

PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Wiedeman 28G-314**

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

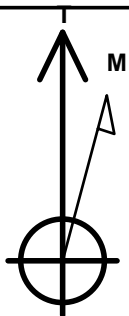
Ground Elevation: 4763.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1348127.64	3197777.39	40.286840	-104.791050	

Original Well Elev WELL @ 4778.0ft (Original Well Elev)

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 1096'FNL & 240'FWL, SEC.28	1.0	0.0	0.0	Point
BHL 2220'FNL & 2164'FEL, SEC.30	7118.0	-1089.2	-7722.7	Point



Azimuths to True North
Magnetic North: 8.44°

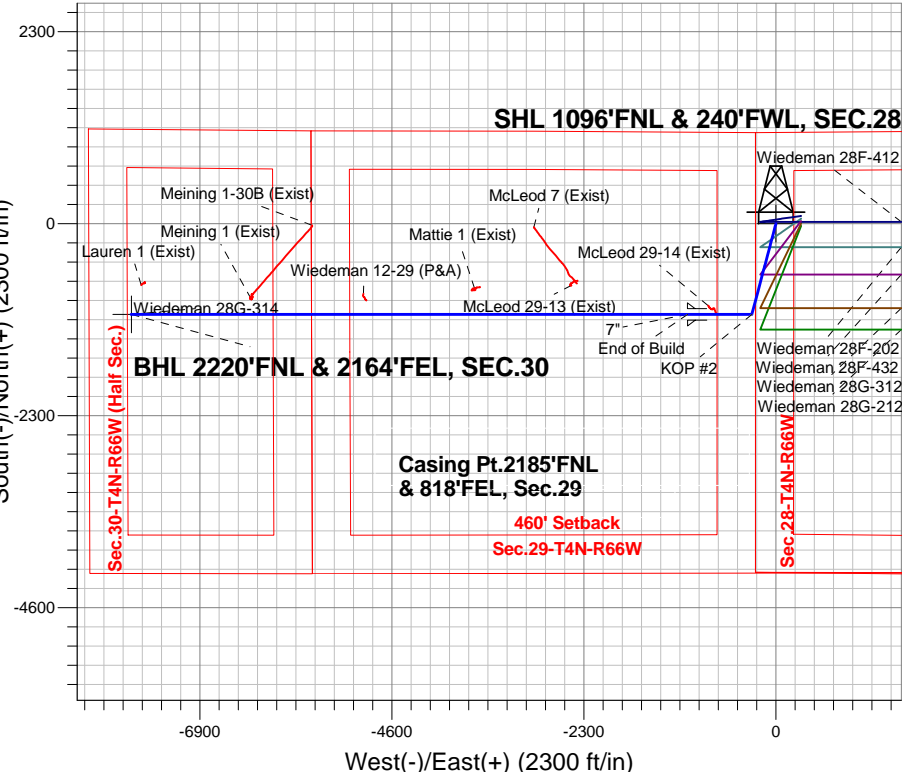
Magnetic Field
Strength: 52738.4srT
Dip Angle: 66.85°
Date: 8/7/2014
Model: IGRF2010

ANNOTATIONS

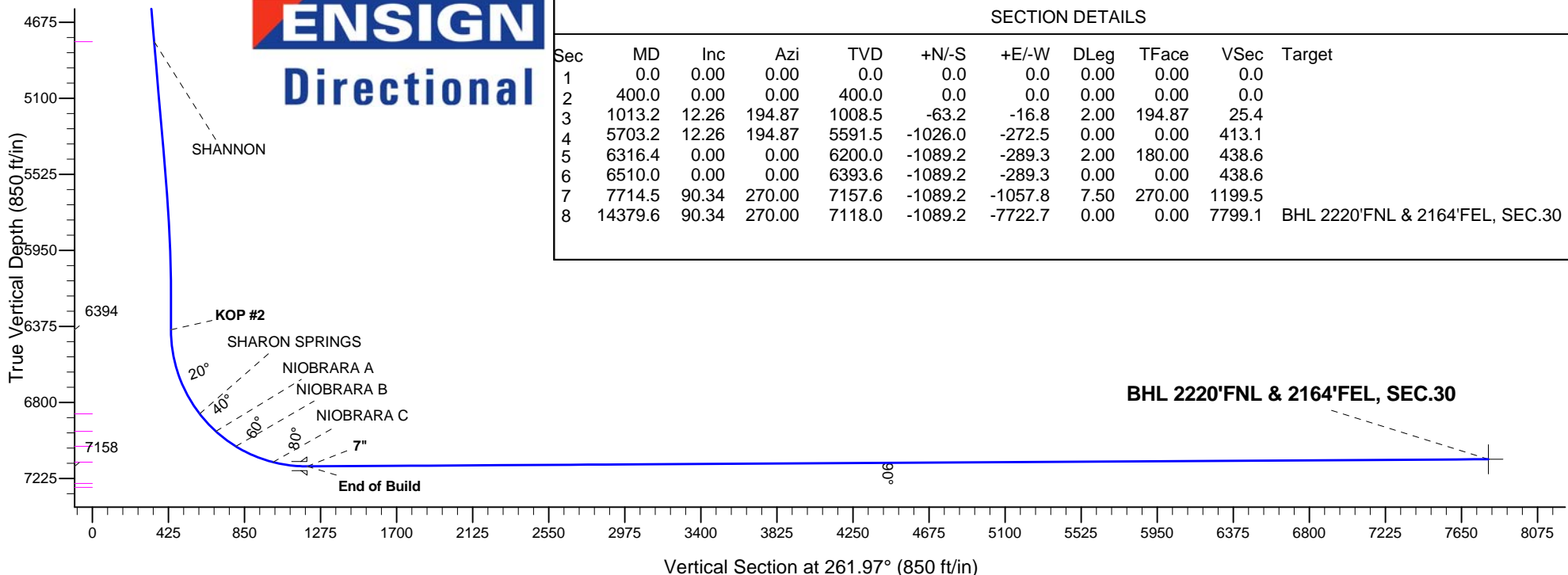
TVD	MD	Annotation
400.0	400.0	KOP #1
6393.6	6510.0	KOP #2
7157.6	7714.5	End of Build

Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W
Wiedeman 28G-314
Plan #1 (8-07-14)

South(-)/North(+) (2300 ft/in)



West(-)/East(+) (2300 ft/in)



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	1013.2	12.26	194.87	1008.5	-63.2	-16.8	2.00	194.87	25.4	
4	5703.2	12.26	194.87	5591.5	-1026.0	-272.5	0.00	0.00	413.1	
5	6316.4	0.00	0.00	6200.0	-1089.2	-289.3	2.00	180.00	438.6	
6	6510.0	0.00	0.00	6393.6	-1089.2	-289.3	0.00	0.00	438.6	
7	7714.5	90.34	270.00	7157.6	-1089.2	-1057.8	7.50	270.00	1199.5	
8	14379.6	90.34	270.00	7118.0	-1089.2	-7722.7	0.00	0.00	7799.1	BHL 2220'FNL & 2164'FEL, SEC.30



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.28-T4N-R66W

Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W

Wiedeman 28G-314

Wellbore #1

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

Standard Planning Report

12 August, 2014

Database:	landmark	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Project:	SEC.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	North Reference:	True
Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-07-14)		

Project	SEC.28-T4N-R66W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site						Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W											
Site Position:						Northing:			1,348,277.01 ft			Latitude:			40.287250		
From:			Lat/Long			Easting:			3,197,776.19ft			Longitude:			-104.791050		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.46 °		

Well	Wiedeman 28G-314					
Well Position	+N-S	-149.4 ft	Northing:	1,348,127.64 ft	Latitude:	40.286840
	+E-W	0.0 ft	Easting:	3,197,777.39 ft	Longitude:	-104.791050
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,763.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/7/2014	8.45	66.85	52,738

Design	Plan #1 (8-07-14)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	261.97

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,013.2	12.26	194.87	1,008.5	-63.2	-16.8	2.00	2.00	0.00	194.87	
5,703.2	12.26	194.87	5,591.5	-1,026.0	-272.5	0.00	0.00	0.00	0.00	
6,316.4	0.00	0.00	6,200.0	-1,089.2	-289.3	2.00	-2.00	0.00	180.00	
6,510.0	0.00	0.00	6,393.6	-1,089.2	-289.3	0.00	0.00	0.00	0.00	
7,714.5	90.34	270.00	7,157.6	-1,089.2	-1,057.8	7.50	7.50	0.00	270.00	
14,379.6	90.34	270.00	7,118.0	-1,089.2	-7,722.7	0.00	0.00	0.00	0.00	BHL 2220'FNL & 21

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Project:	SEC.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	North Reference:	True
Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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
KOP #1									
500.0	2.00	194.87	500.0	-1.7	-0.4	0.7	2.00	2.00	0.00
600.0	4.00	194.87	599.8	-6.7	-1.8	2.7	2.00	2.00	0.00
700.0	6.00	194.87	699.5	-15.2	-4.0	6.1	2.00	2.00	0.00
800.0	8.00	194.87	798.7	-26.9	-7.2	10.8	2.00	2.00	0.00
900.0	10.00	194.87	897.5	-42.1	-11.2	16.9	2.00	2.00	0.00
1,000.0	12.00	194.87	995.6	-60.5	-16.1	24.4	2.00	2.00	0.00
1,013.2	12.26	194.87	1,008.5	-63.2	-16.8	25.4	2.00	2.00	0.00
1,100.0	12.26	194.87	1,093.3	-81.0	-21.5	32.6	0.00	0.00	0.00
1,200.0	12.26	194.87	1,191.1	-101.5	-27.0	40.9	0.00	0.00	0.00
1,300.0	12.26	194.87	1,288.8	-122.1	-32.4	49.1	0.00	0.00	0.00
1,400.0	12.26	194.87	1,386.5	-142.6	-37.9	57.4	0.00	0.00	0.00
1,500.0	12.26	194.87	1,484.2	-163.1	-43.3	65.7	0.00	0.00	0.00
1,600.0	12.26	194.87	1,581.9	-183.7	-48.8	73.9	0.00	0.00	0.00
1,700.0	12.26	194.87	1,679.7	-204.2	-54.2	82.2	0.00	0.00	0.00
1,800.0	12.26	194.87	1,777.4	-224.7	-59.7	90.5	0.00	0.00	0.00
1,900.0	12.26	194.87	1,875.1	-245.2	-65.1	98.7	0.00	0.00	0.00
2,000.0	12.26	194.87	1,972.8	-265.8	-70.6	107.0	0.00	0.00	0.00
2,100.0	12.26	194.87	2,070.5	-286.3	-76.0	115.3	0.00	0.00	0.00
2,200.0	12.26	194.87	2,168.2	-306.8	-81.5	123.5	0.00	0.00	0.00
2,300.0	12.26	194.87	2,266.0	-327.4	-86.9	131.8	0.00	0.00	0.00
2,400.0	12.26	194.87	2,363.7	-347.9	-92.4	140.1	0.00	0.00	0.00
2,500.0	12.26	194.87	2,461.4	-368.4	-97.9	148.3	0.00	0.00	0.00
2,600.0	12.26	194.87	2,559.1	-388.9	-103.3	156.6	0.00	0.00	0.00
2,700.0	12.26	194.87	2,656.8	-409.5	-108.8	164.9	0.00	0.00	0.00
2,800.0	12.26	194.87	2,754.6	-430.0	-114.2	173.1	0.00	0.00	0.00
2,900.0	12.26	194.87	2,852.3	-450.5	-119.7	181.4	0.00	0.00	0.00
3,000.0	12.26	194.87	2,950.0	-471.1	-125.1	189.7	0.00	0.00	0.00
3,100.0	12.26	194.87	3,047.7	-491.6	-130.6	197.9	0.00	0.00	0.00
3,200.0	12.26	194.87	3,145.4	-512.1	-136.0	206.2	0.00	0.00	0.00
3,300.0	12.26	194.87	3,243.1	-532.7	-141.5	214.5	0.00	0.00	0.00
3,400.0	12.26	194.87	3,340.9	-553.2	-146.9	222.7	0.00	0.00	0.00
3,500.0	12.26	194.87	3,438.6	-573.7	-152.4	231.0	0.00	0.00	0.00
3,600.0	12.26	194.87	3,536.3	-594.2	-157.8	239.3	0.00	0.00	0.00
3,700.0	12.26	194.87	3,634.0	-614.8	-163.3	247.5	0.00	0.00	0.00
3,773.7	12.26	194.87	3,706.0	-629.9	-167.3	253.6	0.00	0.00	0.00
PARKMAN									
3,800.0	12.26	194.87	3,731.7	-635.3	-168.7	255.8	0.00	0.00	0.00
3,900.0	12.26	194.87	3,829.5	-655.8	-174.2	264.1	0.00	0.00	0.00
4,000.0	12.26	194.87	3,927.2	-676.4	-179.6	272.3	0.00	0.00	0.00
4,100.0	12.26	194.87	4,024.9	-696.9	-185.1	280.6	0.00	0.00	0.00
4,200.0	12.26	194.87	4,122.6	-717.4	-190.6	288.9	0.00	0.00	0.00
4,300.0	12.26	194.87	4,220.3	-738.0	-196.0	297.1	0.00	0.00	0.00
4,400.0	12.26	194.87	4,318.0	-758.5	-201.5	305.4	0.00	0.00	0.00
4,435.8	12.26	194.87	4,353.0	-765.8	-203.4	308.4	0.00	0.00	0.00
SUSSEX									
4,500.0	12.26	194.87	4,415.8	-779.0	-206.9	313.7	0.00	0.00	0.00

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Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	North Reference:	True
Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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	12.26	194.87	4,513.5	-799.5	-212.4	321.9	0.00	0.00	0.00
4,700.0	12.26	194.87	4,611.2	-820.1	-217.8	330.2	0.00	0.00	0.00
4,800.0	12.26	194.87	4,708.9	-840.6	-223.3	338.5	0.00	0.00	0.00
4,876.8	12.26	194.87	4,784.0	-856.4	-227.5	344.8	0.00	0.00	0.00
SHANNON									
4,900.0	12.26	194.87	4,806.6	-861.1	-228.7	346.7	0.00	0.00	0.00
5,000.0	12.26	194.87	4,904.3	-881.7	-234.2	355.0	0.00	0.00	0.00
5,100.0	12.26	194.87	5,002.1	-902.2	-239.6	363.3	0.00	0.00	0.00
5,200.0	12.26	194.87	5,099.8	-922.7	-245.1	371.5	0.00	0.00	0.00
5,300.0	12.26	194.87	5,197.5	-943.2	-250.5	379.8	0.00	0.00	0.00
5,400.0	12.26	194.87	5,295.2	-963.8	-256.0	388.1	0.00	0.00	0.00
5,500.0	12.26	194.87	5,392.9	-984.3	-261.4	396.3	0.00	0.00	0.00
5,600.0	12.26	194.87	5,490.7	-1,004.8	-266.9	404.6	0.00	0.00	0.00
5,700.0	12.26	194.87	5,588.4	-1,025.4	-272.3	412.9	0.00	0.00	0.00
5,703.2	12.26	194.87	5,591.5	-1,026.0	-272.5	413.1	0.00	0.00	0.00
5,800.0	10.33	194.87	5,686.4	-1,044.3	-277.4	420.5	2.00	-2.00	0.00
5,900.0	8.33	194.87	5,785.1	-1,060.0	-281.5	426.8	2.00	-2.00	0.00
6,000.0	6.33	194.87	5,884.3	-1,072.3	-284.8	431.8	2.00	-2.00	0.00
6,100.0	4.33	194.87	5,983.8	-1,081.3	-287.2	435.4	2.00	-2.00	0.00
6,200.0	2.33	194.87	6,083.7	-1,086.9	-288.7	437.6	2.00	-2.00	0.00
6,300.0	0.33	194.87	6,183.6	-1,089.2	-289.3	438.6	2.00	-2.00	0.00
6,316.4	0.00	0.00	6,200.0	-1,089.2	-289.3	438.6	2.00	-2.00	0.00
6,400.0	0.00	0.00	6,283.6	-1,089.2	-289.3	438.6	0.00	0.00	0.00
6,500.0	0.00	0.00	6,383.6	-1,089.2	-289.3	438.6	0.00	0.00	0.00
6,510.0	0.00	0.00	6,393.6	-1,089.2	-289.3	438.6	0.00	0.00	0.00
KOP #2									
6,600.0	6.75	270.00	6,483.4	-1,089.2	-294.6	443.8	7.50	7.50	0.00
6,700.0	14.25	270.00	6,581.7	-1,089.2	-312.8	461.8	7.50	7.50	0.00
6,800.0	21.75	270.00	6,676.7	-1,089.2	-343.7	492.4	7.50	7.50	0.00
6,900.0	29.25	270.00	6,766.9	-1,089.2	-386.7	535.0	7.50	7.50	0.00
7,000.0	36.75	270.00	6,850.7	-1,089.2	-441.1	588.9	7.50	7.50	0.00
7,016.7	38.00	270.00	6,864.0	-1,089.2	-451.3	599.0	7.50	7.50	0.00
SHARON SPRINGS									
7,100.0	44.25	270.00	6,926.7	-1,089.2	-506.0	653.2	7.50	7.50	0.00
7,151.0	48.07	270.00	6,962.0	-1,089.2	-542.8	689.6	7.50	7.50	0.00
NIOBRARA A									
7,200.0	51.75	270.00	6,993.6	-1,089.2	-580.3	726.7	7.50	7.50	0.00
7,291.9	58.65	270.00	7,046.0	-1,089.2	-655.7	801.4	7.50	7.50	0.00
NIOBRARA B									
7,300.0	59.25	270.00	7,050.2	-1,089.2	-662.7	808.3	7.50	7.50	0.00
7,400.0	66.75	270.00	7,095.5	-1,089.2	-751.7	896.4	7.50	7.50	0.00
7,500.0	74.25	270.00	7,128.9	-1,089.2	-845.9	989.7	7.50	7.50	0.00
7,519.8	75.73	270.00	7,134.0	-1,089.2	-865.0	1,008.6	7.50	7.50	0.00
NIOBRARA C									
7,600.0	81.75	270.00	7,149.7	-1,089.2	-943.6	1,086.5	7.50	7.50	0.00
7,700.0	89.25	270.00	7,157.5	-1,089.2	-1,043.3	1,185.1	7.50	7.50	0.00
7,714.5	90.34	270.00	7,157.6	-1,089.2	-1,057.8	1,199.5	7.50	7.50	0.00
End of Build - 7"									
7,800.0	90.34	270.00	7,157.0	-1,089.2	-1,143.3	1,284.2	0.00	0.00	0.00
7,900.0	90.34	270.00	7,156.5	-1,089.2	-1,243.3	1,383.2	0.00	0.00	0.00
8,000.0	90.34	270.00	7,155.9	-1,089.2	-1,343.2	1,482.2	0.00	0.00	0.00

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Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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)
8,100.0	90.34	270.00	7,155.3	-1,089.2	-1,443.2	1,581.2	0.00	0.00	0.00
8,200.0	90.34	270.00	7,154.7	-1,089.2	-1,543.2	1,680.2	0.00	0.00	0.00
8,300.0	90.34	270.00	7,154.1	-1,089.2	-1,643.2	1,779.2	0.00	0.00	0.00
8,400.0	90.34	270.00	7,153.5	-1,089.2	-1,743.2	1,878.3	0.00	0.00	0.00
8,500.0	90.34	270.00	7,152.9	-1,089.2	-1,843.2	1,977.3	0.00	0.00	0.00
8,600.0	90.34	270.00	7,152.3	-1,089.2	-1,943.2	2,076.3	0.00	0.00	0.00
8,700.0	90.34	270.00	7,151.7	-1,089.2	-2,043.2	2,175.3	0.00	0.00	0.00
8,800.0	90.34	270.00	7,151.1	-1,089.2	-2,143.2	2,274.3	0.00	0.00	0.00
8,900.0	90.34	270.00	7,150.5	-1,089.2	-2,243.2	2,373.4	0.00	0.00	0.00
9,000.0	90.34	270.00	7,149.9	-1,089.2	-2,343.2	2,472.4	0.00	0.00	0.00
9,100.0	90.34	270.00	7,149.3	-1,089.2	-2,443.2	2,571.4	0.00	0.00	0.00
9,200.0	90.34	270.00	7,148.7	-1,089.2	-2,543.2	2,670.4	0.00	0.00	0.00
9,300.0	90.34	270.00	7,148.1	-1,089.2	-2,643.2	2,769.4	0.00	0.00	0.00
9,400.0	90.34	270.00	7,147.5	-1,089.2	-2,743.2	2,868.4	0.00	0.00	0.00
9,500.0	90.34	270.00	7,147.0	-1,089.2	-2,843.2	2,967.5	0.00	0.00	0.00
9,600.0	90.34	270.00	7,146.4	-1,089.2	-2,943.2	3,066.5	0.00	0.00	0.00
9,700.0	90.34	270.00	7,145.8	-1,089.2	-3,043.2	3,165.5	0.00	0.00	0.00
9,800.0	90.34	270.00	7,145.2	-1,089.2	-3,143.2	3,264.5	0.00	0.00	0.00
9,900.0	90.34	270.00	7,144.6	-1,089.2	-3,243.2	3,363.5	0.00	0.00	0.00
10,000.0	90.34	270.00	7,144.0	-1,089.2	-3,343.2	3,462.6	0.00	0.00	0.00
10,100.0	90.34	270.00	7,143.4	-1,089.2	-3,443.2	3,561.6	0.00	0.00	0.00
10,200.0	90.34	270.00	7,142.8	-1,089.2	-3,543.2	3,660.6	0.00	0.00	0.00
10,300.0	90.34	270.00	7,142.2	-1,089.2	-3,643.2	3,759.6	0.00	0.00	0.00
10,400.0	90.34	270.00	7,141.6	-1,089.2	-3,743.2	3,858.6	0.00	0.00	0.00
10,500.0	90.34	270.00	7,141.0	-1,089.2	-3,843.2	3,957.7	0.00	0.00	0.00
10,600.0	90.34	270.00	7,140.4	-1,089.2	-3,943.2	4,056.7	0.00	0.00	0.00
10,700.0	90.34	270.00	7,139.8	-1,089.2	-4,043.2	4,155.7	0.00	0.00	0.00
10,800.0	90.34	270.00	7,139.2	-1,089.2	-4,143.2	4,254.7	0.00	0.00	0.00
10,900.0	90.34	270.00	7,138.6	-1,089.2	-4,243.2	4,353.7	0.00	0.00	0.00
11,000.0	90.34	270.00	7,138.1	-1,089.2	-4,343.2	4,452.7	0.00	0.00	0.00
11,100.0	90.34	270.00	7,137.5	-1,089.2	-4,443.2	4,551.8	0.00	0.00	0.00
11,200.0	90.34	270.00	7,136.9	-1,089.2	-4,543.2	4,650.8	0.00	0.00	0.00
11,300.0	90.34	270.00	7,136.3	-1,089.2	-4,643.2	4,749.8	0.00	0.00	0.00
11,400.0	90.34	270.00	7,135.7	-1,089.2	-4,743.2	4,848.8	0.00	0.00	0.00
11,500.0	90.34	270.00	7,135.1	-1,089.2	-4,843.2	4,947.8	0.00	0.00	0.00
11,600.0	90.34	270.00	7,134.5	-1,089.2	-4,943.2	5,046.9	0.00	0.00	0.00
11,700.0	90.34	270.00	7,133.9	-1,089.2	-5,043.2	5,145.9	0.00	0.00	0.00
11,800.0	90.34	270.00	7,133.3	-1,089.2	-5,143.2	5,244.9	0.00	0.00	0.00
11,900.0	90.34	270.00	7,132.7	-1,089.2	-5,243.2	5,343.9	0.00	0.00	0.00
12,000.0	90.34	270.00	7,132.1	-1,089.2	-5,343.2	5,442.9	0.00	0.00	0.00
12,100.0	90.34	270.00	7,131.5	-1,089.2	-5,443.2	5,541.9	0.00	0.00	0.00
12,200.0	90.34	270.00	7,130.9	-1,089.2	-5,543.2	5,641.0	0.00	0.00	0.00
12,300.0	90.34	270.00	7,130.3	-1,089.2	-5,643.2	5,740.0	0.00	0.00	0.00
12,400.0	90.34	270.00	7,129.7	-1,089.2	-5,743.2	5,839.0	0.00	0.00	0.00
12,500.0	90.34	270.00	7,129.2	-1,089.2	-5,843.2	5,938.0	0.00	0.00	0.00
12,600.0	90.34	270.00	7,128.6	-1,089.2	-5,943.2	6,037.0	0.00	0.00	0.00
12,700.0	90.34	270.00	7,128.0	-1,089.2	-6,043.2	6,136.1	0.00	0.00	0.00
12,800.0	90.34	270.00	7,127.4	-1,089.2	-6,143.2	6,235.1	0.00	0.00	0.00
12,900.0	90.34	270.00	7,126.8	-1,089.2	-6,243.2	6,334.1	0.00	0.00	0.00
13,000.0	90.34	270.00	7,126.2	-1,089.2	-6,343.2	6,433.1	0.00	0.00	0.00
13,100.0	90.34	270.00	7,125.6	-1,089.2	-6,443.2	6,532.1	0.00	0.00	0.00
13,200.0	90.34	270.00	7,125.0	-1,089.2	-6,543.2	6,631.1	0.00	0.00	0.00

Database:	landmark	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Project:	SEC.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	North Reference:	True
Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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)
13,300.0	90.34	270.00	7,124.4	-1,089.2	-6,643.2	6,730.2	0.00	0.00	0.00
13,400.0	90.34	270.00	7,123.8	-1,089.2	-6,743.2	6,829.2	0.00	0.00	0.00
13,500.0	90.34	270.00	7,123.2	-1,089.2	-6,843.2	6,928.2	0.00	0.00	0.00
13,600.0	90.34	270.00	7,122.6	-1,089.2	-6,943.2	7,027.2	0.00	0.00	0.00
13,700.0	90.34	270.00	7,122.0	-1,089.2	-7,043.1	7,126.2	0.00	0.00	0.00
13,800.0	90.34	270.00	7,121.4	-1,089.2	-7,143.1	7,225.3	0.00	0.00	0.00
13,900.0	90.34	270.00	7,120.8	-1,089.2	-7,243.1	7,324.3	0.00	0.00	0.00
14,000.0	90.34	270.00	7,120.3	-1,089.2	-7,343.1	7,423.3	0.00	0.00	0.00
14,100.0	90.34	270.00	7,119.7	-1,089.2	-7,443.1	7,522.3	0.00	0.00	0.00
14,200.0	90.34	270.00	7,119.1	-1,089.2	-7,543.1	7,621.3	0.00	0.00	0.00
14,300.0	90.34	270.00	7,118.5	-1,089.2	-7,643.1	7,720.3	0.00	0.00	0.00
14,379.6	90.34	270.00	7,118.0	-1,089.2	-7,722.7	7,799.1	0.00	0.00	0.00

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,714.5	7,157.6	7"	7	7-1/2

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,773.7	3,706.0	PARKMAN				
4,435.8	4,353.0	SUSSEX				
4,876.8	4,784.0	SHANNON				
7,016.7	6,864.0	SHARON SPRINGS				
7,151.0	6,962.0	NIOBRARA A				
7,291.9	7,046.0	NIOBRARA B				
7,519.8	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)	
400.0	400.0	0.0	0.0	KOP #1
6,510.0	6,393.6	-1,089.2	-289.3	KOP #2
7,714.5	7,157.6	-1,089.2	-1,057.8	End of Build



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.28-T4N-R66W

Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W

Wiedeman 28G-314

Wellbore #1

Plan #1 (8-07-14)

Anticollision Report

12 August, 2014



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (8-07-14)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 600.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 8/12/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	14,379.6	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
Offset Well - Wellbore - Design						
Existing Wells Sec.28-T4N-R66W						
Lauren 1 (Exist) - Wellbore #1 - Wellbore #1	14,257.1	7,100.0	351.0	130.2	1.589	CC, ES, SF
Mattie 1 (Exist) - Wellbore #1 - Wellbore #1	10,281.8	7,122.4	311.5	201.7	2.837	CC, ES
Mattie 1 (Exist) - Wellbore #1 - Wellbore #1	10,300.0	7,121.5	312.1	201.8	2.829	SF
McLeod 29-13 (Exist) - Wellbore #1 - Wellbore #1	9,109.5	7,133.0	348.7	270.4	4.453	CC, ES, SF
McLeod 29-14 (Exist) - Wellbore #1 - Wellbore #1	7,459.9	7,105.8	100.6	61.5	2.577	CC, ES, SF
McLeod 7 (Exist) - Wellbore #1 - Wellbore #1						Out of range
Meining 1 (Exist) - Wellbore #1 - Wellbore #1	12,942.4	7,107.1	186.0	-73.4	0.717	Level 1, CC, ES, SF
Meining 1-30B (Exist) - Wellbore #1 - Wellbore #1						Out of range
Wiedeman 12-29 (P&A) - Wellbore #1 - Wellbore #1	11,602.4	7,105.5	237.7	89.8	1.607	CC, ES, SF
Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W						
Wiedeman 28F-202 - Wellbore #1 - Plan #1 (8-07-14)	400.0	399.0	306.9	305.3	195.334	CC, ES
Wiedeman 28F-202 - Wellbore #1 - Plan #1 (8-07-14)	4,300.0	4,310.6	595.0	573.7	28.025	SF
Wiedeman 28F-412 - Wellbore #1 - Plan #1 (7-25-14)	400.0	399.0	314.8	313.2	200.348	CC, ES
Wiedeman 28F-412 - Wellbore #1 - Plan #1 (7-25-14)	2,700.0	2,715.9	599.3	586.5	46.837	SF
Wiedeman 28F-432 - Wellbore #1 - Plan #1 (7-25-14)	400.0	399.0	302.7	301.1	192.674	CC, ES
Wiedeman 28F-432 - Wellbore #1 - Plan #1 (7-25-14)	6,500.0	6,447.4	488.0	443.0	10.828	SF
Wiedeman 28G-212 - Wellbore #1 - Plan #1 (7-25-14)	6,291.8	6,330.9	207.8	162.8	4.615	CC
Wiedeman 28G-212 - Wellbore #1 - Plan #1 (7-25-14)	6,300.0	6,339.4	207.8	162.8	4.614	ES, SF
Wiedeman 28G-312 - Wellbore #1 - Plan #1 (7-25-14)	6,500.0	6,495.3	126.6	80.5	2.746	CC, ES, SF

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	Offset Datum

Summary						
Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W						
Wiedeman 28E-234 - Wellbore #1 - Plan #1 (8-06-14)	400.0	400.0	149.4	147.8	94.934	CC, ES
Wiedeman 28E-234 - Wellbore #1 - Plan #1 (8-06-14)	900.0	872.8	226.6	222.8	60.135	SF
Wiedeman 28E-404 - Wellbore #1 - Plan #1 (8-07-14)	200.0	200.0	178.5	177.8	264.734	CC, ES
Wiedeman 28E-404 - Wellbore #1 - Plan #1 (8-07-14)	1,700.0	1,606.3	569.6	561.9	73.835	SF
Wiedeman 28F-214 - Wellbore #1 - Plan #1 (8-07-14)	400.0	400.0	91.1	89.5	57.886	CC, ES
Wiedeman 28F-214 - Wellbore #1 - Plan #1 (8-07-14)	900.0	897.5	133.6	129.9	35.875	SF
Wiedeman 28F-234 - Wellbore #1 - Plan #1 (8-07-14)	400.0	400.0	29.1	27.6	18.524	CC, ES
Wiedeman 28F-234 - Wellbore #1 - Plan #1 (8-07-14)	14,380.1	14,209.2	499.9	85.7	1.207	Level 2, SF
Wiedeman 28F-304 - Wellbore #1 - Plan #1 (8-07-14)	400.0	400.0	58.3	56.7	37.047	CC, ES
Wiedeman 28F-304 - Wellbore #1 - Plan #1 (8-07-14)	4,900.0	4,893.5	486.0	460.1	18.825	SF
Wiedeman 28F-314 - Wellbore #1 - Plan #1 (8-07-14)	400.0	400.0	120.2	118.6	76.410	CC, ES
Wiedeman 28F-314 - Wellbore #1 - Plan #1 (8-07-14)	1,000.0	995.6	181.4	177.3	43.498	SF
Wiedeman 28G-214 - Wellbore #1 - Plan #1 (8-07-14)	200.0	199.0	29.1	28.5	43.366	CC
Wiedeman 28G-214 - Wellbore #1 - Plan #1 (8-07-14)	14,380.1	14,307.5	185.5	-196.2	0.486	Level 1, ES, SF

Offset Design Existing Wells Sec.28-T4N-R66W - Lauren 1 (Exist) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.0 ft
Reference Measured Depth (ft)	Vertical Depth (ft)	Offset Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
				Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
13,800.0	7,121.4	7,100.0	7,099.4	194.3	14.3	90.12	-738.2	-7,600.3	576.4	368.3	208.08	2.770		
13,900.0	7,120.8	7,100.0	7,099.4	197.0	14.3	90.12	-738.2	-7,600.3	500.8	289.9	210.87	2.375		
14,000.0	7,120.3	7,100.0	7,099.4	199.8	14.3	90.12	-738.2	-7,600.3	435.1	221.5	213.66	2.037		
14,100.0	7,119.7	7,100.0	7,099.4	202.6	14.3	90.12	-738.2	-7,600.3	384.6	168.1	216.46	1.777		
14,200.0	7,119.1	7,100.0	7,099.4	205.4	14.3	90.12	-738.2	-7,600.3	355.7	136.4	219.26	1.622		
14,257.1	7,118.7	7,100.0	7,099.4	207.0	14.3	90.12	-738.2	-7,600.3	351.0	130.2	220.85	1.589	CC, ES, SF	
14,300.0	7,118.5	7,100.0	7,099.4	208.2	14.3	90.12	-738.2	-7,600.3	353.6	131.6	222.05	1.593		
14,380.1	7,118.0	7,100.0	7,099.4	210.4	14.3	90.12	-738.2	-7,600.3	372.0	147.7	224.29	1.658		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.28-T4N-R66W - Mattie 1 (Exist) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis		Distance										Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,800.0	7,145.2	7,146.7	7,144.3	83.9	13.9	93.85	-777.4	-3,623.9	573.2	476.6	96.59	5.935		
9,900.0	7,144.6	7,141.4	7,139.0	86.6	13.9	92.88	-777.5	-3,624.1	492.4	393.0	99.37	4.955		
10,000.0	7,144.0	7,136.2	7,133.9	89.3	13.9	91.94	-777.5	-3,624.4	419.8	317.7	102.13	4.111		
10,100.0	7,143.4	7,131.2	7,128.9	92.0	13.9	91.02	-777.6	-3,624.6	360.6	255.7	104.88	3.438		
10,200.0	7,142.8	7,126.3	7,124.0	94.7	13.9	90.12	-777.6	-3,624.8	322.1	214.5	107.60	2.993		
10,281.8	7,142.3	7,122.4	7,120.1	96.9	13.9	89.40	-777.7	-3,625.0	311.5	201.7	109.82	2.837 CC, ES		
10,300.0	7,142.2	7,121.5	7,119.2	97.4	13.9	89.24	-777.7	-3,625.0	312.1	201.8	110.31	2.829 SF		
10,400.0	7,141.6	7,116.9	7,114.6	100.1	13.9	88.39	-777.7	-3,625.2	333.2	220.2	113.00	2.948		
10,500.0	7,141.0	7,112.4	7,110.0	102.9	13.9	87.56	-777.8	-3,625.4	380.2	264.6	115.67	3.287		
10,600.0	7,140.4	7,107.9	7,105.6	105.6	13.9	86.75	-777.8	-3,625.6	445.1	326.8	118.31	3.762		
10,700.0	7,139.8	7,100.0	7,097.7	108.3	13.9	85.29	-777.9	-3,625.9	521.2	400.3	120.82	4.314		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Existing Wells Sec.28-T4N-R66W - McLeod 29-13 (Exist) - Wellbore #1 - Wellbore #1													Offset Well Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
8,700.0	7,151.7	7,136.6	7,134.8	55.1	14.3	90.58	-740.5	-2,452.7	537.8	470.4	67.45	7.974		
8,800.0	7,151.1	7,135.7	7,133.9	57.6	14.3	90.44	-740.5	-2,452.7	466.2	396.2	70.08	6.653		
8,900.0	7,150.5	7,134.8	7,133.1	60.1	14.3	90.30	-740.5	-2,452.7	406.8	334.1	72.73	5.594		
9,000.0	7,149.9	7,133.9	7,132.2	62.7	14.3	90.15	-740.5	-2,452.7	365.5	290.1	75.39	4.848		
9,100.0	7,149.3	7,133.1	7,131.3	65.3	14.3	90.01	-740.5	-2,452.7	348.8	270.8	78.06	4.469		
9,109.5	7,149.3	7,133.0	7,131.2	65.5	14.3	89.99	-740.5	-2,452.7	348.7	270.4	78.31	4.453 CC, ES, SF		
9,200.0	7,148.7	7,132.2	7,130.4	67.9	14.3	89.86	-740.5	-2,452.7	360.3	279.5	80.74	4.462		
9,300.0	7,148.1	7,131.3	7,129.6	70.5	14.3	89.72	-740.5	-2,452.7	397.4	313.9	83.43	4.762		
9,400.0	7,147.5	7,130.4	7,128.7	73.2	14.3	89.57	-740.5	-2,452.7	453.9	367.7	86.13	5.269		
9,500.0	7,147.0	7,129.5	7,127.8	75.8	14.3	89.43	-740.5	-2,452.7	523.5	434.7	88.84	5.893		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.28-T4N-R66W - McLeod 29-14 (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	4,611.2	4,593.7	4,591.2	19.2	9.4	55.83	-1,022.5	-780.9	598.4	571.8	26.60	22.499		
4,800.0	4,708.9	4,688.2	4,685.8	19.7	9.6	57.68	-1,020.8	-783.0	588.2	560.7	27.45	21.425		
4,900.0	4,806.6	4,785.7	4,783.2	20.1	9.9	59.76	-1,018.1	-785.9	578.9	550.6	28.34	20.427		
5,000.0	4,904.3	4,883.5	4,880.9	20.6	10.1	61.94	-1,015.0	-788.7	570.4	541.2	29.24	19.509		
5,100.0	5,002.1	4,984.6	4,981.9	21.1	10.4	64.22	-1,012.0	-791.2	562.5	532.3	30.15	18.655		
5,200.0	5,099.8	5,083.9	5,081.1	21.5	10.6	66.47	-1,009.6	-792.9	554.7	523.7	31.05	17.868		
5,300.0	5,197.5	5,183.7	5,180.9	22.0	10.9	68.69	-1,008.0	-794.2	547.5	515.6	31.93	17.146		
5,400.0	5,295.2	5,281.3	5,278.5	22.5	11.1	70.87	-1,006.8	-795.1	540.9	508.1	32.80	16.488		
5,500.0	5,392.9	5,379.1	5,376.3	22.9	11.4	73.06	-1,006.1	-796.0	535.1	501.4	33.67	15.893		
5,600.0	5,490.7	5,477.3	5,474.5	23.4	11.6	75.18	-1,006.6	-796.8	530.0	495.5	34.46	15.378		
5,700.0	5,588.4	5,577.3	5,574.5	23.9	11.7	77.23	-1,008.3	-797.5	525.4	490.2	35.18	14.935		
5,800.0	5,686.4	5,676.5	5,673.7	24.2	11.8	79.12	-1,009.4	-797.7	521.5	485.7	35.78	14.574		
5,900.0	5,785.1	5,774.1	5,771.3	24.5	12.0	80.79	-1,009.4	-797.9	518.9	482.6	36.30	14.293		
6,000.0	5,884.3	5,871.4	5,868.6	24.7	12.2	82.21	-1,008.6	-798.4	517.5	480.7	36.80	14.062		
6,100.0	5,983.8	5,971.3	5,968.5	24.9	12.5	83.35	-1,007.3	-798.9	517.1	479.8	37.26	13.877		
6,148.8	6,032.5	6,020.1	6,017.3	25.0	12.6	83.77	-1,006.7	-799.1	517.0	479.5	37.46	13.802		
6,200.0	6,083.7	6,070.5	6,067.6	25.1	12.7	84.11	-1,006.0	-799.4	517.1	479.4	37.66	13.730		
6,300.0	6,183.6	6,169.3	6,166.5	25.2	12.9	84.53	-1,004.5	-800.1	517.8	479.7	38.02	13.618		
6,400.0	6,283.6	6,269.5	6,266.6	25.3	13.2	-80.46	-1,003.2	-800.9	518.8	489.9	28.90	17.953		
6,500.0	6,383.6	6,370.9	6,368.1	25.4	13.4	-80.34	-1,002.0	-801.5	519.6	490.3	29.29	17.742		
6,600.0	6,483.4	6,470.4	6,467.5	25.5	13.6	9.95	-1,000.7	-802.0	515.1	476.2	38.88	13.247		
6,700.0	6,581.7	6,568.8	6,565.9	25.7	13.9	10.70	-999.4	-802.5	497.9	459.4	38.52	12.927		
6,800.0	6,676.7	6,664.4	6,661.5	26.0	14.1	12.01	-998.2	-803.0	468.3	430.6	37.62	12.447		
6,900.0	6,766.9	6,753.4	6,750.5	26.3	14.3	14.18	-996.8	-803.4	426.9	390.6	36.25	11.777		
7,000.0	6,850.7	6,835.2	6,832.3	26.6	14.5	17.71	-995.1	-804.2	375.1	340.5	34.55	10.855		
7,100.0	6,926.7	6,910.1	6,907.1	27.1	14.7	23.61	-993.2	-805.2	314.3	281.4	32.90	9.552		
7,200.0	6,993.6	6,978.4	6,975.4	27.7	14.8	34.00	-991.5	-806.4	246.4	214.2	32.21	7.651		
7,300.0	7,050.2	7,036.7	7,033.7	28.4	15.0	51.83	-990.2	-807.4	175.4	141.4	34.02	5.156		
7,400.0	7,095.5	7,083.6	7,080.6	29.3	15.1	75.98	-989.2	-808.1	114.9	77.2	37.65	3.051		
7,459.9	7,117.0	7,105.8	7,102.8	29.9	15.2	88.67	-988.7	-808.4	100.6	61.5	39.02	2.577 CC, ES, SF		
7,500.0	7,128.9	7,118.3	7,115.2	30.4	15.2	94.83	-988.4	-808.5	107.5	68.0	39.54	2.720		
7,600.0	7,149.7	7,140.3	7,137.2	31.7	15.3	100.58	-987.9	-808.8	168.6	127.4	41.20	4.093		
7,700.0	7,157.5	7,149.4	7,146.3	33.2	15.3	92.17	-987.7	-808.9	255.4	211.5	43.85	5.824		
7,800.0	7,157.0	7,150.1	7,147.0	34.9	15.3	90.00	-987.7	-808.9	349.4	303.4	45.99	7.598		
7,900.0	7,156.5	7,150.7	7,147.6	36.8	15.3	90.35	-987.7	-808.9	446.1	397.8	48.28	9.239		
8,000.0	7,155.9	7,151.3	7,148.3	38.8	15.3	90.69	-987.7	-808.9	543.9	493.3	50.65	10.738		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.28-T4N-R66W - Meining 1 (Exist) - Wellbore #1 - Wellbore #1													Offset Site Error: 0.0 ft	
Survey Program: 100-UNKNOWN													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		
12,400.0	7,129.7	7,108.5	7,108.1	155.3	89.7	90.50	-903.2	-6,285.6	573.5	329.0	244.42	2.346		
12,500.0	7,129.2	7,108.2	7,107.9	158.1	89.7	90.42	-903.2	-6,285.6	480.0	232.8	247.19	1.942		
12,600.0	7,128.6	7,108.0	7,107.6	160.9	89.7	90.34	-903.2	-6,285.6	389.7	139.8	249.97	1.559		
12,700.0	7,128.0	7,107.7	7,107.4	163.6	89.7	90.27	-903.2	-6,285.6	305.6	52.9	252.74	1.209	Level 2	
12,800.0	7,127.4	7,107.5	7,107.1	166.4	89.6	90.19	-903.2	-6,285.6	234.3	-21.2	255.52	0.917	Level 1	
12,900.0	7,126.8	7,107.2	7,106.9	169.2	89.6	90.11	-903.2	-6,285.6	190.8	-67.5	258.30	0.739	Level 1	
12,942.4	7,126.5	7,107.1	7,106.8	170.4	89.6	90.08	-903.2	-6,285.6	186.0	-73.4	259.47	0.717	Level 1, CC, ES, SF	
13,000.0	7,126.2	7,107.0	7,106.6	172.0	89.6	90.03	-903.2	-6,285.6	194.7	-66.3	261.07	0.746	Level 1	
13,100.0	7,125.6	7,106.7	7,106.4	174.8	89.6	89.96	-903.2	-6,285.6	243.8	-20.1	263.85	0.924	Level 1	
13,200.0	7,125.0	7,106.5	7,106.1	177.5	89.6	89.88	-903.2	-6,285.6	317.7	51.1	266.63	1.192	Level 2	
13,300.0	7,124.4	7,106.2	7,105.9	180.3	89.6	89.80	-903.2	-6,285.6	403.1	133.6	269.40	1.496	Level 3	
13,400.0	7,123.8	7,105.9	7,105.6	183.1	89.6	89.72	-903.2	-6,285.6	493.9	221.7	272.18	1.815		
13,500.0	7,123.2	7,105.7	7,105.3	185.9	89.6	89.64	-903.2	-6,285.6	587.8	312.8	274.95	2.138		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.28-T4N-R66W - Wiedeman 12-29 (P&A) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis		Distance										Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
11,100.0	7,137.5	7,114.6	7,113.6	119.3	15.6	89.79	-851.3	-4,945.4	555.8	421.6	134.20	4.141		
11,200.0	7,136.9	7,112.8	7,111.8	122.1	15.6	89.35	-851.4	-4,945.5	467.3	330.4	136.95	3.413		
11,300.0	7,136.3	7,111.0	7,110.0	124.8	15.6	88.91	-851.4	-4,945.5	384.6	245.0	139.69	2.754		
11,400.0	7,135.7	7,109.2	7,108.1	127.6	15.6	88.47	-851.5	-4,945.5	312.2	169.8	142.42	2.192		
11,500.0	7,135.1	7,107.3	7,106.3	130.4	15.6	88.03	-851.6	-4,945.5	258.9	113.7	145.15	1.783		
11,600.0	7,134.5	7,105.5	7,104.5	133.1	15.6	87.59	-851.7	-4,945.6	237.8	89.9	147.87	1.608		
11,602.4	7,134.5	7,105.5	7,104.4	133.2	15.6	87.58	-851.7	-4,945.6	237.7	89.8	147.93	1.607 CC, ES, SF		
11,700.0	7,133.9	7,103.7	7,102.7	135.9	15.6	87.15	-851.7	-4,945.6	257.0	106.4	150.58	1.707		
11,800.0	7,133.3	7,101.9	7,100.8	138.7	15.6	86.71	-851.8	-4,945.6	309.1	155.8	153.28	2.017		
11,900.0	7,132.7	7,100.0	7,099.0	141.4	15.6	86.27	-851.9	-4,945.6	380.8	224.9	155.97	2.442		
12,000.0	7,132.1	7,098.2	7,097.2	144.2	15.6	85.83	-852.0	-4,945.6	463.2	304.5	158.65	2.919		
12,100.0	7,131.5	7,096.4	7,095.4	147.0	15.6	85.39	-852.1	-4,945.7	551.4	390.1	161.32	3.418		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	Offset Datum

Offset Design Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W - Wiedeman 28F-202 - Wellbore #1 - Plan #1 (8-													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	79.05	58.3	301.3	306.9					
100.0	100.0	99.0	99.0	0.1	0.1	79.05	58.3	301.3	306.9	306.7	0.22	1,372.237		
200.0	200.0	199.0	199.0	0.3	0.3	79.05	58.3	301.3	306.9	306.2	0.67	456.651		
300.0	300.0	299.0	299.0	0.6	0.6	79.05	58.3	301.3	306.9	305.8	1.12	273.625		
400.0	400.0	399.0	399.0	0.8	0.8	79.05	58.3	301.3	306.9	305.3	1.57	195.334 CC, ES		
500.0	500.0	499.0	499.0	1.0	1.0	-116.10	58.3	301.3	307.7	305.7	1.99	154.242		
600.0	599.8	598.8	598.8	1.2	1.2	-116.93	58.3	301.3	310.0	307.6	2.41	128.618		
700.0	699.5	698.5	698.5	1.4	1.5	-118.27	58.3	301.3	314.0	311.2	2.85	110.148		
800.0	798.7	797.7	797.7	1.7	1.7	-120.08	58.3	301.3	320.0	316.7	3.32	96.361		
900.0	897.5	896.5	896.5	2.0	1.9	-122.28	58.3	301.3	328.2	324.4	3.82	85.864		
1,000.0	995.6	994.6	994.6	2.3	2.1	-124.80	58.3	301.3	338.9	334.5	4.35	77.833		
1,100.0	1,093.3	1,092.3	1,092.3	2.7	2.3	-127.57	58.3	301.3	351.6	346.7	4.90	71.681		
1,200.0	1,191.1	1,190.1	1,190.1	3.1	2.6	-130.18	58.3	301.3	365.1	359.7	5.46	66.912		
1,300.0	1,288.8	1,301.0	1,301.0	3.6	2.8	-132.89	57.3	299.8	377.8	371.8	6.00	62.935		
1,400.0	1,386.5	1,414.6	1,414.4	4.0	3.0	-135.41	53.7	294.7	387.3	380.7	6.52	59.357		
1,500.0	1,484.2	1,529.0	1,528.3	4.5	3.2	-137.78	47.5	285.8	393.4	386.3	7.05	55.797		
1,600.0	1,581.9	1,637.1	1,635.4	4.9	3.5	-139.95	39.4	274.3	396.3	388.8	7.57	52.387		
1,700.0	1,679.7	1,736.1	1,733.5	5.4	3.7	-141.90	31.6	263.1	399.1	391.1	8.06	49.491		
1,800.0	1,777.4	1,835.1	1,831.6	5.8	4.0	-143.82	23.8	251.9	402.4	393.8	8.56	47.011		
1,900.0	1,875.1	1,934.2	1,929.7	6.3	4.3	-145.72	16.0	240.8	406.1	397.1	9.05	44.870		
2,000.0	1,972.8	2,033.2	2,027.8	6.7	4.6	-147.57	8.2	229.6	410.3	400.7	9.54	43.028		
2,100.0	2,070.5	2,132.2	2,125.8	7.2	4.9	-149.39	0.4	218.4	414.9	404.8	10.02	41.419		
2,200.0	2,168.2	2,231.2	2,223.9	7.6	5.2	-151.17	-7.4	207.3	419.9	409.4	10.49	40.007		
2,300.0	2,266.0	2,330.2	2,322.0	8.1	5.5	-152.90	-15.2	196.1	425.3	414.3	10.97	38.763		
2,400.0	2,363.7	2,429.3	2,420.1	8.6	5.8	-154.59	-22.9	184.9	431.0	419.6	11.45	37.660		
2,500.0	2,461.4	2,528.3	2,518.2	9.0	6.1	-156.23	-30.7	173.8	437.2	425.3	11.92	36.676		
2,600.0	2,559.1	2,627.3	2,616.2	9.5	6.4	-157.83	-38.5	162.6	443.7	431.3	12.40	35.794		
2,700.0	2,656.8	2,726.3	2,714.3	9.9	6.7	-159.38	-46.3	151.4	450.6	437.7	12.87	34.998		
2,800.0	2,754.6	2,825.3	2,812.4	10.4	7.1	-160.89	-54.1	140.3	457.7	444.4	13.35	34.276		
2,900.0	2,852.3	2,924.4	2,910.5	10.9	7.4	-162.34	-61.9	129.1	465.2	451.4	13.84	33.618		
3,000.0	2,950.0	3,023.4	3,008.6	11.3	7.7	-163.76	-69.7	117.9	473.0	458.7	14.33	33.015		
3,100.0	3,047.7	3,122.4	3,106.6	11.8	8.0	-165.12	-77.5	106.8	481.0	466.2	14.82	32.460		
3,200.0	3,145.4	3,221.4	3,204.7	12.3	8.4	-166.44	-85.3	95.6	489.4	474.0	15.32	31.947		
3,300.0	3,243.1	3,320.4	3,302.8	12.7	8.7	-167.72	-93.1	84.4	497.9	482.1	15.82	31.470		
3,400.0	3,340.9	3,419.5	3,400.9	13.2	9.0	-168.95	-100.9	73.3	506.7	490.4	16.33	31.025		
3,500.0	3,438.6	3,518.5	3,499.0	13.6	9.4	-170.14	-108.7	62.1	515.8	498.9	16.85	30.609		
3,600.0	3,536.3	3,617.5	3,597.0	14.1	9.7	-171.29	-116.5	51.0	525.0	507.7	17.37	30.219		
3,700.0	3,634.0	3,716.5	3,695.1	14.6	10.0	-172.40	-124.3	39.8	534.5	516.6	17.90	29.852		
3,800.0	3,731.7	3,815.5	3,793.2	15.0	10.4	-173.47	-132.1	28.6	544.1	525.7	18.44	29.505		
3,900.0	3,829.5	3,914.6	3,891.3	15.5	10.7	-174.51	-139.9	17.5	554.0	535.0	18.99	29.177		
4,000.0	3,927.2	4,013.6	3,989.4	16.0	11.0	-175.50	-147.7	6.3	564.0	544.5	19.54	28.867		
4,100.0	4,024.9	4,112.6	4,087.4	16.4	11.4	-176.47	-155.5	-4.9	574.2	554.1	20.10	28.572		
4,200.0	4,122.6	4,211.6	4,185.5	16.9	11.7	-177.40	-163.3	-16.0	584.5	563.8	20.66	28.292		
4,300.0	4,220.3	4,310.6	4,283.6	17.4	12.1	-178.29	-171.1	-27.2	595.0	573.7	21.23	28.025 SF		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	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	73.18	91.1	301.3	314.8						
100.0	100.0	99.0	99.0	0.1	0.1	73.18	91.1	301.3	314.8	314.5	0.22	1,407.460			
200.0	200.0	199.0	199.0	0.3	0.3	73.18	91.1	301.3	314.8	314.1	0.67	468.373			
300.0	300.0	299.0	299.0	0.6	0.6	73.18	91.1	301.3	314.8	313.6	1.12	280.648			
400.0	400.0	399.0	399.0	0.8	0.8	73.18	91.1	301.3	314.8	313.2	1.57	200.348 CC, ES			
500.0	500.0	499.0	499.0	1.0	1.0	-121.95	91.1	301.3	315.7	313.7	1.99	158.242			
600.0	599.8	598.8	598.8	1.2	1.2	-122.70	91.1	301.3	318.5	316.1	2.41	132.120			
700.0	699.5	698.5	698.5	1.4	1.5	-123.92	91.1	301.3	323.3	320.4	2.85	113.434			
800.0	798.7	797.7	797.7	1.7	1.7	-125.55	91.1	301.3	330.3	327.0	3.32	99.602			
900.0	897.5	896.5	896.5	2.0	1.9	-127.53	91.1	301.3	339.7	335.9	3.81	89.156			
1,000.0	995.6	994.6	994.6	2.3	2.1	-129.78	91.1	301.3	351.7	347.4	4.33	81.218			
1,100.0	1,093.3	1,092.3	1,092.3	2.7	2.3	-132.28	91.1	301.3	365.8	361.0	4.87	75.134			
1,200.0	1,191.1	1,190.1	1,190.1	3.1	2.6	-134.62	91.1	301.3	380.6	375.2	5.41	70.374			
1,300.0	1,288.8	1,287.8	1,287.8	3.6	2.8	-136.78	91.1	301.3	396.0	390.0	5.94	66.610			
1,400.0	1,386.5	1,385.5	1,385.5	4.0	3.0	-138.78	91.1	301.3	411.9	405.4	6.48	63.599			
1,500.0	1,484.2	1,483.2	1,483.2	4.5	3.2	-140.64	91.1	301.3	428.2	421.2	7.00	61.160			
1,600.0	1,581.9	1,580.9	1,580.9	4.9	3.4	-142.36	91.1	301.3	445.0	437.5	7.52	59.162			
1,700.0	1,679.7	1,678.7	1,678.7	5.4	3.7	-143.96	91.1	301.3	462.2	454.1	8.04	57.506			
1,800.0	1,777.4	1,776.4	1,776.4	5.8	3.9	-145.44	91.1	301.3	479.6	471.1	8.55	56.121			
1,900.0	1,875.1	1,874.1	1,874.1	6.3	4.1	-146.82	91.1	301.3	497.4	488.3	9.05	54.951			
2,000.0	1,972.8	1,971.8	1,971.8	6.7	4.3	-148.10	91.1	301.3	515.4	505.9	9.55	53.955			
2,100.0	2,070.5	2,081.7	2,081.7	7.2	4.6	-149.52	90.9	300.2	532.9	522.8	10.05	53.002			
2,200.0	2,168.2	2,197.0	2,196.8	7.6	4.8	-151.18	90.1	294.6	547.6	537.1	10.53	52.007			
2,300.0	2,266.0	2,312.4	2,311.8	8.1	5.0	-153.05	88.6	284.5	559.6	548.6	11.00	50.895			
2,400.0	2,363.7	2,422.1	2,420.6	8.6	5.3	-155.01	86.6	270.8	569.3	557.8	11.45	49.718			
2,500.0	2,461.4	2,520.0	2,517.6	9.0	5.5	-156.77	84.7	257.6	578.7	566.8	11.89	48.661			
2,600.0	2,559.1	2,618.0	2,614.7	9.5	5.8	-158.47	82.8	244.4	588.8	576.4	12.34	47.703			
2,700.0	2,656.8	2,715.9	2,711.7	9.9	6.0	-160.11	80.9	231.2	599.3	586.5	12.80	46.837 SF			

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	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		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
				(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
0.0	0.0	0.0	0.0	0.0	0.0	84.47	29.1	301.3	302.7					
100.0	100.0	99.0	99.0	0.1	0.1	84.47	29.1	301.3	302.7	302.5	0.22	1,353.547		
200.0	200.0	199.0	199.0	0.3	0.3	84.47	29.1	301.3	302.7	302.0	0.67	450.432		
300.0	300.0	299.0	299.0	0.6	0.6	84.47	29.1	301.3	302.7	301.6	1.12	269.898		
400.0	400.0	399.0	399.0	0.8	0.8	84.47	29.1	301.3	302.7	301.1	1.57	192.674	CC, ES	
500.0	500.0	499.0	499.0	1.0	1.0	-110.70	29.1	301.3	303.3	301.3	1.99	152.090		
600.0	599.8	598.8	598.8	1.2	1.2	-111.58	29.1	301.3	305.2	302.8	2.41	126.650		
700.0	699.5	698.5	698.5	1.4	1.5	-113.02	29.1	301.3	308.5	305.7	2.85	108.178		
800.0	798.7	797.7	797.7	1.7	1.7	-114.97	29.1	301.3	313.5	310.2	3.33	94.278		
900.0	897.5	896.5	896.5	2.0	1.9	-117.35	29.1	301.3	320.5	316.7	3.83	83.610		
1,000.0	995.6	994.6	994.6	2.3	2.1	-120.10	29.1	301.3	329.8	325.4	4.37	75.389		
1,100.0	1,093.3	1,102.4	1,102.4	2.7	2.3	-123.24	27.7	300.2	339.7	334.8	4.93	68.923		
1,200.0	1,191.1	1,212.2	1,212.0	3.1	2.5	-125.92	22.9	296.5	347.3	341.8	5.47	63.511		
1,300.0	1,288.8	1,323.0	1,322.3	3.6	2.8	-128.15	14.7	290.3	352.2	346.1	6.02	58.458		
1,400.0	1,386.5	1,434.5	1,432.8	4.0	3.0	-130.02	3.0	281.3	354.0	347.4	6.60	53.678		
1,500.0	1,484.2	1,538.5	1,535.4	4.5	3.3	-131.51	-10.4	271.1	353.4	346.3	7.17	49.306		
1,600.0	1,581.9	1,638.1	1,633.7	4.9	3.6	-132.92	-23.4	261.1	352.8	345.1	7.73	45.622		
1,700.0	1,679.7	1,737.7	1,731.9	5.4	3.9	-134.34	-36.5	251.1	352.4	344.1	8.30	42.473		
1,800.0	1,777.4	1,837.3	1,830.2	5.8	4.2	-135.75	-49.5	241.1	352.3	343.4	8.86	39.767		
1,829.8	1,806.5	1,867.0	1,859.5	5.9	4.3	-136.18	-53.4	238.2	352.2	343.2	9.02	39.039		
1,900.0	1,875.1	1,936.9	1,928.4	6.3	4.6	-137.17	-62.6	231.2	352.3	342.9	9.41	37.440		
2,000.0	1,972.8	2,036.6	2,026.7	6.7	4.9	-138.59	-75.6	221.2	352.6	342.6	9.96	35.411		
2,100.0	2,070.5	2,136.2	2,125.0	7.2	5.2	-140.01	-88.7	211.2	353.0	342.5	10.49	33.642		
2,200.0	2,168.2	2,235.8	2,223.2	7.6	5.6	-141.42	-101.7	201.2	353.7	342.7	11.02	32.090		
2,300.0	2,266.0	2,335.4	2,321.5	8.1	6.0	-142.82	-114.8	191.2	354.6	343.1	11.54	30.723		
2,400.0	2,363.7	2,435.0	2,419.7	8.6	6.3	-144.22	-127.8	181.3	355.8	343.7	12.05	29.512		
2,500.0	2,461.4	2,534.6	2,518.0	9.0	6.7	-145.60	-140.9	171.3	357.1	344.5	12.56	28.436		
2,600.0	2,559.1	2,634.3	2,616.2	9.5	7.0	-146.98	-153.9	161.3	358.6	345.6	13.05	27.475		
2,700.0	2,656.8	2,733.9	2,714.5	9.9	7.4	-148.34	-167.0	151.3	360.4	346.9	13.54	26.613		
2,800.0	2,754.6	2,833.5	2,812.7	10.4	7.8	-149.69	-180.0	141.3	362.3	348.3	14.02	25.838		
2,900.0	2,852.3	2,933.1	2,911.0	10.9	8.2	-151.02	-193.1	131.4	364.5	350.0	14.50	25.138		
3,000.0	2,950.0	3,032.7	3,009.2	11.3	8.5	-152.34	-206.1	121.4	366.9	351.9	14.97	24.503		
3,100.0	3,047.7	3,132.3	3,107.5	11.8	8.9	-153.64	-219.2	111.4	369.4	354.0	15.44	23.925		
3,200.0	3,145.4	3,232.0	3,205.7	12.3	9.3	-154.92	-232.2	101.4	372.1	356.2	15.90	23.397		
3,300.0	3,243.1	3,331.6	3,304.0	12.7	9.7	-156.19	-245.3	91.5	375.0	358.7	16.37	22.913		
3,400.0	3,340.9	3,431.2	3,402.2	13.2	10.1	-157.43	-258.3	81.5	378.1	361.3	16.83	22.467		
3,500.0	3,438.6	3,530.8	3,500.5	13.6	10.4	-158.65	-271.4	71.5	381.4	364.1	17.29	22.055		
3,600.0	3,536.3	3,630.4	3,598.7	14.1	10.8	-159.85	-284.4	61.5	384.9	367.1	17.76	21.673		
3,700.0	3,634.0	3,730.0	3,697.0	14.6	11.2	-161.03	-297.5	51.5	388.5	370.2	18.22	21.318		
3,800.0	3,731.7	3,829.6	3,795.2	15.0	11.6	-162.19	-310.5	41.6	392.2	373.5	18.69	20.986		
3,900.0	3,829.5	3,929.3	3,893.5	15.5	12.0	-163.32	-323.6	31.6	396.2	377.0	19.16	20.674		
4,000.0	3,927.2	4,028.9	3,991.7	16.0	12.3	-164.44	-336.6	21.6	400.3	380.6	19.64	20.382		
4,100.0	4,024.9	4,128.5	4,090.0	16.4	12.7	-165.53	-349.7	11.6	404.5	384.4	20.12	20.105		
4,200.0	4,122.6	4,228.1	4,188.2	16.9	13.1	-166.59	-362.8	1.6	408.9	388.3	20.60	19.844		
4,300.0	4,220.3	4,327.7	4,286.5	17.4	13.5	-167.64	-375.8	-8.3	413.4	392.3	21.10	19.595		
4,400.0	4,318.0	4,427.3	4,384.7	17.8	13.9	-168.66	-388.9	-18.3	418.0	396.4	21.59	19.359		
4,500.0	4,415.8	4,527.0	4,483.0	18.3	14.3	-169.66	-401.9	-28.3	422.8	400.7	22.10	19.134		
4,600.0	4,513.5	4,626.6	4,581.2	18.8	14.7	-170.63	-415.0	-38.3	427.7	405.1	22.61	18.918		
4,700.0	4,611.2	4,726.2	4,679.5	19.2	15.0	-171.59	-428.0	-48.3	432.7	409.6	23.13	18.712		
4,800.0	4,708.9	4,825.8	4,777.7	19.7	15.4	-172.52	-441.1	-58.2	437.9	414.2	23.65	18.513		
4,900.0	4,806.6	4,925.4	4,876.0	20.1	15.8	-173.43	-454.1	-68.2	443.1	419.0	24.19	18.323		

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	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							
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		
5,000.0	4,904.3	5,025.0	4,974.2	20.6	16.2	-174.32	-467.2	-78.2	448.5	423.8	24.73	18.140		
5,100.0	5,002.1	5,124.7	5,072.5	21.1	16.6	-175.18	-480.2	-88.2	454.0	428.7	25.27	17.963		
5,200.0	5,099.8	5,224.3	5,170.8	21.5	17.0	-176.03	-493.3	-98.2	459.6	433.7	25.83	17.792		
5,300.0	5,197.5	5,323.9	5,269.0	22.0	17.4	-176.86	-506.3	-108.1	465.2	438.8	26.39	17.628		
5,400.0	5,295.2	5,423.5	5,367.3	22.5	17.7	-177.66	-519.4	-118.1	471.0	444.0	26.96	17.469		
5,500.0	5,392.9	5,523.1	5,465.5	22.9	18.1	-178.45	-532.4	-128.1	476.9	449.3	27.54	17.315		
5,600.0	5,490.7	5,622.7	5,563.8	23.4	18.5	-179.22	-545.5	-138.1	482.8	454.7	28.13	17.166		
5,700.0	5,588.4	5,722.3	5,662.0	23.9	18.9	-179.97	-558.5	-148.1	488.8	460.1	28.72	17.022		
5,800.0	5,686.4	5,822.0	5,760.3	24.2	19.3	179.30	-571.6	-158.0	493.3	464.0	29.33	16.821		
5,900.0	5,785.1	5,917.5	5,854.5	24.5	19.6	178.61	-584.0	-167.5	494.5	464.7	29.86	16.562		
5,983.2	5,867.5	5,989.2	5,925.5	24.7	19.8	178.15	-592.1	-173.8	494.5	464.3	30.21	16.369		
6,000.0	5,884.3	6,000.0	5,936.2	24.7	19.8	178.09	-593.2	-174.6	494.5	464.2	30.27	16.336		
6,100.0	5,983.8	6,090.1	6,025.7	24.9	20.1	177.64	-601.2	-180.7	493.6	463.0	30.63	16.115		
6,200.0	6,083.7	6,176.6	6,111.9	25.1	20.2	177.32	-606.8	-184.9	492.1	461.2	30.92	15.914		
6,300.0	6,183.6	6,263.1	6,198.3	25.2	20.4	177.11	-610.2	-187.6	489.9	458.7	31.15	15.726		
6,400.0	6,283.6	6,349.7	6,284.9	25.3	20.5	11.90	-611.6	-188.7	488.1	443.2	44.85	10.883		
6,440.3	6,324.0	6,387.8	6,323.0	25.3	20.5	11.90	-611.7	-188.7	488.0	443.1	44.94	10.860		
6,500.0	6,383.6	6,447.4	6,382.6	25.4	20.6	11.90	-611.7	-188.7	488.0	443.0	45.07	10.828 SF		
6,600.0	6,483.4	6,546.6	6,481.8	25.5	20.7	102.41	-611.7	-188.7	489.1	457.0	32.17	15.207		
6,700.0	6,581.7	6,630.6	6,565.6	25.7	20.8	104.28	-611.7	-183.6	495.0	462.5	32.41	15.270		
6,800.0	6,676.7	6,700.0	6,634.1	26.0	20.8	106.74	-611.7	-172.4	509.0	476.4	32.61	15.612		
6,900.0	6,766.9	6,764.7	6,696.8	26.3	20.8	109.29	-611.7	-156.4	534.6	501.8	32.79	16.304		
7,000.0	6,850.7	6,810.4	6,740.1	26.6	20.8	110.03	-611.7	-142.0	574.0	540.9	33.16	17.313		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	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)	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	95.52	-29.1	301.3	302.7						
100.0	100.0	98.0	98.0	0.1	0.1	95.52	-29.1	301.3	302.7	302.5	0.22	1,360.372			
200.0	200.0	198.0	198.0	0.3	0.3	95.52	-29.1	301.3	302.7	302.0	0.67	451.944			
300.0	300.0	300.9	300.9	0.6	0.5	95.85	-30.8	300.7	302.2	301.1	1.10	273.970			
400.0	400.0	403.6	403.4	0.8	0.8	96.85	-35.9	298.7	300.8	299.3	1.54	194.942			
500.0	500.0	505.9	505.4	1.0	1.0	-96.72	-44.3	295.3	298.9	296.9	1.99	150.015			
600.0	599.8	608.0	606.6	1.2	1.3	-95.40	-56.1	290.7	296.7	294.2	2.48	119.734			
700.0	699.5	709.8	707.1	1.4	1.7	-94.06	-71.2	284.7	294.3	291.2	3.04	96.700			
800.0	798.7	811.3	806.7	1.7	2.1	-92.71	-89.6	277.5	291.6	287.9	3.70	78.775			
900.0	897.5	912.5	905.2	2.0	2.5	-91.34	-111.1	269.0	288.7	284.2	4.46	64.710			
1,000.0	995.6	1,012.3	1,002.0	2.3	3.0	-90.34	-133.9	260.0	285.8	280.5	5.31	53.859			
1,100.0	1,093.3	1,112.2	1,098.8	2.7	3.5	-89.70	-156.6	251.0	282.9	276.7	6.20	45.603			
1,200.0	1,191.1	1,212.2	1,195.7	3.1	4.0	-89.05	-179.4	242.0	280.1	273.0	7.13	39.305			
1,300.0	1,288.8	1,312.1	1,292.6	3.6	4.5	-88.39	-202.1	233.1	277.3	269.3	8.06	34.389			
1,400.0	1,386.5	1,412.0	1,389.5	4.0	5.0	-87.72	-224.9	224.1	274.6	265.6	9.01	30.466			
1,500.0	1,484.2	1,511.9	1,486.3	4.5	5.5	-87.03	-247.6	215.1	271.9	262.0	9.97	27.275			
1,600.0	1,581.9	1,611.8	1,583.2	4.9	6.0	-86.32	-270.4	206.1	269.3	258.3	10.93	24.635			
1,700.0	1,679.7	1,711.7	1,680.1	5.4	6.5	-85.60	-293.1	197.2	266.7	254.8	11.89	22.420			
1,800.0	1,777.4	1,811.6	1,776.9	5.8	7.1	-84.87	-315.9	188.2	264.1	251.2	12.86	20.537			
1,900.0	1,875.1	1,911.5	1,873.8	6.3	7.6	-84.13	-338.6	179.2	261.6	247.7	13.83	18.919			
2,000.0	1,972.8	2,011.4	1,970.7	6.7	8.1	-83.37	-361.4	170.2	259.1	244.3	14.79	17.516			
2,100.0	2,070.5	2,111.3	2,067.5	7.2	8.6	-82.59	-384.1	161.2	256.7	240.9	15.76	16.289			
2,200.0	2,168.2	2,211.2	2,164.4	7.6	9.1	-81.80	-406.9	152.3	254.3	237.6	16.72	15.208			
2,300.0	2,266.0	2,311.2	2,261.3	8.1	9.6	-81.00	-429.6	143.3	251.9	234.3	17.68	14.250			
2,400.0	2,363.7	2,411.1	2,358.1	8.6	10.2	-80.18	-452.4	134.3	249.7	231.0	18.64	13.395			
2,500.0	2,461.4	2,511.0	2,455.0	9.0	10.7	-79.35	-475.1	125.3	247.4	227.8	19.59	12.630			
2,600.0	2,559.1	2,610.9	2,551.9	9.5	11.2	-78.50	-497.9	116.4	245.3	224.7	20.54	11.941			
2,700.0	2,656.8	2,710.8	2,648.8	9.9	11.7	-77.64	-520.6	107.4	243.1	221.6	21.48	11.318			
2,800.0	2,754.6	2,810.7	2,745.6	10.4	12.2	-76.76	-543.4	98.4	241.1	218.6	22.42	10.752			
2,900.0	2,852.3	2,910.6	2,842.5	10.9	12.8	-75.86	-566.1	89.4	239.1	215.7	23.35	10.238			
3,000.0	2,950.0	3,010.5	2,939.4	11.3	13.3	-74.96	-588.9	80.5	237.1	212.8	24.27	9.769			
3,100.0	3,047.7	3,110.4	3,036.2	11.8	13.8	-74.03	-611.6	71.5	235.2	210.0	25.18	9.340			
3,200.0	3,145.4	3,210.3	3,133.1	12.3	14.3	-73.09	-634.4	62.5	233.4	207.3	26.09	8.946			
3,300.0	3,243.1	3,310.3	3,230.0	12.7	14.8	-72.14	-657.1	53.5	231.6	204.6	26.98	8.584			
3,400.0	3,340.9	3,410.2	3,326.8	13.2	15.4	-71.17	-679.9	44.6	229.9	202.1	27.87	8.251			
3,500.0	3,438.6	3,510.1	3,423.7	13.6	15.9	-70.19	-702.6	35.6	228.3	199.6	28.74	7.944			
3,600.0	3,536.3	3,610.0	3,520.6	14.1	16.4	-69.20	-725.4	26.6	226.7	197.1	29.60	7.661			
3,700.0	3,634.0	3,709.9	3,617.5	14.6	16.9	-68.19	-748.1	17.6	225.2	194.8	30.44	7.399			
3,800.0	3,731.7	3,809.8	3,714.3	15.0	17.4	-67.17	-770.9	8.6	223.8	192.5	31.27	7.157			
3,900.0	3,829.5	3,909.7	3,811.2	15.5	18.0	-66.14	-793.6	-0.3	222.5	190.4	32.09	6.933			
4,000.0	3,927.2	4,009.6	3,908.1	16.0	18.5	-65.09	-816.4	-9.3	221.2	188.3	32.89	6.725			
4,100.0	4,024.9	4,109.5	4,004.9	16.4	19.0	-64.03	-839.1	-18.3	220.0	186.3	33.67	6.533			
4,200.0	4,122.6	4,209.4	4,101.8	16.9	19.5	-62.96	-861.9	-27.3	218.8	184.4	34.44	6.355			
4,300.0	4,220.3	4,309.3	4,198.7	17.4	20.0	-61.88	-884.6	-36.2	217.8	182.6	35.19	6.190			
4,400.0	4,318.0	4,409.3	4,295.5	17.8	20.6	-60.79	-907.4	-45.2	216.8	180.9	35.91	6.037			
4,500.0	4,415.8	4,509.2	4,392.4	18.3	21.1	-59.69	-930.1	-54.2	215.9	179.3	36.62	5.896			
4,600.0	4,513.5	4,609.1	4,489.3	18.8	21.6	-58.58	-952.9	-63.2	215.1	177.8	37.31	5.765			
4,700.0	4,611.2	4,709.0	4,586.2	19.2	22.1	-57.47	-975.6	-72.1	214.4	176.4	37.98	5.644			
4,800.0	4,708.9	4,808.9	4,683.0	19.7	22.6	-56.34	-998.4	-81.1	213.7	175.1	38.63	5.533			
4,900.0	4,806.6	4,908.8	4,779.9	20.1	23.2	-55.21	-1,021.2	-90.1	213.2	173.9	39.26	5.430			
5,000.0	4,904.3	5,008.7	4,876.8	20.6	23.7	-54.08	-1,043.9	-99.1	212.7	172.8	39.86	5.335			

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	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		
5,100.0	5,002.1	5,108.6	4,973.6	21.1	24.2	-52.94	-1,066.7	-108.0	212.3	171.8	40.44	5.249			
5,200.0	5,099.8	5,208.5	5,070.5	21.5	24.7	-51.79	-1,089.4	-117.0	212.0	171.0	41.01	5.169			
5,300.0	5,197.5	5,308.4	5,167.4	22.0	25.2	-50.65	-1,112.2	-126.0	211.7	170.2	41.54	5.097			
5,400.0	5,295.2	5,408.4	5,264.2	22.5	25.8	-49.50	-1,134.9	-135.0	211.6	169.5	42.06	5.031			
5,500.0	5,392.9	5,508.3	5,361.1	22.9	26.3	-48.35	-1,157.7	-144.0	211.5	169.0	42.55	4.971			
5,520.0	5,412.5	5,528.2	5,380.5	23.0	26.4	-48.12	-1,162.2	-145.7	211.5	168.9	42.65	4.959			
5,600.0	5,490.7	5,608.2	5,458.0	23.4	26.8	-47.20	-1,180.4	-152.9	211.6	168.5	43.03	4.917			
5,700.0	5,588.4	5,710.8	5,557.6	23.9	27.3	-46.15	-1,203.2	-161.9	211.3	167.8	43.47	4.860			
5,800.0	5,686.4	5,815.5	5,660.1	24.2	27.6	-45.48	-1,223.3	-169.8	210.2	166.3	43.87	4.791			
5,900.0	5,785.1	5,920.2	5,763.2	24.5	27.9	-44.92	-1,239.9	-176.4	209.3	165.1	44.18	4.738			
6,000.0	5,884.3	6,025.0	5,867.0	24.7	28.1	-44.47	-1,253.0	-181.6	208.6	164.2	44.45	4.694			
6,100.0	5,983.8	6,129.8	5,971.3	24.9	28.3	-44.14	-1,262.5	-185.3	208.2	163.5	44.68	4.659			
6,200.0	6,083.7	6,234.6	6,075.9	25.1	28.5	-43.93	-1,268.6	-187.7	207.9	163.0	44.87	4.633			
6,291.8	6,175.5	6,330.9	6,172.2	25.2	28.6	-43.84	-1,270.9	-188.6	207.8	162.8	45.03	4.615 CC			
6,300.0	6,183.6	6,339.4	6,180.7	25.2	28.6	-43.83	-1,271.0	-188.7	207.8	162.8	45.04	4.614 ES, SF			
6,400.0	6,283.6	6,440.3	6,281.6	25.3	28.7	-151.05	-1,271.1	-188.7	207.8	164.3	43.52	4.776			
6,430.4	6,314.0	6,470.7	6,312.0	25.3	28.7	-151.05	-1,271.1	-188.7	207.8	164.2	43.58	4.768			
6,500.0	6,383.6	6,534.2	6,375.5	25.4	28.8	-150.71	-1,271.1	-187.3	208.6	165.0	43.61	4.783			
6,600.0	6,483.4	6,620.2	6,460.9	25.5	28.8	-122.11	-1,271.1	-177.3	217.4	171.0	46.44	4.681			
6,700.0	6,581.7	6,700.0	6,538.6	25.7	28.8	-127.30	-1,271.1	-159.4	241.4	193.8	47.58	5.073			
6,800.0	6,676.7	6,762.6	6,598.1	26.0	28.8	-131.51	-1,271.1	-139.8	283.7	236.0	47.76	5.940			
6,900.0	6,766.9	6,812.8	6,644.4	26.3	28.7	-133.61	-1,271.1	-120.7	344.1	297.2	46.83	7.347			
7,000.0	6,850.7	6,850.0	6,677.9	26.6	28.7	-132.66	-1,271.1	-104.5	419.0	374.0	44.99	9.313			
7,100.0	6,926.7	6,872.5	6,697.8	27.1	28.7	-126.96	-1,271.1	-93.9	504.4	461.7	42.71	11.809			
7,200.0	6,993.6	6,885.5	6,709.1	27.7	28.6	-114.60	-1,271.1	-87.5	596.4	555.5	40.85	14.598			

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	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)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	301.3	301.3						
100.0	100.0	98.0	98.0	0.1	0.1	90.00	0.0	301.3	301.3	301.1	0.22	1,354.052			
200.0	200.0	198.0	198.0	0.3	0.3	90.00	0.0	301.3	301.3	300.6	0.67	449.844			
300.0	300.0	298.0	298.0	0.6	0.6	90.00	0.0	301.3	301.3	300.2	1.12	269.184			
400.0	400.0	398.0	398.0	0.8	0.8	90.00	0.0	301.3	301.3	299.7	1.57	192.054			
500.0	500.0	502.7	502.7	1.0	1.0	-104.90	-1.7	300.5	301.0	299.0	1.98	152.331			
600.0	599.8	607.5	607.3	1.2	1.2	-104.96	-6.8	298.0	300.0	297.6	2.37	126.585			
700.0	699.5	712.3	711.6	1.4	1.4	-105.05	-15.3	293.9	298.3	295.4	2.82	105.689			
800.0	798.7	817.0	815.5	1.7	1.7	-105.17	-27.3	288.1	295.9	292.5	3.35	88.374			
900.0	897.5	921.7	918.8	2.0	2.0	-105.32	-42.6	280.7	292.8	288.8	3.96	73.889			
1,000.0	995.6	1,025.1	1,020.1	2.3	2.4	-105.52	-61.0	271.8	289.1	284.4	4.67	61.907			
1,100.0	1,093.3	1,125.0	1,117.9	2.7	2.8	-105.90	-79.7	262.7	285.5	280.0	5.43	52.543			
1,200.0	1,191.1	1,224.9	1,215.6	3.1	3.3	-106.29	-98.4	253.7	281.9	275.7	6.23	45.286			
1,300.0	1,288.8	1,324.8	1,313.4	3.6	3.7	-106.68	-117.1	244.7	278.4	271.4	7.04	39.570			
1,400.0	1,386.5	1,424.7	1,411.1	4.0	4.1	-107.09	-135.7	235.6	274.9	267.0	7.85	34.993			
1,500.0	1,484.2	1,524.7	1,508.8	4.5	4.6	-107.51	-154.4	226.6	271.3	262.7	8.68	31.256			
1,600.0	1,581.9	1,624.6	1,606.6	4.9	5.0	-107.94	-173.1	217.5	267.9	258.3	9.51	28.161			
1,700.0	1,679.7	1,724.5	1,704.3	5.4	5.4	-108.38	-191.8	208.5	264.4	254.0	10.34	25.560			
1,800.0	1,777.4	1,824.4	1,802.1	5.8	5.9	-108.83	-210.4	199.5	260.9	249.7	11.17	23.348			
1,900.0	1,875.1	1,924.3	1,899.8	6.3	6.3	-109.29	-229.1	190.4	257.5	245.4	12.00	21.446			
2,000.0	1,972.8	2,024.2	1,997.5	6.7	6.8	-109.77	-247.8	181.4	254.0	241.2	12.83	19.795			
2,100.0	2,070.5	2,124.2	2,095.3	7.2	7.2	-110.26	-266.5	172.3	250.6	236.9	13.66	18.349			
2,200.0	2,168.2	2,224.1	2,193.0	7.6	7.7	-110.76	-285.1	163.3	247.2	232.7	14.48	17.073			
2,300.0	2,266.0	2,324.0	2,290.8	8.1	8.1	-111.28	-303.8	154.3	243.8	228.5	15.30	15.940			
2,400.0	2,363.7	2,423.9	2,388.5	8.6	8.6	-111.81	-322.5	145.2	240.5	224.4	16.11	14.928			
2,500.0	2,461.4	2,523.8	2,486.3	9.0	9.1	-112.36	-341.2	136.2	237.1	220.2	16.92	14.019			
2,600.0	2,559.1	2,623.8	2,584.0	9.5	9.5	-112.92	-359.8	127.1	233.8	216.1	17.72	13.199			
2,700.0	2,656.8	2,723.7	2,681.7	9.9	10.0	-113.50	-378.5	118.1	230.5	212.0	18.51	12.455			
2,800.0	2,754.6	2,823.6	2,779.5	10.4	10.4	-114.09	-397.2	109.1	227.3	208.0	19.30	11.778			
2,900.0	2,852.3	2,923.5	2,877.2	10.9	10.9	-114.70	-415.9	100.0	224.0	204.0	20.08	11.160			
3,000.0	2,950.0	3,023.4	2,975.0	11.3	11.3	-115.33	-434.5	91.0	220.8	200.0	20.85	10.593			
3,100.0	3,047.7	3,123.4	3,072.7	11.8	11.8	-115.98	-453.2	82.0	217.6	196.0	21.61	10.072			
3,200.0	3,145.4	3,223.3	3,170.4	12.3	12.2	-116.65	-471.9	72.9	214.5	192.1	22.36	9.593			
3,300.0	3,243.1	3,323.2	3,268.2	12.7	12.7	-117.34	-490.6	63.9	211.4	188.3	23.10	9.149			
3,400.0	3,340.9	3,423.1	3,365.9	13.2	13.2	-118.04	-509.2	54.8	208.3	184.4	23.83	8.739			
3,500.0	3,438.6	3,523.0	3,463.7	13.6	13.6	-118.77	-527.9	45.8	205.2	180.6	24.55	8.359			
3,600.0	3,536.3	3,622.9	3,561.4	14.1	14.1	-119.52	-546.6	36.8	202.2	176.9	25.26	8.005			
3,700.0	3,634.0	3,722.9	3,659.1	14.6	14.5	-120.30	-565.3	27.7	199.2	173.2	25.95	7.676			
3,800.0	3,731.7	3,822.8	3,756.9	15.0	15.0	-121.09	-583.9	18.7	196.2	169.6	26.63	7.369			
3,900.0	3,829.5	3,922.7	3,854.6	15.5	15.4	-121.91	-602.6	9.6	193.3	166.0	27.29	7.083			
4,000.0	3,927.2	4,022.6	3,952.4	16.0	15.9	-122.76	-621.3	0.6	190.4	162.5	27.94	6.816			
4,100.0	4,024.9	4,122.5	4,050.1	16.4	16.4	-123.63	-640.0	-8.4	187.6	159.0	28.57	6.566			
4,200.0	4,122.6	4,222.5	4,147.8	16.9	16.8	-124.53	-658.6	-17.5	184.8	155.6	29.18	6.333			
4,300.0	4,220.3	4,322.4	4,245.6	17.4	17.3	-125.46	-677.3	-26.5	182.1	152.3	29.78	6.114			
4,400.0	4,318.0	4,422.3	4,343.3	17.8	17.7	-126.41	-696.0	-35.6	179.4	149.0	30.35	5.910			
4,500.0	4,415.8	4,522.2	4,441.1	18.3	18.2	-127.39	-714.7	-44.6	176.7	145.8	30.91	5.718			
4,600.0	4,513.5	4,622.1	4,538.8	18.8	18.6	-128.40	-733.3	-53.6	174.1	142.7	31.44	5.539			
4,700.0	4,611.2	4,722.0	4,636.5	19.2	19.1	-129.45	-752.0	-62.7	171.6	139.7	31.95	5.371			
4,800.0	4,708.9	4,822.0	4,734.3	19.7	19.6	-130.52	-770.7	-71.7	169.1	136.7	32.44	5.214			
4,900.0	4,806.6	4,921.9	4,832.0	20.1	20.0	-131.62	-789.4	-80.7	166.7	133.8	32.90	5.067			
5,000.0	4,904.3	5,021.8	4,929.8	20.6	20.5	-132.76	-808.0	-89.8	164.4	131.0	33.34	4.930			

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	Offset Datum

Offset Design Wiedeman 4N66W28F - East Pad Sec.28-T4N-R66W - Wiedeman 28G-312 - Wellbore #1 - Plan #1 (7-0-MWD)														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			
5,100.0	5,002.1	5,121.7	5,027.5	21.1	20.9	-133.93	-826.7	-98.8	162.1	128.3	33.76	4.801			
5,200.0	5,099.8	5,221.6	5,125.2	21.5	21.4	-135.13	-845.4	-107.9	159.9	125.7	34.15	4.682			
5,300.0	5,197.5	5,321.6	5,223.0	22.0	21.9	-136.36	-864.1	-116.9	157.7	123.2	34.51	4.571			
5,400.0	5,295.2	5,421.5	5,320.7	22.5	22.3	-137.63	-882.7	-125.9	155.7	120.8	34.85	4.467			
5,500.0	5,392.9	5,521.4	5,418.5	22.9	22.8	-138.93	-901.4	-135.0	153.7	118.5	35.16	4.371			
5,600.0	5,490.7	5,621.3	5,516.2	23.4	23.2	-140.27	-920.1	-144.0	151.8	116.3	35.44	4.282			
5,700.0	5,588.4	5,721.2	5,614.0	23.9	23.7	-141.64	-938.8	-153.1	150.0	114.3	35.70	4.200			
5,800.0	5,686.4	5,820.9	5,711.4	24.2	24.1	-142.62	-957.4	-162.1	146.9	110.9	36.00	4.082			
5,900.0	5,785.1	5,916.4	5,805.2	24.5	24.5	-143.10	-973.7	-169.9	142.8	106.5	36.30	3.936			
6,000.0	5,884.3	6,012.1	5,899.8	24.7	24.7	-143.37	-987.1	-176.5	139.0	102.4	36.58	3.799			
6,100.0	5,983.8	6,107.9	5,994.8	24.9	24.9	-143.40	-997.7	-181.6	135.3	98.4	36.88	3.669			
6,200.0	6,083.7	6,203.8	6,090.3	25.1	25.1	-143.18	-1,005.5	-185.3	131.9	94.7	37.21	3.544			
6,300.0	6,183.6	6,300.0	6,186.4	25.2	25.3	-142.68	-1,010.4	-187.7	128.6	91.1	37.57	3.424			
6,400.0	6,283.6	6,396.0	6,282.3	25.3	25.4	52.63	-1,012.3	-188.7	126.6	80.8	45.87	2.761			
6,440.8	6,324.5	6,436.1	6,322.5	25.3	25.4	52.64	-1,012.4	-188.7	126.6	80.6	45.95	2.754			
6,500.0	6,383.6	6,495.3	6,381.6	25.4	25.5	52.64	-1,012.4	-188.7	126.6	80.5	46.09	2.746 CC, ES, SF			
6,600.0	6,483.4	6,586.8	6,473.1	25.5	25.6	144.19	-1,012.4	-186.4	132.9	93.8	39.09	3.400			
6,700.0	6,581.7	6,668.6	6,554.1	25.7	25.6	148.75	-1,012.4	-175.8	159.2	118.9	40.29	3.951			
6,800.0	6,676.7	6,738.9	6,622.5	26.0	25.6	153.12	-1,012.4	-159.7	206.1	165.5	40.62	5.073			
6,900.0	6,766.9	6,800.0	6,680.6	26.3	25.6	156.12	-1,012.4	-140.7	271.2	231.4	39.77	6.818			
7,000.0	6,850.7	6,836.5	6,714.5	26.6	25.5	155.84	-1,012.4	-127.2	350.0	312.5	37.53	9.325			
7,100.0	6,926.7	6,864.8	6,740.3	27.1	25.5	153.05	-1,012.4	-115.5	438.6	403.9	34.68	12.647			
7,200.0	6,993.6	6,881.8	6,755.6	27.7	25.5	144.33	-1,012.4	-108.1	533.4	501.2	32.20	16.568			

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.0 ft
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		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	0.00	149.4	0.0	149.4						
100.0	100.0	100.0	100.0	0.1	0.1	0.00	149.4	0.0	149.4	149.1	0.22	664.536			
200.0	200.0	200.0	200.0	0.3	0.3	0.00	149.4	0.0	149.4	148.7	0.67	221.512			
300.0	300.0	300.0	300.0	0.6	0.6	0.00	149.4	0.0	149.4	148.2	1.12	132.907			
400.0	400.0	400.0	400.0	0.8	0.8	0.00	149.4	0.0	149.4	147.8	1.57	94.934 CC, ES			
500.0	500.0	495.4	495.4	1.0	1.0	165.02	150.8	-0.7	152.6	150.6	1.99	76.560			
600.0	599.8	590.2	590.1	1.2	1.2	164.72	155.1	-2.7	162.1	159.7	2.41	67.181			
700.0	699.5	683.8	683.4	1.4	1.4	164.29	162.1	-5.9	178.0	175.2	2.85	62.400			
800.0	798.7	776.3	775.3	1.7	1.7	163.79	171.7	-10.4	200.1	196.8	3.31	60.461			
900.0	897.5	872.8	870.9	2.0	2.0	163.43	182.9	-15.6	226.6	222.8	3.77	60.135 SF			
1,000.0	995.6	968.2	965.6	2.3	2.2	163.33	194.0	-20.7	256.3	252.1	4.23	60.614			
1,100.0	1,093.3	1,063.1	1,059.6	2.7	2.5	163.50	205.0	-25.8	288.1	283.4	4.70	61.305			
1,200.0	1,191.1	1,157.9	1,153.7	3.1	2.8	163.66	216.0	-30.9	319.8	314.6	5.18	61.752			
1,300.0	1,288.8	1,252.7	1,247.7	3.6	3.1	163.78	227.1	-36.0	351.5	345.9	5.67	62.039			
1,400.0	1,386.5	1,347.5	1,341.8	4.0	3.4	163.89	238.1	-41.1	383.3	377.1	6.16	62.214			
1,500.0	1,484.2	1,442.4	1,435.8	4.5	3.7	163.98	249.1	-46.2	415.0	408.4	6.66	62.317			
1,600.0	1,581.9	1,537.2	1,529.9	4.9	4.0	164.06	260.1	-51.3	446.8	439.6	7.16	62.384			
1,700.0	1,679.7	1,632.0	1,623.9	5.4	4.3	164.13	271.1	-56.4	478.5	470.9	7.67	62.416			
1,800.0	1,777.4	1,726.8	1,717.9	5.8	4.6	164.18	282.1	-61.5	510.3	502.1	8.17	62.427			
1,900.0	1,875.1	1,821.7	1,812.0	6.3	4.9	164.24	293.1	-66.6	542.0	533.4	8.68	62.422			
2,000.0	1,972.8	1,916.5	1,906.0	6.7	5.2	164.28	304.1	-71.7	573.8	564.6	9.19	62.407			

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	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	0.0	0.0	0.0	0.0	0.00	178.5	0.0	178.5					
100.0	100.0	100.0	100.0	0.1	0.1	0.00	178.5	0.0	178.5	178.3	0.22	794.201		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	178.5	0.0	178.5	177.8	0.67	264.734 CC, ES		
300.0	300.0	294.4	294.4	0.6	0.6	-0.16	180.0	-0.5	180.1	179.0	1.11	161.739		
400.0	400.0	388.6	388.4	0.8	0.8	-0.60	184.4	-1.9	184.8	183.2	1.56	118.428		
500.0	500.0	482.2	481.7	1.0	1.0	163.91	191.7	-4.4	194.3	192.3	2.00	97.115		
600.0	599.8	574.6	573.6	1.2	1.3	163.33	201.7	-7.7	210.2	207.8	2.44	86.300		
700.0	699.5	665.4	663.4	1.4	1.5	162.81	214.3	-11.8	232.4	229.6	2.89	80.436		
800.0	798.7	761.7	758.4	1.7	1.9	162.45	229.1	-16.7	259.4	256.0	3.35	77.473		
900.0	897.5	857.1	852.5	2.0	2.2	162.32	243.7	-21.5	289.5	285.7	3.80	76.108		
1,000.0	995.6	951.4	945.6	2.3	2.5	162.35	258.2	-26.3	322.8	318.5	4.27	75.657		
1,100.0	1,093.3	1,044.9	1,037.9	2.7	2.9	162.63	272.5	-31.1	358.0	353.2	4.74	75.562		
1,200.0	1,191.1	1,138.5	1,130.3	3.1	3.2	162.89	286.9	-35.8	393.2	388.0	5.22	75.347		
1,300.0	1,288.8	1,232.1	1,222.6	3.6	3.5	163.11	301.2	-40.5	428.5	422.8	5.71	75.036		
1,400.0	1,386.5	1,325.6	1,314.9	4.0	3.9	163.29	315.6	-45.3	463.8	457.6	6.21	74.732		
1,500.0	1,484.2	1,419.2	1,407.3	4.5	4.2	163.45	329.9	-50.0	499.1	492.4	6.71	74.425		
1,600.0	1,581.9	1,512.8	1,499.6	4.9	4.6	163.58	344.3	-54.8	534.3	527.1	7.21	74.124		
1,700.0	1,679.7	1,606.3	1,591.9	5.4	4.9	163.70	358.6	-59.5	569.6	561.9	7.71	73.835 SF		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	Offset Datum

Offset Design Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W - Wiedeman 28F-214 - Wellbore #1 - Plan #1 (8														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis 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	0.00	91.1	0.0	91.1						
100.0	100.0	100.0	100.0	0.1	0.1	0.00	91.1	0.0	91.1	90.9	0.22	405.205			
200.0	200.0	200.0	200.0	0.3	0.3	0.00	91.1	0.0	91.1	90.4	0.67	135.068			
300.0	300.0	300.0	300.0	0.6	0.6	0.00	91.1	0.0	91.1	90.0	1.12	81.041			
400.0	400.0	400.0	400.0	0.8	0.8	0.00	91.1	0.0	91.1	89.5	1.57	57.886 CC, ES			
500.0	500.0	500.0	500.0	1.0	1.0	165.39	91.1	0.0	92.8	90.8	2.00	46.377			
600.0	599.8	599.8	599.8	1.2	1.2	166.14	91.1	0.0	97.8	95.4	2.42	40.477			
700.0	699.5	699.5	699.5	1.4	1.5	167.23	91.1	0.0	106.3	103.5	2.85	37.357			
800.0	798.7	798.7	798.7	1.7	1.7	168.49	91.1	0.0	118.2	115.0	3.28	36.020			
900.0	897.5	897.5	897.5	2.0	1.9	169.77	91.1	0.0	133.6	129.9	3.72	35.875 SF			
1,000.0	995.6	995.6	995.6	2.3	2.1	170.98	91.1	0.0	152.4	148.3	4.17	36.559			
1,100.0	1,093.3	1,093.3	1,093.3	2.7	2.3	172.07	91.1	0.0	173.4	168.8	4.62	37.511			
1,200.0	1,191.1	1,191.1	1,191.1	3.1	2.6	172.94	91.1	0.0	194.5	189.4	5.08	38.259			
1,300.0	1,288.8	1,288.8	1,288.8	3.6	2.8	173.63	91.1	0.0	215.6	210.0	5.55	38.858			
1,400.0	1,386.5	1,386.5	1,386.5	4.0	3.0	174.20	91.1	0.0	236.7	230.7	6.02	39.347			
1,500.0	1,484.2	1,484.2	1,484.2	4.5	3.2	174.68	91.1	0.0	257.9	251.4	6.49	39.752			
1,600.0	1,581.9	1,581.9	1,581.9	4.9	3.4	175.08	91.1	0.0	279.0	272.1	6.96	40.092			
1,700.0	1,679.7	1,679.7	1,679.7	5.4	3.7	175.43	91.1	0.0	300.2	292.8	7.43	40.382			
1,800.0	1,777.4	1,777.4	1,777.4	5.8	3.9	175.73	91.1	0.0	321.4	313.5	7.91	40.631			
1,900.0	1,875.1	1,875.5	1,875.5	6.3	4.1	175.83	91.2	-1.0	342.5	334.1	8.38	40.872			
2,000.0	1,972.8	1,973.8	1,973.7	6.7	4.3	175.38	91.8	-5.2	363.5	354.7	8.85	41.085			
2,100.0	2,070.5	2,071.8	2,071.4	7.2	4.5	174.48	92.9	-12.8	384.4	375.1	9.33	41.222			
2,200.0	2,168.2	2,169.3	2,168.4	7.6	4.7	173.24	94.4	-23.2	405.4	395.6	9.82	41.280			
2,300.0	2,266.0	2,266.7	2,265.1	8.1	5.0	172.07	95.9	-34.0	426.6	416.3	10.33	41.289			
2,400.0	2,363.7	2,364.1	2,361.9	8.6	5.2	171.00	97.5	-44.9	447.9	437.1	10.85	41.272			
2,500.0	2,461.4	2,461.5	2,458.6	9.0	5.4	170.03	99.0	-55.8	469.4	458.0	11.38	41.232			
2,600.0	2,559.1	2,558.9	2,555.4	9.5	5.7	169.15	100.6	-66.6	490.9	479.0	11.92	41.177			
2,700.0	2,656.8	2,656.2	2,652.1	9.9	5.9	168.34	102.1	-77.5	512.6	500.1	12.47	41.110			
2,800.0	2,754.6	2,753.6	2,748.9	10.4	6.2	167.59	103.7	-88.4	534.4	521.3	13.02	41.035			
2,900.0	2,852.3	2,851.0	2,845.7	10.9	6.5	166.91	105.2	-99.2	556.2	542.6	13.58	40.955			
3,000.0	2,950.0	2,948.4	2,942.4	11.3	6.7	166.27	106.8	-110.1	578.1	564.0	14.14	40.871			

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	Offset Datum

Offset Design		Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W - Wiedeman 28F-234 - Wellbore #1 - Plan #1 (8										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		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	0.00	29.1	0.0	29.1					
100.0	100.0	100.0	100.0	0.1	0.1	0.00	29.1	0.0	29.1	28.9	0.22	129.665		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	29.1	0.0	29.1	28.5	0.67	43.222		
300.0	300.0	300.0	300.0	0.6	0.6	0.00	29.1	0.0	29.1	28.0	1.12	25.933		
400.0	400.0	400.0	400.0	0.8	0.8	0.00	29.1	0.0	29.1	27.6	1.57	18.524	CC, ES	
500.0	500.0	500.0	500.0	1.0	1.0	165.95	29.1	0.0	30.8	28.8	2.00	15.415		
600.0	599.8	599.8	599.8	1.2	1.2	167.95	29.1	0.0	35.9	33.5	2.42	14.866		
700.0	699.5	700.9	700.9	1.4	1.4	169.50	27.5	-0.7	42.8	40.0	2.82	15.206		
800.0	798.7	802.2	802.0	1.7	1.6	169.92	22.7	-3.0	49.9	46.7	3.21	15.552		
900.0	897.5	903.7	903.1	2.0	1.8	169.61	14.5	-6.8	57.1	53.4	3.62	15.759		
1,000.0	995.6	1,005.0	1,003.7	2.3	2.1	168.86	3.3	-12.0	64.4	60.4	4.05	15.889		
1,100.0	1,093.3	1,104.6	1,102.4	2.7	2.4	168.32	-8.8	-17.5	72.9	68.4	4.52	16.116		
1,200.0	1,191.1	1,204.3	1,201.1	3.1	2.6	167.90	-20.9	-23.1	81.4	76.4	5.01	16.251		
1,300.0	1,288.8	1,303.9	1,299.9	3.6	2.9	167.56	-32.9	-28.7	89.9	84.4	5.51	16.328		
1,400.0	1,386.5	1,403.5	1,398.6	4.0	3.2	167.27	-45.0	-34.3	98.4	92.4	6.01	16.368		
1,500.0	1,484.2	1,503.2	1,497.4	4.5	3.6	167.04	-57.1	-39.9	106.9	100.4	6.53	16.385		
1,600.0	1,581.9	1,602.8	1,596.1	4.9	3.9	166.83	-69.1	-45.5	115.4	108.4	7.04	16.387		
1,700.0	1,679.7	1,702.4	1,694.9	5.4	4.2	166.66	-81.2	-51.1	123.9	116.4	7.57	16.379		
1,800.0	1,777.4	1,802.1	1,793.6	5.8	4.5	166.51	-93.3	-56.6	132.5	124.4	8.09	16.365		
1,900.0	1,875.1	1,901.7	1,892.4	6.3	4.9	166.37	-105.4	-62.2	141.0	132.3	8.62	16.347		
2,000.0	1,972.8	2,001.4	1,991.1	6.7	5.2	166.26	-117.4	-67.8	149.5	140.3	9.16	16.327		
2,100.0	2,070.5	2,101.0	2,089.8	7.2	5.5	166.15	-129.5	-73.4	158.0	148.3	9.69	16.305		
2,200.0	2,168.2	2,200.6	2,188.6	7.6	5.8	166.06	-141.6	-79.0	166.5	156.3	10.23	16.283		
2,300.0	2,266.0	2,300.3	2,287.3	8.1	6.2	165.97	-153.6	-84.6	175.0	164.3	10.76	16.261		
2,400.0	2,363.7	2,399.9	2,386.1	8.6	6.5	165.89	-165.7	-90.1	183.6	172.3	11.30	16.239		
2,500.0	2,461.4	2,499.5	2,484.8	9.0	6.8	165.82	-177.8	-95.7	192.1	180.2	11.84	16.218		
2,600.0	2,559.1	2,599.2	2,583.6	9.5	7.2	165.76	-189.9	-101.3	200.6	188.2	12.38	16.197		
2,700.0	2,656.8	2,698.8	2,682.3	9.9	7.5	165.70	-201.9	-106.9	209.1	196.2	12.93	16.177		
2,800.0	2,754.6	2,798.4	2,781.1	10.4	7.9	165.64	-214.0	-112.5	217.6	204.2	13.47	16.157		
2,900.0	2,852.3	2,898.1	2,879.8	10.9	8.2	165.59	-226.1	-118.1	226.2	212.1	14.01	16.139		
3,000.0	2,950.0	2,997.7	2,978.5	11.3	8.5	165.54	-238.1	-123.6	234.7	220.1	14.56	16.121		
3,100.0	3,047.7	3,097.4	3,077.3	11.8	8.9	165.50	-250.2	-129.2	243.2	228.1	15.10	16.103		
3,200.0	3,145.4	3,197.0	3,176.0	12.3	9.2	165.46	-262.3	-134.8	251.7	236.1	15.65	16.087		
3,300.0	3,243.1	3,296.6	3,274.8	12.7	9.5	165.42	-274.4	-140.4	260.2	244.0	16.19	16.071		
3,400.0	3,340.9	3,396.3	3,373.5	13.2	9.9	165.39	-286.4	-146.0	268.8	252.0	16.74	16.056		
3,500.0	3,438.6	3,495.9	3,472.3	13.6	10.2	165.35	-298.5	-151.6	277.3	260.0	17.29	16.041		
3,600.0	3,536.3	3,595.5	3,571.0	14.1	10.6	165.32	-310.6	-157.1	285.8	268.0	17.83	16.027		
3,700.0	3,634.0	3,695.2	3,669.8	14.6	10.9	165.29	-322.6	-162.7	294.3	275.9	18.38	16.013		
3,800.0	3,731.7	3,794.8	3,768.5	15.0	11.2	165.26	-334.7	-168.3	302.8	283.9	18.93	16.001		
3,900.0	3,829.5	3,894.4	3,867.2	15.5	11.6	165.24	-346.8	-173.9	311.4	291.9	19.47	15.988		
4,000.0	3,927.2	3,994.1	3,966.0	16.0	11.9	165.21	-358.9	-179.5	319.9	299.9	20.02	15.976		
4,100.0	4,024.9	4,093.7	4,064.7	16.4	12.3	165.19	-370.9	-185.1	328.4	307.8	20.57	15.965		
4,200.0	4,122.6	4,193.4	4,163.5	16.9	12.6	165.17	-383.0	-190.7	336.9	315.8	21.12	15.954		
4,300.0	4,220.3	4,293.0	4,262.2	17.4	12.9	165.14	-395.1	-196.2	345.4	323.8	21.67	15.943		
4,400.0	4,318.0	4,392.6	4,361.0	17.8	13.3	165.12	-407.1	-201.8	354.0	331.7	22.21	15.933		
4,500.0	4,415.8	4,492.3	4,459.7	18.3	13.6	165.10	-419.2	-207.4	362.5	339.7	22.76	15.923		
4,600.0	4,513.5	4,591.9	4,558.5	18.8	14.0	165.09	-431.3	-213.0	371.0	347.7	23.31	15.914		
4,700.0	4,611.2	4,691.5	4,657.2	19.2	14.3	165.07	-443.4	-218.6	379.5	355.7	23.86	15.905		
4,800.0	4,708.9	4,791.2	4,755.9	19.7	14.6	165.05	-455.4	-224.2	388.0	363.6	24.41	15.896		
4,900.0	4,806.6	4,890.8	4,854.7	20.1	15.0	165.03	-467.5	-229.7	396.6	371.6	24.96	15.888		
5,000.0	4,904.3	4,990.4	4,953.4	20.6	15.3	165.02	-479.6	-235.3	405.1	379.6	25.51	15.880		

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	Offset Datum

Offset Design				Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W - Wiedeman 28F-234 - Wellbore #1 - Plan #1 (8								Offset Site Error:		0.0 ft	
Survey Program: 0-MWD												Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance								
Measured Depth	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	5,002.1	5,090.1	5,052.2	21.1	15.7	165.00	-491.6	-240.9	413.6	387.5	26.06	15.872			
5,200.0	5,099.8	5,189.7	5,150.9	21.5	16.0	164.99	-503.7	-246.5	422.1	395.5	26.61	15.864			
5,300.0	5,197.5	5,289.4	5,249.7	22.0	16.3	164.98	-515.8	-252.1	430.6	403.5	27.16	15.857			
5,400.0	5,295.2	5,389.0	5,348.4	22.5	16.7	164.96	-527.8	-257.7	439.2	411.5	27.71	15.850			
5,500.0	5,392.9	5,488.6	5,447.2	22.9	17.0	164.95	-539.9	-263.2	447.7	419.4	28.26	15.843			
5,600.0	5,490.7	5,588.3	5,545.9	23.4	17.4	164.94	-552.0	-268.8	456.2	427.4	28.81	15.836			
5,700.0	5,588.4	5,687.9	5,644.7	23.9	17.7	164.93	-564.1	-274.4	464.7	435.4	29.36	15.829			
5,800.0	5,686.4	5,784.3	5,740.2	24.2	18.0	164.91	-575.7	-279.8	471.8	441.9	29.90	15.781			
5,900.0	5,785.1	5,871.1	5,826.4	24.5	18.2	164.89	-584.4	-283.8	477.4	447.1	30.30	15.759			
6,000.0	5,884.3	5,957.8	5,912.8	24.7	18.4	164.91	-590.7	-286.7	482.5	451.9	30.64	15.748			
6,100.0	5,983.8	6,044.4	5,999.3	24.9	18.5	164.96	-594.6	-288.6	486.9	456.0	30.92	15.747			
6,200.0	6,083.7	6,130.9	6,085.9	25.1	18.7	165.05	-596.2	-289.3	490.7	459.6	31.15	15.751			
6,300.0	6,183.6	6,228.7	6,183.6	25.2	18.8	165.12	-596.2	-289.3	492.9	461.5	31.37	15.715			
6,400.0	6,283.6	6,328.7	6,283.6	25.3	18.9	0.00	-596.2	-289.3	493.0	449.9	43.02	11.460			
6,434.1	6,317.7	6,362.7	6,317.7	25.3	19.0	-0.04	-596.2	-289.7	493.0	449.9	43.09	11.439			
6,500.0	6,383.6	6,428.3	6,383.0	25.4	19.1	-0.60	-596.2	-294.5	493.0	449.8	43.20	11.413			
6,600.0	6,483.4	6,526.0	6,479.1	25.5	19.4	87.94	-596.2	-312.0	493.3	460.4	32.88	15.004			
6,700.0	6,581.7	6,622.2	6,570.7	25.7	19.7	86.51	-596.2	-341.0	493.9	460.1	33.75	14.632			
6,800.0	6,676.7	6,717.0	6,656.7	26.0	20.0	85.15	-596.2	-380.7	494.7	460.0	34.78	14.224			
6,900.0	6,766.9	6,810.5	6,736.2	26.3	20.5	83.88	-596.2	-430.0	495.8	459.8	35.97	13.783			
7,000.0	6,850.7	6,903.0	6,808.2	26.6	21.1	82.72	-596.2	-487.9	497.0	459.6	37.36	13.305			
7,100.0	6,926.7	6,994.4	6,872.0	27.1	21.7	81.68	-596.2	-553.4	498.2	459.3	38.97	12.786			
7,200.0	6,993.6	7,085.1	6,927.1	27.7	22.6	80.78	-596.2	-625.2	499.4	458.6	40.85	12.227			
7,300.0	7,050.2	7,175.0	6,973.0	28.4	23.6	80.03	-596.2	-702.5	500.5	457.5	43.02	11.635			
7,400.0	7,095.5	7,264.4	7,009.3	29.3	24.8	79.43	-596.2	-784.1	501.5	456.0	45.51	11.019			
7,500.0	7,128.9	7,353.3	7,035.7	30.4	26.2	78.99	-596.2	-869.0	502.2	453.9	48.31	10.395			
7,600.0	7,149.7	7,442.0	7,052.1	31.7	27.8	78.72	-596.2	-956.1	502.7	451.3	51.41	9.777			
7,700.0	7,157.5	7,530.5	7,058.2	33.2	29.5	78.61	-596.2	-1,044.4	502.9	448.1	54.77	9.182			
7,800.0	7,157.0	7,629.0	7,058.0	34.9	31.6	78.64	-596.2	-1,142.9	502.8	443.8	59.01	8.521			
7,900.0	7,156.5	7,729.0	7,057.6	36.8	33.8	78.66	-596.2	-1,242.9	502.8	439.2	63.54	7.913			
8,000.0	7,155.9	7,829.0	7,057.3	38.8	36.0	78.69	-596.2	-1,342.9	502.7	434.5	68.22	7.369			
8,100.0	7,155.3	7,929.0	7,056.9	40.9	38.4	78.72	-596.2	-1,442.9	502.7	429.7	73.01	6.885			
8,200.0	7,154.7	8,029.0	7,056.6	43.1	40.8	78.75	-596.2	-1,542.9	502.6	424.7	77.90	6.452			
8,300.0	7,154.1	8,129.0	7,056.2	45.4	43.3	78.77	-596.2	-1,642.9	502.6	419.7	82.88	6.064			
8,400.0	7,153.5	8,229.0	7,055.9	47.7	45.8	78.80	-596.2	-1,742.9	502.5	414.6	87.92	5.716			
8,500.0	7,152.9	8,329.0	7,055.5	50.1	48.3	78.83	-596.2	-1,842.9	502.5	409.5	93.01	5.402			
8,600.0	7,152.3	8,429.0	7,055.2	52.6	50.9	78.85	-596.2	-1,942.9	502.4	404.3	98.16	5.119			
8,700.0	7,151.7	8,529.0	7,054.8	55.1	53.5	78.88	-596.2	-2,042.9	502.4	399.0	103.34	4.861			
8,800.0	7,151.1	8,629.0	7,054.5	57.6	56.1	78.91	-596.2	-2,142.9	502.3	393.8	108.56	4.627			
8,900.0	7,150.5	8,729.0	7,054.1	60.1	58.7	78.94	-596.2	-2,242.9	502.3	388.5	113.81	4.413			
9,000.0	7,149.9	8,829.0	7,053.8	62.7	61.4	78.96	-596.2	-2,342.9	502.2	383.2	119.08	4.218			
9,100.0	7,149.3	8,929.0	7,053.4	65.3	64.0	78.99	-596.2	-2,442.9	502.2	377.8	124.38	4.038			
9,200.0	7,148.7	9,029.0	7,053.1	67.9	66.7	79.02	-596.2	-2,542.9	502.1	372.4	129.70	3.872			
9,300.0	7,148.1	9,129.0	7,052.7	70.5	69.4	79.05	-596.2	-2,642.9	502.1	367.1	135.04	3.718			
9,400.0	7,147.5	9,229.0	7,052.4	73.2	72.1	79.07	-596.2	-2,742.9	502.1	361.7	140.39	3.576			
9,500.0	7,147.0	9,329.0	7,052.0	75.8	74.8	79.10	-596.2	-2,842.9	502.0	356.3	145.76	3.444			
9,600.0	7,146.4	9,429.0	7,051.7	78.5	77.5	79.13	-596.2	-2,942.9	502.0	350.8	151.14	3.321			
9,700.0	7,145.8	9,529.0	7,051.3	81.2	80.3	79.16	-596.2	-3,042.9	501.9	345.4	156.53	3.206			
9,800.0	7,145.2	9,629.0	7,051.0	83.9	83.0	79.18	-596.2	-3,142.9	501.9	339.9	161.93	3.099			
9,900.0	7,144.6	9,729.0	7,050.6	86.6	85.7	79.21	-596.2	-3,242.9	501.8	334.5	167.35	2.999			

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	Offset Datum

Offset Design Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W - Wiedeman 28F-234 - Wellbore #1 - Plan #1 (8														Offset Site Error:	0.0ft
Survey Program: 0-MWD														Offset Well Error:	0.0ft
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
10,000.0	7,144.0	9,829.0	7,050.3	89.3	88.4	79.24	-596.2	-3,342.9	501.8	329.0	172.77	2.904			
10,100.0	7,143.4	9,929.0	7,049.9	92.0	91.2	79.26	-596.2	-3,442.9	501.7	323.5	178.20	2.816			
10,200.0	7,142.8	10,029.0	7,049.6	94.7	93.9	79.29	-596.2	-3,542.9	501.7	318.1	183.64	2.732			
10,300.0	7,142.2	10,129.0	7,049.2	97.4	96.7	79.32	-596.2	-3,642.9	501.6	312.6	189.08	2.653			
10,400.0	7,141.6	10,229.0	7,048.9	100.1	99.4	79.35	-596.2	-3,742.9	501.6	307.1	194.53	2.578			
10,500.0	7,141.0	10,329.0	7,048.5	102.9	102.2	79.37	-596.2	-3,842.9	501.6	301.6	199.99	2.508			
10,600.0	7,140.4	10,429.0	7,048.2	105.6	104.9	79.40	-596.2	-3,942.9	501.5	296.1	205.45	2.441			
10,700.0	7,139.8	10,529.0	7,047.8	108.3	107.7	79.43	-596.2	-4,042.9	501.5	290.5	210.92	2.378			
10,800.0	7,139.2	10,629.0	7,047.5	111.1	110.5	79.46	-596.2	-4,142.9	501.4	285.0	216.39	2.317			
10,900.0	7,138.6	10,729.0	7,047.1	113.8	113.2	79.48	-596.2	-4,242.9	501.4	279.5	221.87	2.260			
11,000.0	7,138.1	10,829.0	7,046.8	116.6	116.0	79.51	-596.2	-4,342.9	501.3	274.0	227.35	2.205			
11,100.0	7,137.5	10,929.0	7,046.4	119.3	118.8	79.54	-596.2	-4,442.9	501.3	268.5	232.83	2.153			
11,200.0	7,136.9	11,029.0	7,046.1	122.1	121.5	79.57	-596.2	-4,542.9	501.2	262.9	238.32	2.103			
11,300.0	7,136.3	11,129.0	7,045.8	124.8	124.3	79.59	-596.2	-4,642.9	501.2	257.4	243.82	2.056			
11,400.0	7,135.7	11,229.0	7,045.4	127.6	127.1	79.62	-596.2	-4,742.9	501.2	251.8	249.31	2.010			
11,500.0	7,135.1	11,329.0	7,045.1	130.4	129.9	79.65	-596.2	-4,842.9	501.1	246.3	254.81	1.967			
11,600.0	7,134.5	11,429.0	7,044.7	133.1	132.6	79.68	-596.2	-4,942.9	501.1	240.8	260.31	1.925			
11,700.0	7,133.9	11,529.0	7,044.4	135.9	135.4	79.70	-596.2	-5,042.9	501.0	235.2	265.82	1.885			
11,800.0	7,133.3	11,629.0	7,044.0	138.7	138.2	79.73	-596.2	-5,142.9	501.0	229.7	271.33	1.846			
11,900.0	7,132.7	11,729.0	7,043.7	141.4	141.0	79.76	-596.2	-5,242.9	500.9	224.1	276.84	1.809			
12,000.0	7,132.1	11,829.0	7,043.3	144.2	143.8	79.79	-596.2	-5,342.9	500.9	218.5	282.35	1.774			
12,100.0	7,131.5	11,929.0	7,043.0	147.0	146.5	79.81	-596.2	-5,442.9	500.8	213.0	287.87	1.740			
12,200.0	7,130.9	12,029.0	7,042.6	149.7	149.3	79.84	-596.2	-5,542.9	500.8	207.4	293.39	1.707			
12,300.0	7,130.3	12,129.0	7,042.3	152.5	152.1	79.87	-596.2	-5,642.9	500.8	201.9	298.91	1.675			
12,400.0	7,129.7	12,229.0	7,041.9	155.3	154.9	79.90	-596.2	-5,742.9	500.7	196.3	304.43	1.645			
12,500.0	7,129.2	12,329.0	7,041.6	158.1	157.7	79.92	-596.2	-5,842.9	500.7	190.7	309.96	1.615			
12,600.0	7,128.6	12,429.0	7,041.2	160.9	160.5	79.95	-596.2	-5,942.9	500.6	185.1	315.48	1.587			
12,700.0	7,128.0	12,529.0	7,040.9	163.6	163.3	79.98	-596.2	-6,042.9	500.6	179.6	321.01	1.559			
12,800.0	7,127.4	12,629.0	7,040.5	166.4	166.0	80.01	-596.2	-6,142.9	500.5	174.0	326.54	1.533			
12,900.0	7,126.8	12,729.0	7,040.2	169.2	168.8	80.03	-596.2	-6,242.9	500.5	168.4	332.08	1.507			
13,000.0	7,126.2	12,829.0	7,039.8	172.0	171.6	80.06	-596.2	-6,342.9	500.5	162.9	337.61	1.482 Level 3			
13,100.0	7,125.6	12,929.0	7,039.5	174.8	174.4	80.09	-596.2	-6,442.9	500.4	157.3	343.15	1.458 Level 3			
13,200.0	7,125.0	13,029.0	7,039.1	177.5	177.2	80.12	-596.2	-6,542.9	500.4	151.7	348.69	1.435 Level 3			
13,300.0	7,124.4	13,129.0	7,038.8	180.3	180.0	80.14	-596.2	-6,642.9	500.3	146.1	354.23	1.412 Level 3			
13,400.0	7,123.8	13,229.0	7,038.4	183.1	182.8	80.17	-596.2	-6,742.9	500.3	140.5	359.77	1.391 Level 3			
13,500.0	7,123.2	13,329.0	7,038.1	185.9	185.6	80.20	-596.2	-6,842.9	500.3	134.9	365.31	1.369 Level 3			
13,600.0	7,122.6	13,429.0	7,037.7	188.7	188.4	80.23	-596.2	-6,942.9	500.2	129.4	370.86	1.349 Level 3			
13,700.0	7,122.0	13,529.0	7,037.4	191.5	191.2	80.26	-596.2	-7,042.9	500.2	123.8	376.40	1.329 Level 3			
13,800.0	7,121.4	13,629.0	7,037.0	194.3	194.0	80.28	-596.2	-7,142.9	500.1	118.2	381.95	1.309 Level 3			
13,900.0	7,120.8	13,729.0	7,036.7	197.0	196.7	80.31	-596.2	-7,242.9	500.1	112.6	387.50	1.291 Level 3			
14,000.0	7,120.3	13,829.0	7,036.3	199.8	199.5	80.34	-596.2	-7,342.9	500.0	107.0	393.05	1.272 Level 3			
14,100.0	7,119.7	13,929.0	7,036.0	202.6	202.3	80.37	-596.2	-7,442.9	500.0	101.4	398.60	1.254 Level 3			
14,200.0	7,119.1	14,029.0	7,035.6	205.4	205.1	80.39	-596.2	-7,542.8	500.0	95.8	404.16	1.237 Level 2			
14,300.0	7,118.5	14,129.0	7,035.3	208.2	207.9	80.42	-596.2	-7,642.8	499.9	90.2	409.71	1.220 Level 2			
14,380.1	7,118.0	14,209.2	7,035.0	210.4	210.2	80.44	-596.2	-7,723.0	499.9	85.7	414.15	1.207 Level 2, SF			

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	Offset Datum

Offset Design		Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W - Wiedeman 28F-304 - 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	0.00	58.3	0.0	58.3					
100.0	100.0	100.0	100.0	0.1	0.1	0.00	58.3	0.0	58.3	58.1	0.22	259.331		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	58.3	0.0	58.3	57.6	0.67	86.444		
300.0	300.0	300.0	300.0	0.6	0.6	0.00	58.3	0.0	58.3	57.2	1.12	51.866		
400.0	400.0	400.0	400.0	0.8	0.8	0.00	58.3	0.0	58.3	56.7	1.57	37.047	CC, ES	
500.0	500.0	500.0	500.0	1.0	1.0	165.54	58.3	0.0	60.0	58.0	2.00	29.986		
600.0	599.8	599.8	599.8	1.2	1.2	166.67	58.3	0.0	65.1	62.6	2.42	26.916		
700.0	699.5	699.5	699.5	1.4	1.5	168.20	58.3	0.0	73.6	70.7	2.85	25.850		
800.0	798.7	798.7	798.7	1.7	1.7	169.83	58.3	0.0	85.5	82.3	3.28	26.062		
900.0	897.5	897.5	897.5	2.0	1.9	171.35	58.3	0.0	101.0	97.3	3.72	27.123		
1,000.0	995.6	995.6	995.6	2.3	2.1	172.67	58.3	0.0	119.9	115.7	4.17	28.769		
1,100.0	1,093.3	1,093.3	1,093.3	2.7	2.3	173.76	58.3	0.0	140.9	136.3	4.62	30.511		
1,200.0	1,191.1	1,191.1	1,191.1	3.1	2.6	174.58	58.3	0.0	162.1	157.0	5.08	31.912		
1,300.0	1,288.8	1,288.8	1,288.8	3.6	2.8	175.21	58.3	0.0	183.2	177.7	5.54	33.058		
1,400.0	1,386.5	1,386.5	1,386.5	4.0	3.0	175.70	58.3	0.0	204.4	198.4	6.01	34.009		
1,500.0	1,484.2	1,490.9	1,490.8	4.5	3.2	176.00	57.1	-0.8	224.4	217.9	6.47	34.683		
1,600.0	1,581.9	1,597.5	1,597.4	4.9	3.4	175.91	52.5	-3.6	241.0	234.1	6.91	34.877		
1,700.0	1,679.7	1,705.3	1,704.7	5.4	3.6	175.49	44.6	-8.7	254.1	246.8	7.36	34.509		
1,800.0	1,777.4	1,813.9	1,812.4	5.8	3.8	174.78	33.1	-16.0	263.8	256.0	7.84	33.662		
1,900.0	1,875.1	1,917.4	1,914.7	6.3	4.1	173.88	19.4	-24.7	270.7	262.3	8.32	32.532		
2,000.0	1,972.8	2,017.1	2,013.2	6.7	4.3	173.02	6.0	-33.2	277.3	268.5	8.81	31.472		
2,100.0	2,070.5	2,116.8	2,111.6	7.2	4.6	172.21	-7.4	-41.7	283.9	274.6	9.31	30.493		
2,200.0	2,168.2	2,216.5	2,210.0	7.6	4.9	171.44	-20.9	-50.2	290.7	280.8	9.82	29.588		
2,300.0	2,266.0	2,316.2	2,308.4	8.1	5.2	170.70	-34.3	-58.8	297.4	287.1	10.35	28.751		
2,400.0	2,363.7	2,415.9	2,406.8	8.6	5.5	169.99	-47.8	-67.3	304.3	293.4	10.88	27.974		
2,500.0	2,461.4	2,515.6	2,505.3	9.0	5.8	169.31	-61.2	-75.8	311.1	299.7	11.42	27.252		
2,600.0	2,559.1	2,615.3	2,603.7	9.5	6.2	168.67	-74.6	-84.3	318.0	306.1	11.96	26.581		
2,700.0	2,656.8	2,715.0	2,702.1	9.9	6.5	168.05	-88.1	-92.9	325.0	312.4	12.52	25.956		
2,800.0	2,754.6	2,814.7	2,800.5	10.4	6.8	167.45	-101.5	-101.4	331.9	318.9	13.08	25.374		
2,900.0	2,852.3	2,914.4	2,898.9	10.9	7.2	166.89	-115.0	-109.9	339.0	325.3	13.65	24.829		
3,000.0	2,950.0	3,014.1	2,997.4	11.3	7.5	166.34	-128.4	-118.4	346.0	331.8	14.23	24.321		
3,100.0	3,047.7	3,113.8	3,095.8	11.8	7.9	165.82	-141.8	-127.0	353.1	338.3	14.81	23.844		
3,200.0	3,145.4	3,213.5	3,194.2	12.3	8.2	165.31	-155.3	-135.5	360.2	344.8	15.39	23.397		
3,300.0	3,243.1	3,313.2	3,292.6	12.7	8.6	164.83	-168.7	-144.0	367.3	351.3	15.99	22.977		
3,400.0	3,340.9	3,412.9	3,391.0	13.2	9.0	164.36	-182.1	-152.5	374.5	357.9	16.58	22.581		
3,500.0	3,438.6	3,512.6	3,489.5	13.6	9.3	163.92	-195.6	-161.1	381.6	364.5	17.18	22.209		
3,600.0	3,536.3	3,612.3	3,587.9	14.1	9.7	163.48	-209.0	-169.6	388.8	371.1	17.79	21.858		
3,700.0	3,634.0	3,712.0	3,686.3	14.6	10.0	163.07	-222.5	-178.1	396.1	377.7	18.40	21.527		
3,800.0	3,731.7	3,811.7	3,784.7	15.0	10.4	162.67	-235.9	-186.6	403.3	384.3	19.01	21.213		
3,900.0	3,829.5	3,911.4	3,883.1	15.5	10.8	162.28	-249.3	-195.2	410.6	390.9	19.63	20.916		
4,000.0	3,927.2	4,011.1	3,981.6	16.0	11.1	161.91	-262.8	-203.7	417.8	397.6	20.25	20.635		
4,100.0	4,024.9	4,110.8	4,080.0	16.4	11.5	161.55	-276.2	-212.2	425.1	404.3	20.87	20.368		
4,200.0	4,122.6	4,210.5	4,178.4	16.9	11.9	161.20	-289.6	-220.7	432.5	411.0	21.50	20.115		
4,300.0	4,220.3	4,310.2	4,276.8	17.4	12.2	160.86	-303.1	-229.3	439.8	417.7	22.13	19.874		
4,400.0	4,318.0	4,409.9	4,375.2	17.8	12.6	160.54	-316.5	-237.8	447.1	424.4	22.76	19.644		
4,500.0	4,415.8	4,509.6	4,473.7	18.3	13.0	160.22	-330.0	-246.3	454.5	431.1	23.40	19.426		
4,600.0	4,513.5	4,609.3	4,572.1	18.8	13.3	159.92	-343.4	-254.8	461.8	437.8	24.03	19.218		
4,700.0	4,611.2	4,709.0	4,670.5	19.2	13.7	159.62	-356.8	-263.4	469.2	444.6	24.67	19.019		
4,800.0	4,708.9	4,800.0	4,760.3	19.7	14.0	159.37	-369.1	-271.1	476.7	451.5	25.28	18.860		
4,900.0	4,806.6	4,893.5	4,853.0	20.1	14.3	159.26	-379.9	-278.0	486.0	460.1	25.82	18.825	SF	
5,000.0	4,904.3	4,981.0	4,940.0	20.6	14.5	159.36	-387.7	-283.0	497.6	471.3	26.29	18.928		

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	Offset Datum

Offset Design Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W - Wiedeman 28F-304 - 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)			
5,100.0	5,002.1	5,067.9	5,026.6	21.1	14.7	159.64	-393.3	-286.5	511.7	484.9	26.72	19.150		
5,200.0	5,099.8	5,154.0	5,112.6	21.5	14.8	160.08	-396.6	-288.6	528.1	501.0	27.10	19.483		
5,300.0	5,197.5	5,241.4	5,200.0	22.0	15.0	160.67	-397.7	-289.3	546.9	519.5	27.46	19.918		
5,400.0	5,295.2	5,336.6	5,295.2	22.5	15.1	161.36	-397.7	-289.3	567.0	539.2	27.80	20.396		
5,500.0	5,392.9	5,434.3	5,392.9	22.9	15.3	162.02	-397.7	-289.3	587.3	559.1	28.15	20.860		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	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 +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	0.00	120.2	0.0	120.2				
100.0	100.0	100.0	100.0	0.1	0.1	0.00	120.2	0.0	120.2	120.0	0.22	534.870	
200.0	200.0	200.0	200.0	0.3	0.3	0.00	120.2	0.0	120.2	119.5	0.67	178.290	
300.0	300.0	300.0	300.0	0.6	0.6	0.00	120.2	0.0	120.2	119.1	1.12	106.974	
400.0	400.0	400.0	400.0	0.8	0.8	0.00	120.2	0.0	120.2	118.6	1.57	76.410 CC, ES	
500.0	500.0	500.0	500.0	1.0	1.0	165.33	120.2	0.0	121.9	119.9	2.00	60.948	
600.0	599.8	599.8	599.8	1.2	1.2	165.90	120.2	0.0	127.0	124.6	2.42	52.534	
700.0	699.5	699.5	699.5	1.4	1.5	166.76	120.2	0.0	135.4	132.6	2.85	47.591	
800.0	798.7	798.7	798.7	1.7	1.7	167.79	120.2	0.0	147.3	144.1	3.28	44.881	
900.0	897.5	897.5	897.5	2.0	1.9	168.90	120.2	0.0	162.7	158.9	3.73	43.668	
1,000.0	995.6	995.6	995.6	2.3	2.1	169.99	120.2	0.0	181.4	177.3	4.17	43.498 SF	
1,100.0	1,093.3	1,093.3	1,093.3	2.7	2.3	171.03	120.2	0.0	202.4	197.7	4.63	43.748	
1,200.0	1,191.1	1,191.1	1,191.1	3.1	2.6	171.88	120.2	0.0	223.4	218.3	5.09	43.914	
1,300.0	1,288.8	1,288.8	1,288.8	3.6	2.8	172.58	120.2	0.0	244.4	238.9	5.55	44.026	
1,400.0	1,386.5	1,386.5	1,386.5	4.0	3.0	173.17	120.2	0.0	265.5	259.5	6.02	44.102	
1,500.0	1,484.2	1,484.2	1,484.2	4.5	3.2	173.68	120.2	0.0	286.6	280.1	6.49	44.153	
1,600.0	1,581.9	1,581.9	1,581.9	4.9	3.4	174.11	120.2	0.0	307.8	300.8	6.96	44.188	
1,700.0	1,679.7	1,677.1	1,677.1	5.4	3.7	174.30	120.7	-0.9	329.2	321.8	7.43	44.304	
1,800.0	1,777.4	1,771.4	1,771.3	5.8	3.9	173.98	122.5	-4.6	351.6	343.7	7.90	44.519	
1,900.0	1,875.1	1,865.0	1,864.6	6.3	4.1	173.24	125.6	-11.0	374.9	366.5	8.37	44.779	
2,000.0	1,972.8	1,957.7	1,956.8	6.7	4.3	172.16	130.0	-20.1	399.3	390.4	8.86	45.059	
2,100.0	2,070.5	2,054.0	2,052.3	7.2	4.5	170.95	135.3	-30.9	424.4	415.0	9.38	45.264	
2,200.0	2,168.2	2,150.4	2,148.0	7.6	4.8	169.87	140.6	-41.8	449.6	439.7	9.90	45.420	
2,300.0	2,266.0	2,246.9	2,243.6	8.1	5.0	168.90	145.9	-52.8	475.0	464.5	10.43	45.526	
2,400.0	2,363.7	2,343.3	2,339.3	8.6	5.3	168.03	151.2	-63.7	500.5	489.5	10.97	45.606	
2,500.0	2,461.4	2,439.7	2,435.0	9.0	5.5	167.25	156.5	-74.6	526.1	514.5	11.52	45.656	
2,600.0	2,559.1	2,536.2	2,530.6	9.5	5.8	166.54	161.8	-85.5	551.7	539.7	12.08	45.687	
2,700.0	2,656.8	2,632.6	2,626.3	9.9	6.1	165.89	167.1	-96.4	577.5	564.8	12.64	45.703	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	Offset Datum

Offset Design		Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W - Wiedeman 28G-214 - Wellbore #1 - Plan #1 (8										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-180.00	-29.1	0.0	29.2					
100.0	100.0	99.0	99.0	0.1	0.1	-180.00	-29.1	0.0	29.1	28.9	0.22	130.316		
200.0	200.0	199.0	199.0	0.3	0.3	-180.00	-29.1	0.0	29.1	28.5	0.67	43.366 CC		
300.0	300.0	298.0	298.0	0.6	0.5	-179.28	-30.8	-0.4	30.8	29.7	1.10	28.036		
400.0	400.0	396.7	396.6	0.8	0.7	-177.51	-35.7	-1.6	35.8	34.3	1.53	23.416		
500.0	500.0	495.2	494.7	1.0	1.0	-10.73	-43.9	-3.5	42.6	40.6	1.94	21.931		
600.0	599.8	593.4	592.2	1.2	1.3	-9.64	-55.4	-6.2	49.3	47.0	2.35	20.985		
700.0	699.5	691.4	689.0	1.4	1.6	-8.92	-70.1	-9.7	56.0	53.2	2.78	20.151		
800.0	798.7	789.1	785.0	1.7	2.0	-8.44	-87.9	-13.9	62.6	59.4	3.23	19.410		
900.0	897.5	886.9	880.3	2.0	2.4	-8.14	-108.9	-18.8	69.2	65.5	3.69	18.730		
1,000.0	995.6	986.8	977.4	2.3	2.9	-8.14	-131.7	-24.2	73.7	69.5	4.18	17.634		
1,100.0	1,093.3	1,086.8	1,074.6	2.7	3.3	-8.38	-154.6	-29.6	76.1	71.4	4.70	16.207		
1,200.0	1,191.1	1,186.7	1,171.8	3.1	3.8	-8.61	-177.4	-35.0	78.5	73.2	5.22	15.020		
1,300.0	1,288.8	1,286.7	1,269.0	3.6	4.3	-8.83	-200.2	-40.4	80.8	75.1	5.76	14.039		
1,400.0	1,386.5	1,386.7	1,366.1	4.0	4.8	-9.03	-223.1	-45.7	83.2	76.9	6.30	13.206		
1,500.0	1,484.2	1,486.6	1,463.3	4.5	5.3	-9.23	-245.9	-51.1	85.5	78.7	6.84	12.497		
1,600.0	1,581.9	1,586.6	1,560.5	4.9	5.8	-9.41	-268.8	-56.5	87.9	80.5	7.39	11.887		
1,700.0	1,679.7	1,686.6	1,657.7	5.4	6.3	-9.59	-291.6	-61.9	90.2	82.3	7.95	11.357		
1,800.0	1,777.4	1,786.6	1,754.9	5.8	6.8	-9.75	-314.5	-67.3	92.6	84.1	8.50	10.893		
1,900.0	1,875.1	1,886.5	1,852.0	6.3	7.3	-9.91	-337.3	-72.7	95.0	85.9	9.06	10.483		
2,000.0	1,972.8	1,986.5	1,949.2	6.7	7.8	-10.06	-360.1	-78.1	97.3	87.7	9.62	10.118		
2,100.0	2,070.5	2,086.5	2,046.4	7.2	8.3	-10.20	-383.0	-83.5	99.7	89.5	10.18	9.792		
2,200.0	2,168.2	2,186.4	2,143.6	7.6	8.8	-10.34	-405.8	-88.9	102.1	91.3	10.74	9.499		
2,300.0	2,266.0	2,286.4	2,240.7	8.1	9.3	-10.47	-428.7	-94.2	104.4	93.1	11.31	9.234		
2,400.0	2,363.7	2,386.4	2,337.9	8.6	9.8	-10.59	-451.5	-99.6	106.8	94.9	11.87	8.993		
2,500.0	2,461.4	2,486.4	2,435.1	9.0	10.3	-10.71	-474.4	-105.0	109.1	96.7	12.44	8.773		
2,600.0	2,559.1	2,586.3	2,532.3	9.5	10.8	-10.82	-497.2	-110.4	111.5	98.5	13.01	8.572		
2,700.0	2,656.8	2,686.3	2,629.5	9.9	11.3	-10.93	-520.0	-115.8	113.9	100.3	13.58	8.387		
2,800.0	2,754.6	2,786.3	2,726.6	10.4	11.8	-11.04	-542.9	-121.2	116.2	102.1	14.15	8.216		
2,900.0	2,852.3	2,886.2	2,823.8	10.9	12.3	-11.14	-565.7	-126.6	118.6	103.9	14.72	8.059		
3,000.0	2,950.0	2,986.2	2,921.0	11.3	12.8	-11.23	-588.6	-132.0	121.0	105.7	15.29	7.912		
3,100.0	3,047.7	3,086.2	3,018.2	11.8	13.3	-11.32	-611.4	-137.3	123.3	107.5	15.86	7.776		
3,200.0	3,145.4	3,186.2	3,115.3	12.3	13.8	-11.41	-634.2	-142.7	125.7	109.3	16.44	7.649		
3,300.0	3,243.1	3,286.1	3,212.5	12.7	14.3	-11.50	-657.1	-148.1	128.1	111.1	17.01	7.530		
3,400.0	3,340.9	3,386.1	3,309.7	13.2	14.8	-11.58	-679.9	-153.5	130.4	112.9	17.58	7.419		
3,500.0	3,438.6	3,486.1	3,406.9	13.6	15.3	-11.66	-702.8	-158.9	132.8	114.7	18.16	7.315		
3,600.0	3,536.3	3,586.0	3,504.1	14.1	15.8	-11.74	-725.6	-164.3	135.2	116.5	18.73	7.217		
3,700.0	3,634.0	3,686.0	3,601.2	14.6	16.3	-11.81	-748.5	-169.7	137.6	118.2	19.31	7.124		
3,800.0	3,731.7	3,786.0	3,698.4	15.0	16.8	-11.88	-771.3	-175.1	139.9	120.0	19.88	7.037		
3,900.0	3,829.5	3,886.0	3,795.6	15.5	17.3	-11.95	-794.1	-180.4	142.3	121.8	20.46	6.955		
4,000.0	3,927.2	3,985.9	3,892.8	16.0	17.8	-12.02	-817.0	-185.8	144.7	123.6	21.04	6.877		
4,100.0	4,024.9	4,085.9	3,990.0	16.4	18.3	-12.09	-839.8	-191.2	147.0	125.4	21.61	6.803		
4,200.0	4,122.6	4,185.9	4,087.1	16.9	18.8	-12.15	-862.7	-196.6	149.4	127.2	22.19	6.732		
4,300.0	4,220.3	4,285.9	4,184.3	17.4	19.3	-12.21	-885.5	-202.0	151.8	129.0	22.77	6.666		
4,400.0	4,318.0	4,385.8	4,281.5	17.8	19.8	-12.27	-908.4	-207.4	154.1	130.8	23.35	6.602		
4,500.0	4,415.8	4,485.8	4,378.7	18.3	20.3	-12.33	-931.2	-212.8	156.5	132.6	23.93	6.541		
4,600.0	4,513.5	4,585.8	4,475.8	18.8	20.8	-12.38	-954.0	-218.2	158.9	134.4	24.51	6.484		
4,700.0	4,611.2	4,685.7	4,573.0	19.2	21.3	-12.44	-976.9	-223.5	161.3	136.2	25.08	6.428		
4,800.0	4,708.9	4,785.7	4,670.2	19.7	21.8	-12.49	-999.7	-228.9	163.6	138.0	25.66	6.376		
4,900.0	4,806.6	4,885.7	4,767.4	20.1	22.3	-12.54	-1,022.6	-234.3	166.0	139.8	26.24	6.325		
5,000.0	4,904.3	4,985.7	4,864.6	20.6	22.8	-12.59	-1,045.4	-239.7	168.4	141.5	26.82	6.277		

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	Offset Datum

Offset Design				Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W - Wiedeman 28G-214 - Wellbore #1 - Plan #1 (8										Offset Site Error:		0.0 ft
Survey Program: 0-MWD														Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
5,100.0	5,002.1	5,085.6	4,961.7	21.1	23.3	-12.64	-1,068.2	-245.1	170.7	143.3	27.40	6.231				
5,200.0	5,099.8	5,185.6	5,058.9	21.5	23.8	-12.68	-1,091.1	-250.5	173.1	145.1	27.98	6.186				
5,300.0	5,197.5	5,285.6	5,156.1	22.0	24.3	-12.73	-1,113.9	-255.9	175.5	146.9	28.56	6.143				
5,400.0	5,295.2	5,385.5	5,253.3	22.5	24.8	-12.77	-1,136.8	-261.3	177.9	148.7	29.15	6.102				
5,500.0	5,392.9	5,485.5	5,350.4	22.9	25.3	-12.82	-1,159.6	-266.6	180.2	150.5	29.73	6.063				
5,600.0	5,490.7	5,586.9	5,449.0	23.4	25.8	-12.86	-1,182.7	-272.1	182.5	152.2	30.31	6.022				
5,700.0	5,588.4	5,693.5	5,553.3	23.9	26.2	-13.08	-1,204.4	-277.2	182.3	151.4	30.88	5.904				
5,800.0	5,686.4	5,800.1	5,658.2	24.2	26.5	-13.42	-1,222.3	-281.4	180.1	148.6	31.41	5.731				
5,900.0	5,785.1	5,906.6	5,763.7	24.5	26.7	-13.74	-1,236.4	-284.8	177.6	145.7	31.87	5.572				
6,000.0	5,884.3	6,012.9	5,869.5	24.7	26.9	-14.06	-1,246.6	-287.2	174.8	142.6	32.26	5.420				
6,100.0	5,983.8	6,119.1	5,975.6	24.9	27.1	-14.38	-1,253.0	-288.7	171.9	139.3	32.59	5.274				
6,200.0	6,083.7	6,225.2	6,081.6	25.1	27.2	-14.68	-1,255.6	-289.3	168.7	135.8	32.86	5.133				
6,300.0	6,183.6	6,326.3	6,182.6	25.2	27.3	-14.87	-1,255.6	-289.3	166.5	133.4	33.06	5.036				
6,344.9	6,228.5	6,371.1	6,227.5	25.2	27.3	-14.89	-1,255.6	-289.3	166.3	133.1	33.19	5.011				
6,400.0	6,283.6	6,426.3	6,282.6	25.3	27.4	180.00	-1,255.6	-289.3	166.4	114.7	51.70	3.219				
6,434.6	6,318.2	6,460.8	6,317.2	25.3	27.4	-179.88	-1,255.6	-289.6	166.4	114.7	51.78	3.214				
6,500.0	6,383.6	6,525.9	6,382.0	25.4	27.5	-178.26	-1,255.6	-294.4	166.5	114.4	52.13	3.194				
6,600.0	6,483.4	6,623.6	6,478.2	25.5	27.7	-83.99	-1,255.6	-311.7	167.4	134.3	33.10	5.056				
6,700.0	6,581.7	6,719.9	6,569.9	25.7	27.9	-79.88	-1,255.6	-340.7	169.1	135.8	33.28	5.081				
6,800.0	6,676.7	6,814.7	6,656.0	26.0	28.1	-76.05	-1,255.6	-380.3	171.6	137.8	33.72	5.088				
6,900.0	6,766.9	6,908.3	6,735.6	26.3	28.4	-72.57	-1,255.6	-429.6	174.5	140.3	34.28	5.091				
7,000.0	6,850.7	7,000.0	6,807.0	26.6	28.8	-69.51	-1,255.6	-486.9	177.8	142.9	34.94	5.090				
7,100.0	6,926.7	7,092.4	6,871.6	27.1	29.3	-66.81	-1,255.6	-552.9	181.2	145.4	35.78	5.064				
7,200.0	6,993.6	7,183.1	6,926.8	27.7	29.8	-64.56	-1,255.6	-624.8	184.4	147.4	36.95	4.990				
7,300.0	7,050.2	7,273.2	6,972.8	28.4	30.5	-62.73	-1,255.6	-702.2	187.3	148.7	38.66	4.845				
7,400.0	7,095.5	7,362.6	7,009.2	29.3	31.3	-61.31	-1,255.6	-783.8	189.8	148.7	41.08	4.620				
7,500.0	7,128.9	7,450.0	7,035.3	30.4	32.2	-60.30	-1,255.6	-867.2	191.7	147.4	44.26	4.330				
7,600.0	7,149.7	7,540.5	7,052.1	31.7	33.3	-59.67	-1,255.6	-956.0	192.8	144.6	48.27	3.995				
7,700.0	7,157.5	7,629.1	7,058.2	33.2	34.6	-59.44	-1,255.6	-1,044.4	193.3	140.4	52.91	3.653				
7,800.0	7,157.0	7,727.6	7,058.0	34.9	36.1	-59.49	-1,255.6	-1,142.9	193.2	136.3	56.90	3.395				
7,900.0	7,156.5	7,827.6	7,057.6	36.8	37.9	-59.55	-1,255.6	-1,242.9	193.1	132.2	60.86	3.172				
8,000.0	7,155.9	7,927.6	7,057.3	38.8	39.8	-59.62	-1,255.6	-1,342.9	192.9	128.0	64.96	2.970				
8,100.0	7,155.3	8,027.6	7,056.9	40.9	41.8	-59.68	-1,255.6	-1,442.9	192.8	123.6	69.17	2.788				
8,200.0	7,154.7	8,127.6	7,056.6	43.1	43.9	-59.74	-1,255.6	-1,542.9	192.7	119.2	73.47	2.623				
8,300.0	7,154.1	8,227.6	7,056.2	45.4	46.1	-59.80	-1,255.6	-1,642.9	192.6	114.7	77.85	2.474				
8,400.0	7,153.5	8,327.6	7,055.9	47.7	48.4	-59.87	-1,255.6	-1,742.9	192.4	110.1	82.30	2.338				
8,500.0	7,152.9	8,427.6	7,055.5	50.1	50.8	-59.93	-1,255.6	-1,842.9	192.3	105.5	86.81	2.215				
8,600.0	7,152.3	8,527.6	7,055.2	52.6	53.2	-59.99	-1,255.6	-1,942.9	192.2	100.8	91.37	2.104				
8,700.0	7,151.7	8,627.6	7,054.8	55.1	55.6	-60.06	-1,255.6	-2,042.9	192.1	96.1	95.97	2.001				
8,800.0	7,151.1	8,727.6	7,054.5	57.6	58.1	-60.12	-1,255.6	-2,142.9	192.0	91.3	100.61	1.908				
8,900.0	7,150.5	8,827.6	7,054.1	60.1	60.6	-60.18	-1,255.6	-2,242.9	191.8	86.5	105.29	1.822				
9,000.0	7,149.9	8,927.6	7,053.8	62.7	63.2	-60.25	-1,255.6	-2,342.9	191.7	81.7	110.00	1.743				
9,100.0	7,149.3	9,027.6	7,053.4	65.3	65.7	-60.31	-1,255.6	-2,442.9	191.6	76.9	114.73	1.670				
9,200.0	7,148.7	9,127.6	7,053.1	67.9	68.3	-60.37	-1,255.6	-2,542.9	191.5	72.0	119.49	1.602				
9,300.0	7,148.1	9,227.6	7,052.7	70.5	70.9	-60.44	-1,255.6	-2,642.9	191.4	67.1	124.28	1.540				
9,400.0	7,147.5	9,327.6	7,052.4	73.2	73.6	-60.50	-1,255.6	-2,742.9	191.2	62.1	129.08	1.481 Level 3				
9,500.0	7,147.0	9,427.6	7,052.0	75.8	76.2	-60.56	-1,255.6	-2,842.9	191.1	57.2	133.91	1.427 Level 3				
9,600.0	7,146.4	9,527.6	7,051.7	78.5	78.8	-60.63	-1,255.6	-2,942.9	191.0	52.2	138.75	1.377 Level 3				
9,700.0	7,145.8	9,627.6	7,051.3	81.2	81.5	-60.69	-1,255.6	-3,042.9	190.9	47.3	143.61	1.329 Level 3				
9,800.0	7,145.2	9,727.6	7,051.0	83.9	84.2	-60.76	-1,255.6	-3,142.9	190.8	42.3	148.48	1.285 Level 3				

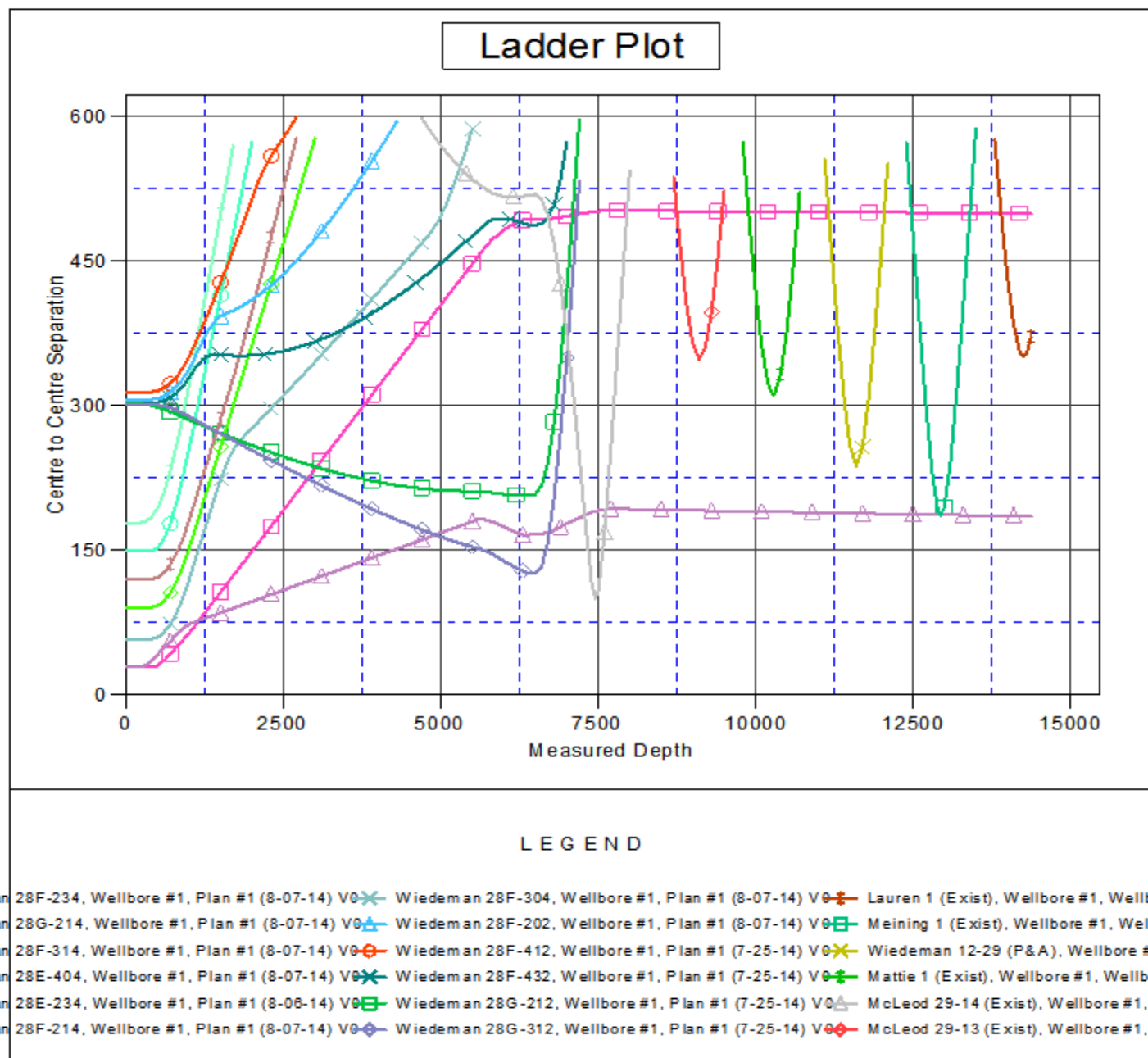
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	Offset Datum

Offset Design Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W - Wiedeman 28G-214 - Wellbore #1 - Plan #1 (8														Offset Site Error:	0.0ft
Survey Program: 0-MWD														Offset Well Error:	0.0ft
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		
9,900.0	7,144.6	9,827.6	7,050.6	86.6	86.9	-60.82	-1,255.6	-3,242.9	190.6	37.3	153.37	1.243	Level 2		
10,000.0	7,144.0	9,927.6	7,050.3	89.3	89.6	-60.88	-1,255.6	-3,342.9	190.5	32.2	158.28	1.204	Level 2		
10,100.0	7,143.4	10,027.6	7,049.9	92.0	92.3	-60.95	-1,255.6	-3,442.9	190.4	27.2	163.20	1.167	Level 2		
10,200.0	7,142.8	10,127.6	7,049.6	94.7	95.0	-61.01	-1,255.6	-3,542.9	190.3	22.2	168.13	1.132	Level 2		
10,300.0	7,142.2	10,227.6	7,049.2	97.4	97.7	-61.08	-1,255.6	-3,642.9	190.2	17.1	173.07	1.099	Level 2		
10,400.0	7,141.6	10,327.6	7,048.9	100.1	100.4	-61.14	-1,255.6	-3,742.9	190.0	12.0	178.02	1.068	Level 2		
10,500.0	7,141.0	10,427.6	7,048.5	102.9	103.1	-61.21	-1,255.6	-3,842.9	189.9	6.9	182.98	1.038	Level 2		
10,600.0	7,140.4	10,527.6	7,048.2	105.6	105.8	-61.27	-1,255.6	-3,942.9	189.8	1.8	187.96	1.010	Level 2		
10,700.0	7,139.8	10,627.6	7,047.8	108.3	108.6	-61.34	-1,255.6	-4,042.9	189.7	-3.3	192.94	0.983	Level 1		
10,800.0	7,139.2	10,727.6	7,047.5	111.1	111.3	-61.40	-1,255.6	-4,142.9	189.6	-8.4	197.94	0.958	Level 1		
10,900.0	7,138.6	10,827.6	7,047.1	113.8	114.0	-61.46	-1,255.6	-4,242.9	189.5	-13.5	202.94	0.934	Level 1		
11,000.0	7,138.1	10,927.6	7,046.8	116.6	116.8	-61.53	-1,255.6	-4,342.9	189.3	-18.6	207.96	0.910	Level 1		
11,100.0	7,137.5	11,027.6	7,046.4	119.3	119.5	-61.59	-1,255.6	-4,442.9	189.2	-23.8	212.98	0.888	Level 1		
11,200.0	7,136.9	11,127.6	7,046.1	122.1	122.3	-61.66	-1,255.6	-4,542.9	189.1	-28.9	218.01	0.867	Level 1		
11,300.0	7,136.3	11,227.6	7,045.8	124.8	125.0	-61.73	-1,255.6	-4,642.9	189.0	-34.1	223.05	0.847	Level 1		
11,400.0	7,135.7	11,327.6	7,045.4	127.6	127.8	-61.79	-1,255.6	-4,742.9	188.9	-39.2	228.10	0.828	Level 1		
11,500.0	7,135.1	11,427.6	7,045.1	130.4	130.5	-61.86	-1,255.6	-4,842.9	188.8	-44.4	233.15	0.810	Level 1		
11,600.0	7,134.5	11,527.6	7,044.7	133.1	133.3	-61.92	-1,255.6	-4,942.9	188.6	-49.6	238.22	0.792	Level 1		
11,700.0	7,133.9	11,627.6	7,044.4	135.9	136.1	-61.99	-1,255.6	-5,042.9	188.5	-54.8	243.29	0.775	Level 1		
11,800.0	7,133.3	11,727.6	7,044.0	138.7	138.8	-62.05	-1,255.6	-5,142.9	188.4	-60.0	248.37	0.759	Level 1		
11,900.0	7,132.7	11,827.6	7,043.7	141.4	141.6	-62.12	-1,255.6	-5,242.9	188.3	-65.2	253.45	0.743	Level 1		
12,000.0	7,132.1	11,927.6	7,043.3	144.2	144.4	-62.18	-1,255.6	-5,342.9	188.2	-70.4	258.55	0.728	Level 1		
12,100.0	7,131.5	12,027.6	7,043.0	147.0	147.1	-62.25	-1,255.6	-5,442.9	188.1	-75.6	263.65	0.713	Level 1		
12,200.0	7,130.9	12,127.6	7,042.6	149.7	149.9	-62.32	-1,255.6	-5,542.9	188.0	-80.8	268.76	0.699	Level 1		
12,300.0	7,130.3	12,227.6	7,042.3	152.5	152.7	-62.38	-1,255.6	-5,642.9	187.8	-86.0	273.87	0.686	Level 1		
12,400.0	7,129.7	12,327.6	7,041.9	155.3	155.4	-62.45	-1,255.6	-5,742.9	187.7	-91.3	278.99	0.673	Level 1		
12,500.0	7,129.2	12,427.6	7,041.6	158.1	158.2	-62.51	-1,255.6	-5,842.9	187.6	-96.5	284.12	0.660	Level 1		
12,600.0	7,128.6	12,527.6	7,041.2	160.9	161.0	-62.58	-1,255.6	-5,942.9	187.5	-101.8	289.26	0.648	Level 1		
12,700.0	7,128.0	12,627.6	7,040.9	163.6	163.8	-62.65	-1,255.6	-6,042.9	187.4	-107.0	294.40	0.637	Level 1		
12,800.0	7,127.4	12,727.6	7,040.5	166.4	166.5	-62.71	-1,255.6	-6,142.9	187.3	-112.3	299.55	0.625	Level 1		
12,900.0	7,126.8	12,827.6	7,040.2	169.2	169.3	-62.78	-1,255.6	-6,242.9	187.2	-117.5	304.71	0.614	Level 1		
13,000.0	7,126.2	12,927.6	7,039.8	172.0	172.1	-62.85	-1,255.6	-6,342.9	187.1	-122.8	309.87	0.604	Level 1		
13,100.0	7,125.6	13,027.6	7,039.5	174.8	174.9	-62.91	-1,255.6	-6,442.9	186.9	-128.1	315.04	0.593	Level 1		
13,200.0	7,125.0	13,127.6	7,039.1	177.5	177.6	-62.98	-1,255.6	-6,542.9	186.8	-133.4	320.21	0.583	Level 1		
13,300.0	7,124.4	13,227.6	7,038.8	180.3	180.4	-63.05	-1,255.6	-6,642.9	186.7	-138.7	325.39	0.574	Level 1		
13,400.0	7,123.8	13,327.6	7,038.4	183.1	183.2	-63.11	-1,255.6	-6,742.9	186.6	-144.0	330.58	0.564	Level 1		
13,500.0	7,123.2	13,427.6	7,038.1	185.9	186.0	-63.18	-1,255.6	-6,842.9	186.5	-149.3	335.78	0.555	Level 1		
13,600.0	7,122.6	13,527.6	7,037.7	188.7	188.8	-63.25	-1,255.6	-6,942.9	186.4	-154.6	340.97	0.547	Level 1		
13,700.0	7,122.0	13,627.6	7,037.4	191.5	191.6	-63.31	-1,255.6	-7,042.9	186.3	-159.9	346.18	0.538	Level 1		
13,800.0	7,121.4	13,727.6	7,037.0	194.3	194.3	-63.38	-1,255.6	-7,142.9	186.2	-165.2	351.39	0.530	Level 1		
13,900.0	7,120.8	13,827.6	7,036.7	197.0	197.1	-63.45	-1,255.6	-7,242.9	186.1	-170.5	356.61	0.522	Level 1		
14,000.0	7,120.3	13,927.6	7,036.3	199.8	199.9	-63.52	-1,255.6	-7,342.9	186.0	-175.9	361.83	0.514	Level 1		
14,100.0	7,119.7	14,027.6	7,036.0	202.6	202.7	-63.58	-1,255.6	-7,442.9	185.8	-181.2	367.06	0.506	Level 1		
14,200.0	7,119.1	14,127.6	7,035.6	205.4	205.5	-63.65	-1,255.6	-7,542.9	185.7	-186.6	372.30	0.499	Level 1		
14,300.0	7,118.5	14,227.6	7,035.3	208.2	208.3	-63.72	-1,255.6	-7,642.9	185.6	-191.9	377.54	0.492	Level 1		
14,379.3	7,118.0	14,306.9	7,035.0	210.4	210.5	-63.77	-1,255.6	-7,722.2	185.5	-196.2	381.70	0.486	Level 1		
14,380.1	7,118.0	14,307.5	7,035.0	210.4	210.5	-63.77	-1,255.6	-7,722.8	185.5	-196.2	381.74	0.486	Level 1, ES, SF		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4778.0ft (Original Well Elev) Coordinates are relative to: Wiedeman 28G-314
 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°



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wiedeman 28G-314
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4778.0ft (Original Well Elev)
Reference Site:	Wiedeman 4N66W28F - West Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4778.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Wiedeman 28G-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (8-07-14)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4778.0ft (Original Well Elev) Coordinates are relative to: Wiedeman 28G-314
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000 ° Grid Convergence at Surface is: 0.46°

