330.33	2,864.9	316.7	-180.4	-113.5	0.00	0.00	0.00
3,000.0	11.61	330.33	2,962.9	334.2	-190.4	-119.8	0.00	0.00	0.00
3,100.0	11.61	330.33	3,060.8	351.6	-200.3	-126.1	0.00	0.00	0.00
3,200.0	11.61	330.33	3,158.8	369.1	-210.3	-132.4	0.00	0.00	0.00
3,300.0	11.61	330.33	3,256.8	386.6	-220.3	-138.6	0.00	0.00	0.00
3,400.0	11.61	330.33	3,354.7	404.1	-230.2	-144.9	0.00	0.00	0.00
3,500.0	11.61	330.33	3,452.7	421.6	-240.2	-151.2	0.00	0.00	0.00
3,600.0	11.61	330.33	3,550.6	439.1	-250.1	-157.4	0.00	0.00	0.00
3,700.0	11.61	330.33	3,648.6	456.6	-260.1	-163.7	0.00	0.00	0.00
3,758.6	11.61	330.33	3,706.0	466.8	-266.0	-167.4	0.00	0.00	0.00
<b>PARKMAN</b>									
3,800.0	11.61	330.33	3,746.5	474.1	-270.1	-170.0	0.00	0.00	0.00
3,900.0	11.61	330.33	3,844.5	491.6	-280.0	-176.2	0.00	0.00	0.00
4,000.0	11.61	330.33	3,942.4	509.0	-290.0	-182.5	0.00	0.00	0.00
4,100.0	11.61	330.33	4,040.4	526.5	-300.0	-188.8	0.00	0.00	0.00
4,200.0	11.61	330.33	4,138.3	544.0	-309.9	-195.1	0.00	0.00	0.00
4,300.0	11.61	330.33	4,236.3	561.5	-319.9	-201.3	0.00	0.00	0.00
4,400.0	11.61	330.33	4,334.2	579.0	-329.9	-207.6	0.00	0.00	0.00
4,419.2	11.61	330.33	4,353.0	582.3	-331.8	-208.8	0.00	0.00	0.00
<b>SUSSEX</b>									
4,500.0	11.61	330.33	4,432.2	596.5	-339.8	-213.9	0.00	0.00	0.00

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<b>Project:</b>	SEC.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site:</b>	Wiedeman 4N66W28F - East Pad	<b>North Reference:</b>	True
	Sec.28-T4N-R66W		
<b>Well:</b>	Wiedeman 28E-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (8-07-14)		

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)
4,600.0	11.61	330.33	4,530.1	614.0	-349.8	-220.1	0.00	0.00	0.00
4,700.0	11.61	330.33	4,628.1	631.5	-359.7	-226.4	0.00	0.00	0.00
4,800.0	11.61	330.33	4,726.1	648.9	-369.7	-232.7	0.00	0.00	0.00
4,859.2	11.61	330.33	4,784.0	659.3	-375.6	-236.4	0.00	0.00	0.00
<b>SHANNON</b>									
4,900.0	11.61	330.33	4,824.0	666.4	-379.7	-239.0	0.00	0.00	0.00
5,000.0	11.61	330.33	4,922.0	683.9	-389.6	-245.2	0.00	0.00	0.00
5,100.0	11.61	330.33	5,019.9	701.4	-399.6	-251.5	0.00	0.00	0.00
5,200.0	11.61	330.33	5,117.9	718.9	-409.6	-257.8	0.00	0.00	0.00
5,300.0	11.61	330.33	5,215.8	736.4	-419.5	-264.0	0.00	0.00	0.00
5,400.0	11.61	330.33	5,313.8	753.9	-429.5	-270.3	0.00	0.00	0.00
5,500.0	11.61	330.33	5,411.7	771.4	-439.4	-276.6	0.00	0.00	0.00
5,600.0	11.61	330.33	5,509.7	788.9	-449.4	-282.8	0.00	0.00	0.00
5,700.0	11.61	330.33	5,607.6	806.3	-459.4	-289.1	0.00	0.00	0.00
5,716.1	11.61	330.33	5,623.4	809.2	-461.0	-290.1	0.00	0.00	0.00
5,800.0	9.93	330.33	5,705.8	822.8	-468.7	-295.0	2.00	-2.00	0.00
5,900.0	7.93	330.33	5,804.6	836.3	-476.4	-299.8	2.00	-2.00	0.00
6,000.0	5.93	330.33	5,903.9	846.8	-482.4	-303.6	2.00	-2.00	0.00
6,100.0	3.93	330.33	6,003.5	854.2	-486.7	-306.3	2.00	-2.00	0.00
6,200.0	1.93	330.33	6,103.4	858.7	-489.2	-307.9	2.00	-2.00	0.00
6,296.7	0.00	0.00	6,200.0	860.1	-490.0	-308.4	2.00	-2.00	0.00
6,300.0	0.00	0.00	6,203.3	860.1	-490.0	-308.4	0.00	0.00	0.00
6,400.0	0.00	0.00	6,303.3	860.1	-490.0	-308.4	0.00	0.00	0.00
6,400.6	0.00	0.00	6,303.9	860.1	-490.0	-308.4	0.00	0.00	0.00
<b>KOP #2</b>									
6,500.0	7.45	90.00	6,403.1	860.1	-483.5	-302.1	7.50	7.50	0.00
6,600.0	14.95	90.00	6,501.1	860.1	-464.1	-283.0	7.50	7.50	0.00
6,700.0	22.45	90.00	6,595.7	860.1	-432.1	-251.6	7.50	7.50	0.00
6,800.0	29.95	90.00	6,685.4	860.1	-388.0	-208.4	7.50	7.50	0.00
6,900.0	37.45	90.00	6,768.5	860.1	-332.5	-154.1	7.50	7.50	0.00
7,000.0	44.95	90.00	6,843.7	860.1	-266.7	-89.6	7.50	7.50	0.00
7,029.2	47.15	90.00	6,864.0	860.1	-245.6	-68.9	7.50	7.50	0.00
<b>SHARON SPRINGS</b>									
7,100.0	52.45	90.00	6,909.7	860.1	-191.6	-16.0	7.50	7.50	0.00
7,193.6	59.47	90.00	6,962.0	860.1	-114.1	59.9	7.50	7.50	0.00
<b>NIORARA A</b>									
7,200.0	59.95	90.00	6,965.2	860.1	-108.6	65.4	7.50	7.50	0.00
7,300.0	67.45	90.00	7,009.5	860.1	-19.0	153.2	7.50	7.50	0.00
7,400.0	74.95	90.00	7,041.7	860.1	75.6	245.8	7.50	7.50	0.00
7,417.2	76.25	90.00	7,046.0	860.1	92.3	262.2	7.50	7.50	0.00
<b>NIORARA B</b>									
7,500.0	82.45	90.00	7,061.3	860.1	173.6	341.9	7.50	7.50	0.00
7,600.0	89.95	90.00	7,067.9	860.1	273.3	439.6	7.50	7.50	0.00
7,604.1	90.26	90.00	7,067.9	860.1	277.4	443.6	7.47	7.47	0.00
<b>End of Build - 7"</b>									
7,700.0	90.26	90.00	7,067.5	860.1	373.3	537.6	0.00	0.00	0.00
7,800.0	90.26	90.00	7,067.0	860.1	473.3	635.5	0.00	0.00	0.00
7,900.0	90.26	90.00	7,066.6	860.1	573.3	733.5	0.00	0.00	0.00
8,000.0	90.26	90.00	7,066.1	860.1	673.3	831.5	0.00	0.00	0.00
8,100.0	90.26	90.00	7,065.6	860.1	773.3	929.5	0.00	0.00	0.00
8,200.0	90.26	90.00	7,065.2	860.1	873.3	1,027.5	0.00	0.00	0.00

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28E-202
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<b>Project:</b>	SEC.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Wiedeman 28E-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (8-07-14)		

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)
8,300.0	90.26	90.00	7,064.7	860.1	973.3	1,125.5	0.00	0.00	0.00
8,400.0	90.26	90.00	7,064.3	860.1	1,073.3	1,223.4	0.00	0.00	0.00
8,500.0	90.26	90.00	7,063.8	860.1	1,173.3	1,321.4	0.00	0.00	0.00
8,600.0	90.26	90.00	7,063.4	860.1	1,273.3	1,419.4	0.00	0.00	0.00
8,700.0	90.26	90.00	7,062.9	860.1	1,373.3	1,517.4	0.00	0.00	0.00
8,800.0	90.26	90.00	7,062.5	860.1	1,473.3	1,615.4	0.00	0.00	0.00
8,900.0	90.26	90.00	7,062.0	860.1	1,573.3	1,713.4	0.00	0.00	0.00
9,000.0	90.26	90.00	7,061.6	860.1	1,673.3	1,811.4	0.00	0.00	0.00
9,100.0	90.26	90.00	7,061.1	860.1	1,773.3	1,909.3	0.00	0.00	0.00
9,200.0	90.26	90.00	7,060.7	860.1	1,873.3	2,007.3	0.00	0.00	0.00
9,300.0	90.26	90.00	7,060.2	860.1	1,973.3	2,105.3	0.00	0.00	0.00
9,400.0	90.26	90.00	7,059.7	860.1	2,073.3	2,203.3	0.00	0.00	0.00
9,500.0	90.26	90.00	7,059.3	860.1	2,173.3	2,301.3	0.00	0.00	0.00
9,600.0	90.26	90.00	7,058.8	860.1	2,273.3	2,399.3	0.00	0.00	0.00
9,700.0	90.26	90.00	7,058.4	860.1	2,373.3	2,497.3	0.00	0.00	0.00
9,800.0	90.26	90.00	7,057.9	860.1	2,473.3	2,595.2	0.00	0.00	0.00
9,900.0	90.26	90.00	7,057.5	860.1	2,573.3	2,693.2	0.00	0.00	0.00
10,000.0	90.26	90.00	7,057.0	860.1	2,673.3	2,791.2	0.00	0.00	0.00
10,100.0	90.26	90.00	7,056.6	860.1	2,773.3	2,889.2	0.00	0.00	0.00
10,200.0	90.26	90.00	7,056.1	860.1	2,873.3	2,987.2	0.00	0.00	0.00
10,300.0	90.26	90.00	7,055.7	860.1	2,973.3	3,085.2	0.00	0.00	0.00
10,400.0	90.26	90.00	7,055.2	860.1	3,073.3	3,183.2	0.00	0.00	0.00
10,500.0	90.26	90.00	7,054.8	860.1	3,173.3	3,281.1	0.00	0.00	0.00
10,600.0	90.26	90.00	7,054.3	860.1	3,273.3	3,379.1	0.00	0.00	0.00
10,700.0	90.26	90.00	7,053.8	860.1	3,373.3	3,477.1	0.00	0.00	0.00
10,800.0	90.26	90.00	7,053.4	860.1	3,473.3	3,575.1	0.00	0.00	0.00
10,900.0	90.26	90.00	7,052.9	860.1	3,573.3	3,673.1	0.00	0.00	0.00
11,000.0	90.26	90.00	7,052.5	860.1	3,673.3	3,771.1	0.00	0.00	0.00
11,100.0	90.26	90.00	7,052.0	860.1	3,773.3	3,869.1	0.00	0.00	0.00
11,200.0	90.26	90.00	7,051.6	860.1	3,873.3	3,967.0	0.00	0.00	0.00
11,300.0	90.26	90.00	7,051.1	860.1	3,973.3	4,065.0	0.00	0.00	0.00
11,400.0	90.26	90.00	7,050.7	860.1	4,073.3	4,163.0	0.00	0.00	0.00
11,500.0	90.26	90.00	7,050.2	860.1	4,173.3	4,261.0	0.00	0.00	0.00
11,547.6	90.26	90.00	7,050.0	860.1	4,220.9	4,307.7	0.00	0.00	0.00

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
7,604.1	7,067.9	7"	7	7-1/2	

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28E-202
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Project:</b>	SEC.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Wiedeman 28E-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (8-07-14)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,758.6	3,706.0	PARKMAN				
4,419.2	4,353.0	SUSSEX				
4,859.2	4,784.0	SHANNON				
7,029.2	6,864.0	SHARON SPRINGS				
7,193.6	6,962.0	NIOBRARA A				
7,417.2	7,046.0	NIOBRARA B				
	7,134.0	NIOBRARA C				
	7,253.0	FT. HAYS				
	7,275.0	CODELL				

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
800.0	800.0	0.0	0.0	KOP #1
6,400.6	6,303.9	860.1	-490.0	KOP #2
7,604.1	7,067.9	860.1	277.4	End of Build



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.28-T4N-R66W**

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

**Wiedeman 28E-202**

**Wellbore #1**

**Plan #1 (8-07-14)**

## **Anticollision Report**

**11 August, 2014**





<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #1 (8-07-14)		
<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	11,547.6	Plan #1 (8-07-14) (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						
Gilcrest Townsite 28-12 (Exist) - Wellbore #1 - Wellbore	9,951.9	7,032.2	217.2	122.2	2.287	CC, ES, SF
Lodwick 4-28 (Exist) - Wellbore #1 - Wellbore #1	7,562.3	7,055.3	390.7	352.7	10.291	CC, ES
Lodwick 4-28 (Exist) - Wellbore #1 - Wellbore #1	7,600.0	7,056.0	392.5	353.9	10.174	SF
Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W						
Wiedeman 28E-432 - Wellbore #1 - Plan #1 (7-25-14)	800.0	800.0	29.1	25.8	8.641	CC, ES
Wiedeman 28E-432 - Wellbore #1 - Plan #1 (7-25-14)	11,547.6	11,704.8	369.5	155.5	1.727	SF
Wiedeman 28F-202 - Wellbore #1 - Plan #1 (8-07-14)	800.0	800.0	120.2	116.8	35.654	CC, ES
Wiedeman 28F-202 - Wellbore #1 - Plan #1 (8-07-14)	1,200.0	1,198.7	145.1	139.9	28.117	SF
Wiedeman 28F-312 - Wellbore #1 - Plan #1 (7-25-14)	800.0	800.0	58.3	54.9	17.285	CC, ES
Wiedeman 28F-312 - Wellbore #1 - Plan #1 (7-25-14)	11,547.6	11,583.1	662.8	410.9	2.631	SF
Wiedeman 28F-412 - Wellbore #1 - Plan #1 (7-25-14)	800.0	800.0	87.4	84.0	25.929	CC, ES
Wiedeman 28F-412 - Wellbore #1 - Plan #1 (7-25-14)	1,100.0	1,099.5	101.4	96.6	21.504	SF
Wiedeman 28F-432 - Wellbore #1 - Plan #1 (7-25-14)	800.0	800.0	149.4	146.0	44.299	CC, ES
Wiedeman 28F-432 - Wellbore #1 - Plan #1 (7-25-14)	1,100.0	1,095.3	164.4	159.8	35.108	SF
Wiedeman 28G-212 - Wellbore #1 - Plan #1 (7-25-14)	200.0	199.0	207.6	207.0	308.967	CC, ES
Wiedeman 28G-212 - Wellbore #1 - Plan #1 (7-25-14)	2,800.0	2,595.0	998.8	984.6	70.348	SF
Wiedeman 28G-312 - Wellbore #1 - Plan #1 (7-25-14)	400.0	399.0	178.5	176.9	113.612	CC, ES
Wiedeman 28G-312 - Wellbore #1 - Plan #1 (7-25-14)	1,100.0	1,052.4	264.5	259.9	57.028	SF
Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W						
Wiedeman 28E-234 - Wellbore #1 - Plan #1 (8-06-14)	4,058.5	4,035.5	241.7	215.4	9.209	CC
Wiedeman 28E-234 - Wellbore #1 - Plan #1 (8-06-14)	4,300.0	4,276.3	242.4	214.5	8.691	ES
Wiedeman 28E-234 - Wellbore #1 - Plan #1 (8-06-14)	6,500.0	6,436.4	287.5	249.5	7.574	SF
Wiedeman 28E-404 - Wellbore #1 - Plan #1 (8-07-14)	6,080.1	6,052.8	99.3	58.3	2.420	CC, ES, SF
Wiedeman 28F-314 - Wellbore #1 - Plan #1 (8-07-14)	1,578.7	1,571.7	290.6	283.4	39.938	CC
Wiedeman 28F-314 - Wellbore #1 - Plan #1 (8-07-14)	1,600.0	1,592.5	290.7	283.3	39.262	ES
Wiedeman 28F-314 - Wellbore #1 - Plan #1 (8-07-14)	4,400.0	4,353.8	560.8	535.1	21.814	SF

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.28-T4N-R66W - Gilcrest Townsite 28-12 (Exist) - Wellbore #1 - Wellbore #1														Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance								
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		
9,000.0	7,061.6	7,050.7	7,044.1	57.0	12.7	94.16	642.7	2,624.9	976.2	906.8	69.33	14.079			
9,100.0	7,061.1	7,049.0	7,042.4	59.6	12.7	93.72	642.7	2,624.9	879.0	807.0	72.00	12.208			
9,200.0	7,060.7	7,047.3	7,040.6	62.3	12.7	93.27	642.8	2,624.9	782.5	707.8	74.68	10.478			
9,300.0	7,060.2	7,045.5	7,038.9	65.0	12.7	92.79	642.8	2,625.0	687.0	609.6	77.37	8.880			
9,400.0	7,059.7	7,043.6	7,037.0	67.7	12.7	92.31	642.8	2,625.0	593.0	512.9	80.06	7.407			
9,500.0	7,059.3	7,041.7	7,035.1	70.4	12.7	91.80	642.8	2,625.0	501.3	418.5	82.76	6.057			
9,600.0	7,058.8	7,039.7	7,033.1	73.1	12.7	91.28	642.8	2,625.1	413.5	328.0	85.47	4.838			
9,700.0	7,058.4	7,037.7	7,031.0	75.8	12.7	90.74	642.9	2,625.1	332.6	244.4	88.17	3.772			
9,800.0	7,057.9	7,035.6	7,028.9	78.5	12.6	90.18	642.9	2,625.1	265.0	174.2	90.87	2.916			
9,900.0	7,057.5	7,033.4	7,026.7	81.2	12.6	89.60	642.9	2,625.2	223.3	129.7	93.57	2.387			
9,951.9	7,057.2	7,032.2	7,025.5	82.6	12.6	89.29	642.9	2,625.2	217.2	122.2	94.97	2.287 CC, ES, SF			
10,000.0	7,057.0	7,031.1	7,024.4	84.0	12.6	88.99	642.9	2,625.2	222.5	126.2	96.27	2.311			
10,100.0	7,056.6	7,028.7	7,022.1	86.7	12.6	88.37	643.0	2,625.3	262.9	163.9	98.96	2.656			
10,200.0	7,056.1	7,026.2	7,019.6	89.4	12.6	87.72	643.0	2,625.3	329.7	228.1	101.63	3.244			
10,300.0	7,055.7	7,023.7	7,017.0	92.2	12.6	87.04	643.0	2,625.4	410.2	305.9	104.30	3.933			
10,400.0	7,055.2	7,021.0	7,014.4	94.9	12.6	86.34	643.1	2,625.4	497.9	390.9	106.94	4.655			
10,500.0	7,054.8	7,018.2	7,011.6	97.7	12.6	85.61	643.1	2,625.5	589.4	479.9	109.57	5.380			
10,600.0	7,054.3	7,015.3	7,008.7	100.4	12.6	84.85	643.2	2,625.5	683.3	571.2	112.17	6.092			
10,700.0	7,053.8	7,012.3	7,005.7	103.2	12.6	84.07	643.2	2,625.6	778.8	664.0	114.74	6.787			
10,800.0	7,053.4	7,009.2	7,002.5	105.9	12.6	83.24	643.2	2,625.7	875.2	757.9	117.28	7.463			
10,900.0	7,052.9	7,005.9	6,999.3	108.7	12.6	82.39	643.3	2,625.7	972.4	852.6	119.78	8.118			

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.28-T4N-R66W - Lodwick 4-28 (Exist) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.0ft
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	33.65	389.8	259.5	468.6					
100.0	100.0	83.1	83.1	0.1	0.1	33.66	389.7	259.5	468.2	468.0	0.22	2,102.687		
158.3	158.3	140.3	140.3	0.2	0.2	33.67	389.6	259.5	468.1	467.6	0.44	1,074.290		
200.0	200.0	180.7	180.7	0.3	0.3	33.67	389.6	259.5	468.1	467.5	0.59	794.142		
300.0	300.0	282.0	282.0	0.6	0.4	33.63	390.0	259.4	468.4	467.4	0.98	480.151		
400.0	400.0	382.5	382.5	0.8	0.6	33.60	390.0	259.2	468.3	466.9	1.42	330.550		
500.0	500.0	482.1	482.1	1.0	0.9	33.55	390.2	258.8	468.2	466.3	1.88	248.666		
512.2	512.2	494.2	494.2	1.0	0.9	33.54	390.2	258.7	468.2	466.3	1.94	241.325		
600.0	600.0	580.6	580.6	1.2	1.1	33.45	390.7	258.2	468.3	466.0	2.35	199.265		
700.0	700.0	682.5	682.4	1.5	1.4	33.34	391.4	257.5	468.5	465.7	2.83	165.512		
752.8	752.8	734.8	734.8	1.6	1.5	33.29	391.6	257.1	468.5	465.4	3.08	152.195		
800.0	800.0	780.7	780.7	1.7	1.6	33.25	391.8	256.9	468.5	465.2	3.30	142.176		
900.0	900.0	880.9	880.9	1.9	1.9	63.03	392.5	256.4	468.1	464.3	3.76	124.339		
1,000.0	999.8	980.2	980.2	2.1	2.1	63.47	393.4	255.5	466.0	461.7	4.24	109.811		
1,100.0	1,099.5	1,078.0	1,078.0	2.4	2.4	64.32	394.6	254.7	462.6	457.9	4.72	97.959		
1,200.0	1,198.7	1,177.2	1,177.2	2.6	2.6	65.65	395.8	254.4	458.3	453.1	5.20	88.101		
1,300.0	1,297.5	1,277.2	1,277.2	2.9	2.8	67.48	396.7	254.3	452.6	446.9	5.71	79.265		
1,400.0	1,395.6	1,375.0	1,375.0	3.2	3.1	69.68	397.6	253.9	446.1	439.8	6.26	71.259		
1,500.0	1,493.6	1,471.4	1,471.3	3.6	3.3	71.97	398.6	253.9	440.1	433.3	6.84	64.389		
1,600.0	1,591.5	1,571.5	1,571.4	3.9	3.5	74.35	400.0	253.7	435.1	427.6	7.45	58.390		
1,700.0	1,689.5	1,669.5	1,669.5	4.3	3.8	76.74	401.0	253.1	430.3	422.2	8.08	53.231		
1,800.0	1,787.5	1,766.8	1,766.7	4.7	4.0	79.18	402.1	252.9	426.6	417.9	8.73	48.889		
1,900.0	1,885.4	1,863.9	1,863.8	5.1	4.3	81.59	403.7	252.6	423.9	414.6	9.38	45.209		
2,000.0	1,983.4	1,961.3	1,961.2	5.5	4.5	84.04	405.3	252.5	422.3	412.3	10.03	42.097		
2,100.0	2,081.3	2,058.4	2,058.3	5.9	4.8	86.49	407.1	252.5	421.7	411.0	10.68	39.482		
2,103.0	2,084.3	2,061.3	2,061.2	5.9	4.8	86.57	407.1	252.5	421.7	411.0	10.70	39.410		
2,200.0	2,179.3	2,157.2	2,157.0	6.3	5.0	89.02	408.8	252.9	422.1	410.8	11.33	37.253		
2,300.0	2,277.2	2,254.2	2,254.0	6.8	5.2	91.47	410.6	252.9	423.2	411.2	11.98	35.327		
2,400.0	2,375.2	2,350.8	2,350.6	7.2	5.5	93.89	412.6	253.5	425.7	413.1	12.61	33.750		
2,500.0	2,473.1	2,448.0	2,447.8	7.6	5.7	96.34	414.3	254.4	429.1	415.9	13.23	32.427		
2,600.0	2,571.1	2,545.7	2,545.5	8.0	5.9	98.72	416.5	255.4	433.7	419.8	13.85	31.311		
2,700.0	2,669.0	2,644.6	2,644.3	8.4	6.1	101.05	418.8	256.3	438.8	424.3	14.47	30.329		
2,800.0	2,767.0	2,743.2	2,742.9	8.9	6.3	103.38	420.7	257.3	444.7	429.6	15.08	29.496		
2,900.0	2,864.9	2,841.7	2,841.4	9.3	6.6	105.62	422.7	258.0	451.0	435.4	15.68	28.761		
3,000.0	2,962.9	2,939.0	2,938.6	9.7	6.8	107.72	425.2	258.8	458.3	442.0	16.28	28.147		
3,100.0	3,060.8	3,037.2	3,036.9	10.2	7.1	109.82	427.2	259.7	466.2	449.4	16.87	27.634		
3,200.0	3,158.8	3,133.4	3,133.0	10.6	7.3	111.79	429.4	260.7	474.9	457.5	17.44	27.225		
3,300.0	3,256.8	3,228.8	3,228.4	11.0	7.5	113.67	431.7	262.4	484.8	466.8	18.00	26.937		
3,400.0	3,354.7	3,327.2	3,326.7	11.5	7.7	115.53	434.0	264.2	495.5	476.9	18.54	26.719		
3,500.0	3,452.7	3,423.3	3,422.8	11.9	7.9	117.34	435.7	266.2	506.7	487.6	19.06	26.583		
3,600.0	3,550.6	3,516.1	3,515.5	12.3	8.1	119.04	437.1	268.8	519.2	499.7	19.54	26.566		
3,700.0	3,648.6	3,612.3	3,611.7	12.8	8.3	120.76	438.3	272.1	532.9	512.9	20.01	26.635		
3,800.0	3,746.5	3,711.2	3,710.5	13.2	8.4	122.48	439.0	275.6	547.1	526.6	20.45	26.746		
3,900.0	3,844.5	3,811.1	3,810.3	13.6	8.6	124.14	439.7	278.7	561.4	540.5	20.90	26.862		
4,000.0	3,942.4	3,910.0	3,909.2	14.1	8.8	125.68	440.6	281.6	575.9	554.5	21.35	26.967		
4,100.0	4,040.4	4,014.9	4,014.1	14.5	9.0	127.24	441.6	283.9	590.1	568.3	21.81	27.052		
4,200.0	4,138.3	4,125.3	4,124.5	14.9	9.1	128.97	441.2	284.3	603.0	580.9	22.16	27.216		
4,300.0	4,236.3	4,233.4	4,232.5	15.4	9.1	130.71	439.8	282.2	614.4	592.0	22.44	27.381		
4,400.0	4,334.2	4,335.5	4,334.6	15.8	9.2	132.38	437.9	279.0	625.3	602.6	22.74	27.503		
4,500.0	4,432.2	4,437.1	4,436.1	16.2	9.3	133.99	436.1	275.1	635.9	612.9	23.04	27.599		
4,600.0	4,530.1	4,533.3	4,532.2	16.7	9.4	135.45	434.5	271.4	646.9	623.5	23.36	27.690		

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 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.28-T4N-R66W - Lodwick 4-28 (Exist) - Wellbore #1 - Wellbore #1													Offset Site Error: 0.0 ft	
Survey Program: 100-NS-GYRO-MS													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,700.0	4,628.1	4,627.3	4,626.2	17.1	9.5	136.73	433.9	268.5	658.7	635.0	23.71	27.789		
4,800.0	4,726.1	4,722.3	4,721.1	17.5	9.6	137.94	433.6	266.3	671.6	647.5	24.07	27.897		
4,900.0	4,824.0	4,820.6	4,819.4	18.0	9.8	139.05	434.3	264.4	684.8	660.3	24.49	27.965		
5,000.0	4,922.0	4,917.0	4,915.7	18.4	10.0	140.05	435.6	263.1	698.4	673.5	24.94	28.004		
5,100.0	5,019.9	5,014.7	5,013.5	18.9	10.3	141.03	436.7	261.7	712.4	687.0	25.40	28.054		
5,200.0	5,117.9	5,110.7	5,109.5	19.3	10.5	141.95	437.7	260.6	726.9	701.0	25.85	28.118		
5,300.0	5,215.8	5,207.2	5,205.9	19.7	10.7	142.83	438.9	259.9	741.7	715.4	26.32	28.181		
5,400.0	5,313.8	5,303.9	5,302.6	20.2	11.0	143.67	440.0	259.3	757.0	730.2	26.79	28.254		
5,500.0	5,411.7	5,405.1	5,403.8	20.6	11.2	144.56	440.7	258.4	772.3	745.0	27.24	28.348		
5,600.0	5,509.7	5,500.0	5,498.7	21.0	11.4	145.36	441.2	257.5	787.8	760.1	27.68	28.459		
5,700.0	5,607.6	5,611.2	5,609.9	21.5	11.6	146.26	442.3	255.9	802.8	774.7	28.15	28.520		
5,800.0	5,705.8	5,712.4	5,711.0	21.9	11.9	147.14	443.5	253.4	816.0	787.4	28.59	28.540		
5,900.0	5,804.6	5,808.5	5,807.1	22.2	12.1	147.84	444.4	250.9	826.5	797.5	28.98	28.521		
6,000.0	5,903.9	5,906.0	5,904.6	22.4	12.3	148.34	445.6	249.0	834.4	805.0	29.37	28.413		
6,100.0	6,003.5	6,006.6	6,005.1	22.6	12.5	148.64	447.6	247.5	839.4	809.7	29.77	28.197		
6,200.0	6,103.4	6,105.3	6,103.8	22.8	12.8	148.76	449.7	246.1	841.6	811.4	30.15	27.910		
6,300.0	6,203.3	6,205.3	6,203.8	22.9	13.1	119.05	452.0	244.8	840.8	806.5	34.26	24.542		
6,400.0	6,303.3	6,304.9	6,303.4	23.0	13.3	118.93	454.6	243.8	838.6	803.9	34.64	24.206		
6,500.0	6,403.1	6,406.0	6,404.4	23.1	13.6	29.31	457.3	242.7	830.7	799.7	30.93	26.853		
6,600.0	6,501.1	6,500.0	6,498.4	23.1	13.8	30.58	459.4	241.7	811.8	781.4	30.40	26.702		
6,700.0	6,595.7	6,598.1	6,596.5	23.1	14.1	32.98	461.4	240.6	782.1	752.7	29.47	26.538		
6,800.0	6,685.4	6,683.2	6,681.5	23.0	14.3	36.49	463.2	239.5	742.6	714.3	28.32	26.221		
6,900.0	6,768.5	6,767.2	6,765.6	22.8	14.5	41.66	464.9	238.6	694.7	667.4	27.34	25.408		
7,000.0	6,843.7	6,841.1	6,839.4	22.7	14.7	48.60	466.3	237.6	640.0	612.9	27.11	23.610		
7,100.0	6,909.7	6,904.2	6,902.5	22.5	14.9	57.25	467.5	237.0	581.3	553.2	28.12	20.670		
7,200.0	6,965.2	6,958.0	6,956.2	22.4	15.0	67.17	468.3	236.4	522.1	491.8	30.32	17.221		
7,300.0	7,009.5	7,000.0	6,998.3	22.2	15.1	76.84	468.8	236.0	467.0	434.2	32.85	14.216		
7,400.0	7,041.7	7,031.3	7,029.6	22.1	15.2	84.76	469.2	235.7	422.4	387.4	35.06	12.048		
7,500.0	7,061.3	7,050.0	7,048.3	22.0	15.2	89.54	469.4	235.5	395.6	358.7	36.88	10.727		
7,562.3	7,066.9	7,055.3	7,053.5	22.7	15.2	90.67	469.5	235.5	390.7	352.7	37.96	10.291 CC, ES		
7,600.0	7,067.9	7,056.0	7,054.2	23.4	15.2	90.64	469.5	235.5	392.5	353.9	38.58	10.174 SF		
7,700.0	7,067.5	7,054.8	7,053.0	25.3	15.2	90.43	469.5	235.5	414.3	373.9	40.38	10.260		
7,800.0	7,067.0	7,053.6	7,051.8	27.4	15.2	90.26	469.5	235.5	457.4	415.0	42.35	10.800		
7,900.0	7,066.6	7,052.4	7,050.6	29.5	15.2	90.08	469.4	235.5	516.5	472.0	44.46	11.617		
8,000.0	7,066.1	7,051.1	7,049.4	31.8	15.2	89.90	469.4	235.5	586.8	540.1	46.67	12.572		
8,100.0	7,065.6	7,049.9	7,048.1	34.1	15.2	89.71	469.4	235.5	664.7	615.8	48.97	13.573		
8,200.0	7,065.2	7,048.6	7,046.9	36.5	15.2	89.53	469.4	235.5	748.0	696.6	51.35	14.567		
8,300.0	7,064.7	7,047.3	7,045.6	39.0	15.2	89.34	469.4	235.5	834.9	781.1	53.77	15.526		
8,400.0	7,064.3	7,046.0	7,044.3	41.5	15.2	89.14	469.4	235.5	924.4	868.2	56.25	16.436		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W - Wiedeman 28E-432 - Wellbore #1 - Plan #1 (7-										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	129.610		
200.0	200.0	200.0	200.0	0.3	0.3	-180.00	-29.1	0.0	29.1	28.5	0.67	43.203		
300.0	300.0	300.0	300.0	0.6	0.6	-180.00	-29.1	0.0	29.1	28.0	1.12	25.922		
400.0	400.0	400.0	400.0	0.8	0.8	-180.00	-29.1	0.0	29.1	27.6	1.57	18.516		
500.0	500.0	500.0	500.0	1.0	1.0	-180.00	-29.1	0.0	29.1	27.1	2.02	14.401		
600.0	600.0	600.0	600.0	1.2	1.2	-180.00	-29.1	0.0	29.1	26.7	2.47	11.783		
700.0	700.0	700.0	700.0	1.5	1.5	-180.00	-29.1	0.0	29.1	26.2	2.92	9.970		
800.0	800.0	800.0	800.0	1.7	1.7	-180.00	-29.1	0.0	29.1	25.8	3.37	8.641	CC, ES	
900.0	900.0	900.0	900.0	1.9	1.9	-151.93	-29.1	0.0	30.7	26.8	3.82	8.027		
1,000.0	999.8	999.8	999.8	2.1	2.1	-155.88	-29.1	0.0	35.4	31.1	4.27	8.289		
1,100.0	1,099.5	1,099.5	1,099.5	2.4	2.4	-160.53	-29.1	0.0	43.5	38.8	4.71	9.226		
1,200.0	1,198.7	1,198.7	1,198.7	2.6	2.6	-164.69	-29.1	0.0	55.1	50.0	5.15	10.696		
1,300.0	1,297.5	1,299.7	1,299.7	2.9	2.8	-167.51	-27.8	-1.1	68.8	63.2	5.59	12.304		
1,400.0	1,395.6	1,401.2	1,401.0	3.2	3.0	-168.96	-23.7	-4.5	82.6	76.6	6.02	13.711		
1,500.0	1,493.6	1,503.5	1,502.9	3.6	3.3	-169.38	-16.8	-10.3	94.2	87.8	6.49	14.524		
1,600.0	1,591.5	1,606.4	1,605.1	3.9	3.5	-168.99	-7.1	-18.5	102.6	95.6	6.97	14.715		
1,700.0	1,689.5	1,708.4	1,705.7	4.3	3.8	-168.00	5.1	-28.7	107.9	100.4	7.47	14.439		
1,800.0	1,787.5	1,808.2	1,804.3	4.7	4.1	-167.00	17.6	-39.1	112.6	104.6	7.98	14.108		
1,900.0	1,885.4	1,908.1	1,902.8	5.1	4.4	-166.08	30.0	-49.6	117.3	108.8	8.50	13.802		
2,000.0	1,983.4	2,008.0	2,001.4	5.5	4.7	-165.24	42.5	-60.0	122.1	113.1	9.03	13.521		
2,100.0	2,081.3	2,107.8	2,099.9	5.9	5.0	-164.45	55.0	-70.4	126.9	117.3	9.57	13.260		
2,200.0	2,179.3	2,207.7	2,198.4	6.3	5.3	-163.72	67.4	-80.8	131.7	121.6	10.12	13.019		
2,300.0	2,277.2	2,307.6	2,297.0	6.8	5.7	-163.05	79.9	-91.3	136.5	125.9	10.67	12.794		
2,400.0	2,375.2	2,407.5	2,395.5	7.2	6.0	-162.42	92.3	-101.7	141.4	130.2	11.23	12.586		
2,500.0	2,473.1	2,507.3	2,494.1	7.6	6.4	-161.83	104.8	-112.1	146.3	134.5	11.80	12.392		
2,600.0	2,571.1	2,607.2	2,592.6	8.0	6.7	-161.28	117.2	-122.5	151.2	138.8	12.38	12.212		
2,700.0	2,669.0	2,707.1	2,691.2	8.4	7.1	-160.77	129.7	-133.0	156.1	143.1	12.96	12.043		
2,800.0	2,767.0	2,806.9	2,789.7	8.9	7.4	-160.28	142.1	-143.4	161.0	147.4	13.54	11.886		
2,900.0	2,864.9	2,906.8	2,888.2	9.3	7.8	-159.83	154.6	-153.8	165.9	151.8	14.13	11.739		
3,000.0	2,962.9	3,006.7	2,986.8	9.7	8.1	-159.40	167.0	-164.2	170.8	156.1	14.73	11.600		
3,100.0	3,060.8	3,106.5	3,085.3	10.2	8.5	-159.00	179.5	-174.7	175.8	160.5	15.32	11.471		
3,200.0	3,158.8	3,206.4	3,183.9	10.6	8.9	-158.61	191.9	-185.1	180.7	164.8	15.93	11.349		
3,300.0	3,256.8	3,306.3	3,282.4	11.0	9.2	-158.25	204.4	-195.5	185.7	169.2	16.53	11.234		
3,400.0	3,354.7	3,406.2	3,380.9	11.5	9.6	-157.91	216.8	-206.0	190.7	173.5	17.14	11.126		
3,500.0	3,452.7	3,506.0	3,479.5	11.9	9.9	-157.58	229.3	-216.4	195.6	177.9	17.75	11.024		
3,600.0	3,550.6	3,605.9	3,578.0	12.3	10.3	-157.27	241.7	-226.8	200.6	182.2	18.36	10.927		
3,700.0	3,648.6	3,705.8	3,676.6	12.8	10.7	-156.98	254.2	-237.2	205.6	186.6	18.97	10.836		
3,800.0	3,746.5	3,805.6	3,775.1	13.2	11.0	-156.70	266.6	-247.7	210.6	191.0	19.59	10.749		
3,900.0	3,844.5	3,905.5	3,873.6	13.6	11.4	-156.43	279.1	-258.1	215.6	195.4	20.21	10.667		
4,000.0	3,942.4	4,005.4	3,972.2	14.1	11.8	-156.17	291.5	-268.5	220.6	199.7	20.83	10.589		
4,100.0	4,040.4	4,105.2	4,070.7	14.5	12.2	-155.93	304.0	-278.9	225.6	204.1	21.45	10.514		
4,200.0	4,138.3	4,205.1	4,169.3	14.9	12.5	-155.70	316.4	-289.4	230.6	208.5	22.08	10.444		
4,300.0	4,236.3	4,305.0	4,267.8	15.4	12.9	-155.47	328.9	-299.8	235.6	212.9	22.70	10.376		
4,400.0	4,334.2	4,404.9	4,366.3	15.8	13.3	-155.26	341.4	-310.2	240.6	217.3	23.33	10.312		
4,500.0	4,432.2	4,504.7	4,464.9	16.2	13.6	-155.05	353.8	-320.6	245.6	221.7	23.96	10.251		
4,600.0	4,530.1	4,604.6	4,563.4	16.7	14.0	-154.86	366.3	-331.1	250.6	226.0	24.59	10.192		
4,700.0	4,628.1	4,704.5	4,662.0	17.1	14.4	-154.67	378.7	-341.5	255.7	230.4	25.22	10.136		
4,800.0	4,726.1	4,804.3	4,760.5	17.5	14.8	-154.48	391.2	-351.9	260.7	234.8	25.85	10.083		
4,900.0	4,824.0	4,904.2	4,859.1	18.0	15.1	-154.31	403.6	-362.3	265.7	239.2	26.49	10.031		
5,000.0	4,922.0	5,004.1	4,957.6	18.4	15.5	-154.14	416.1	-372.8	270.7	243.6	27.12	9.982		

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 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design				Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W - Wiedeman 28E-432 - Wellbore #1 - Plan #1 (7-								Offset Site Error:		0.0 ft	
Survey Program: 0-MWD												Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance								
Measured Depth	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre		Between	Between	Minimum	Separation	Warning		
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	5,019.9	5,104.0	5,056.1	18.9	15.9	-153.98	428.5	-383.2	275.8	248.0	27.76	9.935			
5,200.0	5,117.9	5,203.8	5,154.7	19.3	16.2	-153.82	441.0	-393.6	280.8	252.4	28.40	9.889			
5,300.0	5,215.8	5,303.7	5,253.2	19.7	16.6	-153.67	453.4	-404.1	285.8	256.8	29.03	9.846			
5,400.0	5,313.8	5,403.6	5,351.8	20.2	17.0	-153.52	465.9	-414.5	290.9	261.2	29.67	9.804			
5,500.0	5,411.7	5,503.4	5,450.3	20.6	17.4	-153.38	478.3	-424.9	295.9	265.6	30.31	9.763			
5,600.0	5,509.7	5,603.3	5,548.8	21.0	17.7	-153.24	490.8	-435.3	301.0	270.0	30.95	9.725			
5,700.0	5,607.6	5,703.2	5,647.4	21.5	18.1	-153.11	503.2	-445.8	306.0	274.4	31.59	9.687			
5,800.0	5,705.8	5,803.1	5,746.0	21.9	18.5	-152.91	515.7	-456.2	310.0	277.7	32.24	9.615			
5,900.0	5,804.6	5,900.0	5,841.6	22.2	18.9	-152.42	527.8	-466.3	310.9	278.0	32.86	9.461			
6,000.0	5,903.9	5,994.3	5,934.9	22.4	19.1	-151.86	538.2	-475.0	310.3	276.9	33.37	9.296			
6,100.0	6,003.5	6,086.4	6,026.5	22.6	19.3	-151.35	546.0	-481.6	309.1	275.3	33.82	9.141			
6,200.0	6,103.4	6,178.7	6,118.4	22.8	19.5	-150.90	551.7	-486.3	307.4	273.2	34.19	8.990			
6,300.0	6,203.3	6,271.0	6,210.7	22.9	19.7	179.83	555.0	-489.1	305.2	266.4	38.82	7.862			
6,400.0	6,303.3	6,363.7	6,303.3	23.0	19.8	-180.00	556.1	-490.0	304.0	265.0	39.07	7.782			
6,428.1	6,331.4	6,391.8	6,331.4	23.1	19.8	90.10	556.1	-490.0	304.0	269.1	34.95	8.699			
6,500.0	6,403.1	6,463.5	6,403.1	23.1	20.0	91.21	556.1	-490.0	304.1	268.7	35.40	8.591			
6,600.0	6,501.1	6,561.6	6,501.2	23.1	20.1	94.70	556.1	-490.0	305.1	268.8	36.33	8.398			
6,700.0	6,595.7	6,663.5	6,602.8	23.1	20.2	99.24	556.1	-482.7	308.3	271.1	37.24	8.279			
6,800.0	6,685.4	6,769.2	6,706.1	23.0	20.2	103.61	556.1	-460.9	313.4	275.6	37.73	8.305			
6,900.0	6,768.5	6,879.0	6,809.2	22.8	20.1	107.69	556.1	-423.5	319.9	282.2	37.78	8.469			
7,000.0	6,843.7	6,993.0	6,909.5	22.7	20.0	111.40	556.1	-369.4	327.6	290.1	37.45	8.747			
7,100.0	6,909.7	7,111.5	7,003.9	22.5	19.9	114.65	556.1	-298.0	335.6	298.7	36.95	9.084			
7,200.0	6,965.2	7,234.2	7,088.8	22.4	19.7	117.40	556.1	-209.6	343.4	306.8	36.57	9.389			
7,300.0	7,009.5	7,360.9	7,160.6	22.2	19.6	119.59	556.1	-105.4	350.3	313.6	36.70	9.544			
7,400.0	7,041.7	7,490.9	7,215.2	22.1	19.8	121.18	556.1	12.4	355.7	318.0	37.69	9.438			
7,500.0	7,061.3	7,623.3	7,249.6	22.0	21.1	122.14	556.1	140.1	359.2	319.4	39.74	9.039			
7,600.0	7,067.9	7,757.0	7,261.4	23.4	23.2	122.47	556.1	273.1	360.4	317.5	42.83	8.414			
7,700.0	7,067.5	7,857.3	7,261.3	25.3	25.1	122.53	556.1	373.4	360.6	314.7	45.94	7.850			
7,800.0	7,067.0	7,957.3	7,261.3	27.4	27.1	122.58	556.1	473.4	360.8	311.5	49.29	7.321			
7,900.0	7,066.6	8,057.3	7,261.3	29.5	29.3	122.64	556.1	573.4	361.1	308.2	52.85	6.831			
8,000.0	7,066.1	8,157.3	7,261.2	31.8	31.5	122.69	556.1	673.4	361.3	304.7	56.60	6.383			
8,100.0	7,065.6	8,257.3	7,261.2	34.1	33.9	122.75	556.1	773.4	361.5	301.0	60.48	5.977			
8,200.0	7,065.2	8,357.3	7,261.2	36.5	36.2	122.80	556.1	873.4	361.7	297.2	64.48	5.610			
8,300.0	7,064.7	8,457.3	7,261.1	39.0	38.7	122.86	556.1	973.4	362.0	293.4	68.58	5.278			
8,400.0	7,064.3	8,557.3	7,261.1	41.5	41.2	122.92	556.1	1,073.4	362.2	289.4	72.75	4.979			
8,500.0	7,063.8	8,657.3	7,261.1	44.0	43.7	122.97	556.1	1,173.4	362.4	285.4	76.98	4.708			
8,600.0	7,063.4	8,757.3	7,261.0	46.5	46.3	123.03	556.1	1,273.4	362.6	281.4	81.27	4.462			
8,700.0	7,062.9	8,857.3	7,261.0	49.1	48.9	123.08	556.1	1,373.4	362.9	277.3	85.60	4.239			
8,800.0	7,062.5	8,957.3	7,261.0	51.7	51.5	123.14	556.1	1,473.4	363.1	273.1	89.96	4.036			
8,900.0	7,062.0	9,057.3	7,260.9	54.3	54.1	123.19	556.1	1,573.4	363.3	269.0	94.36	3.850			
9,000.0	7,061.6	9,157.3	7,260.9	57.0	56.8	123.25	556.1	1,673.4	363.6	264.8	98.78	3.680			
9,100.0	7,061.1	9,257.3	7,260.9	59.6	59.4	123.30	556.1	1,773.4	363.8	260.6	103.23	3.524			
9,200.0	7,060.7	9,357.3	7,260.8	62.3	62.1	123.36	556.1	1,873.4	364.0	256.3	107.69	3.380			
9,300.0	7,060.2	9,457.3	7,260.8	65.0	64.8	123.41	556.1	1,973.4	364.3	252.1	112.17	3.247			
9,400.0	7,059.7	9,557.3	7,260.7	67.7	67.5	123.47	556.1	2,073.4	364.5	247.8	116.66	3.124			
9,500.0	7,059.3	9,657.3	7,260.7	70.4	70.2	123.52	556.1	2,173.4	364.7	243.6	121.16	3.010			
9,600.0	7,058.8	9,757.3	7,260.7	73.1	72.9	123.58	556.1	2,273.4	365.0	239.3	125.67	2.904			
9,700.0	7,058.4	9,857.3	7,260.6	75.8	75.6	123.63	556.1	2,373.4	365.2	235.0	130.19	2.805			
9,800.0	7,057.9	9,957.3	7,260.6	78.5	78.3	123.69	556.1	2,473.4	365.4	230.7	134.71	2.713			
9,900.0	7,057.5	10,057.3	7,260.6	81.2	81.0	123.74	556.1	2,573.4	365.7	226.4	139.24	2.626			

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 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W - Wiedeman 28E-432 - Wellbore #1 - Plan #1 (7-													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
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	7,057.0	10,157.3	7,260.5	84.0	83.8	123.80	556.1	2,673.4	365.9	222.1	143.77	2.545		
10,100.0	7,056.6	10,257.3	7,260.5	86.7	86.5	123.85	556.1	2,773.4	366.1	217.8	148.31	2.469		
10,200.0	7,056.1	10,357.3	7,260.5	89.4	89.3	123.90	556.1	2,873.4	366.4	213.5	152.85	2.397		
10,300.0	7,055.7	10,457.2	7,260.4	92.2	92.0	123.96	556.1	2,973.4	366.6	209.2	157.39	2.329		
10,400.0	7,055.2	10,557.2	7,260.4	94.9	94.8	124.01	556.1	3,073.4	366.8	204.9	161.93	2.265		
10,500.0	7,054.8	10,657.2	7,260.4	97.7	97.5	124.07	556.1	3,173.4	367.1	200.6	166.47	2.205		
10,600.0	7,054.3	10,757.2	7,260.3	100.4	100.3	124.12	556.1	3,273.4	367.3	196.3	171.02	2.148		
10,700.0	7,053.8	10,857.2	7,260.3	103.2	103.0	124.17	556.1	3,373.4	367.5	192.0	175.56	2.093		
10,800.0	7,053.4	10,957.2	7,260.3	105.9	105.8	124.23	556.1	3,473.4	367.8	187.7	180.10	2.042		
10,900.0	7,052.9	11,057.2	7,260.2	108.7	108.6	124.28	556.1	3,573.4	368.0	183.4	184.64	1.993		
11,000.0	7,052.5	11,157.2	7,260.2	111.5	111.3	124.34	556.1	3,673.4	368.2	179.1	189.18	1.947		
11,100.0	7,052.0	11,257.2	7,260.2	114.2	114.1	124.39	556.1	3,773.4	368.5	174.8	193.71	1.902		
11,200.0	7,051.6	11,357.2	7,260.1	117.0	116.9	124.44	556.1	3,873.4	368.7	170.5	198.25	1.860		
11,300.0	7,051.1	11,457.2	7,260.1	119.8	119.6	124.50	556.1	3,973.4	369.0	166.2	202.78	1.819		
11,400.0	7,050.7	11,557.2	7,260.1	122.5	122.4	124.55	556.1	4,073.4	369.2	161.9	207.31	1.781		
11,500.0	7,050.2	11,657.2	7,260.0	125.3	125.2	124.60	556.1	4,173.4	369.4	157.6	211.84	1.744		
11,547.6	7,050.0	11,704.8	7,260.0	126.6	126.5	124.63	556.1	4,221.0	369.5	155.5	213.99	1.727 SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<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	0.0	0.0	0.0	0.0	180.00	-120.2	0.0	120.2							
100.0	100.0	100.0	100.0	0.1	0.1	180.00	-120.2	0.0	120.2	120.0	0.22	534.815				
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-120.2	0.0	120.2	119.5	0.67	178.272				
300.0	300.0	300.0	300.0	0.6	0.6	180.00	-120.2	0.0	120.2	119.1	1.12	106.963				
400.0	400.0	400.0	400.0	0.8	0.8	180.00	-120.2	0.0	120.2	118.6	1.57	76.402				
500.0	500.0	500.0	500.0	1.0	1.0	180.00	-120.2	0.0	120.2	118.2	2.02	59.424				
600.0	600.0	600.0	600.0	1.2	1.2	180.00	-120.2	0.0	120.2	117.7	2.47	48.620				
700.0	700.0	700.0	700.0	1.5	1.5	180.00	-120.2	0.0	120.2	117.3	2.92	41.140				
800.0	800.0	800.0	800.0	1.7	1.7	180.00	-120.2	0.0	120.2	116.8	3.37	35.654 CC, ES				
900.0	900.0	900.0	900.0	1.9	1.9	-150.72	-120.2	0.0	121.7	117.9	3.82	31.867				
1,000.0	999.8	999.8	999.8	2.1	2.1	-151.84	-120.2	0.0	126.3	122.1	4.27	29.605				
1,100.0	1,099.5	1,099.5	1,099.5	2.4	2.4	-153.53	-120.2	0.0	134.1	129.4	4.71	28.442				
1,200.0	1,198.7	1,198.7	1,198.7	2.6	2.6	-155.58	-120.2	0.0	145.1	139.9	5.16	28.117 SF				
1,300.0	1,297.5	1,295.0	1,295.0	2.9	2.8	-157.22	-121.1	-1.3	160.2	154.6	5.58	28.697				
1,400.0	1,395.6	1,390.4	1,390.3	3.2	3.0	-158.02	-123.8	-5.2	180.1	174.1	6.00	30.007				
1,500.0	1,493.6	1,485.0	1,484.6	3.6	3.1	-158.06	-128.3	-11.6	202.5	196.0	6.45	31.389				
1,600.0	1,591.5	1,578.9	1,577.8	3.9	3.4	-157.37	-134.5	-20.5	226.3	219.4	6.92	32.690				
1,700.0	1,689.5	1,675.1	1,673.1	4.3	3.6	-156.36	-142.1	-31.3	251.2	243.7	7.42	33.829				
1,800.0	1,787.5	1,771.9	1,768.9	4.7	3.8	-155.52	-149.7	-42.2	276.1	268.2	7.94	34.767				
1,900.0	1,885.4	1,868.6	1,864.8	5.1	4.1	-154.82	-157.3	-53.1	301.1	292.6	8.47	35.535				
2,000.0	1,983.4	1,965.4	1,960.6	5.5	4.4	-154.22	-164.9	-64.1	326.1	317.1	9.02	36.168				
2,100.0	2,081.3	2,062.2	2,056.5	5.9	4.7	-153.71	-172.5	-75.0	351.1	341.6	9.57	36.696				
2,200.0	2,179.3	2,158.9	2,152.3	6.3	4.9	-153.27	-180.2	-85.9	376.2	366.1	10.13	37.133				
2,300.0	2,277.2	2,255.7	2,248.2	6.8	5.2	-152.88	-187.8	-96.8	401.3	390.6	10.70	37.505				
2,400.0	2,375.2	2,352.5	2,344.0	7.2	5.5	-152.54	-195.4	-107.7	426.4	415.1	11.27	37.821				
2,500.0	2,473.1	2,449.2	2,439.9	7.6	5.8	-152.24	-203.0	-118.6	451.5	439.6	11.85	38.090				
2,600.0	2,571.1	2,546.0	2,535.7	8.0	6.1	-151.97	-210.6	-129.5	476.6	464.2	12.44	38.322				
2,700.0	2,669.0	2,642.8	2,631.6	8.4	6.5	-151.72	-218.3	-140.4	501.7	488.7	13.02	38.522				
2,800.0	2,767.0	2,739.6	2,727.4	8.9	6.8	-151.50	-225.9	-151.4	526.9	513.3	13.62	38.696				
2,900.0	2,864.9	2,836.3	2,823.3	9.3	7.1	-151.30	-233.5	-162.3	552.0	537.8	14.21	38.849				
3,000.0	2,962.9	2,933.1	2,919.1	9.7	7.4	-151.12	-241.1	-173.2	577.2	562.4	14.81	38.982				
3,100.0	3,060.8	3,029.9	3,015.0	10.2	7.7	-150.95	-248.7	-184.1	602.3	586.9	15.40	39.100				
3,200.0	3,158.8	3,126.6	3,110.8	10.6	8.0	-150.79	-256.3	-195.0	627.5	611.5	16.01	39.205				
3,300.0	3,256.8	3,223.4	3,206.7	11.0	8.4	-150.65	-264.0	-205.9	652.7	636.1	16.61	39.298				
3,400.0	3,354.7	3,320.2	3,302.5	11.5	8.7	-150.52	-271.6	-216.8	677.8	660.6	17.21	39.381				
3,500.0	3,452.7	3,416.9	3,398.4	11.9	9.0	-150.40	-279.2	-227.7	703.0	685.2	17.82	39.455				
3,600.0	3,550.6	3,513.7	3,494.2	12.3	9.3	-150.28	-286.8	-238.7	728.2	709.8	18.42	39.522				
3,700.0	3,648.6	3,610.5	3,590.1	12.8	9.7	-150.18	-294.4	-249.6	753.4	734.3	19.03	39.583				
3,800.0	3,746.5	3,707.2	3,685.9	13.2	10.0	-150.08	-302.1	-260.5	778.5	758.9	19.64	39.637				
3,900.0	3,844.5	3,804.0	3,781.8	13.6	10.3	-149.98	-309.7	-271.4	803.7	783.5	20.25	39.686				
4,000.0	3,942.4	3,900.8	3,877.6	14.1	10.7	-149.90	-317.3	-282.3	828.9	808.0	20.86	39.731				
4,100.0	4,040.4	3,997.6	3,973.5	14.5	11.0	-149.81	-324.9	-293.2	854.1	832.6	21.47	39.772				
4,200.0	4,138.3	4,094.3	4,069.3	14.9	11.3	-149.74	-332.5	-304.1	879.3	857.2	22.09	39.809				
4,300.0	4,236.3	4,191.1	4,165.2	15.4	11.6	-149.66	-340.1	-315.0	904.5	881.8	22.70	39.843				
4,400.0	4,334.2	4,287.9	4,261.0	15.8	12.0	-149.59	-347.8	-325.9	929.6	906.3	23.31	39.874				
4,500.0	4,432.2	4,384.6	4,356.9	16.2	12.3	-149.53	-355.4	-336.9	954.8	930.9	23.93	39.903				
4,600.0	4,530.1	4,481.4	4,452.7	16.7	12.6	-149.47	-363.0	-347.8	980.0	955.5	24.54	39.929				



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W - Wiedeman 28F-312 - Wellbore #1 - Plan #1 (7-										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		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
							+N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-58.3	0.0	58.3					
100.0	100.0	100.0	100.0	0.1	0.1	180.00	-58.3	0.0	58.3	58.1	0.22	259.276		
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-58.3	0.0	58.3	57.6	0.67	86.425		
300.0	300.0	300.0	300.0	0.6	0.6	180.00	-58.3	0.0	58.3	57.2	1.12	51.855		
400.0	400.0	400.0	400.0	0.8	0.8	180.00	-58.3	0.0	58.3	56.7	1.57	37.039		
500.0	500.0	500.0	500.0	1.0	1.0	180.00	-58.3	0.0	58.3	56.3	2.02	28.808		
600.0	600.0	600.0	600.0	1.2	1.2	180.00	-58.3	0.0	58.3	55.8	2.47	23.571		
700.0	700.0	700.0	700.0	1.5	1.5	180.00	-58.3	0.0	58.3	55.4	2.92	19.944		
800.0	800.0	800.0	800.0	1.7	1.7	180.00	-58.3	0.0	58.3	54.9	3.37	17.285	CC, ES	
900.0	900.0	900.0	900.0	1.9	1.9	-151.14	-58.3	0.0	59.8	56.0	3.82	15.655		
1,000.0	999.8	999.8	999.8	2.1	2.1	-153.35	-58.3	0.0	64.4	60.2	4.27	15.101		
1,100.0	1,099.5	1,099.5	1,099.5	2.4	2.4	-156.38	-58.3	0.0	72.3	67.6	4.71	15.348		
1,200.0	1,198.7	1,198.7	1,198.7	2.6	2.6	-159.64	-58.3	0.0	83.6	78.5	5.16	16.221		
1,300.0	1,297.5	1,297.5	1,297.5	2.9	2.8	-162.72	-58.3	0.0	98.5	92.9	5.60	17.594		
1,400.0	1,395.6	1,395.6	1,395.6	3.2	3.0	-165.41	-58.3	0.0	116.8	110.8	6.04	19.344		
1,500.0	1,493.6	1,496.8	1,496.8	3.6	3.2	-167.11	-57.5	-1.4	135.3	128.8	6.49	20.828		
1,600.0	1,591.5	1,599.2	1,599.0	3.9	3.5	-167.43	-55.0	-6.1	151.3	144.4	6.96	21.756		
1,700.0	1,689.5	1,702.2	1,701.7	4.3	3.7	-166.79	-50.8	-14.1	164.9	157.4	7.44	22.171		
1,800.0	1,787.5	1,804.5	1,803.1	4.7	3.9	-165.43	-45.0	-25.1	176.1	168.2	7.94	22.180		
1,900.0	1,885.4	1,903.8	1,901.6	5.1	4.2	-164.06	-39.0	-36.5	186.8	178.4	8.46	22.089		
2,000.0	1,983.4	2,003.1	2,000.1	5.5	4.5	-162.85	-33.0	-47.9	197.7	188.7	8.99	21.984		
2,100.0	2,081.3	2,102.4	2,098.6	5.9	4.7	-161.77	-26.9	-59.3	208.6	199.0	9.54	21.871		
2,200.0	2,179.3	2,201.8	2,197.1	6.3	5.0	-160.79	-20.9	-70.7	219.5	209.4	10.09	21.752		
2,300.0	2,277.2	2,301.1	2,295.6	6.8	5.3	-159.90	-14.9	-82.2	230.6	219.9	10.66	21.631		
2,400.0	2,375.2	2,400.4	2,394.1	7.2	5.6	-159.10	-8.8	-93.6	241.6	230.4	11.23	21.511		
2,500.0	2,473.1	2,499.8	2,492.5	7.6	5.9	-158.37	-2.8	-105.0	252.8	240.9	11.82	21.391		
2,600.0	2,571.1	2,599.1	2,591.0	8.0	6.2	-157.70	3.3	-116.4	263.9	251.5	12.41	21.274		
2,700.0	2,669.0	2,698.4	2,689.5	8.4	6.5	-157.08	9.3	-127.8	275.1	262.1	13.00	21.160		
2,800.0	2,767.0	2,797.8	2,788.0	8.9	6.8	-156.51	15.3	-139.3	286.3	272.7	13.60	21.050		
2,900.0	2,864.9	2,897.1	2,886.5	9.3	7.1	-155.98	21.4	-150.7	297.6	283.4	14.21	20.944		
3,000.0	2,962.9	2,996.4	2,985.0	9.7	7.4	-155.50	27.4	-162.1	308.8	294.0	14.82	20.842		
3,100.0	3,060.8	3,095.7	3,083.5	10.2	7.7	-155.04	33.4	-173.5	320.1	304.7	15.43	20.744		
3,200.0	3,158.8	3,195.1	3,181.9	10.6	8.0	-154.62	39.5	-184.9	331.4	315.4	16.05	20.650		
3,300.0	3,256.8	3,294.4	3,280.4	11.0	8.3	-154.23	45.5	-196.4	342.8	326.1	16.67	20.561		
3,400.0	3,354.7	3,393.7	3,378.9	11.5	8.6	-153.86	51.5	-207.8	354.1	336.8	17.29	20.475		
3,500.0	3,452.7	3,493.1	3,477.4	11.9	9.0	-153.51	57.6	-219.2	365.5	347.5	17.92	20.393		
3,600.0	3,550.6	3,592.4	3,575.9	12.3	9.3	-153.19	63.6	-230.6	376.8	358.3	18.55	20.314		
3,700.0	3,648.6	3,691.7	3,674.4	12.8	9.6	-152.88	69.7	-242.0	388.2	369.0	19.18	20.239		
3,800.0	3,746.5	3,791.1	3,772.9	13.2	9.9	-152.59	75.7	-253.4	399.6	379.8	19.81	20.168		
3,900.0	3,844.5	3,890.4	3,871.4	13.6	10.2	-152.32	81.7	-264.9	411.0	390.5	20.45	20.099		
4,000.0	3,942.4	3,989.7	3,969.8	14.1	10.5	-152.06	87.8	-276.3	422.4	401.3	21.08	20.034		
4,100.0	4,040.4	4,089.0	4,068.3	14.5	10.9	-151.81	93.8	-287.7	433.8	412.1	21.72	19.971		
4,200.0	4,138.3	4,188.4	4,166.8	14.9	11.2	-151.58	99.8	-299.1	445.2	422.9	22.36	19.911		
4,300.0	4,236.3	4,287.7	4,265.3	15.4	11.5	-151.36	105.9	-310.5	456.7	433.7	23.00	19.853		
4,400.0	4,334.2	4,387.0	4,363.8	15.8	11.8	-151.15	111.9	-322.0	468.1	444.4	23.64	19.798		
4,500.0	4,432.2	4,486.4	4,462.3	16.2	12.1	-150.95	117.9	-333.4	479.5	455.2	24.29	19.745		
4,600.0	4,530.1	4,585.7	4,560.8	16.7	12.5	-150.76	124.0	-344.8	491.0	466.0	24.93	19.694		
4,700.0	4,628.1	4,685.0	4,659.2	17.1	12.8	-150.58	130.0	-356.2	502.4	476.8	25.57	19.645		
4,800.0	4,726.1	4,784.4	4,757.7	17.5	13.1	-150.41	136.1	-367.6	513.9	487.7	26.22	19.598		
4,900.0	4,824.0	4,883.7	4,856.2	18.0	13.4	-150.24	142.1	-379.1	525.3	498.5	26.87	19.553		
5,000.0	4,922.0	4,983.0	4,954.7	18.4	13.8	-150.08	148.1	-390.5	536.8	509.3	27.51	19.510		

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 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W - Wiedeman 28F-312 - Wellbore #1 - Plan #1 (7-													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	5,019.9	5,082.3	5,053.2	18.9	14.1	-149.93	154.2	-401.9	548.3	520.1	28.16	19.468		
5,200.0	5,117.9	5,181.7	5,151.7	19.3	14.4	-149.78	160.2	-413.3	559.7	530.9	28.81	19.428		
5,300.0	5,215.8	5,281.0	5,250.2	19.7	14.7	-149.64	166.2	-424.7	571.2	541.8	29.46	19.389		
5,400.0	5,313.8	5,380.3	5,348.6	20.2	15.1	-149.51	172.3	-436.2	582.7	552.6	30.11	19.352		
5,500.0	5,411.7	5,479.7	5,447.1	20.6	15.4	-149.38	178.3	-447.6	594.2	563.4	30.76	19.316		
5,600.0	5,509.7	5,579.0	5,545.6	21.0	15.7	-149.26	184.3	-459.0	605.7	574.2	31.41	19.281		
5,700.0	5,607.6	5,676.8	5,642.6	21.5	16.0	-149.14	190.3	-470.2	617.2	585.1	32.05	19.255		
5,800.0	5,705.8	5,767.2	5,732.5	21.9	16.2	-149.24	194.9	-478.9	628.6	596.0	32.57	19.300		
5,900.0	5,804.6	5,857.6	5,822.6	22.2	16.4	-149.42	198.2	-485.1	638.4	605.5	32.97	19.365		
6,000.0	5,903.9	5,948.0	5,912.9	22.4	16.6	-149.67	200.1	-488.8	646.8	613.5	33.30	19.424		
6,100.0	6,003.5	6,038.6	6,003.5	22.6	16.7	-149.98	200.7	-490.0	653.5	620.0	33.56	19.474		
6,200.0	6,103.4	6,138.5	6,103.4	22.8	16.9	-150.25	200.7	-490.0	658.0	624.1	33.81	19.459		
6,300.0	6,203.3	6,238.5	6,203.3	22.9	17.1	-180.00	200.7	-490.0	659.4	623.6	35.79	18.424		
6,400.0	6,303.3	6,338.5	6,303.3	23.0	17.2	-180.00	200.7	-490.0	659.4	623.3	36.13	18.253		
6,425.9	6,329.2	6,364.3	6,329.2	23.1	17.3	90.04	200.7	-490.0	659.4	624.9	34.50	19.111		
6,500.0	6,403.1	6,438.2	6,403.1	23.1	17.4	90.56	200.7	-490.0	659.4	624.6	34.80	18.947		
6,600.0	6,501.1	6,539.1	6,503.7	23.1	17.5	91.64	200.7	-482.9	659.6	624.6	35.10	18.794		
6,700.0	6,595.7	6,641.7	6,604.1	23.1	17.5	92.69	200.7	-462.2	660.1	624.9	35.22	18.742		
6,800.0	6,685.4	6,746.1	6,702.5	23.0	17.5	93.71	200.7	-427.5	660.8	625.6	35.21	18.765		
6,900.0	6,768.5	6,852.3	6,796.7	22.8	17.4	94.68	200.7	-378.9	661.6	626.4	35.16	18.818		
7,000.0	6,843.7	6,960.1	6,884.6	22.7	17.3	95.56	200.7	-316.5	662.5	627.3	35.19	18.827		
7,100.0	6,909.7	7,069.6	6,964.0	22.5	17.3	96.34	200.7	-241.2	663.5	628.0	35.49	18.693		
7,200.0	6,965.2	7,180.6	7,032.6	22.4	17.6	97.02	200.7	-154.1	664.4	628.1	36.27	18.318		
7,300.0	7,009.5	7,292.8	7,088.5	22.2	18.2	97.56	200.7	-56.9	665.2	627.5	37.69	17.647		
7,400.0	7,041.7	7,406.1	7,129.8	22.1	19.4	97.95	200.7	48.4	665.8	625.9	39.86	16.702		
7,500.0	7,061.3	7,520.0	7,155.2	22.0	20.9	98.19	200.7	159.4	666.2	623.4	42.76	15.579		
7,600.0	7,067.9	7,634.3	7,163.8	23.4	22.8	98.28	200.7	273.2	666.3	620.1	46.24	14.409		
7,700.0	7,067.5	7,735.5	7,162.7	25.3	24.7	98.22	200.7	374.5	666.2	616.3	49.91	13.347		
7,800.0	7,067.0	7,835.5	7,161.5	27.4	26.7	98.16	200.7	474.4	666.1	612.2	53.88	12.364		
7,900.0	7,066.6	7,935.5	7,160.3	29.5	28.9	98.09	200.7	574.4	666.0	607.9	58.11	11.462		
8,000.0	7,066.1	8,035.5	7,159.1	31.8	31.2	98.03	200.7	674.4	665.9	603.4	62.54	10.647		
8,100.0	7,065.6	8,135.5	7,157.9	34.1	33.5	97.97	200.7	774.4	665.8	598.7	67.15	9.915		
8,200.0	7,065.2	8,235.5	7,156.8	36.5	35.9	97.91	200.7	874.4	665.7	593.8	71.90	9.259		
8,300.0	7,064.7	8,335.5	7,155.6	39.0	38.4	97.84	200.7	974.4	665.6	588.8	76.76	8.671		
8,400.0	7,064.3	8,435.5	7,154.4	41.5	40.9	97.78	200.7	1,074.4	665.5	583.8	81.71	8.145		
8,500.0	7,063.8	8,535.5	7,153.2	44.0	43.4	97.72	200.7	1,174.4	665.4	578.7	86.74	7.671		
8,600.0	7,063.4	8,635.5	7,152.0	46.5	46.0	97.66	200.7	1,274.4	665.3	573.5	91.83	7.245		
8,700.0	7,062.9	8,735.5	7,150.8	49.1	48.6	97.59	200.7	1,374.4	665.2	568.2	96.98	6.859		
8,800.0	7,062.5	8,835.5	7,149.6	51.7	51.2	97.53	200.7	1,474.4	665.1	562.9	102.18	6.510		
8,900.0	7,062.0	8,935.5	7,148.4	54.3	53.9	97.47	200.7	1,574.3	665.0	557.6	107.41	6.191		
9,000.0	7,061.6	9,035.5	7,147.3	57.0	56.5	97.41	200.7	1,674.3	664.9	552.3	112.68	5.901		
9,100.0	7,061.1	9,135.5	7,146.1	59.6	59.2	97.34	200.7	1,774.3	664.8	546.9	117.98	5.635		
9,200.0	7,060.7	9,235.5	7,144.9	62.3	61.9	97.28	200.7	1,874.3	664.7	541.4	123.30	5.391		
9,300.0	7,060.2	9,335.5	7,143.7	65.0	64.6	97.22	200.7	1,974.3	664.7	536.0	128.65	5.166		
9,400.0	7,059.7	9,435.5	7,142.5	67.7	67.3	97.15	200.7	2,074.3	664.6	530.5	134.02	4.959		
9,500.0	7,059.3	9,535.5	7,141.3	70.4	70.0	97.09	200.7	2,174.3	664.5	525.1	139.41	4.766		
9,600.0	7,058.8	9,635.5	7,140.1	73.1	72.7	97.03	200.7	2,274.3	664.4	519.6	144.81	4.588		
9,700.0	7,058.4	9,735.5	7,139.0	75.8	75.4	96.97	200.7	2,374.3	664.3	514.1	150.23	4.422		
9,800.0	7,057.9	9,835.5	7,137.8	78.5	78.1	96.90	200.7	2,474.3	664.2	508.5	155.66	4.267		
9,900.0	7,057.5	9,935.5	7,136.6	81.2	80.9	96.84	200.7	2,574.2	664.1	503.0	161.11	4.122		

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 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W - Wiedeman 28F-312 - Wellbore #1 - Plan #1 (7-													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	7,057.0	10,035.5	7,135.4	84.0	83.6	96.78	200.7	2,674.2	664.0	497.5	166.56	3.987		
10,100.0	7,056.6	10,135.5	7,134.2	86.7	86.4	96.72	200.7	2,774.2	663.9	491.9	172.03	3.859		
10,200.0	7,056.1	10,235.5	7,133.0	89.4	89.1	96.65	200.7	2,874.2	663.9	486.4	177.50	3.740		
10,300.0	7,055.7	10,335.5	7,131.8	92.2	91.9	96.59	200.7	2,974.2	663.8	480.8	182.99	3.627		
10,400.0	7,055.2	10,435.5	7,130.6	94.9	94.6	96.53	200.7	3,074.2	663.7	475.2	188.48	3.521		
10,500.0	7,054.8	10,535.5	7,129.5	97.7	97.4	96.46	200.7	3,174.2	663.6	469.6	193.98	3.421		
10,600.0	7,054.3	10,635.5	7,128.3	100.4	100.1	96.40	200.7	3,274.2	663.5	464.0	199.48	3.326		
10,700.0	7,053.8	10,735.5	7,127.1	103.2	102.9	96.34	200.7	3,374.2	663.4	458.5	204.99	3.236		
10,800.0	7,053.4	10,835.5	7,125.9	105.9	105.7	96.28	200.7	3,474.2	663.4	452.9	210.51	3.151		
10,900.0	7,052.9	10,935.4	7,124.7	108.7	108.4	96.21	200.7	3,574.1	663.3	447.3	216.03	3.070		
11,000.0	7,052.5	11,035.4	7,123.5	111.5	111.2	96.15	200.7	3,674.1	663.2	441.6	221.56	2.993		
11,100.0	7,052.0	11,135.4	7,122.3	114.2	114.0	96.09	200.7	3,774.1	663.1	436.0	227.09	2.920		
11,200.0	7,051.6	11,235.4	7,121.2	117.0	116.7	96.02	200.7	3,874.1	663.1	430.4	232.63	2.850		
11,300.0	7,051.1	11,335.4	7,120.0	119.8	119.5	95.96	200.7	3,974.1	663.0	424.8	238.17	2.784		
11,400.0	7,050.7	11,435.4	7,118.8	122.5	122.3	95.90	200.7	4,074.1	662.9	419.2	243.72	2.720		
11,500.0	7,050.2	11,535.4	7,117.6	125.3	125.1	95.83	200.7	4,174.1	662.8	413.6	249.27	2.659		
11,547.6	7,050.0	11,583.1	7,117.0	126.6	126.4	95.80	200.7	4,221.7	662.8	410.9	251.91	2.631 SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W - Wiedeman 28F-412 - Wellbore #1 - Plan #1 (7-										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	
0.0	0.0	0.0	0.0	0.0	0.0	-180.00	-87.4	0.0	87.4					
100.0	100.0	100.0	100.0	0.1	0.1	-180.00	-87.4	0.0	87.4	87.2	0.22	388.941		
200.0	200.0	200.0	200.0	0.3	0.3	-180.00	-87.4	0.0	87.4	86.7	0.67	129.647		
300.0	300.0	300.0	300.0	0.6	0.6	-180.00	-87.4	0.0	87.4	86.3	1.12	77.788		
400.0	400.0	400.0	400.0	0.8	0.8	-180.00	-87.4	0.0	87.4	85.8	1.57	55.563		
500.0	500.0	500.0	500.0	1.0	1.0	-180.00	-87.4	0.0	87.4	85.4	2.02	43.216		
600.0	600.0	600.0	600.0	1.2	1.2	-180.00	-87.4	0.0	87.4	84.9	2.47	35.358		
700.0	700.0	700.0	700.0	1.5	1.5	-180.00	-87.4	0.0	87.4	84.5	2.92	29.919		
800.0	800.0	800.0	800.0	1.7	1.7	-180.00	-87.4	0.0	87.4	84.0	3.37	25.929	CC, ES	
900.0	900.0	900.0	900.0	1.9	1.9	-150.87	-87.4	0.0	88.9	85.1	3.82	23.284		
1,000.0	999.8	999.8	999.8	2.1	2.1	-152.39	-87.4	0.0	93.5	89.3	4.27	21.924		
1,100.0	1,099.5	1,099.5	1,099.5	2.4	2.4	-154.60	-87.4	0.0	101.4	96.6	4.71	21.504	SF	
1,200.0	1,198.7	1,198.7	1,198.7	2.6	2.6	-157.18	-87.4	0.0	112.5	107.3	5.16	21.806		
1,300.0	1,297.5	1,297.5	1,297.5	2.9	2.8	-159.81	-87.4	0.0	127.1	121.5	5.60	22.684		
1,400.0	1,395.6	1,395.6	1,395.6	3.2	3.0	-162.31	-87.4	0.0	145.1	139.1	6.05	23.999		
1,500.0	1,493.6	1,493.6	1,493.6	3.6	3.2	-164.44	-87.4	0.0	164.4	157.9	6.51	25.271		
1,600.0	1,591.5	1,591.5	1,591.5	3.9	3.5	-166.12	-87.4	0.0	183.9	176.9	6.97	26.390		
1,700.0	1,689.5	1,689.5	1,689.5	4.3	3.7	-167.48	-87.4	0.0	203.5	196.1	7.43	27.379		
1,800.0	1,787.5	1,787.5	1,787.5	4.7	3.9	-168.60	-87.4	0.0	223.2	215.3	7.90	28.257		
1,900.0	1,885.4	1,885.4	1,885.4	5.1	4.1	-169.53	-87.4	0.0	243.0	234.6	8.37	29.040		
2,000.0	1,983.4	1,983.4	1,983.4	5.5	4.3	-170.33	-87.4	0.0	262.8	254.0	8.84	29.741		
2,100.0	2,081.3	2,083.1	2,083.1	5.9	4.6	-170.78	-87.6	-1.2	282.5	273.2	9.30	30.368		
2,200.0	2,179.3	2,183.4	2,183.3	6.3	4.8	-170.53	-88.3	-5.8	301.4	291.6	9.76	30.872		
2,300.0	2,277.2	2,283.9	2,283.4	6.8	5.0	-169.67	-89.4	-13.9	319.6	309.4	10.24	31.215		
2,400.0	2,375.2	2,384.1	2,383.0	7.2	5.2	-168.32	-91.1	-25.4	337.3	326.5	10.74	31.404		
2,500.0	2,473.1	2,482.3	2,480.2	7.6	5.4	-166.82	-93.0	-38.6	354.8	343.5	11.26	31.504		
2,600.0	2,571.1	2,580.4	2,577.4	8.0	5.7	-165.46	-95.0	-51.8	372.5	360.7	11.80	31.570		
2,700.0	2,669.0	2,678.4	2,674.5	8.4	5.9	-164.22	-96.9	-65.0	390.5	378.1	12.35	31.610		
2,800.0	2,767.0	2,776.4	2,771.6	8.9	6.2	-163.09	-98.8	-78.2	408.6	395.6	12.92	31.628		
2,900.0	2,864.9	2,874.5	2,868.8	9.3	6.4	-162.05	-100.7	-91.4	426.8	413.3	13.49	31.630		
3,000.0	2,962.9	2,972.5	2,965.9	9.7	6.7	-161.11	-102.6	-104.6	445.1	431.1	14.08	31.619		
3,100.0	3,060.8	3,070.6	3,063.0	10.2	7.0	-160.23	-104.6	-117.8	463.6	448.9	14.67	31.598		
3,200.0	3,158.8	3,168.6	3,160.2	10.6	7.3	-159.42	-106.5	-131.0	482.2	466.9	15.27	31.570		
3,300.0	3,256.8	3,266.6	3,257.3	11.0	7.6	-158.68	-108.4	-144.2	500.8	485.0	15.88	31.536		
3,400.0	3,354.7	3,364.7	3,354.4	11.5	7.9	-157.98	-110.3	-157.3	519.6	503.1	16.49	31.499		
3,500.0	3,452.7	3,462.7	3,451.6	11.9	8.1	-157.34	-112.2	-170.5	538.4	521.2	17.11	31.458		
3,600.0	3,550.6	3,560.8	3,548.7	12.3	8.4	-156.73	-114.2	-183.7	557.2	539.5	17.74	31.416		
3,700.0	3,648.6	3,658.8	3,645.8	12.8	8.7	-156.17	-116.1	-196.9	576.1	557.8	18.36	31.372		
3,800.0	3,746.5	3,756.9	3,743.0	13.2	9.1	-155.64	-118.0	-210.1	595.1	576.1	19.00	31.328		
3,900.0	3,844.5	3,854.9	3,840.1	13.6	9.4	-155.15	-119.9	-223.3	614.1	594.5	19.63	31.284		
4,000.0	3,942.4	3,952.9	3,937.2	14.1	9.7	-154.68	-121.8	-236.5	633.2	612.9	20.27	31.241		
4,100.0	4,040.4	4,051.0	4,034.4	14.5	10.0	-154.25	-123.7	-249.7	652.2	631.3	20.91	31.197		
4,200.0	4,138.3	4,149.0	4,131.5	14.9	10.3	-153.83	-125.7	-262.9	671.4	649.8	21.55	31.155		
4,300.0	4,236.3	4,247.1	4,228.6	15.4	10.6	-153.44	-127.6	-276.0	690.5	668.3	22.19	31.113		
4,400.0	4,334.2	4,345.1	4,325.8	15.8	10.9	-153.07	-129.5	-289.2	709.7	686.9	22.84	31.072		
4,500.0	4,432.2	4,443.2	4,422.9	16.2	11.2	-152.72	-131.4	-302.4	728.9	705.4	23.49	31.032		
4,600.0	4,530.1	4,541.2	4,520.0	16.7	11.6	-152.39	-133.3	-315.6	748.2	724.0	24.14	30.993		
4,700.0	4,628.1	4,639.2	4,617.2	17.1	11.9	-152.08	-135.3	-328.8	767.4	742.6	24.79	30.956		
4,800.0	4,726.1	4,737.3	4,714.3	17.5	12.2	-151.78	-137.2	-342.0	786.7	761.3	25.44	30.919		
4,900.0	4,824.0	4,835.3	4,811.4	18.0	12.5	-151.49	-139.1	-355.2	806.0	779.9	26.10	30.883		
5,000.0	4,922.0	4,933.4	4,908.6	18.4	12.8	-151.22	-141.0	-368.4	825.3	798.6	26.75	30.849		

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 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W - Wiedeman 28F-412 - Wellbore #1 - Plan #1 (7-													<b>Offset Site Error:</b>	0.0 ft
Survey Program: 0-MWD													<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		
5,100.0	5,019.9	5,031.4	5,005.7	18.9	13.2	-150.96	-142.9	-381.6	844.7	817.3	27.41	30.815		
5,200.0	5,117.9	5,129.4	5,102.8	19.3	13.5	-150.71	-144.9	-394.7	864.0	836.0	28.07	30.783		
5,300.0	5,215.8	5,227.5	5,199.9	19.7	13.8	-150.47	-146.8	-407.9	883.4	854.7	28.73	30.751		
5,400.0	5,313.8	5,325.5	5,297.1	20.2	14.1	-150.25	-148.7	-421.1	902.8	873.4	29.39	30.721		
5,500.0	5,411.7	5,423.6	5,394.2	20.6	14.5	-150.03	-150.6	-434.3	922.2	892.1	30.05	30.691		
5,600.0	5,509.7	5,521.6	5,491.3	21.0	14.8	-149.82	-152.5	-447.5	941.6	910.9	30.71	30.662		
5,700.0	5,607.6	5,619.7	5,588.5	21.5	15.1	-149.62	-154.5	-460.7	961.0	929.6	31.37	30.634		
5,800.0	5,705.8	5,722.0	5,690.0	21.9	15.4	-149.60	-156.3	-473.4	979.2	947.2	32.00	30.600		
5,900.0	5,804.6	5,826.3	5,793.8	22.2	15.6	-149.69	-157.7	-482.6	994.0	961.5	32.49	30.593		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W - Wiedeman 28F-432 - Wellbore #1 - Plan #1 (7-										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	-149.4	0.0	149.4					
100.0	100.0	100.0	100.0	0.1	0.1	180.00	-149.4	0.0	149.4	149.1	0.22	664.481		
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-149.4	0.0	149.4	148.7	0.67	221.494		
300.0	300.0	300.0	300.0	0.6	0.6	180.00	-149.4	0.0	149.4	148.2	1.12	132.896		
400.0	400.0	400.0	400.0	0.8	0.8	180.00	-149.4	0.0	149.4	147.8	1.57	94.926		
500.0	500.0	500.0	500.0	1.0	1.0	180.00	-149.4	0.0	149.4	147.3	2.02	73.831		
600.0	600.0	600.0	600.0	1.2	1.2	180.00	-149.4	0.0	149.4	146.9	2.47	60.407		
700.0	700.0	700.0	700.0	1.5	1.5	180.00	-149.4	0.0	149.4	146.4	2.92	51.114		
800.0	800.0	800.0	800.0	1.7	1.7	180.00	-149.4	0.0	149.4	146.0	3.37	44.299 CC, ES		
900.0	900.0	900.0	900.0	1.9	1.9	-150.64	-149.4	0.0	150.9	147.1	3.82	39.497		
1,000.0	999.8	999.8	999.8	2.1	2.1	-151.54	-149.4	0.0	155.5	151.2	4.27	36.433		
1,100.0	1,099.5	1,095.3	1,095.2	2.4	2.3	-152.50	-150.6	-1.0	164.4	159.8	4.68	35.108 SF		
1,200.0	1,198.7	1,189.8	1,189.7	2.6	2.5	-153.12	-154.3	-3.8	179.1	174.0	5.09	35.173		
1,300.0	1,297.5	1,283.1	1,282.6	2.9	2.7	-153.41	-160.5	-8.5	199.3	193.7	5.51	36.151		
1,400.0	1,395.6	1,374.7	1,373.6	3.2	2.9	-153.48	-168.8	-14.9	224.8	218.8	5.95	37.774		
1,500.0	1,493.6	1,464.8	1,462.7	3.6	3.1	-153.34	-179.2	-22.9	253.6	247.2	6.42	39.505		
1,600.0	1,591.5	1,559.4	1,556.1	3.9	3.4	-152.97	-191.6	-32.3	283.8	276.9	6.91	41.040		
1,700.0	1,689.5	1,654.8	1,650.1	4.3	3.6	-152.67	-204.1	-41.9	314.0	306.6	7.42	42.309		
1,800.0	1,787.5	1,750.1	1,744.1	4.7	3.9	-152.42	-216.6	-51.4	344.2	336.2	7.94	43.342		
1,900.0	1,885.4	1,845.4	1,838.2	5.1	4.2	-152.21	-229.1	-61.0	374.4	365.9	8.47	44.199		
2,000.0	1,983.4	1,940.7	1,932.2	5.5	4.6	-152.04	-241.6	-70.5	404.6	395.6	9.01	44.884		
2,100.0	2,081.3	2,036.0	2,026.2	5.9	4.9	-151.88	-254.1	-80.1	434.8	425.3	9.56	45.475		
2,200.0	2,179.3	2,131.4	2,120.2	6.3	5.2	-151.75	-266.6	-89.6	465.0	454.9	10.12	45.968		
2,300.0	2,277.2	2,226.7	2,214.2	6.8	5.6	-151.63	-279.0	-99.2	495.3	484.6	10.68	46.386		
2,400.0	2,375.2	2,322.0	2,308.2	7.2	5.9	-151.53	-291.5	-108.7	525.5	514.3	11.24	46.744		
2,500.0	2,473.1	2,417.3	2,402.2	7.6	6.3	-151.44	-304.0	-118.3	555.7	543.9	11.81	47.051		
2,600.0	2,571.1	2,512.6	2,496.2	8.0	6.6	-151.36	-316.5	-127.8	585.9	573.6	12.38	47.316		
2,700.0	2,669.0	2,608.0	2,590.3	8.4	7.0	-151.28	-329.0	-137.4	616.2	603.2	12.96	47.547		
2,800.0	2,767.0	2,703.3	2,684.3	8.9	7.3	-151.22	-341.5	-146.9	646.4	632.9	13.54	47.750		
2,900.0	2,864.9	2,798.6	2,778.3	9.3	7.7	-151.15	-354.0	-156.5	676.6	662.5	14.12	47.928		
3,000.0	2,962.9	2,893.9	2,872.3	9.7	8.0	-151.10	-366.5	-166.0	706.9	692.2	14.70	48.084		
3,100.0	3,060.8	2,989.2	2,966.3	10.2	8.4	-151.05	-378.9	-175.6	737.1	721.8	15.28	48.224		
3,200.0	3,158.8	3,084.5	3,060.3	10.6	8.7	-151.00	-391.4	-185.1	767.3	751.5	15.87	48.348		
3,300.0	3,256.8	3,179.9	3,154.3	11.0	9.1	-150.96	-403.9	-194.7	797.6	781.1	16.46	48.459		
3,400.0	3,354.7	3,275.2	3,248.4	11.5	9.5	-150.92	-416.4	-204.2	827.8	810.7	17.05	48.559		
3,500.0	3,452.7	3,370.5	3,342.4	11.9	9.8	-150.88	-428.9	-213.8	858.0	840.4	17.64	48.648		
3,600.0	3,550.6	3,465.8	3,436.4	12.3	10.2	-150.84	-441.4	-223.3	888.3	870.0	18.23	48.729		
3,700.0	3,648.6	3,561.1	3,530.4	12.8	10.5	-150.81	-453.9	-232.9	918.5	899.7	18.82	48.803		
3,800.0	3,746.5	3,656.5	3,624.4	13.2	10.9	-150.78	-466.4	-242.4	948.7	929.3	19.41	48.870		
3,900.0	3,844.5	3,751.8	3,718.4	13.6	11.3	-150.75	-478.8	-252.0	979.0	958.9	20.01	48.930		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<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- Survey Program: 0-MWD)														Offset Site Error:	0.0 ft
Reference Offset Semi Major Axis														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	0.0	0.0	0.0	0.0	-180.00	-207.6	0.0	207.6						
100.0	100.0	99.0	99.0	0.1	0.1	-180.00	-207.6	0.0	207.6	207.4	0.22	928.446			
200.0	200.0	199.0	199.0	0.3	0.3	-180.00	-207.6	0.0	207.6	207.0	0.67	308.967 CC, ES			
300.0	300.0	292.7	292.7	0.6	0.5	-179.85	-209.0	-0.6	209.1	208.0	1.09	192.136			
400.0	400.0	386.2	386.0	0.8	0.7	-179.40	-213.3	-2.2	213.7	212.2	1.51	141.549			
500.0	500.0	479.2	478.8	1.0	0.9	-178.70	-220.3	-5.0	221.3	219.3	1.94	113.808			
600.0	600.0	571.7	570.7	1.2	1.2	-177.80	-230.0	-8.8	231.9	229.6	2.39	97.180			
700.0	700.0	663.4	661.4	1.5	1.5	-176.76	-242.4	-13.7	245.7	242.9	2.84	86.602			
800.0	800.0	754.1	750.7	1.7	1.8	-175.64	-257.3	-19.6	262.6	259.3	3.30	79.671			
900.0	900.0	843.5	838.1	1.9	2.2	-144.77	-274.6	-26.4	283.9	280.1	3.78	75.128			
1,000.0	999.8	933.4	925.4	2.1	2.6	-143.84	-294.4	-34.2	310.8	306.6	4.25	73.057			
1,100.0	1,099.5	1,028.6	1,017.8	2.4	3.1	-143.24	-316.1	-42.8	341.2	336.5	4.74	71.987			
1,200.0	1,198.7	1,123.0	1,109.3	2.6	3.5	-142.98	-337.6	-51.3	374.3	369.1	5.22	71.708			
1,300.0	1,297.5	1,216.3	1,199.8	2.9	4.0	-142.96	-358.8	-59.6	410.0	404.3	5.71	71.865			
1,400.0	1,395.6	1,308.6	1,289.2	3.2	4.5	-143.21	-379.8	-67.9	448.3	442.1	6.21	72.197			
1,500.0	1,493.6	1,400.5	1,378.3	3.6	4.9	-143.85	-400.8	-76.2	487.5	480.7	6.74	72.301			
1,600.0	1,591.5	1,492.4	1,467.4	3.9	5.4	-144.39	-421.7	-84.5	526.7	519.4	7.29	72.273			
1,700.0	1,689.5	1,584.3	1,556.5	4.3	5.9	-144.85	-442.6	-92.7	565.9	558.1	7.84	72.174			
1,800.0	1,787.5	1,676.2	1,645.6	4.7	6.4	-145.26	-463.5	-101.0	605.2	596.8	8.40	72.031			
1,900.0	1,885.4	1,768.0	1,734.7	5.1	6.8	-145.61	-484.5	-109.2	644.5	635.5	8.97	71.865			
2,000.0	1,983.4	1,859.9	1,823.8	5.5	7.3	-145.93	-505.4	-117.5	683.8	674.3	9.54	71.687			
2,100.0	2,081.3	1,951.8	1,912.9	5.9	7.8	-146.21	-526.3	-125.7	723.2	713.0	10.11	71.505			
2,200.0	2,179.3	2,043.7	2,002.0	6.3	8.3	-146.46	-547.2	-134.0	762.5	751.8	10.69	71.323			
2,300.0	2,277.2	2,135.6	2,091.1	6.8	8.7	-146.69	-568.1	-142.2	801.9	790.6	11.27	71.145			
2,400.0	2,375.2	2,227.5	2,180.1	7.2	9.2	-146.89	-589.1	-150.5	841.2	829.4	11.85	70.972			
2,500.0	2,473.1	2,319.4	2,269.2	7.6	9.7	-147.08	-610.0	-158.8	880.6	868.2	12.44	70.806			
2,600.0	2,571.1	2,411.2	2,358.3	8.0	10.2	-147.25	-630.9	-167.0	920.0	907.0	13.02	70.646			
2,700.0	2,669.0	2,503.1	2,447.4	8.4	10.6	-147.41	-651.8	-175.3	959.4	945.8	13.61	70.493			
2,800.0	2,767.0	2,595.0	2,536.5	8.9	11.1	-147.56	-672.8	-183.5	998.8	984.6	14.20	70.348 SF			



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W - Wiedeman 28G-312 - Wellbore #1 - Plan #1 (7- Survey Program: 0-MWD														Offset Site Error:	0.0 ft
Reference Offset Semi Major Axis														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)	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	180.00	-178.5	0.0	178.5						
100.0	100.0	99.0	99.0	0.1	0.1	180.00	-178.5	0.0	178.5	178.3	0.22	798.130			
200.0	200.0	199.0	199.0	0.3	0.3	180.00	-178.5	0.0	178.5	177.8	0.67	265.601			
300.0	300.0	299.0	299.0	0.6	0.6	180.00	-178.5	0.0	178.5	177.4	1.12	159.148			
400.0	400.0	399.0	399.0	0.8	0.8	180.00	-178.5	0.0	178.5	176.9	1.57	113.612 CC, ES			
500.0	500.0	493.7	493.7	1.0	1.0	-179.79	-179.9	-0.7	180.0	178.0	1.99	90.592			
600.0	600.0	588.2	588.0	1.2	1.2	-179.16	-184.1	-2.7	184.4	182.0	2.40	76.960			
700.0	700.0	682.2	681.7	1.5	1.4	-178.19	-191.0	-6.1	191.9	189.1	2.82	68.087			
800.0	800.0	775.6	774.6	1.7	1.6	-176.94	-200.6	-10.7	202.4	199.2	3.25	62.302			
900.0	900.0	868.1	866.0	1.9	1.9	-145.94	-212.8	-16.6	217.5	213.7	3.71	58.641			
1,000.0	999.8	959.1	955.5	2.1	2.2	-144.89	-227.4	-23.7	238.4	234.2	4.17	57.188			
1,100.0	1,099.5	1,052.4	1,046.9	2.4	2.5	-144.12	-244.6	-32.0	264.5	259.9	4.64	57.028 SF			
1,200.0	1,198.7	1,148.0	1,140.4	2.6	2.9	-143.77	-262.5	-40.7	293.6	288.5	5.11	57.410			
1,300.0	1,297.5	1,242.8	1,233.1	2.9	3.3	-143.76	-280.2	-49.2	325.5	319.9	5.60	58.158			
1,400.0	1,395.6	1,336.6	1,324.9	3.2	3.7	-144.08	-297.8	-57.7	359.9	353.8	6.09	59.078			
1,500.0	1,493.6	1,430.1	1,416.3	3.6	4.1	-144.72	-315.2	-66.2	395.3	388.7	6.62	59.711			
1,600.0	1,591.5	1,523.5	1,507.7	3.9	4.5	-145.26	-332.7	-74.6	430.7	423.6	7.16	60.185			
1,700.0	1,689.5	1,617.0	1,599.1	4.3	5.0	-145.72	-350.2	-83.1	466.1	458.4	7.70	60.516			
1,800.0	1,787.5	1,710.4	1,690.5	4.7	5.4	-146.11	-367.6	-91.5	501.6	493.4	8.26	60.750			
1,900.0	1,885.4	1,803.9	1,782.0	5.1	5.8	-146.45	-385.1	-100.0	537.1	528.3	8.82	60.914			
2,000.0	1,983.4	1,897.3	1,873.4	5.5	6.2	-146.75	-402.6	-108.4	572.6	563.2	9.38	61.029			
2,100.0	2,081.3	1,990.8	1,964.8	5.9	6.6	-147.01	-420.0	-116.9	608.1	598.1	9.95	61.107			
2,200.0	2,179.3	2,084.2	2,056.2	6.3	7.1	-147.25	-437.5	-125.4	643.6	633.1	10.52	61.159			
2,300.0	2,277.2	2,177.7	2,147.6	6.8	7.5	-147.46	-455.0	-133.8	679.1	668.0	11.10	61.191			
2,400.0	2,375.2	2,271.1	2,239.0	7.2	7.9	-147.65	-472.4	-142.3	714.6	703.0	11.68	61.208			
2,500.0	2,473.1	2,364.6	2,330.4	7.6	8.3	-147.82	-489.9	-150.7	750.2	737.9	12.25	61.214			
2,600.0	2,571.1	2,458.0	2,421.9	8.0	8.8	-147.98	-507.4	-159.2	785.7	772.9	12.84	61.211			
2,700.0	2,669.0	2,551.5	2,513.3	8.4	9.2	-148.12	-524.8	-167.6	821.3	807.8	13.42	61.202			
2,800.0	2,767.0	2,644.9	2,604.7	8.9	9.6	-148.25	-542.3	-176.1	856.8	842.8	14.00	61.189			
2,900.0	2,864.9	2,738.4	2,696.1	9.3	10.0	-148.37	-559.8	-184.5	892.4	877.8	14.59	61.171			
3,000.0	2,962.9	2,831.8	2,787.5	9.7	10.5	-148.48	-577.2	-193.0	927.9	912.7	15.17	61.151			
3,100.0	3,060.8	2,925.3	2,878.9	10.2	10.9	-148.58	-594.7	-201.4	963.5	947.7	15.76	61.129			
3,200.0	3,158.8	3,018.7	2,970.3	10.6	11.3	-148.68	-612.2	-209.9	999.0	982.7	16.35	61.106			



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W - Wiedeman 28E-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		
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	1,333.443			
200.0	200.0	201.0	201.0	0.3	0.3	-95.52	-29.1	-301.3	302.7	302.0	0.68	447.434			
300.0	300.0	301.0	301.0	0.6	0.6	-95.52	-29.1	-301.3	302.7	301.6	1.13	268.818			
366.3	366.3	367.3	367.3	0.7	0.7	-95.52	-29.1	-301.3	302.7	301.3	1.42	212.540			
400.0	400.0	400.0	400.0	0.8	0.8	-95.52	-29.1	-301.3	302.7	301.1	1.57	192.398			
500.0	500.0	497.5	497.5	1.0	1.0	-95.23	-27.6	-302.0	303.3	301.3	2.02	150.402			
600.0	600.0	593.9	593.8	1.2	1.2	-94.36	-23.2	-304.1	305.0	302.6	2.46	123.956			
700.0	700.0	689.8	689.3	1.5	1.5	-92.95	-15.8	-307.5	308.1	305.2	2.91	105.818			
800.0	800.0	785.9	784.7	1.7	1.7	-91.03	-5.6	-312.2	312.7	309.3	3.37	92.710			
900.0	900.0	885.3	883.3	1.9	2.0	-59.46	5.9	-317.5	317.2	313.3	3.88	81.853			
1,000.0	999.8	985.0	982.2	2.1	2.3	-58.15	17.5	-322.9	320.2	315.8	4.37	73.223			
1,100.0	1,099.5	1,084.9	1,081.3	2.4	2.6	-57.41	29.1	-328.3	321.5	316.6	4.88	65.831			
1,200.0	1,198.7	1,184.9	1,180.4	2.6	2.9	-57.23	40.7	-333.7	320.9	315.5	5.41	59.293			
1,300.0	1,297.5	1,284.8	1,279.5	2.9	3.2	-57.61	52.3	-339.0	318.4	312.4	5.97	53.360			
1,400.0	1,395.6	1,384.6	1,378.5	3.2	3.5	-58.54	63.9	-344.4	314.1	307.6	6.56	47.882			
1,500.0	1,493.6	1,484.3	1,477.4	3.6	3.8	-59.62	75.4	-349.8	309.4	302.2	7.19	43.026			
1,600.0	1,591.5	1,584.0	1,576.3	3.9	4.2	-60.72	87.0	-355.1	304.7	296.9	7.84	38.850			
1,700.0	1,689.5	1,683.7	1,675.2	4.3	4.5	-61.87	98.6	-360.5	300.2	291.6	8.52	35.250			
1,800.0	1,787.5	1,783.5	1,774.1	4.7	4.8	-63.04	110.2	-365.9	295.8	286.5	9.20	32.131			
1,900.0	1,885.4	1,883.2	1,873.0	5.1	5.1	-64.25	121.8	-371.2	291.5	281.6	9.91	29.416			
2,000.0	1,983.4	1,982.9	1,971.9	5.5	5.4	-65.50	133.3	-376.6	287.3	276.7	10.63	27.040			
2,100.0	2,081.3	2,082.6	2,070.8	5.9	5.7	-66.78	144.9	-382.0	283.3	272.0	11.35	24.951			
2,200.0	2,179.3	2,182.3	2,169.7	6.3	6.1	-68.10	156.5	-387.3	279.4	267.3	12.09	23.106			
2,300.0	2,277.2	2,282.0	2,268.6	6.8	6.4	-69.46	168.1	-392.7	275.7	262.9	12.84	21.469			
2,400.0	2,375.2	2,381.7	2,367.5	7.2	6.7	-70.85	179.6	-398.1	272.2	258.6	13.60	20.013			
2,500.0	2,473.1	2,481.5	2,466.4	7.6	7.0	-72.27	191.2	-403.4	268.8	254.4	14.36	18.712			
2,600.0	2,571.1	2,581.2	2,565.3	8.0	7.4	-73.73	202.8	-408.8	265.6	250.4	15.14	17.546			
2,700.0	2,669.0	2,680.9	2,664.1	8.4	7.7	-75.23	214.4	-414.2	262.5	246.6	15.91	16.500			
2,800.0	2,767.0	2,780.6	2,763.0	8.9	8.0	-76.76	226.0	-419.5	259.7	243.0	16.69	15.558			
2,900.0	2,864.9	2,880.3	2,861.9	9.3	8.3	-78.32	237.5	-424.9	257.0	239.5	17.47	14.709			
3,000.0	2,962.9	2,980.0	2,960.8	9.7	8.6	-79.92	249.1	-430.3	254.5	236.3	18.26	13.943			
3,100.0	3,060.8	3,079.7	3,059.7	10.2	9.0	-81.54	260.7	-435.6	252.3	233.2	19.04	13.250			
3,200.0	3,158.8	3,179.5	3,158.6	10.6	9.3	-83.19	272.3	-441.0	250.2	230.4	19.82	12.624			
3,300.0	3,256.8	3,279.2	3,257.5	11.0	9.6	-84.87	283.8	-446.4	248.4	227.8	20.60	12.057			
3,400.0	3,354.7	3,378.9	3,356.4	11.5	9.9	-86.57	295.4	-451.7	246.7	225.4	21.37	11.544			
3,500.0	3,452.7	3,478.6	3,455.3	11.9	10.3	-88.29	307.0	-457.1	245.3	223.2	22.14	11.081			
3,600.0	3,550.6	3,578.3	3,554.2	12.3	10.6	-90.03	318.6	-462.5	244.1	221.2	22.90	10.661			
3,700.0	3,648.6	3,678.0	3,653.1	12.8	10.9	-91.79	330.1	-467.8	243.2	219.5	23.65	10.283			
3,800.0	3,746.5	3,777.7	3,752.0	13.2	11.2	-93.56	341.7	-473.2	242.5	218.1	24.39	9.941			
3,900.0	3,844.5	3,877.5	3,850.9	13.6	11.6	-95.33	353.3	-478.6	242.0	216.9	25.12	9.633			
4,000.0	3,942.4	3,977.2	3,949.8	14.1	11.9	-97.12	364.9	-483.9	241.7	215.9	25.83	9.357			
4,058.5	3,999.8	4,035.5	4,007.7	14.3	12.1	-98.16	371.7	-487.1	241.7	215.4	26.24	9.209 CC			
4,100.0	4,040.4	4,076.9	4,048.7	14.5	12.2	-98.90	376.5	-489.3	241.7	215.2	26.53	9.109			
4,200.0	4,138.3	4,176.6	4,147.6	14.9	12.5	-100.68	388.0	-494.7	241.9	214.7	27.22	8.888			
4,300.0	4,236.3	4,276.3	4,246.5	15.4	12.9	-102.46	399.6	-500.0	242.4	214.5	27.89	8.691 ES			
4,400.0	4,334.2	4,376.0	4,345.4	15.8	13.2	-104.23	411.2	-505.4	243.1	214.5	28.54	8.517			
4,500.0	4,432.2	4,475.8	4,444.3	16.2	13.5	-105.99	422.8	-510.8	244.0	214.8	29.17	8.363			
4,600.0	4,530.1	4,575.5	4,543.2	16.7	13.8	-107.73	434.3	-516.1	245.1	215.3	29.79	8.228			
4,700.0	4,628.1	4,675.2	4,642.0	17.1	14.1	-109.46	445.9	-521.5	246.5	216.1	30.39	8.111			
4,800.0	4,726.1	4,774.9	4,740.9	17.5	14.5	-111.16	457.5	-526.9	248.1	217.1	30.97	8.011			

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 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W - Wiedeman 28E-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	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
4,900.0	4,824.0	4,874.6	4,839.8	18.0	14.8	-112.84	469.1	-532.2	249.9	218.4	31.53	7.925		
5,000.0	4,922.0	4,974.3	4,938.7	18.4	15.1	-114.50	480.6	-537.6	251.9	219.8	32.08	7.853		
5,100.0	5,019.9	5,074.0	5,037.6	18.9	15.4	-116.13	492.2	-542.9	254.1	221.5	32.61	7.794		
5,200.0	5,117.9	5,173.8	5,136.5	19.3	15.8	-117.73	503.8	-548.3	256.6	223.5	33.12	7.746		
5,300.0	5,215.8	5,273.5	5,235.4	19.7	16.1	-119.30	515.4	-553.7	259.2	225.6	33.62	7.710		
5,400.0	5,313.8	5,373.2	5,334.3	20.2	16.4	-120.83	527.0	-559.0	262.0	227.9	34.11	7.683		
5,500.0	5,411.7	5,472.9	5,433.2	20.6	16.7	-122.34	538.5	-564.4	265.0	230.5	34.58	7.665		
5,600.0	5,509.7	5,572.6	5,532.1	21.0	17.1	-123.80	550.1	-569.8	268.2	233.2	35.04	7.656		
5,700.0	5,607.6	5,672.3	5,631.0	21.5	17.4	-125.24	561.7	-575.1	271.6	236.1	35.48	7.654		
5,800.0	5,705.8	5,772.1	5,730.0	21.9	17.7	-126.46	573.3	-580.5	274.4	238.5	35.91	7.642		
5,900.0	5,804.6	5,866.2	5,823.5	22.2	17.9	-127.28	582.9	-585.0	276.2	240.0	36.22	7.626		
6,000.0	5,903.9	5,960.0	5,917.0	22.4	18.1	-128.02	589.7	-588.1	278.2	241.7	36.48	7.626		
6,100.0	6,003.5	6,053.7	6,010.5	22.6	18.3	-128.69	593.8	-590.0	280.3	243.6	36.68	7.640		
6,200.0	6,103.4	6,147.5	6,104.4	22.8	18.4	-129.27	595.0	-590.6	282.5	245.6	36.85	7.666		
6,300.0	6,203.3	6,247.5	6,204.3	22.9	18.6	-159.21	595.0	-590.6	283.5	248.4	35.08	8.082		
6,400.0	6,303.3	6,347.5	6,304.3	23.0	18.8	-159.21	595.0	-590.6	283.5	248.1	35.41	8.006		
6,500.0	6,403.1	6,436.4	6,393.1	23.1	18.9	112.25	595.0	-594.3	287.5	249.5	37.95	7.574 SF		
6,600.0	6,501.1	6,516.9	6,472.6	23.1	19.1	116.11	595.0	-606.5	302.3	263.6	38.69	7.814		
6,700.0	6,595.7	6,585.3	6,538.9	23.1	19.3	120.26	595.0	-623.3	331.9	292.9	39.05	8.501		
6,800.0	6,685.4	6,639.3	6,589.9	23.0	19.5	122.81	595.0	-640.8	378.8	340.0	38.75	9.776		
6,900.0	6,768.5	6,678.9	6,626.6	22.8	19.6	122.64	595.0	-655.9	441.9	403.9	37.95	11.644		
7,000.0	6,843.7	6,700.0	6,645.8	22.7	19.7	118.03	595.0	-664.7	517.9	480.9	36.99	14.002		
7,100.0	6,909.7	6,721.1	6,664.7	22.5	19.8	110.47	595.0	-674.0	602.9	566.5	36.41	16.559		
7,200.0	6,965.2	6,727.5	6,670.4	22.4	19.8	96.13	595.0	-676.9	693.4	657.5	35.90	19.318		
7,300.0	7,009.5	6,726.4	6,669.4	22.2	19.8	76.65	595.0	-676.4	786.7	752.6	34.06	23.096		
7,400.0	7,041.7	6,719.3	6,663.1	22.1	19.8	56.99	595.0	-673.2	880.4	850.4	29.98	29.368		
7,500.0	7,061.3	6,700.0	6,645.8	22.0	19.7	41.20	595.0	-664.7	972.9	947.6	25.22	38.571		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W - Wiedeman 28E-404 - 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	-90.00	0.0	-301.3	301.3					
100.0	100.0	101.0	101.0	0.1	0.1	-90.00	0.0	-301.3	301.3	301.1	0.23	1,327.253		
166.3	166.3	167.3	167.3	0.3	0.3	-90.00	0.0	-301.3	301.3	300.8	0.53	573.708		
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	0.0	-301.3	301.3	300.6	0.67	446.844		
300.0	300.0	297.7	297.7	0.6	0.6	-89.70	1.6	-301.8	301.8	300.7	1.12	269.669		
400.0	400.0	394.3	394.1	0.8	0.8	-88.82	6.3	-303.4	303.5	301.9	1.57	193.450		
500.0	500.0	490.4	489.9	1.0	1.0	-87.38	14.0	-305.9	306.4	304.4	2.03	151.169		
600.0	600.0	585.8	584.7	1.2	1.3	-85.45	24.6	-309.4	310.9	308.4	2.50	124.559		
700.0	700.0	681.2	678.9	1.5	1.6	-83.05	38.3	-313.9	317.0	314.1	2.98	106.494		
800.0	800.0	779.9	776.3	1.7	1.9	-80.50	53.4	-318.9	324.3	320.9	3.46	93.699		
900.0	900.0	878.8	874.0	1.9	2.3	-48.50	68.6	-324.0	331.1	327.0	4.09	80.910		
1,000.0	999.8	978.2	972.0	2.1	2.6	-46.72	83.8	-329.0	335.9	331.3	4.63	72.622		
1,100.0	1,099.5	1,077.9	1,070.4	2.4	3.0	-45.43	99.1	-334.0	338.6	333.4	5.17	65.549		
1,200.0	1,198.7	1,177.8	1,169.0	2.6	3.4	-44.60	114.4	-339.1	339.0	333.2	5.72	59.288		
1,300.0	1,297.5	1,277.7	1,267.6	2.9	3.7	-44.22	129.7	-344.2	336.9	330.6	6.29	53.595		
1,400.0	1,395.6	1,377.6	1,366.2	3.2	4.1	-44.27	145.0	-349.2	332.3	325.5	6.88	48.289		
1,500.0	1,493.6	1,477.4	1,464.7	3.6	4.5	-44.40	160.4	-354.3	327.0	319.5	7.51	43.553		
1,600.0	1,591.5	1,577.3	1,563.3	3.9	4.8	-44.54	175.7	-359.3	321.7	313.5	8.15	39.478		
1,700.0	1,689.5	1,677.2	1,661.8	4.3	5.2	-44.68	191.0	-364.4	316.3	307.5	8.80	35.952		
1,800.0	1,787.5	1,777.0	1,760.4	4.7	5.6	-44.82	206.3	-369.5	311.0	301.5	9.46	32.880		
1,900.0	1,885.4	1,876.9	1,858.9	5.1	5.9	-44.98	221.6	-374.5	305.6	295.5	10.13	30.187		
2,000.0	1,983.4	1,976.7	1,957.5	5.5	6.3	-45.13	236.9	-379.6	300.3	289.5	10.80	27.809		
2,100.0	2,081.3	2,076.6	2,056.0	5.9	6.7	-45.30	252.2	-384.6	295.0	283.5	11.48	25.699		
2,200.0	2,179.3	2,176.4	2,154.5	6.3	7.0	-45.46	267.5	-389.7	289.7	277.5	12.16	23.814		
2,300.0	2,277.2	2,276.3	2,253.1	6.8	7.4	-45.64	282.9	-394.8	284.3	271.5	12.85	22.123		
2,400.0	2,375.2	2,376.1	2,351.6	7.2	7.8	-45.82	298.2	-399.8	279.0	265.5	13.55	20.597		
2,500.0	2,473.1	2,476.0	2,450.2	7.6	8.2	-46.01	313.5	-404.9	273.7	259.4	14.24	19.214		
2,600.0	2,571.1	2,575.8	2,548.7	8.0	8.5	-46.21	328.8	-409.9	268.4	253.4	14.95	17.956		
2,700.0	2,669.0	2,675.7	2,647.3	8.4	8.9	-46.41	344.1	-415.0	263.1	247.4	15.65	16.808		
2,800.0	2,767.0	2,775.6	2,745.8	8.9	9.3	-46.62	359.4	-420.1	257.7	241.4	16.36	15.754		
2,900.0	2,864.9	2,875.4	2,844.4	9.3	9.6	-46.84	374.7	-425.1	252.4	235.4	17.07	14.785		
3,000.0	2,962.9	2,975.3	2,942.9	9.7	10.0	-47.07	390.0	-430.2	247.1	229.3	17.79	13.892		
3,100.0	3,060.8	3,075.1	3,041.4	10.2	10.4	-47.32	405.4	-435.2	241.8	223.3	18.51	13.065		
3,200.0	3,158.8	3,175.0	3,140.0	10.6	10.8	-47.57	420.7	-440.3	236.5	217.3	19.24	12.297		
3,300.0	3,256.8	3,274.8	3,238.5	11.0	11.1	-47.83	436.0	-445.4	231.3	211.3	19.96	11.583		
3,400.0	3,354.7	3,374.7	3,337.1	11.5	11.5	-48.11	451.3	-450.4	226.0	205.3	20.70	10.918		
3,500.0	3,452.7	3,474.5	3,435.6	11.9	11.9	-48.40	466.6	-455.5	220.7	199.3	21.43	10.296		
3,600.0	3,550.6	3,574.4	3,534.2	12.3	12.2	-48.70	481.9	-460.5	215.4	193.2	22.18	9.714		
3,700.0	3,648.6	3,674.2	3,632.7	12.8	12.6	-49.02	497.2	-465.6	210.2	187.2	22.92	9.168		
3,800.0	3,746.5	3,774.1	3,731.2	13.2	13.0	-49.35	512.5	-470.7	204.9	181.2	23.68	8.654		
3,900.0	3,844.5	3,874.0	3,829.8	13.6	13.4	-49.70	527.9	-475.7	199.6	175.2	24.43	8.171		
4,000.0	3,942.4	3,973.8	3,928.3	14.1	13.7	-50.07	543.2	-480.8	194.4	169.2	25.20	7.716		
4,100.0	4,040.4	4,073.7	4,026.9	14.5	14.1	-50.47	558.5	-485.8	189.2	163.2	25.96	7.286		
4,200.0	4,138.3	4,173.5	4,125.4	14.9	14.5	-50.88	573.8	-490.9	183.9	157.2	26.74	6.879		
4,300.0	4,236.3	4,273.4	4,224.0	15.4	14.9	-51.32	589.1	-496.0	178.7	151.2	27.52	6.494		
4,400.0	4,334.2	4,373.2	4,322.5	15.8	15.2	-51.78	604.4	-501.0	173.5	145.2	28.31	6.129		
4,500.0	4,432.2	4,473.1	4,421.0	16.2	15.6	-52.28	619.7	-506.1	168.3	139.2	29.11	5.783		
4,600.0	4,530.1	4,572.9	4,519.6	16.7	16.0	-52.80	635.0	-511.1	163.1	133.2	29.91	5.454		
4,700.0	4,628.1	4,672.8	4,618.1	17.1	16.3	-53.36	650.4	-516.2	158.0	127.2	30.73	5.141		
4,800.0	4,726.1	4,772.6	4,716.7	17.5	16.7	-53.96	665.7	-521.3	152.8	121.3	31.55	4.844		
4,900.0	4,824.0	4,872.5	4,815.2	18.0	17.1	-54.59	681.0	-526.3	147.7	115.3	32.39	4.560		

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 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W - Wiedeman 28E-404 - 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	4,922.0	4,972.3	4,913.8	18.4	17.5	-55.28	696.3	-531.4	142.6	109.4	33.23	4.291			
5,100.0	5,019.9	5,072.2	5,012.3	18.9	17.8	-56.01	711.6	-536.4	137.5	103.4	34.09	4.033			
5,200.0	5,117.9	5,172.1	5,110.8	19.3	18.2	-56.80	726.9	-541.5	132.4	97.5	34.96	3.788			
5,300.0	5,215.8	5,271.9	5,209.4	19.7	18.6	-57.66	742.2	-546.6	127.4	91.5	35.84	3.554			
5,400.0	5,313.8	5,371.8	5,307.9	20.2	19.0	-58.58	757.5	-551.6	122.4	85.6	36.74	3.331			
5,500.0	5,411.7	5,471.6	5,406.5	20.6	19.3	-59.58	772.9	-556.7	117.4	79.8	37.65	3.118			
5,600.0	5,509.7	5,571.5	5,505.0	21.0	19.7	-60.68	788.2	-561.7	112.5	73.9	38.58	2.915			
5,700.0	5,607.6	5,671.3	5,603.6	21.5	20.1	-61.87	803.5	-566.8	107.6	68.1	39.53	2.722			
5,800.0	5,705.8	5,771.2	5,702.1	21.9	20.4	-62.50	818.8	-571.9	103.3	62.9	40.36	2.560			
5,900.0	5,804.6	5,871.2	5,800.8	22.2	20.8	-61.45	834.1	-576.9	100.6	59.8	40.84	2.464			
6,000.0	5,903.9	5,971.8	5,900.2	22.4	21.2	-59.00	848.9	-581.8	99.5	58.5	41.01	2.427			
6,080.1	5,983.6	6,052.8	5,980.6	22.6	21.4	-57.04	858.6	-585.0	99.3	58.3	41.03	2.420 CC, ES, SF			
6,100.0	6,003.5	6,073.0	6,000.6	22.6	21.4	-56.58	860.6	-585.7	99.3	58.3	41.03	2.420			
6,200.0	6,103.4	6,174.3	6,101.5	22.8	21.6	-54.38	869.0	-588.4	99.8	58.9	40.97	2.436			
6,300.0	6,203.3	6,275.7	6,202.8	22.9	21.8	-82.12	873.9	-590.1	101.1	65.8	35.29	2.863			
6,400.0	6,303.3	6,377.2	6,304.3	23.0	21.9	-81.29	875.5	-590.6	101.8	66.0	35.80	2.843			
6,500.0	6,403.1	6,477.0	6,404.1	23.1	22.1	-171.74	875.5	-590.6	108.2	67.3	40.83	2.649			
6,600.0	6,501.1	6,575.0	6,502.1	23.1	22.2	-172.81	875.5	-590.6	127.4	87.2	40.17	3.172			
6,700.0	6,595.7	6,654.6	6,581.6	23.1	22.3	-173.88	875.5	-593.9	163.3	124.4	38.86	4.202			
6,800.0	6,685.4	6,720.9	6,647.3	23.0	22.5	-174.72	875.5	-602.9	219.1	182.2	36.90	5.936			
6,900.0	6,768.5	6,773.0	6,698.2	22.8	22.6	-175.11	875.5	-614.0	290.8	256.5	34.32	8.474			
7,000.0	6,843.7	6,811.1	6,734.9	22.7	22.7	-174.98	875.5	-624.3	374.4	343.2	31.20	12.000			
7,100.0	6,909.7	6,836.6	6,759.1	22.5	22.8	-174.07	875.5	-632.2	466.2	438.5	27.66	16.851			
7,200.0	6,965.2	6,850.0	6,771.7	22.4	22.8	-170.88	875.5	-636.6	563.0	539.2	23.77	23.689			
7,300.0	7,009.5	6,850.0	6,771.7	22.2	22.8	-136.57	875.5	-636.6	662.4	637.1	25.24	26.238			
7,400.0	7,041.7	6,850.0	6,771.7	22.1	22.8	-11.35	875.5	-636.6	762.2	740.1	22.10	34.489			
7,500.0	7,061.3	6,850.0	6,771.7	22.0	22.8	-4.85	875.5	-636.6	860.9	842.3	18.57	46.362			
7,600.0	7,067.9	6,835.9	6,758.4	23.4	22.8	-2.85	875.5	-631.9	957.1	939.3	17.88	53.522			

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W - Wiedeman 28F-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		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
				(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)							
0.0	0.0	1.0	1.0	0.0	0.0	-100.95	-58.3	-301.3	306.9						
100.0	100.0	101.0	101.0	0.1	0.1	-100.95	-58.3	-301.3	306.9	306.7	0.23	1,351.852			
200.0	200.0	201.0	201.0	0.3	0.3	-100.95	-58.3	-301.3	306.9	306.2	0.68	453.612			
300.0	300.0	301.0	301.0	0.6	0.6	-100.95	-58.3	-301.3	306.9	305.8	1.13	272.529			
400.0	400.0	401.0	401.0	0.8	0.8	-100.95	-58.3	-301.3	306.9	305.3	1.58	194.775			
500.0	500.0	501.0	501.0	1.0	1.0	-100.95	-58.3	-301.3	306.9	304.9	2.03	151.539			
600.0	600.0	601.0	601.0	1.2	1.2	-100.95	-58.3	-301.3	306.9	304.4	2.47	124.012			
700.0	700.0	701.0	701.0	1.5	1.5	-100.95	-58.3	-301.3	306.9	304.0	2.92	104.948			
800.0	800.0	801.0	801.0	1.7	1.7	-100.95	-58.3	-301.3	306.9	303.5	3.37	90.964			
900.0	900.0	901.0	901.0	1.9	1.9	-71.60	-58.3	-301.3	306.3	302.5	3.82	80.174			
1,000.0	999.8	1,000.8	1,000.8	2.1	2.1	-72.56	-58.3	-301.3	304.7	300.5	4.27	71.402			
1,100.0	1,099.5	1,100.5	1,100.5	2.4	2.4	-74.18	-58.3	-301.3	302.2	297.5	4.72	63.996			
1,200.0	1,198.7	1,199.7	1,199.7	2.6	2.6	-76.47	-58.3	-301.3	299.1	293.9	5.19	57.579			
1,300.0	1,297.5	1,298.5	1,298.5	2.9	2.8	-79.45	-58.3	-301.3	295.8	290.1	5.70	51.932			
1,400.0	1,395.6	1,396.6	1,396.6	3.2	3.0	-83.09	-58.3	-301.3	292.9	286.6	6.24	46.950			
1,500.0	1,493.6	1,494.6	1,494.6	3.6	3.2	-86.94	-58.3	-301.3	291.1	284.3	6.81	42.732			
1,578.7	1,570.7	1,571.7	1,571.7	3.9	3.4	-90.00	-58.3	-301.3	290.6	283.4	7.28	39.938 CC			
1,600.0	1,591.5	1,592.5	1,592.5	3.9	3.5	-90.83	-58.3	-301.3	290.7	283.3	7.40	39.262 ES			
1,700.0	1,689.5	1,686.1	1,686.1	4.3	3.7	-94.31	-57.7	-302.5	292.3	284.4	7.99	36.593			
1,800.0	1,787.5	1,780.2	1,780.1	4.7	3.9	-97.25	-55.8	-306.4	296.7	288.1	8.58	34.586			
1,900.0	1,885.4	1,874.9	1,874.5	5.1	4.1	-99.57	-52.5	-313.2	303.1	294.0	9.18	33.040			
2,000.0	1,983.4	1,970.4	1,969.4	5.5	4.3	-101.29	-47.8	-322.8	311.4	301.6	9.79	31.815			
2,100.0	2,081.3	2,069.7	2,067.9	5.9	4.5	-102.76	-42.4	-334.0	320.4	310.0	10.42	30.745			
2,200.0	2,179.3	2,168.9	2,166.3	6.3	4.8	-104.14	-36.9	-345.2	329.6	318.6	11.07	29.790			
2,300.0	2,277.2	2,268.2	2,264.8	6.8	5.1	-105.45	-31.5	-356.5	339.0	327.3	11.72	28.936			
2,400.0	2,375.2	2,367.5	2,363.3	7.2	5.3	-106.69	-26.0	-367.7	348.6	336.2	12.38	28.168			
2,500.0	2,473.1	2,466.7	2,461.8	7.6	5.6	-107.87	-20.6	-378.9	358.3	345.3	13.04	27.480			
2,600.0	2,571.1	2,566.0	2,560.2	8.0	5.9	-108.98	-15.1	-390.1	368.2	354.5	13.71	26.860			
2,700.0	2,669.0	2,665.3	2,658.7	8.4	6.2	-110.03	-9.6	-401.4	378.2	363.8	14.38	26.301			
2,800.0	2,767.0	2,764.5	2,757.2	8.9	6.5	-111.03	-4.2	-412.6	388.3	373.3	15.05	25.795			
2,900.0	2,864.9	2,863.8	2,855.7	9.3	6.7	-111.98	1.3	-423.8	398.5	382.8	15.73	25.336			
3,000.0	2,962.9	2,963.0	2,954.1	9.7	7.0	-112.88	6.7	-435.0	408.9	392.5	16.41	24.919			
3,100.0	3,060.8	3,062.3	3,052.6	10.2	7.3	-113.73	12.2	-446.3	419.3	402.2	17.09	24.539			
3,200.0	3,158.8	3,161.6	3,151.1	10.6	7.6	-114.55	17.6	-457.5	429.8	412.0	17.77	24.191			
3,300.0	3,256.8	3,260.8	3,249.6	11.0	7.9	-115.32	23.1	-468.7	440.4	422.0	18.45	23.873			
3,400.0	3,354.7	3,360.1	3,348.1	11.5	8.2	-116.06	28.5	-479.9	451.1	431.9	19.13	23.582			
3,500.0	3,452.7	3,459.4	3,446.5	11.9	8.5	-116.77	34.0	-491.1	461.8	442.0	19.81	23.313			
3,600.0	3,550.6	3,558.6	3,545.0	12.3	8.8	-117.44	39.4	-502.4	472.6	452.1	20.49	23.066			
3,700.0	3,648.6	3,657.9	3,643.5	12.8	9.2	-118.08	44.9	-513.6	483.5	462.3	21.17	22.838			
3,800.0	3,746.5	3,757.2	3,742.0	13.2	9.5	-118.70	50.4	-524.8	494.4	472.6	21.85	22.627			
3,900.0	3,844.5	3,856.4	3,840.4	13.6	9.8	-119.29	55.8	-536.0	505.4	482.9	22.53	22.431			
4,000.0	3,942.4	3,955.7	3,938.9	14.1	10.1	-119.85	61.3	-547.3	516.4	493.2	23.21	22.250			
4,100.0	4,040.4	4,055.0	4,037.4	14.5	10.4	-120.39	66.7	-558.5	527.5	503.6	23.89	22.081			
4,200.0	4,138.3	4,154.2	4,135.9	14.9	10.7	-120.90	72.2	-569.7	538.6	514.1	24.57	21.923			
4,300.0	4,236.3	4,254.2	4,235.3	15.4	10.9	-121.57	77.0	-579.6	549.7	524.6	25.17	21.840			
4,400.0	4,334.2	4,353.8	4,334.5	15.8	11.1	-122.57	80.2	-586.3	560.8	535.1	25.71	21.814 SF			
4,500.0	4,432.2	4,452.5	4,433.2	16.2	11.3	-123.86	82.0	-589.9	572.1	545.9	26.19	21.841			
4,600.0	4,530.1	4,550.5	4,531.1	16.7	11.5	-125.40	82.3	-590.6	583.6	557.0	26.63	21.918			
4,700.0	4,628.1	4,648.4	4,629.1	17.1	11.7	-126.96	82.3	-590.6	595.7	568.6	27.06	22.012			
4,800.0	4,726.1	4,746.4	4,727.1	17.5	11.9	-128.45	82.3	-590.6	608.2	580.7	27.50	22.117			
4,900.0	4,824.0	4,844.3	4,825.0	18.0	12.0	-129.89	82.3	-590.6	621.0	593.1	27.93	22.238			

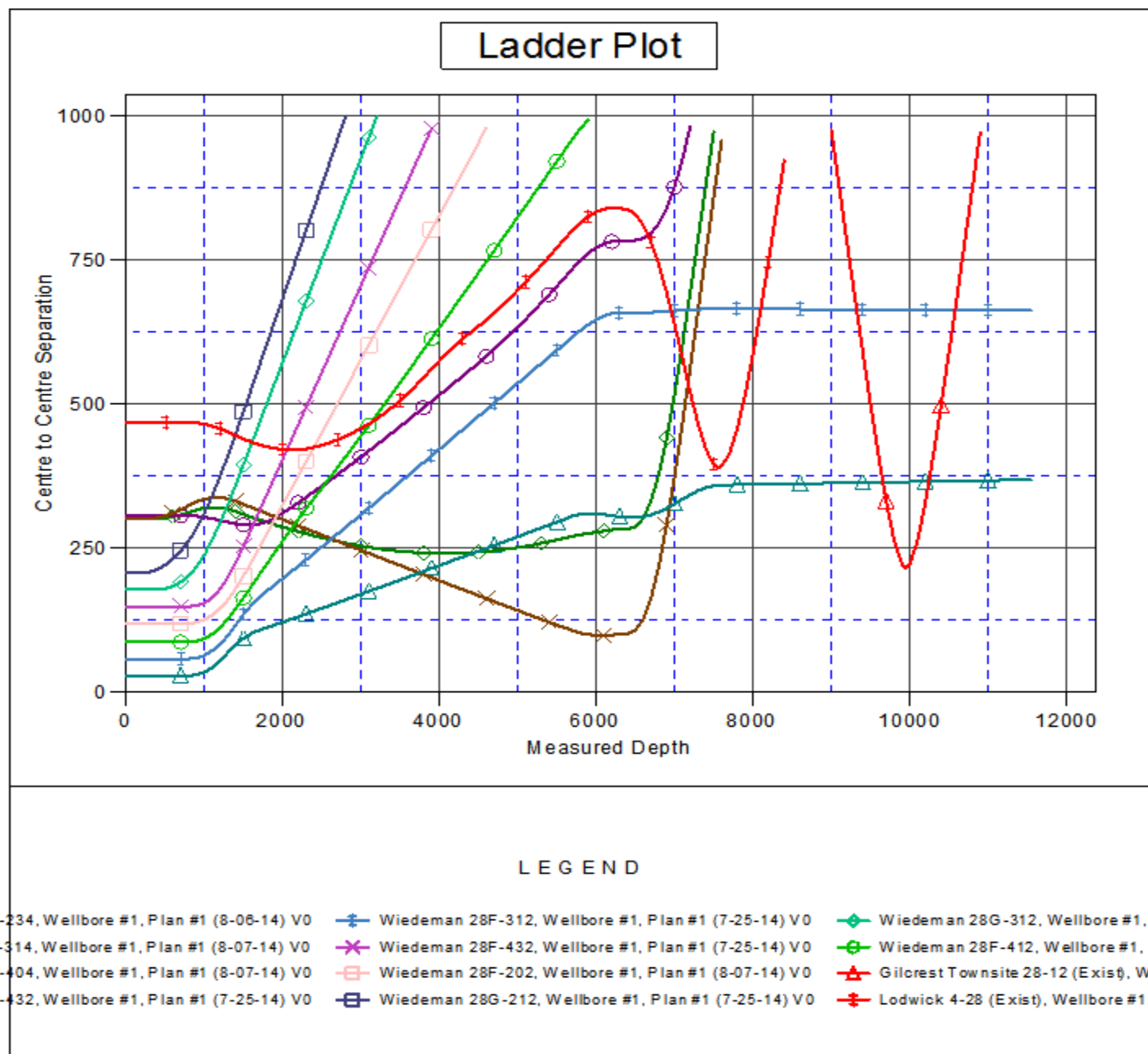
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W - Wiedeman 28F-314 - Wellbore #1 - Plan #1 (8														Offset Well Error:	0.0 ft
Survey Program: 0-MWD															
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
5,000.0	4,922.0	4,942.3	4,923.0	18.4	12.2	-131.27	82.3	-590.6	634.3	605.9	28.35	22.372			
5,100.0	5,019.9	5,040.3	5,020.9	18.9	12.4	-132.59	82.3	-590.6	647.9	619.1	28.77	22.518			
5,200.0	5,117.9	5,138.2	5,118.9	19.3	12.6	-133.86	82.3	-590.6	661.8	632.6	29.19	22.673			
5,300.0	5,215.8	5,236.2	5,216.8	19.7	12.8	-135.08	82.3	-590.6	676.1	646.5	29.60	22.837			
5,400.0	5,313.8	5,334.1	5,314.8	20.2	13.0	-136.25	82.3	-590.6	690.6	660.6	30.02	23.008			
5,500.0	5,411.7	5,432.1	5,412.7	20.6	13.2	-137.37	82.3	-590.6	705.4	675.0	30.43	23.185			
5,600.0	5,509.7	5,530.0	5,510.7	21.0	13.4	-138.44	82.3	-590.6	720.5	689.7	30.84	23.366			
5,700.0	5,607.6	5,628.0	5,608.6	21.5	13.6	-139.47	82.3	-590.6	735.8	704.6	31.24	23.550			
5,800.0	5,705.8	5,726.2	5,706.8	21.9	13.8	-140.56	82.3	-590.6	750.4	718.8	31.63	23.724			
5,900.0	5,804.6	5,824.9	5,805.6	22.2	14.0	-141.45	82.3	-590.6	762.5	730.6	31.97	23.856			
6,000.0	5,903.9	5,924.2	5,904.9	22.4	14.2	-142.12	82.3	-590.6	772.1	739.8	32.29	23.910			
6,100.0	6,003.5	6,023.8	6,004.5	22.6	14.4	-142.60	82.3	-590.6	778.9	746.3	32.61	23.888			
6,200.0	6,103.4	6,123.7	6,104.4	22.8	14.6	-142.87	82.3	-590.6	783.0	750.0	32.91	23.791			
6,300.0	6,203.3	6,223.7	6,204.3	22.9	14.8	-172.63	82.3	-590.6	784.3	750.3	34.00	23.066			
6,400.0	6,303.3	6,323.7	6,304.3	23.0	15.0	-172.63	82.3	-590.6	784.3	749.9	34.36	22.824			
6,500.0	6,403.1	6,423.4	6,404.1	23.1	15.2	97.77	82.3	-590.6	785.1	751.2	33.94	23.130			
6,600.0	6,501.1	6,508.4	6,488.9	23.1	15.4	98.95	82.3	-594.5	788.7	754.4	34.28	23.007			
6,700.0	6,595.7	6,582.4	6,562.1	23.1	15.6	100.70	82.3	-605.4	797.6	763.0	34.59	23.057			
6,800.0	6,685.4	6,642.7	6,620.7	23.0	15.8	102.18	82.3	-619.6	814.2	779.4	34.75	23.433			
6,900.0	6,768.5	6,688.5	6,664.3	22.8	16.0	102.67	82.3	-633.4	840.6	805.8	34.72	24.208			
7,000.0	6,843.7	6,720.6	6,694.5	22.7	16.2	101.72	82.3	-644.6	877.7	843.1	34.63	25.347			
7,100.0	6,909.7	6,750.0	6,721.5	22.5	16.3	99.71	82.3	-656.0	925.4	890.7	34.70	26.666			
7,200.0	6,965.2	6,750.0	6,721.5	22.4	16.3	94.58	82.3	-656.0	982.1	947.2	34.85	28.177			

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Wiedeman 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4777.0ft (Original Well Elev) Coordinates are relative to: Wiedeman 28E-202  
 Offset Depths are relative to Offset Datum  
 Central Meridian is -105.500000 °  
 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 28E-202
<b>Project:</b>	SEC.28-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Reference Site:</b>	Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W	<b>MD Reference:</b>	WELL @ 4777.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wiedeman 28E-202	<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 (8-07-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4777.0ft (Original Well Elev) Coordinates are relative to: Wiedeman 28E-202

Offset Depths are relative to Offset Datum

Coordinate System is US State Plane 1983, Colorado Northern Zone

Central Meridian is -105.500000 °

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