

# PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Jacobucci 32O-203**

Surface Location: Jacobucci 1N67W32O Pad Sec.32-T1N-R67W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

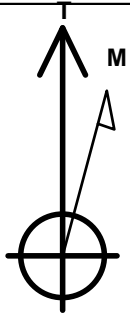
Ground Elevation: 5058.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1245914.18	3163684.30	40.006940	-104.915670	

Original Well Elev WELL @ 5073.0ft (Original Well Elev)

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 2407'FSL & 2257'FWL, Sec.32	1.0	0.0	0.0	Point
BHL 500'FSL & 1764'FWL, Sec.5	7613.0	-7001.6	-22.4	Point



Azimuths to True North  
Magnetic North: 8.49°

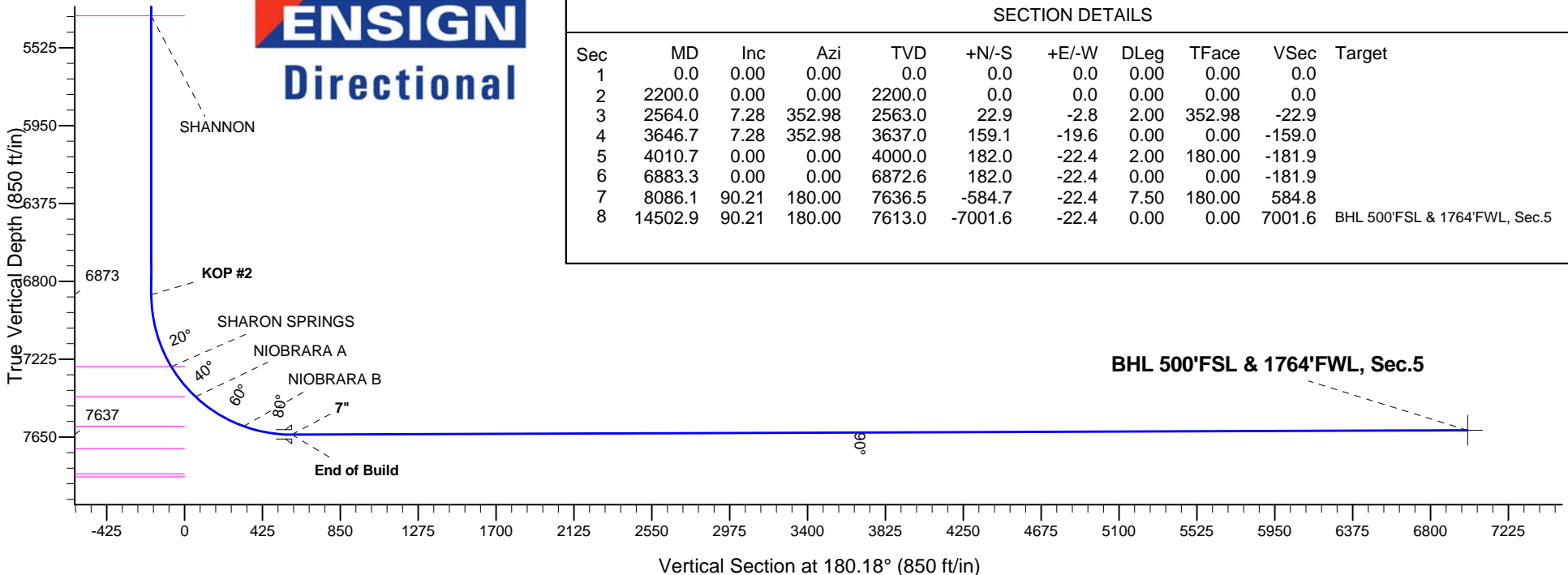
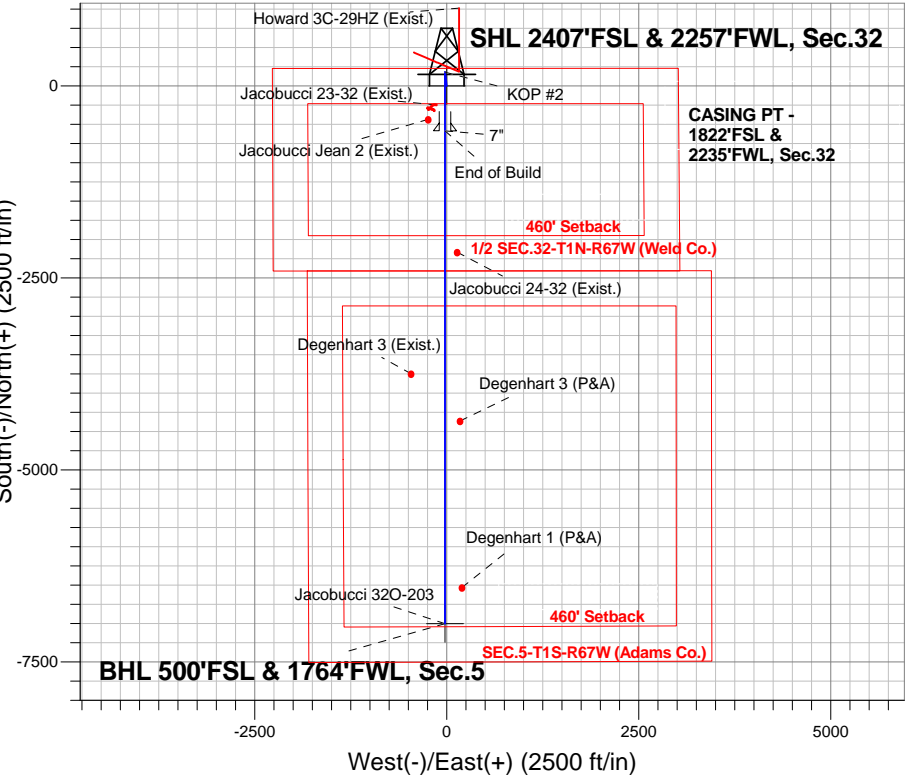
Magnetic Field  
Strength: 52578.3srT  
Dip Angle: 66.60°  
Date: 7/28/2014  
Model: IGRF2010

Jacobucci 1N67W32O Pad Sec.32-T1N-R67W  
Jacobucci 32O-203  
Plan #1 (7-25-14)

## ANNOTATIONS

TVD	MD	Annotation
2200.0	2200.0	KOP #2
6872.6	6883.3	KOP #2
7636.5	8086.1	End of Build

South(-)/North(+) (2500 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	2200.0	0.00	0.00	2200.0	0.0	0.0	0.00	0.00	0.0	
3	2564.0	7.28	352.98	2563.0	22.9	-2.8	2.00	352.98	-22.9	
4	3646.7	7.28	352.98	3637.0	159.1	-19.6	0.00	0.00	-159.0	
5	4010.7	0.00	0.00	4000.0	182.0	-22.4	2.00	180.00	-181.9	
6	6883.3	0.00	0.00	6872.6	182.0	-22.4	0.00	0.00	-181.9	
7	8086.1	90.21	180.00	7636.5	-584.7	-22.4	7.50	180.00	584.8	
8	14502.9	90.21	180.00	7613.0	-7001.6	-22.4	0.00	0.00	7001.6	BHL 500'FSL & 1764'FWL, Sec.5



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.32-T1N-R67W**

**Jacobucci 1N67W32O Pad Sec.32-T1N-R67W**

**Jacobucci 32O-203**

**Wellbore #1**

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

## **Standard Planning Report**

**01 August, 2014**

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Project:</b>	SEC.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (7-25-14)		

<b>Project</b>	SEC.32-T1N-R67W, Weld County, CO		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site						Jacobucci 1N67W32O Pad Sec.32-T1N-R67W											
Site Position:						Northing:			1,245,914.62ft			Latitude:			40.006940		
From:			Lat/Long			Easting:			3,163,748.73ft			Longitude:			-104.915440		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.38 °		

Well	Jacobucci 32O-203					
Well Position	+N-S	0.0 ft	Northing:	1,245,914.18 ft	Latitude:	40.006940
	+E-W	-64.4 ft	Easting:	3,163,684.30 ft	Longitude:	-104.915670
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,058.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	7/28/2014	8.49	66.60	52,578

<b>Design</b>	Plan #1 (7-25-14)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	180.18

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,564.0	7.28	352.98	2,563.0	22.9	-2.8	2.00	2.00	0.00	352.98	
3,646.7	7.28	352.98	3,637.0	159.1	-19.6	0.00	0.00	0.00	0.00	
4,010.7	0.00	0.00	4,000.0	182.0	-22.4	2.00	-2.00	0.00	180.00	
6,883.3	0.00	0.00	6,872.6	182.0	-22.4	0.00	0.00	0.00	0.00	
8,086.1	90.21	180.00	7,636.5	-584.7	-22.4	7.50	7.50	0.00	180.00	
14,502.9	90.21	180.00	7,613.0	-7,001.6	-22.4	0.00	0.00	0.00	0.00	BHL 500'FSL & 176

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Project:</b>	SEC.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (7-25-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP</b>									
2,300.0	2.00	352.98	2,300.0	1.7	-0.2	-1.7	2.00	2.00	0.00
2,400.0	4.00	352.98	2,399.8	6.9	-0.9	-6.9	2.00	2.00	0.00
2,500.0	6.00	352.98	2,499.5	15.6	-1.9	-15.6	2.00	2.00	0.00
2,564.0	7.28	352.98	2,563.0	22.9	-2.8	-22.9	2.00	2.00	0.00
2,600.0	7.28	352.98	2,598.7	27.4	-3.4	-27.4	0.00	0.00	0.00
2,700.0	7.28	352.98	2,697.9	40.0	-4.9	-40.0	0.00	0.00	0.00
2,800.0	7.28	352.98	2,797.1	52.6	-6.5	-52.6	0.00	0.00	0.00
2,900.0	7.28	352.98	2,896.3	65.2	-8.0	-65.2	0.00	0.00	0.00
3,000.0	7.28	352.98	2,995.5	77.8	-9.6	-77.7	0.00	0.00	0.00
3,100.0	7.28	352.98	3,094.7	90.3	-11.1	-90.3	0.00	0.00	0.00
3,200.0	7.28	352.98	3,193.9	102.9	-12.7	-102.9	0.00	0.00	0.00
3,300.0	7.28	352.98	3,293.1	115.5	-14.2	-115.4	0.00	0.00	0.00
3,400.0	7.28	352.98	3,392.3	128.1	-15.8	-128.0	0.00	0.00	0.00
3,500.0	7.28	352.98	3,491.5	140.6	-17.3	-140.6	0.00	0.00	0.00
3,600.0	7.28	352.98	3,590.7	153.2	-18.9	-153.1	0.00	0.00	0.00
3,646.7	7.28	352.98	3,637.0	159.1	-19.6	-159.0	0.00	0.00	0.00
3,700.0	6.21	352.98	3,689.9	165.3	-20.4	-165.2	2.00	-2.00	0.00
3,800.0	4.21	352.98	3,789.5	174.3	-21.5	-174.2	2.00	-2.00	0.00
3,900.0	2.21	352.98	3,889.3	179.9	-22.2	-179.8	2.00	-2.00	0.00
4,000.0	0.21	352.98	3,989.3	182.0	-22.4	-181.9	2.00	-2.00	0.00
4,010.7	0.00	0.00	4,000.0	182.0	-22.4	-181.9	2.00	-2.00	0.00
4,100.0	0.00	0.00	4,089.3	182.0	-22.4	-181.9	0.00	0.00	0.00
4,200.0	0.00	0.00	4,189.3	182.0	-22.4	-181.9	0.00	0.00	0.00
4,300.0	0.00	0.00	4,289.3	182.0	-22.4	-181.9	0.00	0.00	0.00
4,400.0	0.00	0.00	4,389.3	182.0	-22.4	-181.9	0.00	0.00	0.00
4,500.0	0.00	0.00	4,489.3	182.0	-22.4	-181.9	0.00	0.00	0.00
4,510.7	0.00	0.00	4,500.0	182.0	-22.4	-181.9	0.00	0.00	0.00
<b>PARKMAN</b>									

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
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<b>Project:</b>	SEC.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (7-25-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,600.0	0.00	0.00	4,589.3	182.0	-22.4	-181.9	0.00	0.00	0.00
4,700.0	0.00	0.00	4,689.3	182.0	-22.4	-181.9	0.00	0.00	0.00
4,800.0	0.00	0.00	4,789.3	182.0	-22.4	-181.9	0.00	0.00	0.00
4,900.0	0.00	0.00	4,889.3	182.0	-22.4	-181.9	0.00	0.00	0.00
4,910.7	0.00	0.00	4,900.0	182.0	-22.4	-181.9	0.00	0.00	0.00
<b>SUSSEX</b>									
5,000.0	0.00	0.00	4,989.3	182.0	-22.4	-181.9	0.00	0.00	0.00
5,100.0	0.00	0.00	5,089.3	182.0	-22.4	-181.9	0.00	0.00	0.00
5,200.0	0.00	0.00	5,189.3	182.0	-22.4	-181.9	0.00	0.00	0.00
5,300.0	0.00	0.00	5,289.3	182.0	-22.4	-181.9	0.00	0.00	0.00
5,360.7	0.00	0.00	5,350.0	182.0	-22.4	-181.9	0.00	0.00	0.00
<b>SHANNON</b>									
5,400.0	0.00	0.00	5,389.3	182.0	-22.4	-181.9	0.00	0.00	0.00
5,500.0	0.00	0.00	5,489.3	182.0	-22.4	-181.9	0.00	0.00	0.00
5,600.0	0.00	0.00	5,589.3	182.0	-22.4	-181.9	0.00	0.00	0.00
5,700.0	0.00	0.00	5,689.3	182.0	-22.4	-181.9	0.00	0.00	0.00
5,800.0	0.00	0.00	5,789.3	182.0	-22.4	-181.9	0.00	0.00	0.00
5,900.0	0.00	0.00	5,889.3	182.0	-22.4	-181.9	0.00	0.00	0.00
6,000.0	0.00	0.00	5,989.3	182.0	-22.4	-181.9	0.00	0.00	0.00
6,100.0	0.00	0.00	6,089.3	182.0	-22.4	-181.9	0.00	0.00	0.00
6,200.0	0.00	0.00	6,189.3	182.0	-22.4	-181.9	0.00	0.00	0.00
6,300.0	0.00	0.00	6,289.3	182.0	-22.4	-181.9	0.00	0.00	0.00
6,400.0	0.00	0.00	6,389.3	182.0	-22.4	-181.9	0.00	0.00	0.00
6,500.0	0.00	0.00	6,489.3	182.0	-22.4	-181.9	0.00	0.00	0.00
6,600.0	0.00	0.00	6,589.3	182.0	-22.4	-181.9	0.00	0.00	0.00
6,700.0	0.00	0.00	6,689.3	182.0	-22.4	-181.9	0.00	0.00	0.00
6,800.0	0.00	0.00	6,789.3	182.0	-22.4	-181.9	0.00	0.00	0.00
6,883.3	0.00	0.00	6,872.6	182.0	-22.4	-181.9	0.00	0.00	0.00
<b>KOP #2</b>									
6,900.0	1.26	180.00	6,889.3	181.8	-22.4	-181.7	7.52	7.52	0.00
7,000.0	8.76	180.00	6,988.9	173.1	-22.4	-173.0	7.50	7.50	0.00
7,100.0	16.26	180.00	7,086.4	151.5	-22.4	-151.4	7.50	7.50	0.00
7,200.0	23.76	180.00	7,180.3	117.3	-22.4	-117.2	7.50	7.50	0.00
7,296.6	31.00	180.00	7,266.0	72.9	-22.4	-72.8	7.50	7.50	0.00
<b>SHARON SPRINGS</b>									
7,300.0	31.26	180.00	7,269.0	71.1	-22.4	-71.1	7.50	7.50	0.00
7,400.0	38.76	180.00	7,350.8	13.8	-22.4	-13.7	7.50	7.50	0.00
7,500.0	46.26	180.00	7,424.5	-53.7	-22.4	53.8	7.50	7.50	0.00
7,508.0	46.86	180.00	7,430.0	-59.6	-22.4	59.6	7.50	7.50	0.00
<b>NIORARA A</b>									
7,600.0	53.76	180.00	7,488.7	-130.3	-22.4	130.3	7.50	7.50	0.00
7,700.0	61.26	180.00	7,542.4	-214.6	-22.4	214.6	7.50	7.50	0.00
7,800.0	68.76	180.00	7,584.6	-305.1	-22.4	305.2	7.50	7.50	0.00
7,818.2	70.12	180.00	7,591.0	-322.2	-22.4	322.2	7.50	7.50	0.00
<b>NIORARA B</b>									
7,900.0	76.26	180.00	7,614.6	-400.4	-22.4	400.5	7.50	7.50	0.00
8,000.0	83.76	180.00	7,632.0	-498.8	-22.4	498.9	7.50	7.50	0.00
8,086.1	90.21	180.00	7,636.5	-584.8	-22.4	584.8	7.50	7.50	0.00
<b>End of Build - 7"</b>									
8,100.0	90.21	180.00	7,636.5	-598.7	-22.4	598.7	0.00	0.00	0.00
8,200.0	90.21	180.00	7,636.1	-698.7	-22.4	698.7	0.00	0.00	0.00
8,300.0	90.21	180.00	7,635.7	-798.7	-22.4	798.7	0.00	0.00	0.00

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
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<b>Project:</b>	SEC.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (7-25-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,400.0	90.21	180.00	7,635.4	-898.7	-22.4	898.7	0.00	0.00	0.00
8,500.0	90.21	180.00	7,635.0	-998.7	-22.4	998.7	0.00	0.00	0.00
8,600.0	90.21	180.00	7,634.6	-1,098.7	-22.4	1,098.7	0.00	0.00	0.00
8,700.0	90.21	180.00	7,634.3	-1,198.7	-22.4	1,198.7	0.00	0.00	0.00
8,800.0	90.21	180.00	7,633.9	-1,298.7	-22.4	1,298.7	0.00	0.00	0.00
8,900.0	90.21	180.00	7,633.5	-1,398.7	-22.4	1,398.7	0.00	0.00	0.00
9,000.0	90.21	180.00	7,633.2	-1,498.7	-22.4	1,498.7	0.00	0.00	0.00
9,100.0	90.21	180.00	7,632.8	-1,598.7	-22.4	1,598.7	0.00	0.00	0.00
9,200.0	90.21	180.00	7,632.4	-1,698.7	-22.4	1,698.7	0.00	0.00	0.00
9,300.0	90.21	180.00	7,632.1	-1,798.7	-22.4	1,798.7	0.00	0.00	0.00
9,400.0	90.21	180.00	7,631.7	-1,898.7	-22.4	1,898.7	0.00	0.00	0.00
9,500.0	90.21	180.00	7,631.3	-1,998.7	-22.4	1,998.7	0.00	0.00	0.00
9,600.0	90.21	180.00	7,631.0	-2,098.7	-22.4	2,098.7	0.00	0.00	0.00
9,700.0	90.21	180.00	7,630.6	-2,198.7	-22.4	2,198.7	0.00	0.00	0.00
9,800.0	90.21	180.00	7,630.2	-2,298.7	-22.4	2,298.7	0.00	0.00	0.00
9,900.0	90.21	180.00	7,629.9	-2,398.7	-22.4	2,398.7	0.00	0.00	0.00
10,000.0	90.21	180.00	7,629.5	-2,498.7	-22.4	2,498.7	0.00	0.00	0.00
10,100.0	90.21	180.00	7,629.1	-2,598.7	-22.4	2,598.7	0.00	0.00	0.00
10,200.0	90.21	180.00	7,628.8	-2,698.7	-22.4	2,698.7	0.00	0.00	0.00
10,300.0	90.21	180.00	7,628.4	-2,798.7	-22.4	2,798.7	0.00	0.00	0.00
10,400.0	90.21	180.00	7,628.0	-2,898.7	-22.4	2,898.7	0.00	0.00	0.00
10,500.0	90.21	180.00	7,627.7	-2,998.7	-22.4	2,998.7	0.00	0.00	0.00
10,600.0	90.21	180.00	7,627.3	-3,098.7	-22.4	3,098.7	0.00	0.00	0.00
10,700.0	90.21	180.00	7,626.9	-3,198.7	-22.4	3,198.7	0.00	0.00	0.00
10,800.0	90.21	180.00	7,626.6	-3,298.7	-22.4	3,298.7	0.00	0.00	0.00
10,900.0	90.21	180.00	7,626.2	-3,398.7	-22.4	3,398.7	0.00	0.00	0.00
11,000.0	90.21	180.00	7,625.8	-3,498.7	-22.4	3,498.7	0.00	0.00	0.00
11,100.0	90.21	180.00	7,625.5	-3,598.7	-22.4	3,598.7	0.00	0.00	0.00
11,200.0	90.21	180.00	7,625.1	-3,698.7	-22.4	3,698.7	0.00	0.00	0.00
11,300.0	90.21	180.00	7,624.7	-3,798.7	-22.4	3,798.7	0.00	0.00	0.00
11,400.0	90.21	180.00	7,624.4	-3,898.7	-22.4	3,898.7	0.00	0.00	0.00
11,500.0	90.21	180.00	7,624.0	-3,998.7	-22.4	3,998.7	0.00	0.00	0.00
11,600.0	90.21	180.00	7,623.6	-4,098.7	-22.4	4,098.7	0.00	0.00	0.00
11,700.0	90.21	180.00	7,623.3	-4,198.7	-22.4	4,198.7	0.00	0.00	0.00
11,800.0	90.21	180.00	7,622.9	-4,298.7	-22.4	4,298.7	0.00	0.00	0.00
11,900.0	90.21	180.00	7,622.5	-4,398.7	-22.4	4,398.7	0.00	0.00	0.00
12,000.0	90.21	180.00	7,622.2	-4,498.7	-22.4	4,498.7	0.00	0.00	0.00
12,100.0	90.21	180.00	7,621.8	-4,598.7	-22.4	4,598.7	0.00	0.00	0.00
12,200.0	90.21	180.00	7,621.4	-4,698.7	-22.4	4,698.7	0.00	0.00	0.00
12,300.0	90.21	180.00	7,621.1	-4,798.7	-22.4	4,798.7	0.00	0.00	0.00
12,400.0	90.21	180.00	7,620.7	-4,898.7	-22.4	4,898.7	0.00	0.00	0.00
12,500.0	90.21	180.00	7,620.3	-4,998.7	-22.4	4,998.7	0.00	0.00	0.00
12,600.0	90.21	180.00	7,620.0	-5,098.6	-22.4	5,098.7	0.00	0.00	0.00
12,700.0	90.21	180.00	7,619.6	-5,198.6	-22.4	5,198.7	0.00	0.00	0.00
12,800.0	90.21	180.00	7,619.2	-5,298.6	-22.4	5,298.7	0.00	0.00	0.00
12,900.0	90.21	180.00	7,618.9	-5,398.6	-22.4	5,398.7	0.00	0.00	0.00
13,000.0	90.21	180.00	7,618.5	-5,498.6	-22.4	5,498.7	0.00	0.00	0.00
13,100.0	90.21	180.00	7,618.1	-5,598.6	-22.4	5,598.7	0.00	0.00	0.00
13,200.0	90.21	180.00	7,617.8	-5,698.6	-22.4	5,698.7	0.00	0.00	0.00
13,300.0	90.21	180.00	7,617.4	-5,798.6	-22.4	5,798.7	0.00	0.00	0.00
13,400.0	90.21	180.00	7,617.0	-5,898.6	-22.4	5,898.7	0.00	0.00	0.00
13,500.0	90.21	180.00	7,616.7	-5,998.6	-22.4	5,998.7	0.00	0.00	0.00

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Project:</b>	SEC.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (7-25-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,600.0	90.21	180.00	7,616.3	-6,098.6	-22.4	6,098.7	0.00	0.00	0.00
13,700.0	90.21	180.00	7,615.9	-6,198.6	-22.4	6,198.7	0.00	0.00	0.00
13,800.0	90.21	180.00	7,615.6	-6,298.6	-22.4	6,298.7	0.00	0.00	0.00
13,900.0	90.21	180.00	7,615.2	-6,398.6	-22.4	6,398.7	0.00	0.00	0.00
14,000.0	90.21	180.00	7,614.8	-6,498.6	-22.4	6,498.7	0.00	0.00	0.00
14,100.0	90.21	180.00	7,614.5	-6,598.6	-22.4	6,598.7	0.00	0.00	0.00
14,200.0	90.21	180.00	7,614.1	-6,698.6	-22.4	6,698.7	0.00	0.00	0.00
14,300.0	90.21	180.00	7,613.7	-6,798.6	-22.4	6,798.7	0.00	0.00	0.00
14,400.0	90.21	180.00	7,613.4	-6,898.6	-22.4	6,898.7	0.00	0.00	0.00
14,500.0	90.21	180.00	7,613.0	-6,998.6	-22.4	6,998.7	0.00	0.00	0.00
14,502.9	90.21	180.00	7,613.0	-7,001.6	-22.4	7,001.6	0.00	0.00	0.00

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
8,086.1	7,636.5	7"	7	7-1/2

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,510.7	4,500.0	PARKMAN		0.00	
4,910.7	4,900.0	SUSSEX		0.00	
5,360.7	5,350.0	SHANNON		0.00	
7,296.6	7,266.0	SHARON SPRINGS		0.00	
7,508.0	7,430.0	NIOBRARA A		0.00	
7,818.2	7,591.0	NIOBRARA B		0.00	
	7,713.0	NIOBRARA C		0.00	
	7,850.0	FT HAYS		0.00	
	7,867.0	CODELL		0.00	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,200.0	2,200.0	0.0	0.0	KOP
6,883.3	6,872.6	182.0	-22.4	KOP #2
8,086.1	7,636.5	-584.8	-22.4	End of Build



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.32-T1N-R67W**

**Jacobucci 1N67W32O Pad Sec.32-T1N-R67W**

**Jacobucci 32O-203**

**Wellbore #1**

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

## **Anticollision Report**

**01 August, 2014**





<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #1 (7-25-14)		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD Interval 100.0ft	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 1,000.0ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b> 8/1/2014			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	14,502.9	Plan #1 (7-25-14) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
Existings Sec.32-T1N-R67W						
Degenhart 1 (P&A) - Wellbore #1 - Wellbore #1	14,029.7	7,700.7	220.5	-60.0	0.786	Level 1, CC, ES, SF
Degenhart 3 (Exist.) - Wellbore #1 - Wellbore #1	11,247.3	7,669.9	440.7	213.3	1.938	CC, ES, SF
Degenhart 3 (P&A) - Wellbore #1 - Wellbore #1	11,862.2	7,692.7	195.3	-44.1	0.816	Level 1, CC, ES, SF
Howard 3C-29HZ (Exist.) - Wellbore #1 - Wellbore #1	4,257.8	4,263.1	75.2	-52.4	0.589	Level 1, CC
Howard 3C-29HZ (Exist.) - Wellbore #1 - Wellbore #1	4,300.0	4,304.6	75.6	-53.7	0.585	Level 1, ES, SF
Jacobucci 23-32 (Exist.) - Wellbore #1 - Wellbore #1	7,765.8	7,572.7	180.5	149.4	5.796	CC, ES, SF
Jacobucci 24-32 (Exist.) - Wellbore #1 - Wellbore #1	9,665.2	7,655.7	156.9	-41.2	0.792	Level 1, CC, ES, SF
Jacobucci Jean 2 (Exist.) - Wellbore #1 - Wellbore #1	2,200.0	2,191.0	495.9	447.3	10.194	CC
Jacobucci Jean 2 (Exist.) - Wellbore #1 - Wellbore #1	2,300.0	2,291.0	497.4	446.5	9.780	ES
Jacobucci Jean 2 (Exist.) - Wellbore #1 - Wellbore #1	5,200.0	5,107.0	657.2	543.6	5.784	SF
Jacobucci 1N67W32O Pad Sec.32-T1N-R67W						
Jacobucci 32O-303 - Wellbore #1 - Plan #1 (7-25-14)	1,600.0	1,600.0	30.8	23.8	4.423	CC, ES
Jacobucci 32O-303 - Wellbore #1 - Plan #1 (7-25-14)	14,502.9	14,617.2	327.6	68.6	1.265	Level 3, SF
Jacobucci 32O-423 - Wellbore #1 - Plan #1 (7-25-14)	1,000.0	1,000.0	64.4	60.2	15.087	CC, ES
Jacobucci 32O-423 - Wellbore #1 - Plan #1 (7-25-14)	14,502.9	14,719.8	701.6	447.2	2.758	SF
Jacobucci 32O-443 - Wellbore #1 - Plan #1 (7-25-14)	1,400.0	1,400.0	30.8	24.7	5.078	CC, ES
Jacobucci 32O-443 - Wellbore #1 - Plan #1 (7-25-14)	14,502.9	14,731.1	427.1	201.8	1.895	SF

<b>Offset Design</b>	Existings Sec.32-T1N-R67W - Degenhart 1 (P&A) - Wellbore #1 - Wellbore #1											<b>Offset Site Error:</b>	0.0ft
<b>Survey Program:</b>	8110-UNKNOWN											<b>Offset Well Error:</b>	0.0ft
Reference	Offset	Semi Major Axis			Distance								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
13,100.0	7,618.1	7,704.1	7,704.1	108.9	154.1	-90.89	-6,528.4	198.1	955.5	692.6	262.93	3.634	
13,200.0	7,617.8	7,703.8	7,703.8	110.8	154.1	-90.79	-6,528.4	198.1	858.5	593.7	264.82	3.242	
13,300.0	7,617.4	7,703.4	7,703.4	112.7	154.1	-90.69	-6,528.4	198.1	762.3	495.6	266.72	2.858	
13,400.0	7,617.0	7,703.0	7,703.0	114.6	154.1	-90.60	-6,528.4	198.1	667.2	398.6	268.61	2.484	
13,500.0	7,616.7	7,702.7	7,702.7	116.5	154.1	-90.50	-6,528.4	198.1	573.8	303.3	270.50	2.121	
13,600.0	7,616.3	7,702.3	7,702.3	118.4	154.0	-90.41	-6,528.4	198.1	483.0	210.6	272.39	1.773	
13,700.0	7,615.9	7,701.9	7,701.9	120.3	154.0	-90.31	-6,528.4	198.1	396.7	122.4	274.29	1.446	Level 3
13,800.0	7,615.6	7,701.6	7,701.6	122.1	154.0	-90.22	-6,528.4	198.1	318.4	42.3	276.18	1.153	Level 2

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Existings Sec.32-T1N-R67W - Degenhart 1 (P&A) - Wellbore #1 - Wellbore #1													<b>Offset Site Error:</b>	0.0 ft
Survey Program: 8110-UNKNOWN													<b>Offset Well Error:</b>	0.0 ft
Reference	Offset	Semi Major Axis		Distance										Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
13,900.0	7,615.2	7,701.2	7,701.2	124.0	154.0	-90.12	-6,528.4	198.1	255.9	-22.2	278.07	0.920	Level 1	
14,000.0	7,614.8	7,700.8	7,700.8	125.9	154.0	-90.03	-6,528.4	198.1	222.5	-57.4	279.96	0.795	Level 1	
14,029.7	7,614.7	7,700.7	7,700.7	126.5	154.0	-90.00	-6,528.4	198.1	220.5	-60.0	280.52	0.786	Level 1, CC, ES, SF	
14,100.0	7,614.5	7,700.5	7,700.5	127.8	154.0	-89.93	-6,528.4	198.1	231.4	-50.4	281.85	0.821	Level 1	
14,200.0	7,614.1	7,700.1	7,700.1	129.7	154.0	-89.84	-6,528.4	198.1	278.6	-5.1	283.75	0.982	Level 1	
14,300.0	7,613.7	7,699.7	7,699.7	131.6	154.0	-89.74	-6,528.4	198.1	348.8	63.2	285.64	1.221	Level 2	
14,400.0	7,613.4	7,699.4	7,699.4	133.5	154.0	-89.65	-6,528.4	198.1	431.0	143.4	287.53	1.499	Level 3	
14,500.0	7,613.0	7,699.0	7,699.0	135.4	154.0	-89.55	-6,528.4	198.1	519.4	230.0	289.42	1.795		
14,502.9	7,613.0	7,699.0	7,699.0	135.5	154.0	-89.55	-6,528.4	198.1	522.1	232.6	289.47	1.803		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Existings Sec.32-T1N-R67W - Degenhart 3 (Exist.) - Wellbore #1 - Wellbore #1														Offset Well Error:	0.0 ft
Survey Program: 8446-UNKNOWN															
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		
10,400.0	7,628.0	7,673.0	7,673.0	58.3	153.5	90.40	-3,746.0	-463.1	955.1	743.3	211.75	4.510			
10,500.0	7,627.7	7,672.7	7,672.7	60.1	153.5	90.36	-3,746.0	-463.1	867.6	654.0	213.58	4.062			
10,600.0	7,627.3	7,672.3	7,672.3	62.0	153.4	90.31	-3,746.0	-463.1	783.1	567.7	215.42	3.635			
10,700.0	7,626.9	7,671.9	7,671.9	63.8	153.4	90.26	-3,746.0	-463.1	702.7	485.4	217.26	3.234			
10,800.0	7,626.6	7,671.6	7,671.6	65.7	153.4	90.21	-3,746.0	-463.1	627.9	408.8	219.10	2.866			
10,900.0	7,626.2	7,671.2	7,671.2	67.5	153.4	90.17	-3,746.0	-463.1	561.1	340.2	220.95	2.539			
11,000.0	7,625.8	7,670.8	7,670.8	69.4	153.4	90.12	-3,746.0	-463.1	505.4	282.5	222.81	2.268			
11,100.0	7,625.5	7,670.5	7,670.5	71.3	153.4	90.07	-3,746.0	-463.1	464.7	240.0	224.66	2.068			
11,200.0	7,625.1	7,670.1	7,670.1	73.1	153.4	90.02	-3,746.0	-463.1	443.2	216.7	226.52	1.957			
11,247.3	7,624.9	7,669.9	7,669.9	74.0	153.4	90.00	-3,746.0	-463.1	440.7	213.3	227.40	1.938	CC, ES, SF		
11,300.0	7,624.7	7,669.7	7,669.7	75.0	153.4	89.97	-3,746.0	-463.1	443.9	215.5	228.38	1.944			
11,400.0	7,624.4	7,669.4	7,669.4	76.9	153.4	89.93	-3,746.0	-463.1	466.4	236.2	230.24	2.026			
11,500.0	7,624.0	7,669.0	7,669.0	78.7	153.4	89.88	-3,746.0	-463.1	508.0	275.9	232.10	2.189			
11,600.0	7,623.6	7,668.6	7,668.6	80.6	153.4	89.83	-3,746.0	-463.1	564.5	330.5	233.97	2.413			
11,700.0	7,623.3	7,668.3	7,668.3	82.5	153.4	89.78	-3,746.0	-463.1	631.8	396.0	235.84	2.679			
11,800.0	7,622.9	7,667.9	7,667.9	84.4	153.4	89.74	-3,746.0	-463.1	706.9	469.2	237.71	2.974			
11,900.0	7,622.5	7,667.5	7,667.5	86.2	153.4	89.69	-3,746.0	-463.1	787.6	548.0	239.58	3.287			
12,000.0	7,622.2	7,667.2	7,667.2	88.1	153.3	89.64	-3,746.0	-463.1	872.2	630.8	241.45	3.612			
12,100.0	7,621.8	7,666.8	7,666.8	90.0	153.3	89.59	-3,746.0	-463.1	959.9	716.5	243.32	3.945			

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Existings Sec.32-T1N-R67W - Degenhart 3 (P&A) - Wellbore #1 - Wellbore #1													Offset Well Error:	0.0 ft
Survey Program: 8156-UNKNOWN														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
10,900.0	7,626.2	7,696.2	7,696.2	67.5	153.9	-91.03	-4,360.9	172.9	981.8	760.4	221.42	4.434		
11,000.0	7,625.8	7,695.8	7,695.8	69.4	153.9	-90.93	-4,360.9	172.9	884.1	660.8	223.28	3.959		
11,100.0	7,625.5	7,695.5	7,695.5	71.3	153.9	-90.82	-4,360.9	172.9	786.8	561.7	225.14	3.495		
11,200.0	7,625.1	7,695.1	7,695.1	73.1	153.9	-90.71	-4,360.9	172.9	690.4	463.4	227.00	3.041		
11,300.0	7,624.7	7,694.7	7,694.7	75.0	153.9	-90.60	-4,360.9	172.9	595.2	366.3	228.87	2.600		
11,400.0	7,624.4	7,694.4	7,694.4	76.9	153.9	-90.50	-4,360.9	172.9	501.8	271.0	230.73	2.175		
11,500.0	7,624.0	7,694.0	7,694.0	78.7	153.9	-90.39	-4,360.9	172.9	411.5	178.9	232.60	1.769		
11,600.0	7,623.6	7,693.6	7,693.6	80.6	153.9	-90.28	-4,360.9	172.9	326.9	92.5	234.47	1.394 Level 3		
11,700.0	7,623.3	7,693.3	7,693.3	82.5	153.9	-90.17	-4,360.9	172.9	253.9	17.5	236.34	1.074 Level 2		
11,800.0	7,622.9	7,692.9	7,692.9	84.4	153.9	-90.07	-4,360.9	172.9	205.0	-33.2	238.21	0.860 Level 1		
11,862.2	7,622.7	7,692.7	7,692.7	85.5	153.9	-90.00	-4,360.9	172.9	195.3	-44.1	239.37	0.816 Level 1, CC, ES, SF		
11,900.0	7,622.5	7,692.5	7,692.5	86.2	153.9	-89.96	-4,360.9	172.9	198.9	-41.2	240.08	0.829 Level 1		
12,000.0	7,622.2	7,692.2	7,692.2	88.1	153.8	-89.85	-4,360.9	172.9	239.0	-3.0	241.95	0.988 Level 1		
12,100.0	7,621.8	7,691.8	7,691.8	90.0	153.8	-89.74	-4,360.9	172.9	307.7	63.9	243.83	1.262 Level 3		
12,200.0	7,621.4	7,691.4	7,691.4	91.9	153.8	-89.64	-4,360.9	172.9	390.2	144.5	245.70	1.588		
12,300.0	7,621.1	7,691.1	7,691.1	93.8	153.8	-89.53	-4,360.9	172.9	479.4	231.8	247.58	1.936		
12,400.0	7,620.7	7,690.7	7,690.7	95.6	153.8	-89.42	-4,360.9	172.9	572.1	322.7	249.45	2.294		
12,500.0	7,620.3	7,690.3	7,690.3	97.5	153.8	-89.31	-4,360.9	172.9	667.0	415.7	251.33	2.654		
12,600.0	7,620.0	7,690.0	7,690.0	99.4	153.8	-89.21	-4,360.9	172.9	763.2	510.0	253.20	3.014		
12,700.0	7,619.6	7,689.6	7,689.6	101.3	153.8	-89.10	-4,360.9	172.9	860.2	605.2	255.08	3.372		
12,800.0	7,619.2	7,689.2	7,689.2	103.2	153.8	-88.99	-4,360.9	172.9	957.9	700.9	256.95	3.728		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 100-UNKNOWN														Offset Well Error:	0.0 ft
Existings Sec.32-T1N-R67W - Howard 3C-29HZ (Exist.) - Wellbore #1 - Wellbore #1															
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	-44.36	436.1	-426.4	610.3						
100.0	100.0	76.0	76.0	0.1	1.5	-44.36	436.1	-426.4	609.9	608.2	1.63	373.592			
200.0	200.0	176.0	176.0	0.3	5.0	-44.36	436.1	-426.4	609.9	604.5	5.38	113.418			
300.0	300.0	276.0	276.0	0.6	9.0	-44.36	436.1	-426.4	609.9	600.3	9.60	63.515			
400.0	400.0	376.0	376.0	0.8	13.0	-44.36	436.1	-426.4	609.9	596.0	13.83	44.108			
500.0	500.0	476.0	476.0	1.0	17.0	-44.36	436.1	-426.4	609.9	591.8	18.05	33.785			
600.0	600.0	576.0	576.0	1.2	21.0	-44.36	436.1	-426.4	609.9	587.6	22.28	27.377			
700.0	700.0	676.0	676.0	1.5	25.0	-44.36	436.1	-426.4	609.9	583.4	26.50	23.013			
800.0	800.0	776.0	776.0	1.7	29.0	-44.36	436.1	-426.4	609.9	579.1	30.73	19.849			
900.0	900.0	876.0	876.0	1.9	33.0	-44.36	436.1	-426.4	609.9	574.9	34.95	17.449			
1,000.0	1,000.0	976.0	976.0	2.1	37.0	-44.36	436.1	-426.4	609.9	570.7	39.18	15.568			
1,100.0	1,100.0	1,076.0	1,076.0	2.4	41.0	-44.36	436.1	-426.4	609.9	566.5	43.40	14.052			
1,200.0	1,200.0	1,176.0	1,176.0	2.6	45.0	-44.36	436.1	-426.4	609.9	562.2	47.62	12.806			
1,300.0	1,300.0	1,276.0	1,276.0	2.8	49.0	-44.36	436.1	-426.4	609.9	558.0	51.85	11.762			
1,400.0	1,400.0	1,394.6	1,394.5	3.0	51.2	-44.30	435.5	-424.9	608.7	554.5	54.22	11.227			
1,500.0	1,500.0	1,518.6	1,518.4	3.3	49.8	-44.05	432.8	-418.7	603.7	550.6	53.03	11.383			
1,600.0	1,600.0	1,641.9	1,641.1	3.5	48.7	-43.60	428.1	-407.6	594.7	542.5	52.18	11.397			
1,700.0	1,700.0	1,763.9	1,761.9	3.7	48.2	-42.92	421.4	-391.9	581.8	530.0	51.82	11.227			
1,800.0	1,800.0	1,869.1	1,865.5	3.9	48.2	-42.17	414.3	-375.3	566.1	514.1	51.97	10.894			
1,900.0	1,900.0	1,967.6	1,962.5	4.2	48.7	-41.42	407.6	-359.6	550.3	497.9	52.47	10.488			
2,000.0	2,000.0	2,066.1	2,059.5	4.4	49.5	-40.62	400.9	-343.8	534.7	481.4	53.32	10.028			
2,100.0	2,100.0	2,164.6	2,156.5	4.6	50.7	-39.77	394.2	-328.1	519.1	464.6	54.49	9.526			
2,200.0	2,200.0	2,263.0	2,253.5	4.8	52.2	-38.88	387.4	-312.4	503.7	447.7	55.98	8.998			
2,300.0	2,300.0	2,361.3	2,350.3	5.1	54.0	-31.18	380.7	-296.7	486.9	429.4	57.47	8.472			
2,400.0	2,399.8	2,459.2	2,446.7	5.3	56.0	-30.70	374.1	-281.0	467.2	407.9	59.35	7.873			
2,500.0	2,499.5	2,556.6	2,542.5	5.5	58.3	-30.41	367.4	-265.5	444.7	383.4	61.35	7.248			
2,600.0	2,598.7	2,653.3	2,637.8	5.7	60.8	-30.23	360.9	-250.0	419.5	356.0	63.54	6.602			
2,700.0	2,697.9	2,749.9	2,732.9	6.0	63.5	-29.89	354.3	-234.6	393.7	327.7	66.03	5.962			
2,800.0	2,797.1	2,846.5	2,828.0	6.2	66.4	-29.50	347.7	-219.2	367.9	299.2	68.68	5.356			
2,900.0	2,896.3	2,943.0	2,923.1	6.5	69.4	-29.05	341.1	-203.8	342.1	270.6	71.50	4.785			
3,000.0	2,995.5	3,039.6	3,018.3	6.7	72.5	-28.53	334.5	-188.3	316.3	241.9	74.45	4.249			
3,100.0	3,094.7	3,136.2	3,113.4	7.0	75.7	-27.92	328.0	-172.9	290.6	213.1	77.53	3.749			
3,200.0	3,193.9	3,232.8	3,208.5	7.3	79.0	-27.19	321.4	-157.5	264.9	184.2	80.73	3.282			
3,300.0	3,293.1	3,329.4	3,303.6	7.5	82.4	-26.30	314.8	-142.0	239.3	155.2	84.05	2.847			
3,400.0	3,392.3	3,426.0	3,398.7	7.8	85.9	-25.20	308.2	-126.6	213.7	126.2	87.50	2.442			
3,500.0	3,491.5	3,522.5	3,493.8	8.1	89.4	-23.81	301.6	-111.2	188.2	97.1	91.09	2.066			
3,600.0	3,590.7	3,619.1	3,589.0	8.4	93.0	-21.98	295.1	-95.8	162.9	68.0	94.83	1.718			
3,700.0	3,689.9	3,715.8	3,684.2	8.7	96.7	-19.31	288.5	-80.3	138.2	39.1	99.06	1.395 Level 3			
3,800.0	3,789.5	3,813.1	3,780.0	8.9	100.4	-15.09	281.8	-64.8	116.8	13.0	103.83	1.125 Level 2			
3,900.0	3,889.3	3,910.9	3,876.3	9.1	104.2	-8.84	275.2	-49.2	99.7	-9.3	108.99	0.914 Level 1			
4,000.0	3,989.3	4,009.2	3,973.1	9.2	108.1	-0.26	268.5	-33.5	87.5	-26.9	114.42	0.765 Level 1			
4,100.0	4,089.3	4,107.7	4,070.1	9.4	112.0	3.36	261.8	-17.7	80.0	-39.8	119.90	0.668 Level 1			
4,200.0	4,189.3	4,206.1	4,167.1	9.6	115.9	15.61	255.1	-2.0	75.9	-49.1	125.03	0.607 Level 1			
4,257.8	4,247.1	4,263.1	4,223.1	9.8	118.2	23.10	251.2	7.1	75.2	-52.4	127.60	0.589 Level 1, CC			
4,300.0	4,289.3	4,304.6	4,264.0	9.8	119.8	28.58	248.4	13.7	75.6	-53.7	129.23	0.585 Level 1, ES, SF			
4,400.0	4,389.3	4,403.1	4,361.0	10.1	123.8	41.02	241.6	29.5	79.2	-53.2	132.33	0.598 Level 1			
4,500.0	4,489.3	4,501.6	4,458.0	10.3	127.8	51.94	234.9	45.2	86.2	-48.5	134.70	0.640 Level 1			
4,600.0	4,589.3	4,600.1	4,555.0	10.5	131.8	60.98	228.2	60.9	95.9	-41.0	136.86	0.700 Level 1			
4,700.0	4,689.3	4,698.6	4,652.0	10.7	135.9	68.25	221.5	76.6	107.5	-31.7	139.16	0.772 Level 1			
4,800.0	4,789.3	4,797.0	4,749.0	10.9	139.9	74.05	214.8	92.4	120.5	-21.2	141.71	0.850 Level 1			
4,900.0	4,889.3	4,895.5	4,846.0	11.1	144.0	78.69	208.1	108.1	134.5	-10.0	144.52	0.931 Level 1			

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 100-UNKNOWN														Offset Well Error:	0.0 ft
Reference															
Semi Major Axis															
Distance															
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
5,000.0	4,989.3	4,995.2	4,944.2	11.3	148.1	82.47	201.4	123.9	149.1	1.5	147.60	1.010	Level 2		
5,100.0	5,089.3	5,099.1	5,046.9	11.5	152.3	85.23	195.4	137.9	161.9	10.8	151.09	1.072	Level 2		
5,200.0	5,189.3	5,203.9	5,151.1	11.8	156.4	87.04	190.9	148.5	171.8	16.9	154.83	1.109	Level 2		
5,300.0	5,289.3	5,309.5	5,256.4	12.0	160.4	88.13	187.8	155.7	178.4	19.7	158.77	1.124	Level 2		
5,400.0	5,389.3	5,415.5	5,362.3	12.2	163.9	88.65	186.3	159.3	181.8	19.2	162.53	1.118	Level 2		
5,500.0	5,489.3	5,518.5	5,465.3	12.4	164.7	88.72	186.1	159.7	182.2	18.7	163.52	1.114	Level 2		
5,600.0	5,589.3	5,618.5	5,565.3	12.6	164.5	88.72	186.1	159.7	182.2	18.6	163.55	1.114	Level 2		
5,700.0	5,689.3	5,718.5	5,665.3	12.8	164.4	88.72	186.1	159.7	182.2	18.5	163.70	1.113	Level 2		
5,800.0	5,789.3	5,818.5	5,765.3	13.1	164.5	88.72	186.1	159.7	182.2	18.2	163.95	1.111	Level 2		
5,900.0	5,889.3	5,918.5	5,865.3	13.3	164.6	88.72	186.1	159.7	182.2	17.9	164.30	1.109	Level 2		
6,000.0	5,989.3	6,018.5	5,965.3	13.5	164.8	88.72	186.1	159.7	182.2	17.4	164.76	1.106	Level 2		
6,100.0	6,089.3	6,118.5	6,065.3	13.7	165.1	88.72	186.1	159.7	182.2	16.9	165.33	1.102	Level 2		
6,200.0	6,189.3	6,218.5	6,165.3	13.9	165.6	88.72	186.1	159.7	182.2	16.2	166.00	1.097	Level 2		
6,300.0	6,289.3	6,318.5	6,265.3	14.1	166.1	88.72	186.1	159.7	182.2	15.4	166.78	1.092	Level 2		
6,400.0	6,389.3	6,418.5	6,365.3	14.4	166.7	88.72	186.1	159.7	182.2	14.5	167.66	1.087	Level 2		
6,500.0	6,489.3	6,518.5	6,465.3	14.6	167.4	88.72	186.1	159.7	182.2	13.5	168.64	1.080	Level 2		
6,600.0	6,589.3	6,618.5	6,565.3	14.8	168.2	88.72	186.1	159.7	182.2	12.5	169.71	1.073	Level 2		
6,700.0	6,689.3	6,718.5	6,665.3	15.0	169.1	88.72	186.1	159.7	182.2	11.3	170.89	1.066	Level 2		
6,800.0	6,789.3	6,818.5	6,765.3	15.2	170.0	88.72	186.1	159.7	182.2	10.0	172.16	1.058	Level 2		
6,860.1	6,849.5	6,878.7	6,825.5	15.4	170.7	-91.41	186.1	159.7	182.2	9.2	172.99	1.053	Level 2		
6,900.0	6,889.3	6,918.5	6,865.3	15.4	171.1	-91.34	186.1	159.7	182.2	8.7	173.53	1.050	Level 2		
7,000.0	6,988.9	7,018.1	6,964.9	15.6	172.3	-94.03	186.1	159.7	182.6	7.4	175.17	1.042	Level 2		
7,100.0	7,086.4	7,115.6	7,062.4	15.7	173.5	-100.34	186.1	159.7	185.4	8.7	176.68	1.049	Level 2		
7,200.0	7,180.3	7,209.5	7,156.3	15.8	174.7	-109.07	186.1	159.7	194.7	18.1	176.58	1.103	Level 2		
7,300.0	7,269.0	7,298.2	7,245.0	15.9	175.9	-118.35	186.1	159.7	215.4	42.4	172.99	1.245	Level 2		
7,400.0	7,350.8	7,372.0	7,318.8	16.0	177.0	-125.47	186.7	159.7	251.3	85.7	165.58	1.517			
7,500.0	7,424.5	7,421.2	7,367.8	16.1	177.6	-128.66	191.1	159.7	306.9	150.0	156.90	1.956			
7,600.0	7,488.7	7,450.0	7,396.2	16.5	178.0	-127.04	195.6	159.7	379.6	227.6	151.99	2.497			
7,700.0	7,542.4	7,476.1	7,421.8	16.9	178.3	-122.30	201.0	159.7	463.8	310.7	153.12	3.029			
7,800.0	7,584.6	7,486.9	7,432.3	17.5	178.5	-109.55	203.5	159.7	555.3	387.3	168.03	3.305			
7,900.0	7,614.6	7,500.0	7,444.9	18.3	178.6	-90.86	206.8	159.7	650.5	466.6	183.94	3.537			
8,000.0	7,632.0	7,500.0	7,444.9	19.2	178.6	-64.90	206.8	159.7	746.8	569.1	177.76	4.201			
8,100.0	7,636.5	7,478.1	7,423.7	20.3	178.4	-43.53	201.4	159.7	842.0	695.0	147.01	5.727			
8,200.0	7,636.1	7,469.1	7,415.0	21.5	178.3	-42.26	199.4	159.7	937.3	792.2	145.17	6.457			

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS														Offset Well Error:	0.0 ft
Reference															
Offset															
Semi Major Axis															
Distance															
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-153.15	-320.9	-162.5	360.0						
100.0	100.0	87.6	87.6	0.1	0.1	-153.18	-321.0	-162.3	359.6	359.4	0.23	1,572.183			
200.0	200.0	188.9	188.9	0.3	0.4	-153.25	-320.8	-161.7	359.3	358.6	0.69	521.082			
300.0	300.0	289.9	289.9	0.6	0.6	-153.26	-320.3	-161.3	358.6	357.5	1.15	311.741			
400.0	400.0	389.8	389.8	0.8	0.8	-153.21	-319.4	-161.2	357.8	356.2	1.59	224.409			
500.0	500.0	489.8	489.8	1.0	1.0	-153.10	-318.4	-161.5	357.0	355.0	2.03	175.788			
600.0	600.0	589.6	589.6	1.2	1.2	-152.93	-317.2	-162.2	356.3	353.8	2.47	144.429			
700.0	700.0	688.3	688.2	1.5	1.4	-152.70	-316.1	-163.2	355.7	352.8	2.90	122.834			
800.0	800.0	788.0	788.0	1.7	1.6	-152.47	-315.2	-164.3	355.4	352.1	3.33	106.686			
900.0	900.0	887.9	887.9	1.9	1.9	-152.21	-314.2	-165.6	355.2	351.4	3.78	94.013			
1,000.0	1,000.0	988.2	988.1	2.1	2.1	-151.89	-313.0	-167.2	354.9	350.7	4.23	83.825			
1,100.0	1,100.0	1,088.7	1,088.6	2.4	2.3	-151.53	-311.6	-169.0	354.5	349.8	4.70	75.433			
1,200.0	1,200.0	1,188.7	1,188.6	2.6	2.6	-151.11	-310.0	-171.0	354.1	348.9	5.17	68.470			
1,300.0	1,300.0	1,288.1	1,287.9	2.8	2.8	-150.69	-308.4	-173.1	353.7	348.1	5.64	62.688			
1,376.9	1,376.9	1,364.1	1,363.9	3.0	3.0	-150.38	-307.4	-174.8	353.6	347.6	6.00	58.917			
1,400.0	1,400.0	1,386.9	1,386.7	3.0	3.1	-150.29	-307.1	-175.2	353.6	347.5	6.11	57.877			
1,500.0	1,500.0	1,486.3	1,486.0	3.3	3.3	-149.91	-306.1	-177.4	353.8	347.2	6.58	53.806			
1,600.0	1,600.0	1,585.3	1,585.0	3.5	3.6	-149.51	-305.2	-179.7	354.2	347.2	7.04	50.327			
1,700.0	1,700.0	1,684.3	1,684.0	3.7	3.8	-149.10	-304.5	-182.2	354.9	347.4	7.50	47.338			
1,800.0	1,800.0	1,784.4	1,784.0	3.9	4.0	-148.68	-303.9	-184.9	355.8	347.8	7.96	44.697			
1,900.0	1,900.0	1,884.8	1,884.4	4.2	4.3	-148.27	-303.3	-187.5	356.5	348.1	8.43	42.306			
2,000.0	2,000.0	1,985.0	1,984.5	4.4	4.5	-147.87	-302.5	-190.0	357.2	348.3	8.90	40.138			
2,100.0	2,100.0	2,085.5	2,085.1	4.6	4.8	-147.45	-301.7	-192.5	357.9	348.5	9.38	38.158			
2,200.0	2,200.0	2,185.7	2,185.2	4.8	5.0	-147.07	-300.8	-194.8	358.4	348.5	9.86	36.352			
2,300.0	2,300.0	2,285.7	2,285.2	5.1	5.3	-139.83	-299.9	-197.0	360.2	349.9	10.34	34.849			
2,400.0	2,399.8	2,385.2	2,384.7	5.3	5.5	-139.95	-299.2	-199.2	364.7	353.9	10.80	33.757			
2,500.0	2,499.5	2,485.0	2,484.4	5.5	5.8	-140.37	-298.4	-201.4	372.0	360.7	11.27	33.016			
2,600.0	2,598.7	2,584.3	2,583.8	5.7	6.0	-141.08	-297.6	-203.7	381.8	370.1	11.74	32.537			
2,700.0	2,697.9	2,685.0	2,684.4	6.0	6.3	-141.89	-296.6	-206.0	392.1	379.9	12.23	32.067			
2,800.0	2,797.1	2,784.9	2,784.2	6.2	6.6	-142.67	-295.4	-208.1	402.2	389.5	12.73	31.608			
2,900.0	2,896.3	2,883.8	2,883.1	6.5	6.8	-143.44	-294.4	-209.9	412.4	399.1	13.22	31.187			
3,000.0	2,995.5	2,983.1	2,982.4	6.7	7.1	-144.21	-293.5	-211.6	422.7	408.9	13.72	30.802			
3,100.0	3,094.7	3,081.2	3,080.5	7.0	7.4	-144.92	-292.7	-213.4	433.1	418.9	14.22	30.462			
3,200.0	3,193.9	3,177.5	3,176.7	7.3	7.6	-145.54	-292.2	-215.6	444.1	429.4	14.71	30.202			
3,300.0	3,293.1	3,270.2	3,269.4	7.5	7.8	-146.00	-292.1	-218.9	456.2	441.0	15.18	30.060			
3,400.0	3,392.3	3,365.9	3,364.9	7.8	8.1	-146.21	-292.3	-224.7	469.6	453.9	15.66	29.995			
3,500.0	3,491.5	3,469.6	3,468.4	8.1	8.3	-146.28	-291.8	-232.0	482.9	466.8	16.16	29.880			
3,600.0	3,590.7	3,574.8	3,573.4	8.4	8.6	-146.48	-290.6	-237.8	494.9	478.2	16.68	29.668			
3,700.0	3,689.9	3,677.1	3,675.6	8.7	8.9	-146.88	-289.4	-241.5	505.6	488.4	17.20	29.396			
3,800.0	3,789.5	3,778.3	3,776.8	8.9	9.1	-147.25	-288.4	-243.8	513.3	495.7	17.68	29.040			
3,900.0	3,889.3	3,878.6	3,877.1	9.1	9.4	-147.44	-287.5	-245.3	517.9	499.8	18.13	28.560			
4,000.0	3,989.3	3,978.6	3,977.1	9.2	9.7	-147.39	-286.6	-246.8	519.6	501.0	18.57	27.974			
4,100.0	4,089.3	4,081.1	4,079.6	9.4	9.9	-154.24	-285.6	-248.1	519.3	500.2	19.03	27.285			
4,200.0	4,189.3	4,182.1	4,180.5	9.6	10.1	-154.15	-284.6	-248.4	518.5	499.0	19.44	26.668			
4,300.0	4,289.3	4,282.1	4,280.5	9.8	10.2	-154.18	-284.0	-247.9	517.7	497.9	19.77	26.186			
4,400.0	4,389.3	4,379.6	4,378.0	10.1	10.3	-154.23	-283.6	-247.2	517.1	497.0	20.04	25.800			
4,463.0	4,452.3	4,440.9	4,439.3	10.2	10.3	-154.27	-283.7	-246.8	517.0	496.8	20.19	25.602			
4,500.0	4,489.3	4,476.9	4,475.3	10.3	10.3	-154.30	-283.8	-246.6	517.0	496.7	20.28	25.498			
4,600.0	4,589.3	4,577.0	4,575.4	10.5	10.3	-154.36	-284.3	-246.3	517.2	496.7	20.50	25.228			
4,700.0	4,689.3	4,675.9	4,674.4	10.7	10.3	-154.41	-284.7	-245.9	517.5	496.7	20.74	24.948			
4,800.0	4,789.3	4,773.1	4,771.5	10.9	10.4	-154.47	-285.5	-245.7	518.1	497.1	21.00	24.673			

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



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS														Offset Well Error:	0.0 ft
Reference															
Offset															
Semi Major Axis															
Distance															
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
4,900.0	4,889.3	4,871.8	4,870.3	11.1	10.4	-154.58	-286.9	-245.2	519.2	497.9	21.27	24.413			
5,000.0	4,989.3	4,970.5	4,968.9	11.3	10.5	-154.69	-288.4	-244.9	520.5	498.9	21.55	24.152			
5,100.0	5,089.3	5,069.5	5,067.9	11.5	10.5	-154.79	-290.2	-244.7	522.0	500.2	21.84	23.898			
5,200.0	5,189.3	5,170.5	5,168.9	11.8	10.6	-154.95	-292.3	-244.1	523.6	501.4	22.13	23.658			
5,300.0	5,289.3	5,273.1	5,271.4	12.0	10.7	-155.19	-294.3	-242.6	524.8	502.4	22.41	23.419			
5,400.0	5,389.3	5,374.1	5,372.4	12.2	10.7	-155.47	-296.1	-240.6	525.6	502.9	22.68	23.173			
5,500.0	5,489.3	5,473.8	5,472.1	12.4	10.8	-155.75	-297.9	-238.6	526.3	503.4	22.96	22.927			
5,600.0	5,589.3	5,573.0	5,571.2	12.6	10.8	-156.01	-299.6	-236.8	527.2	504.0	23.24	22.683			
5,700.0	5,689.3	5,672.0	5,670.2	12.8	10.9	-156.22	-301.4	-235.4	528.3	504.7	23.54	22.443			
5,800.0	5,789.3	5,771.1	5,769.3	13.1	11.0	-156.40	-303.2	-234.4	529.5	505.7	23.85	22.205			
5,900.0	5,889.3	5,871.4	5,869.5	13.3	11.1	-156.55	-304.9	-233.7	530.8	506.7	24.18	21.957			
6,000.0	5,989.3	5,974.3	5,972.5	13.5	11.3	-156.60	-306.1	-233.6	531.9	507.4	24.53	21.684			
6,100.0	6,089.3	6,078.5	6,076.7	13.7	11.4	-156.63	-306.6	-233.5	532.2	507.3	24.88	21.391			
6,200.0	6,189.3	6,181.8	6,180.0	13.9	11.5	-156.64	-306.2	-233.3	531.8	506.6	25.24	21.072			
6,300.0	6,289.3	6,284.3	6,282.5	14.1	11.7	-156.62	-305.3	-233.0	530.9	505.3	25.63	20.714			
6,400.0	6,389.3	6,384.5	6,382.6	14.4	11.9	-156.56	-303.9	-233.1	529.7	503.6	26.05	20.337			
6,500.0	6,489.3	6,484.5	6,482.7	14.6	12.1	-156.45	-302.5	-233.5	528.5	502.0	26.48	19.961			
6,600.0	6,589.3	6,584.4	6,582.5	14.8	12.3	-156.33	-300.9	-234.1	527.3	500.4	26.91	19.592			
6,700.0	6,689.3	6,687.7	6,685.8	15.0	12.5	-156.25	-299.3	-234.1	525.9	498.5	27.34	19.236			
6,800.0	6,789.3	6,790.9	6,789.0	15.2	12.7	-156.29	-297.4	-232.9	523.8	496.0	27.73	18.890			
6,900.0	6,889.3	6,895.1	6,893.1	15.4	12.8	23.66	-295.0	-231.1	520.8	492.7	28.10	18.535			
7,000.0	6,988.9	6,998.0	6,995.9	15.6	13.0	24.29	-292.1	-228.6	509.2	481.1	28.16	18.083			
7,100.0	7,086.4	7,095.7	7,093.6	15.7	13.1	25.97	-289.1	-225.6	485.6	457.7	27.90	17.407			
7,200.0	7,180.3	7,191.9	7,189.7	15.8	13.3	29.03	-285.9	-222.2	450.5	423.1	27.40	16.440			
7,300.0	7,269.0	7,280.5	7,278.1	15.9	13.4	33.96	-282.7	-218.4	405.1	378.2	26.87	15.073			
7,400.0	7,350.8	7,362.0	7,359.4	16.0	13.6	41.73	-279.6	-214.4	351.3	324.6	26.71	13.152			
7,500.0	7,424.5	7,434.9	7,432.2	16.1	13.7	53.51	-276.5	-210.5	292.3	264.8	27.48	10.635			
7,600.0	7,488.7	7,496.9	7,494.0	16.5	13.8	69.28	-273.3	-207.0	234.3	205.0	29.23	8.015			
7,700.0	7,542.4	7,547.0	7,543.9	16.9	13.9	85.56	-270.4	-204.1	190.7	159.9	30.72	6.207			
7,765.8	7,571.5	7,572.7	7,569.5	17.3	13.9	93.82	-268.7	-202.6	180.5	149.4	31.15	5.796 CC, ES, SF			
7,800.0	7,584.6	7,583.8	7,580.5	17.5	13.9	96.93	-267.9	-201.9	183.5	152.2	31.26	5.870			
7,900.0	7,614.6	7,607.2	7,603.9	18.3	14.0	100.84	-266.3	-200.3	222.8	191.1	31.78	7.011			
8,000.0	7,632.0	7,617.8	7,614.4	19.2	14.0	96.71	-265.6	-199.6	293.0	260.0	33.01	8.877			
8,100.0	7,636.5	7,615.2	7,611.9	20.3	14.0	85.86	-265.7	-199.8	377.4	343.2	34.21	11.032			
8,200.0	7,636.1	7,607.6	7,604.3	21.5	14.0	83.45	-266.3	-200.3	468.0	432.7	35.27	13.269			
8,300.0	7,635.7	7,600.0	7,596.7	22.8	14.0	81.09	-266.8	-200.8	561.6	525.2	36.36	15.444			
8,400.0	7,635.4	7,593.0	7,589.7	24.1	13.9	78.94	-267.3	-201.3	657.0	619.5	37.50	17.521			
8,500.0	7,635.0	7,586.2	7,583.0	25.5	13.9	76.91	-267.8	-201.7	753.6	714.9	38.66	19.492			
8,600.0	7,634.6	7,579.7	7,576.5	27.0	13.9	74.98	-268.2	-202.1	850.9	811.0	39.83	21.361			
8,700.0	7,634.3	7,573.3	7,570.1	28.6	13.9	73.14	-268.6	-202.5	948.7	907.7	41.01	23.132			



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 8585-UNKNOWN														Offset Well Error:	0.0 ft
Existings Sec.32-T1N-R67W - Jacobucci 24-32 (Exist.) - Wellbore #1 - Wellbore #1															
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		
8,700.0	7,634.3	7,659.3	7,659.3	28.6	153.2	-91.29	-2,163.9	134.5	977.8	796.1	181.72	5.381			
8,800.0	7,633.9	7,658.9	7,658.9	30.2	153.2	-91.16	-2,163.9	134.5	879.3	696.0	183.31	4.797			
8,900.0	7,633.5	7,658.5	7,658.5	31.8	153.2	-91.02	-2,163.9	134.5	781.1	596.2	184.93	4.224			
9,000.0	7,633.2	7,658.2	7,658.2	33.4	153.2	-90.89	-2,163.9	134.5	683.4	496.9	186.58	3.663			
9,100.0	7,632.8	7,657.8	7,657.8	35.1	153.2	-90.76	-2,163.9	134.5	586.6	398.3	188.26	3.116			
9,200.0	7,632.4	7,657.4	7,657.4	36.8	153.1	-90.62	-2,163.9	134.5	490.9	301.0	189.96	2.584			
9,300.0	7,632.1	7,657.1	7,657.1	38.5	153.1	-90.49	-2,163.9	134.5	397.5	205.8	191.68	2.074			
9,400.0	7,631.7	7,656.7	7,656.7	40.3	153.1	-90.35	-2,163.9	134.5	308.1	114.7	193.41	1.593			
9,500.0	7,631.3	7,656.3	7,656.3	42.0	153.1	-90.22	-2,163.9	134.5	227.8	32.7	195.16	1.167	Level 2		
9,600.0	7,631.0	7,656.0	7,656.0	43.8	153.1	-90.09	-2,163.9	134.5	169.9	-27.0	196.93	0.863	Level 1		
9,665.2	7,630.7	7,655.7	7,655.7	45.0	153.1	-90.00	-2,163.9	134.5	156.9	-41.2	198.08	0.792	Level 1, CC, ES, SF		
9,700.0	7,630.6	7,655.6	7,655.6	45.6	153.1	-89.95	-2,163.9	134.5	160.7	-38.0	198.70	0.809	Level 1		
9,800.0	7,630.2	7,655.2	7,655.2	47.4	153.1	-89.82	-2,163.9	134.5	206.9	6.4	200.48	1.032	Level 2		
9,900.0	7,629.9	7,654.9	7,654.9	49.2	153.1	-89.69	-2,163.9	134.5	282.4	80.1	202.27	1.396	Level 3		
10,000.0	7,629.5	7,654.5	7,654.5	51.0	153.1	-89.55	-2,163.9	134.5	369.7	165.7	204.07	1.812			
10,100.0	7,629.1	7,654.1	7,654.1	52.8	153.1	-89.42	-2,163.9	134.5	462.2	256.4	205.88	2.245			
10,200.0	7,628.8	7,653.8	7,653.8	54.6	153.1	-89.28	-2,163.9	134.5	557.3	349.7	207.69	2.684			
10,300.0	7,628.4	7,653.4	7,653.4	56.5	153.1	-89.15	-2,163.9	134.5	653.9	444.4	209.50	3.121			
10,400.0	7,628.0	7,653.0	7,653.0	58.3	153.1	-89.02	-2,163.9	134.5	751.4	540.1	211.32	3.556			
10,500.0	7,627.7	7,652.7	7,652.7	60.1	153.1	-88.88	-2,163.9	134.5	849.4	636.3	213.14	3.985			
10,600.0	7,627.3	7,652.3	7,652.3	62.0	153.0	-88.75	-2,163.9	134.5	947.9	732.9	214.97	4.409			

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 5107-UNKNOWN														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	-150.94	-433.5	-240.9	496.0						
100.0	100.0	91.0	91.0	0.1	1.8	-150.94	-433.5	-240.9	495.9	494.0	1.93	256.624			
200.0	200.0	191.0	191.0	0.3	3.8	-150.94	-433.5	-240.9	495.9	491.8	4.16	119.294			
300.0	300.0	291.0	291.0	0.6	5.8	-150.94	-433.5	-240.9	495.9	489.6	6.38	77.709			
400.0	400.0	391.0	391.0	0.8	7.8	-150.94	-433.5	-240.9	495.9	487.3	8.61	57.622			
500.0	500.0	491.0	491.0	1.0	9.8	-150.94	-433.5	-240.9	495.9	485.1	10.83	45.787			
600.0	600.0	591.0	591.0	1.2	11.8	-150.94	-433.5	-240.9	495.9	482.9	13.06	37.985			
700.0	700.0	691.0	691.0	1.5	13.8	-150.94	-433.5	-240.9	495.9	480.7	15.28	32.455			
800.0	800.0	791.0	791.0	1.7	15.8	-150.94	-433.5	-240.9	495.9	478.4	17.51	28.330			
900.0	900.0	891.0	891.0	1.9	17.8	-150.94	-433.5	-240.9	495.9	476.2	19.73	25.136			
1,000.0	1,000.0	991.0	991.0	2.1	19.8	-150.94	-433.5	-240.9	495.9	474.0	21.96	22.589			
1,100.0	1,100.0	1,091.0	1,091.0	2.4	21.8	-150.94	-433.5	-240.9	495.9	471.8	24.18	20.510			
1,200.0	1,200.0	1,191.0	1,191.0	2.6	23.8	-150.94	-433.5	-240.9	495.9	469.5	26.40	18.782			
1,300.0	1,300.0	1,291.0	1,291.0	2.8	25.8	-150.94	-433.5	-240.9	495.9	467.3	28.63	17.323			
1,400.0	1,400.0	1,391.0	1,391.0	3.0	27.8	-150.94	-433.5	-240.9	495.9	465.1	30.85	16.074			
1,500.0	1,500.0	1,491.0	1,491.0	3.3	29.8	-150.94	-433.5	-240.9	495.9	462.9	33.08	14.993			
1,600.0	1,600.0	1,591.0	1,591.0	3.5	31.8	-150.94	-433.5	-240.9	495.9	460.6	35.30	14.048			
1,700.0	1,700.0	1,691.0	1,691.0	3.7	33.8	-150.94	-433.5	-240.9	495.9	458.4	37.53	13.215			
1,800.0	1,800.0	1,791.0	1,791.0	3.9	35.8	-150.94	-433.5	-240.9	495.9	456.2	39.75	12.476			
1,900.0	1,900.0	1,891.0	1,891.0	4.2	37.8	-150.94	-433.5	-240.9	495.9	454.0	41.98	11.814			
2,000.0	2,000.0	1,991.0	1,991.0	4.4	39.8	-150.94	-433.5	-240.9	495.9	451.7	44.20	11.220			
2,100.0	2,100.0	2,091.0	2,091.0	4.6	41.8	-150.94	-433.5	-240.9	495.9	449.5	46.43	10.682			
2,200.0	2,200.0	2,191.0	2,191.0	4.8	43.8	-150.94	-433.5	-240.9	495.9	447.3	48.65	10.194 CC			
2,300.0	2,300.0	2,291.0	2,291.0	5.1	45.8	-144.02	-433.5	-240.9	497.4	446.5	50.86	9.780 ES			
2,400.0	2,399.8	2,390.8	2,390.8	5.3	47.8	-144.32	-433.5	-240.9	501.6	448.6	53.01	9.462			
2,500.0	2,499.5	2,490.5	2,490.5	5.5	49.8	-144.81	-433.5	-240.9	508.7	453.6	55.12	9.230			
2,600.0	2,598.7	2,589.7	2,589.7	5.7	51.8	-145.50	-433.5	-240.9	518.6	461.3	57.22	9.062			
2,700.0	2,697.9	2,688.9	2,688.9	6.0	53.8	-146.27	-433.5	-240.9	529.1	469.6	59.42	8.904			
2,800.0	2,797.1	2,788.1	2,788.1	6.2	55.8	-147.02	-433.5	-240.9	539.7	478.1	61.62	8.758			
2,900.0	2,896.3	2,887.3	2,887.3	6.5	57.7	-147.74	-433.5	-240.9	550.4	486.5	63.83	8.623			
3,000.0	2,995.5	2,986.5	2,986.5	6.7	59.7	-148.42	-433.5	-240.9	561.2	495.1	66.03	8.498			
3,100.0	3,094.7	3,085.7	3,085.7	7.0	61.7	-149.09	-433.5	-240.9	572.0	503.8	68.24	8.382			
3,200.0	3,193.9	3,184.9	3,184.9	7.3	63.7	-149.73	-433.5	-240.9	582.9	512.5	70.45	8.275			
3,300.0	3,293.1	3,284.1	3,284.1	7.5	65.7	-150.34	-433.5	-240.9	593.9	521.3	72.66	8.175			
3,400.0	3,392.3	3,383.3	3,383.3	7.8	67.7	-150.93	-433.5	-240.9	605.0	530.1	74.86	8.081			
3,500.0	3,491.5	3,482.5	3,482.5	8.1	69.6	-151.51	-433.5	-240.9	616.1	539.1	77.07	7.994			
3,600.0	3,590.7	3,581.7	3,581.7	8.4	71.6	-152.06	-433.5	-240.9	627.3	548.0	79.28	7.912			
3,700.0	3,689.9	3,680.9	3,680.9	8.7	73.6	-152.62	-433.5	-240.9	638.1	556.5	81.61	7.819			
3,800.0	3,789.5	3,780.5	3,780.5	8.9	75.6	-153.06	-433.5	-240.9	646.2	562.2	83.97	7.696			
3,900.0	3,889.3	3,880.3	3,880.3	9.1	77.6	-153.33	-433.5	-240.9	651.2	565.0	86.26	7.549			
4,000.0	3,989.3	3,980.3	3,980.3	9.2	79.6	-153.43	-433.5	-240.9	653.1	564.6	88.48	7.382			
4,100.0	4,089.3	4,080.3	4,080.3	9.4	81.6	-160.45	-433.5	-240.9	653.1	562.5	90.67	7.204			
4,200.0	4,189.3	4,180.3	4,180.3	9.6	83.6	-160.45	-433.5	-240.9	653.1	560.2	92.89	7.031			
4,300.0	4,289.3	4,280.3	4,280.3	9.8	85.6	-160.45	-433.5	-240.9	653.1	558.0	95.11	6.867			
4,400.0	4,389.3	4,380.3	4,380.3	10.1	87.6	-160.45	-433.5	-240.9	653.1	555.8	97.33	6.711			
4,500.0	4,489.3	4,480.3	4,480.3	10.3	89.6	-160.45	-433.5	-240.9	653.1	553.6	99.55	6.561			
4,600.0	4,589.3	4,580.3	4,580.3	10.5	91.6	-160.45	-433.5	-240.9	653.1	551.4	101.77	6.418			
4,700.0	4,689.3	4,680.3	4,680.3	10.7	93.6	-160.45	-433.5	-240.9	653.1	549.1	103.99	6.281			
4,800.0	4,789.3	4,780.3	4,780.3	10.9	95.6	-160.45	-433.5	-240.9	653.1	546.9	106.21	6.150			
4,900.0	4,889.3	4,880.3	4,880.3	11.1	97.6	-160.45	-433.5	-240.9	653.1	544.7	108.43	6.024			
5,000.0	4,989.3	4,980.3	4,980.3	11.3	99.6	-160.45	-433.5	-240.9	653.1	542.5	110.65	5.903			

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b>													Offset Site Error:	0.0 ft
Survey Program: 5107-UNKNOWN													Offset Well Error:	0.0 ft
Reference														
Offset														
Semi Major Axis														
Distance														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,100.0	5,089.3	5,080.3	5,080.3	11.5	101.6	-160.45	-433.5	-240.9	653.1	540.3	112.87	5.787		
5,200.0	5,189.3	5,107.0	5,107.0	11.8	102.1	-160.45	-433.5	-240.9	657.2	543.6	113.62	5.784 SF		
5,300.0	5,289.3	5,107.0	5,107.0	12.0	102.1	-160.45	-433.5	-240.9	675.7	561.9	113.84	5.936		
5,400.0	5,389.3	5,107.0	5,107.0	12.2	102.1	-160.45	-433.5	-240.9	708.0	593.9	114.07	6.207		
5,500.0	5,489.3	5,107.0	5,107.0	12.4	102.1	-160.45	-433.5	-240.9	752.3	638.0	114.29	6.582		
5,600.0	5,589.3	5,107.0	5,107.0	12.6	102.1	-160.45	-433.5	-240.9	806.6	692.1	114.51	7.044		
5,700.0	5,689.3	5,107.0	5,107.0	12.8	102.1	-160.45	-433.5	-240.9	869.1	754.3	114.73	7.575		
5,800.0	5,789.3	5,107.0	5,107.0	13.1	102.1	-160.45	-433.5	-240.9	938.0	823.1	114.95	8.160		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
0.0	0.0	0.0	0.0	0.0	0.0	90.02	0.0	30.8	30.8						
100.0	100.0	100.0	100.0	0.1	0.1	90.02	0.0	30.8	30.8	30.6	0.22	137.098			
200.0	200.0	200.0	200.0	0.3	0.3	90.02	0.0	30.8	30.8	30.1	0.67	45.699			
300.0	300.0	300.0	300.0	0.6	0.6	90.02	0.0	30.8	30.8	29.7	1.12	27.420			
400.0	400.0	400.0	400.0	0.8	0.8	90.02	0.0	30.8	30.8	29.2	1.57	19.585			
500.0	500.0	500.0	500.0	1.0	1.0	90.02	0.0	30.8	30.8	28.8	2.02	15.233			
600.0	600.0	600.0	600.0	1.2	1.2	90.02	0.0	30.8	30.8	28.3	2.47	12.463			
700.0	700.0	700.0	700.0	1.5	1.5	90.02	0.0	30.8	30.8	27.9	2.92	10.546			
800.0	800.0	800.0	800.0	1.7	1.7	90.02	0.0	30.8	30.8	27.4	3.37	9.140			
900.0	900.0	900.0	900.0	1.9	1.9	90.02	0.0	30.8	30.8	27.0	3.82	8.065			
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	90.02	0.0	30.8	30.8	26.5	4.27	7.216			
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	90.02	0.0	30.8	30.8	26.1	4.72	6.528			
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	90.02	0.0	30.8	30.8	25.6	5.17	5.961			
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	90.02	0.0	30.8	30.8	25.2	5.62	5.484			
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	90.02	0.0	30.8	30.8	24.7	6.07	5.078			
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	90.02	0.0	30.8	30.8	24.3	6.52	4.728			
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	90.02	0.0	30.8	30.8	23.8	6.97	4.423 CC, ES			
1,700.0	1,700.0	1,699.1	1,699.1	3.7	3.7	88.27	1.0	32.2	32.2	24.8	7.41	4.352			
1,800.0	1,800.0	1,797.9	1,797.8	3.9	3.9	83.84	3.9	36.4	36.7	28.8	7.85	4.675			
1,900.0	1,900.0	1,896.3	1,895.8	4.2	4.1	78.49	8.8	43.3	44.4	36.1	8.28	5.361			
2,000.0	2,000.0	1,994.8	1,993.6	4.4	4.4	73.65	15.5	52.8	55.4	46.6	8.73	6.344			
2,100.0	2,100.0	2,094.0	2,092.0	4.6	4.6	70.25	22.5	62.7	67.1	58.0	9.17	7.321			
2,200.0	2,200.0	2,193.2	2,190.5	4.8	4.9	67.88	29.6	72.7	79.0	69.4	9.61	8.224			
2,300.0	2,300.0	2,292.6	2,289.1	5.1	5.1	73.98	36.6	82.7	90.6	80.5	10.05	9.010			
2,400.0	2,399.8	2,392.0	2,387.7	5.3	5.4	75.15	43.7	92.7	101.2	90.7	10.50	9.639			
2,500.0	2,499.5	2,491.3	2,486.4	5.5	5.7	77.82	50.7	102.6	111.1	100.1	10.95	10.145			
2,600.0	2,598.7	2,590.6	2,584.8	5.7	5.9	81.61	57.7	112.6	120.7	109.3	11.42	10.573			
2,700.0	2,697.9	2,689.7	2,683.2	6.0	6.2	85.25	64.8	122.6	130.7	118.8	11.90	10.989			
2,800.0	2,797.1	2,788.9	2,781.7	6.2	6.5	88.36	71.8	132.5	141.2	128.8	12.39	11.398			
2,900.0	2,896.3	2,888.1	2,880.1	6.5	6.8	91.04	78.8	142.5	152.0	139.1	12.89	11.793			
3,000.0	2,995.5	2,987.3	2,978.5	6.7	7.1	93.36	85.9	152.5	163.1	149.7	13.40	12.171			
3,100.0	3,094.7	3,086.4	3,076.9	7.0	7.4	95.38	92.9	162.4	174.5	160.6	13.93	12.530			
3,200.0	3,193.9	3,185.6	3,175.4	7.3	7.7	97.15	99.9	172.4	186.0	171.6	14.45	12.870			
3,300.0	3,293.1	3,284.8	3,273.8	7.5	7.9	98.72	107.0	182.4	197.7	182.7	14.99	13.191			
3,400.0	3,392.3	3,384.0	3,372.2	7.8	8.2	100.11	114.0	192.3	209.5	194.0	15.53	13.493			
3,500.0	3,491.5	3,483.2	3,470.6	8.1	8.5	101.35	121.1	202.3	221.5	205.4	16.08	13.777			
3,600.0	3,590.7	3,582.3	3,569.1	8.4	8.8	102.46	128.1	212.3	233.5	216.9	16.62	14.045			
3,700.0	3,689.9	3,681.5	3,667.5	8.7	9.1	103.48	135.1	222.2	245.5	228.3	17.16	14.303			
3,800.0	3,789.5	3,780.9	3,766.1	8.9	9.4	103.83	142.2	232.2	256.8	239.1	17.65	14.552			
3,900.0	3,889.3	3,880.3	3,864.8	9.1	9.7	103.43	149.2	242.2	267.3	249.2	18.10	14.765			
4,000.0	3,989.3	3,979.6	3,963.4	9.2	10.1	102.35	156.3	252.2	277.0	258.5	18.53	14.952			
4,100.0	4,089.3	4,078.9	4,061.8	9.4	10.4	93.76	163.3	262.2	286.5	267.6	18.95	15.121			
4,200.0	4,189.3	4,179.3	4,161.5	9.6	10.7	92.25	170.4	272.2	296.2	276.8	19.39	15.276			
4,300.0	4,289.3	4,287.9	4,269.6	9.8	10.9	91.01	176.6	281.0	304.1	284.3	19.80	15.359			
4,400.0	4,389.3	4,397.2	4,378.7	10.1	11.1	90.28	180.5	286.5	309.1	288.9	20.21	15.297			
4,500.0	4,489.3	4,506.9	4,488.3	10.3	11.3	90.00	182.0	288.6	311.0	290.4	20.61	15.091			
4,600.0	4,589.3	4,607.9	4,589.3	10.5	11.5	90.00	182.0	288.6	311.0	290.0	21.01	14.804			
4,700.0	4,689.3	4,707.9	4,689.3	10.7	11.7	90.00	182.0	288.6	311.0	289.6	21.43	14.515			
4,800.0	4,789.3	4,807.9	4,789.3	10.9	11.9	90.00	182.0	288.6	311.0	289.2	21.85	14.237			
4,900.0	4,889.3	4,907.9	4,889.3	11.1	12.1	90.00	182.0	288.6	311.0	288.8	22.27	13.968			
5,000.0	4,989.3	5,007.9	4,989.3	11.3	12.3	90.00	182.0	288.6	311.0	288.3	22.69	13.709			

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Jacobucci 1N67W32O Pad Sec.32-T1N-R67W - Jacobucci 32O-303 - Wellbore #1 - Plan #1 (7-25-14)										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.0	5,089.3	5,107.9	5,089.3	11.5	12.5	90.00	182.0	288.6	311.0	287.9	23.11	13.458		
5,200.0	5,189.3	5,207.9	5,189.3	11.8	12.7	90.00	182.0	288.6	311.0	287.5	23.53	13.216		
5,300.0	5,289.3	5,307.9	5,289.3	12.0	12.9	90.00	182.0	288.6	311.0	287.1	23.96	12.982		
5,400.0	5,389.3	5,407.9	5,389.3	12.2	13.1	90.00	182.0	288.6	311.0	286.6	24.38	12.756		
5,500.0	5,489.3	5,507.9	5,489.3	12.4	13.3	90.00	182.0	288.6	311.0	286.2	24.81	12.537		
5,600.0	5,589.3	5,607.9	5,589.3	12.6	13.5	90.00	182.0	288.6	311.0	285.8	25.24	12.325		
5,700.0	5,689.3	5,707.9	5,689.3	12.8	13.7	90.00	182.0	288.6	311.0	285.4	25.66	12.120		
5,800.0	5,789.3	5,807.9	5,789.3	13.1	13.9	90.00	182.0	288.6	311.0	284.9	26.09	11.921		
5,900.0	5,889.3	5,907.9	5,889.3	13.3	14.1	90.00	182.0	288.6	311.0	284.5	26.52	11.728		
6,000.0	5,989.3	6,007.9	5,989.3	13.5	14.3	90.00	182.0	288.6	311.0	284.1	26.95	11.541		
6,100.0	6,089.3	6,107.9	6,089.3	13.7	14.5	90.00	182.0	288.6	311.0	283.7	27.38	11.359		
6,200.0	6,189.3	6,207.9	6,189.3	13.9	14.7	90.00	182.0	288.6	311.0	283.2	27.81	11.183		
6,300.0	6,289.3	6,307.9	6,289.3	14.1	14.9	90.00	182.0	288.6	311.0	282.8	28.24	11.013		
6,400.0	6,389.3	6,407.9	6,389.3	14.4	15.1	90.00	182.0	288.6	311.0	282.4	28.68	10.847		
6,500.0	6,489.3	6,507.9	6,489.3	14.6	15.3	90.00	182.0	288.6	311.0	281.9	29.11	10.685		
6,600.0	6,589.3	6,607.9	6,589.3	14.8	15.5	90.00	182.0	288.6	311.0	281.5	29.54	10.529		
6,700.0	6,689.3	6,707.9	6,689.3	15.0	15.7	90.00	182.0	288.6	311.0	281.1	29.97	10.377		
6,800.0	6,789.3	6,807.9	6,789.3	15.2	15.9	90.00	182.0	288.6	311.0	280.6	30.41	10.228		
6,863.9	6,853.2	6,871.8	6,853.2	15.4	16.0	-90.08	182.0	288.6	311.0	280.4	30.68	10.137		
6,900.0	6,889.3	6,907.9	6,889.3	15.4	16.1	-90.03	182.0	288.6	311.0	280.2	30.84	10.086		
7,000.0	6,988.9	7,007.6	6,989.0	15.6	16.3	-91.61	181.9	288.6	311.2	280.0	31.16	9.985		
7,100.0	7,086.4	7,108.7	7,089.7	15.7	16.5	-94.13	173.9	288.6	311.9	280.5	31.37	9.942		
7,200.0	7,180.3	7,211.7	7,190.4	15.8	16.6	-96.60	152.1	288.6	313.1	281.6	31.50	9.941		
7,300.0	7,269.0	7,316.8	7,289.0	15.9	16.7	-98.95	116.2	288.6	314.9	283.3	31.60	9.967		
7,400.0	7,350.8	7,423.8	7,383.5	16.0	16.7	-101.14	66.1	288.6	317.1	285.4	31.71	9.999		
7,500.0	7,424.5	7,532.8	7,471.5	16.1	16.8	-103.12	2.0	288.6	319.5	287.6	31.91	10.012		
7,600.0	7,488.7	7,643.6	7,550.7	16.5	17.0	-104.86	-75.3	288.6	321.9	289.6	32.27	9.975		
7,700.0	7,542.4	7,756.1	7,618.9	16.9	17.2	-106.31	-164.7	288.6	324.2	291.3	32.88	9.859		
7,800.0	7,584.6	7,870.0	7,673.7	17.5	17.8	-107.46	-264.4	288.6	326.1	292.3	33.82	9.644		
7,900.0	7,614.6	7,985.0	7,713.5	18.3	18.6	-108.28	-372.2	288.6	327.6	292.5	35.12	9.329		
8,000.0	7,632.0	8,100.8	7,736.8	19.2	19.6	-108.75	-485.5	288.6	328.5	291.7	36.80	8.927		
8,100.0	7,636.5	8,214.7	7,742.8	20.3	20.8	-108.88	-599.1	288.6	328.7	289.9	38.83	8.465		
8,200.0	7,636.1	8,314.7	7,742.4	21.5	21.9	-108.87	-699.1	288.6	328.7	287.6	41.05	8.007		
8,300.0	7,635.7	8,414.7	7,742.0	22.8	23.2	-108.86	-799.1	288.6	328.7	285.2	43.46	7.562		
8,400.0	7,635.4	8,514.7	7,741.6	24.1	24.5	-108.85	-899.1	288.6	328.7	282.6	46.04	7.139		
8,500.0	7,635.0	8,614.7	7,741.1	25.5	25.9	-108.84	-999.1	288.6	328.6	279.9	48.75	6.741		
8,600.0	7,634.6	8,714.7	7,740.7	27.0	27.4	-108.83	-1,099.1	288.6	328.6	277.0	51.58	6.371		
8,700.0	7,634.3	8,814.7	7,740.3	28.6	28.9	-108.83	-1,199.1	288.6	328.6	274.1	54.51	6.028		
8,800.0	7,633.9	8,914.7	7,739.9	30.2	30.5	-108.82	-1,299.1	288.6	328.6	271.1	57.53	5.712		
8,900.0	7,633.5	9,014.7	7,739.5	31.8	32.1	-108.81	-1,399.1	288.6	328.6	268.0	60.61	5.421		
9,000.0	7,633.2	9,114.7	7,739.0	33.4	33.7	-108.80	-1,499.1	288.6	328.6	264.8	63.76	5.153		
9,100.0	7,632.8	9,214.7	7,738.6	35.1	35.4	-108.79	-1,599.1	288.6	328.5	261.6	66.96	4.907		
9,200.0	7,632.4	9,314.7	7,738.2	36.8	37.1	-108.78	-1,699.1	288.6	328.5	258.3	70.20	4.680		
9,300.0	7,632.1	9,414.7	7,737.8	38.5	38.8	-108.77	-1,799.1	288.6	328.5	255.0	73.49	4.470		
9,400.0	7,631.7	9,514.7	7,737.4	40.3	40.5	-108.76	-1,899.1	288.6	328.5	251.7	76.80	4.277		
9,500.0	7,631.3	9,614.7	7,737.0	42.0	42.2	-108.76	-1,999.1	288.6	328.5	248.3	80.15	4.098		
9,600.0	7,631.0	9,714.7	7,736.5	43.8	44.0	-108.75	-2,099.1	288.6	328.5	244.9	83.52	3.932		
9,700.0	7,630.6	9,814.7	7,736.1	45.6	45.8	-108.74	-2,199.1	288.6	328.4	241.5	86.92	3.779		
9,800.0	7,630.2	9,914.7	7,735.7	47.4	47.6	-108.73	-2,299.1	288.6	328.4	238.1	90.34	3.635		
9,900.0	7,629.9	10,014.7	7,735.3	49.2	49.3	-108.72	-2,399.1	288.6	328.4	234.6	93.78	3.502		

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance								
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	7,629.5	10,114.7	7,734.9	51.0	51.1	-108.71	-2,499.1	288.6	328.4	231.2	97.23	3.377			
10,100.0	7,629.1	10,214.7	7,734.4	52.8	53.0	-108.70	-2,599.1	288.6	328.4	227.7	100.70	3.261			
10,200.0	7,628.8	10,314.7	7,734.0	54.6	54.8	-108.70	-2,699.1	288.6	328.4	224.2	104.18	3.152			
10,300.0	7,628.4	10,414.7	7,733.6	56.5	56.6	-108.69	-2,799.1	288.6	328.3	220.7	107.68	3.049			
10,400.0	7,628.0	10,514.7	7,733.2	58.3	58.4	-108.68	-2,899.1	288.6	328.3	217.1	111.18	2.953			
10,500.0	7,627.7	10,614.7	7,732.8	60.1	60.3	-108.67	-2,999.1	288.6	328.3	213.6	114.70	2.862			
10,600.0	7,627.3	10,714.7	7,732.3	62.0	62.1	-108.66	-3,099.1	288.6	328.3	210.1	118.22	2.777			
10,700.0	7,626.9	10,814.7	7,731.9	63.8	63.9	-108.65	-3,199.1	288.6	328.3	206.5	121.75	2.696			
10,800.0	7,626.6	10,914.7	7,731.5	65.7	65.8	-108.64	-3,299.1	288.6	328.3	203.0	125.30	2.620			
10,900.0	7,626.2	11,014.7	7,731.1	67.5	67.6	-108.64	-3,399.1	288.6	328.2	199.4	128.84	2.548			
11,000.0	7,625.8	11,114.7	7,730.7	69.4	69.5	-108.63	-3,499.1	288.6	328.2	195.8	132.40	2.479			
11,100.0	7,625.5	11,214.7	7,730.3	71.3	71.4	-108.62	-3,599.1	288.6	328.2	192.2	135.96	2.414			
11,200.0	7,625.1	11,314.7	7,729.8	73.1	73.2	-108.61	-3,699.1	288.6	328.2	188.7	139.53	2.352			
11,300.0	7,624.7	11,414.7	7,729.4	75.0	75.1	-108.60	-3,799.1	288.6	328.2	185.1	143.10	2.293			
11,400.0	7,624.4	11,514.7	7,729.0	76.9	76.9	-108.59	-3,899.1	288.6	328.2	181.5	146.68	2.237			
11,500.0	7,624.0	11,614.7	7,728.6	78.7	78.8	-108.58	-3,999.1	288.6	328.1	177.9	150.26	2.184			
11,600.0	7,623.6	11,714.7	7,728.2	80.6	80.7	-108.57	-4,099.1	288.6	328.1	174.3	153.84	2.133			
11,700.0	7,623.3	11,814.7	7,727.7	82.5	82.6	-108.57	-4,199.1	288.6	328.1	170.7	157.43	2.084			
11,800.0	7,622.9	11,914.7	7,727.3	84.4	84.4	-108.56	-4,299.1	288.6	328.1	167.1	161.03	2.037			
11,900.0	7,622.5	12,014.7	7,726.9	86.2	86.3	-108.55	-4,399.1	288.6	328.1	163.4	164.62	1.993			
12,000.0	7,622.2	12,114.7	7,726.5	88.1	88.2	-108.54	-4,499.1	288.6	328.1	159.8	168.23	1.950			
12,100.0	7,621.8	12,214.7	7,726.1	90.0	90.1	-108.53	-4,599.1	288.6	328.0	156.2	171.83	1.909			
12,200.0	7,621.4	12,314.7	7,725.6	91.9	91.9	-108.52	-4,699.1	288.6	328.0	152.6	175.44	1.870			
12,300.0	7,621.1	12,414.7	7,725.2	93.8	93.8	-108.51	-4,799.1	288.6	328.0	149.0	179.05	1.832			
12,400.0	7,620.7	12,514.7	7,724.8	95.6	95.7	-108.51	-4,899.1	288.6	328.0	145.3	182.66	1.796			
12,500.0	7,620.3	12,614.7	7,724.4	97.5	97.6	-108.50	-4,999.1	288.6	328.0	141.7	186.27	1.761			
12,600.0	7,620.0	12,714.7	7,724.0	99.4	99.5	-108.49	-5,099.1	288.6	328.0	138.1	189.89	1.727			
12,700.0	7,619.6	12,814.7	7,723.6	101.3	101.4	-108.48	-5,199.1	288.6	327.9	134.4	193.51	1.695			
12,800.0	7,619.2	12,914.7	7,723.1	103.2	103.3	-108.47	-5,299.1	288.6	327.9	130.8	197.13	1.663			
12,900.0	7,618.9	13,014.7	7,722.7	105.1	105.1	-108.46	-5,399.1	288.6	327.9	127.2	200.75	1.633			
13,000.0	7,618.5	13,114.7	7,722.3	107.0	107.0	-108.45	-5,499.1	288.6	327.9	123.5	204.38	1.604			
13,100.0	7,618.1	13,214.7	7,721.9	108.9	108.9	-108.44	-5,599.1	288.6	327.9	119.9	208.01	1.576			
13,200.0	7,617.8	13,314.7	7,721.5	110.8	110.8	-108.44	-5,699.1	288.6	327.9	116.2	211.64	1.549			
13,300.0	7,617.4	13,414.7	7,721.0	112.7	112.7	-108.43	-5,799.1	288.6	327.8	112.6	215.27	1.523			
13,400.0	7,617.0	13,514.7	7,720.6	114.6	114.6	-108.42	-5,899.1	288.6	327.8	108.9	218.90	1.498 Level 3			
13,500.0	7,616.7	13,614.7	7,720.2	116.5	116.5	-108.41	-5,999.1	288.6	327.8	105.3	222.53	1.473 Level 3			
13,600.0	7,616.3	13,714.7	7,719.8	118.4	118.4	-108.40	-6,099.1	288.6	327.8	101.6	226.17	1.449 Level 3			
13,700.0	7,615.9	13,814.7	7,719.4	120.3	120.3	-108.39	-6,199.1	288.6	327.8	98.0	229.81	1.426 Level 3			
13,800.0	7,615.6	13,914.7	7,718.9	122.1	122.2	-108.38	-6,299.1	288.6	327.8	94.3	233.45	1.404 Level 3			
13,900.0	7,615.2	14,014.7	7,718.5	124.0	124.1	-108.37	-6,399.1	288.6	327.7	90.7	237.09	1.382 Level 3			
14,000.0	7,614.8	14,114.7	7,718.1	125.9	126.0	-108.37	-6,499.1	288.6	327.7	87.0	240.73	1.361 Level 3			
14,100.0	7,614.5	14,214.7	7,717.7	127.8	127.9	-108.36	-6,599.1	288.6	327.7	83.3	244.37	1.341 Level 3			
14,200.0	7,614.1	14,314.7	7,717.3	129.7	129.8	-108.35	-6,699.1	288.6	327.7	79.7	248.01	1.321 Level 3			
14,300.0	7,613.7	14,414.7	7,716.8	131.6	131.7	-108.34	-6,799.1	288.6	327.7	76.0	251.66	1.302 Level 3			
14,400.0	7,613.4	14,514.7	7,716.4	133.5	133.6	-108.33	-6,899.1	288.6	327.7	72.4	255.31	1.283 Level 3			
14,500.0	7,613.0	14,614.7	7,716.0	135.4	135.5	-108.32	-6,999.1	288.6	327.6	68.7	258.95	1.265 Level 3			
14,502.4	7,613.0	14,617.1	7,716.0	135.5	135.5	-108.32	-7,001.5	288.6	327.6	68.6	259.04	1.265 Level 3			
14,502.9	7,613.0	14,617.2	7,716.0	135.5	135.5	-108.32	-7,001.6	288.6	327.6	68.6	259.05	1.265 Level 3, SF			



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	64.4	64.4					
100.0	100.0	100.0	100.0	0.1	0.1	90.00	0.0	64.4	64.4	64.2	0.22	286.659		
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	64.4	64.4	63.8	0.67	95.553		
300.0	300.0	300.0	300.0	0.6	0.6	90.00	0.0	64.4	64.4	63.3	1.12	57.332		
400.0	400.0	400.0	400.0	0.8	0.8	90.00	0.0	64.4	64.4	62.9	1.57	40.951		
500.0	500.0	500.0	500.0	1.0	1.0	90.00	0.0	64.4	64.4	62.4	2.02	31.851		
600.0	600.0	600.0	600.0	1.2	1.2	90.00	0.0	64.4	64.4	62.0	2.47	26.060		
700.0	700.0	700.0	700.0	1.5	1.5	90.00	0.0	64.4	64.4	61.5	2.92	22.051		
800.0	800.0	800.0	800.0	1.7	1.7	90.00	0.0	64.4	64.4	61.1	3.37	19.111		
900.0	900.0	900.0	900.0	1.9	1.9	90.00	0.0	64.4	64.4	60.6	3.82	16.862		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	90.00	0.0	64.4	64.4	60.2	4.27	15.087 CC, ES		
1,100.0	1,100.0	1,097.9	1,097.8	2.4	2.3	89.55	0.5	66.0	66.1	61.4	4.71	14.037		
1,200.0	1,200.0	1,195.5	1,195.4	2.6	2.6	88.34	2.0	70.8	71.0	65.8	5.14	13.815		
1,300.0	1,300.0	1,292.7	1,292.2	2.8	2.8	86.67	4.6	78.7	79.2	73.6	5.57	14.213		
1,400.0	1,400.0	1,389.2	1,388.0	3.0	3.0	84.84	8.1	89.6	90.7	84.7	6.01	15.099		
1,500.0	1,500.0	1,487.8	1,485.6	3.3	3.3	83.17	12.3	102.7	104.4	98.0	6.45	16.183		
1,600.0	1,600.0	1,586.8	1,583.6	3.5	3.5	81.87	16.6	115.9	118.2	111.3	6.90	17.141		
1,700.0	1,700.0	1,685.8	1,681.7	3.7	3.8	80.85	20.8	129.1	132.1	124.7	7.35	17.983		
1,800.0	1,800.0	1,784.8	1,779.7	3.9	4.1	80.02	25.1	142.4	146.0	138.2	7.79	18.727		
1,900.0	1,900.0	1,883.8	1,877.7	4.2	4.4	79.33	29.3	155.6	159.9	151.6	8.25	19.388		
2,000.0	2,000.0	1,982.8	1,975.8	4.4	4.7	78.75	33.6	168.8	173.8	165.1	8.70	19.980		
2,100.0	2,100.0	2,081.8	2,073.8	4.6	5.0	78.26	37.8	182.0	187.8	178.6	9.15	20.511		
2,200.0	2,200.0	2,180.9	2,171.8	4.8	5.4	77.84	42.1	195.3	201.7	192.1	9.61	20.990		
2,300.0	2,300.0	2,279.9	2,269.9	5.1	5.7	84.68	46.3	208.5	215.5	205.5	10.05	21.445		
2,400.0	2,399.8	2,378.9	2,367.9	5.3	6.0	85.37	50.6	221.7	229.0	218.5	10.51	21.802		
2,500.0	2,499.5	2,477.8	2,465.8	5.5	6.3	86.79	54.8	234.9	242.4	231.4	10.97	22.106		
2,600.0	2,598.7	2,576.4	2,563.4	5.7	6.6	88.85	59.1	248.1	255.9	244.5	11.44	22.374		
2,700.0	2,697.9	2,674.9	2,661.0	6.0	7.0	91.01	63.3	261.3	269.7	257.8	11.92	22.627		
2,800.0	2,797.1	2,773.5	2,758.6	6.2	7.3	92.96	67.5	274.4	283.9	271.5	12.42	22.867		
2,900.0	2,896.3	2,872.0	2,856.2	6.5	7.6	94.72	71.8	287.6	298.4	285.5	12.92	23.093		
3,000.0	2,995.5	2,970.6	2,953.7	6.7	8.0	96.32	76.0	300.7	313.1	299.7	13.44	23.305		
3,100.0	3,094.7	3,069.1	3,051.3	7.0	8.3	97.77	80.2	313.9	328.1	314.1	13.96	23.504		
3,200.0	3,193.9	3,167.6	3,148.9	7.3	8.6	99.10	84.4	327.1	343.2	328.7	14.49	23.691		
3,300.0	3,293.1	3,266.2	3,246.4	7.5	9.0	100.32	88.7	340.2	358.5	343.5	15.02	23.866		
3,400.0	3,392.3	3,364.7	3,344.0	7.8	9.3	101.44	92.9	353.4	374.0	358.4	15.56	24.031		
3,500.0	3,491.5	3,463.3	3,441.6	8.1	9.6	102.46	97.1	366.5	389.5	373.4	16.11	24.185		
3,600.0	3,590.7	3,561.8	3,539.2	8.4	10.0	103.41	101.4	379.7	405.2	388.6	16.66	24.330		
3,700.0	3,689.9	3,660.4	3,636.8	8.7	10.3	104.39	105.6	392.9	420.9	403.7	17.20	24.475		
3,800.0	3,789.5	3,759.3	3,734.6	8.9	10.6	105.04	109.9	406.1	435.8	418.2	17.69	24.644		
3,900.0	3,889.3	3,858.3	3,832.6	9.1	11.0	105.21	114.1	419.3	449.9	431.8	18.15	24.791		
4,000.0	3,989.3	3,957.3	3,930.7	9.2	11.3	104.96	118.4	432.5	463.1	444.5	18.58	24.923		
4,100.0	4,089.3	4,056.3	4,028.7	9.4	11.6	97.23	122.6	445.8	475.8	456.8	19.00	25.036		
4,200.0	4,189.3	4,155.3	4,126.8	9.6	12.0	96.53	126.9	459.0	488.6	469.1	19.45	25.118		
4,300.0	4,289.3	4,254.3	4,224.8	9.8	12.3	95.87	131.1	472.2	501.4	481.5	19.90	25.201		
4,400.0	4,389.3	4,353.3	4,322.8	10.1	12.6	95.25	135.4	485.4	514.3	493.9	20.34	25.282		
4,500.0	4,489.3	4,452.4	4,420.9	10.3	13.0	94.65	139.6	498.6	527.2	506.5	20.79	25.362		
4,600.0	4,589.3	4,551.4	4,518.9	10.5	13.3	94.08	143.9	511.9	540.3	519.0	21.24	25.441		
4,700.0	4,689.3	4,650.4	4,616.9	10.7	13.7	93.54	148.1	525.1	553.3	531.6	21.68	25.518		
4,800.0	4,789.3	4,749.4	4,715.0	10.9	14.0	93.02	152.4	538.3	566.4	544.3	22.13	25.594		
4,900.0	4,889.3	4,848.4	4,813.0	11.1	14.3	92.53	156.6	551.5	579.6	557.0	22.58	25.668		
5,000.0	4,989.3	4,947.4	4,911.0	11.3	14.7	92.06	160.9	564.8	592.8	569.7	23.03	25.741		

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Jacobucci 1N67W32O Pad Sec.32-T1N-R67W - Jacobucci 32O-423 - Wellbore #1 - Plan #1 (7-25-14)										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.0	5,089.3	5,046.4	5,009.1	11.5	15.0	91.61	165.1	578.0	606.0	582.5	23.48	25.811		
5,200.0	5,189.3	5,145.4	5,107.1	11.8	15.4	91.18	169.4	591.2	619.2	595.3	23.93	25.881		
5,300.0	5,289.3	5,246.3	5,207.0	12.0	15.7	90.76	173.7	604.7	632.5	608.2	24.38	25.946		
5,400.0	5,389.3	5,372.3	5,332.1	12.2	16.0	90.34	178.2	618.5	643.5	618.6	24.84	25.903		
5,500.0	5,489.3	5,499.3	5,458.8	12.4	16.3	90.09	180.9	627.1	650.3	625.0	25.29	25.716		
5,600.0	5,589.3	5,626.9	5,586.4	12.6	16.5	90.00	182.0	630.4	652.9	627.1	25.72	25.382		
5,700.0	5,689.3	5,729.9	5,689.3	12.8	16.6	90.00	182.0	630.5	652.9	626.8	26.13	24.987		
5,800.0	5,789.3	5,829.9	5,789.3	13.1	16.8	90.00	182.0	630.5	652.9	626.3	26.54	24.599		
5,900.0	5,889.3	5,929.9	5,889.3	13.3	17.0	90.00	182.0	630.5	652.9	625.9	26.95	24.222		
6,000.0	5,989.3	6,029.9	5,989.3	13.5	17.1	90.00	182.0	630.5	652.9	625.5	27.37	23.855		
6,100.0	6,089.3	6,129.9	6,089.3	13.7	17.3	90.00	182.0	630.5	652.9	625.1	27.78	23.499		
6,200.0	6,189.3	6,229.9	6,189.3	13.9	17.5	90.00	182.0	630.5	652.9	624.7	28.20	23.152		
6,300.0	6,289.3	6,329.9	6,289.3	14.1	17.6	90.00	182.0	630.5	652.9	624.3	28.62	22.814		
6,400.0	6,389.3	6,429.9	6,389.3	14.4	17.8	90.00	182.0	630.5	652.9	623.8	29.04	22.486		
6,500.0	6,489.3	6,529.9	6,489.3	14.6	18.0	90.00	182.0	630.5	652.9	623.4	29.45	22.166		
6,600.0	6,589.3	6,629.9	6,589.3	14.8	18.1	90.00	182.0	630.5	652.9	623.0	29.87	21.854		
6,700.0	6,689.3	6,729.9	6,689.3	15.0	18.3	90.00	182.0	630.5	652.9	622.6	30.30	21.551		
6,800.0	6,789.3	6,829.9	6,789.3	15.2	18.5	90.00	182.0	630.5	652.9	622.2	30.72	21.255		
6,863.5	6,852.9	6,893.4	6,852.9	15.4	18.6	-90.04	182.0	630.5	652.9	621.9	30.98	21.074		
6,900.0	6,889.3	6,929.9	6,889.3	15.4	18.7	-90.02	182.0	630.5	652.9	621.7	31.13	20.970		
6,913.7	6,903.0	6,943.6	6,903.0	15.5	18.7	-90.05	182.0	630.5	652.9	621.7	31.18	20.939		
7,000.0	6,988.9	7,029.4	6,988.9	15.6	18.8	-90.77	182.0	630.5	652.9	621.5	31.45	20.761		
7,100.0	7,086.4	7,128.0	7,087.5	15.7	19.0	-92.56	181.6	630.5	653.6	621.9	31.69	20.627		
7,200.0	7,180.3	7,230.7	7,189.5	15.8	19.1	-94.64	171.2	630.5	655.2	623.3	31.84	20.575		
7,300.0	7,269.0	7,337.1	7,292.8	15.9	19.2	-96.68	146.1	630.5	657.6	625.6	31.96	20.573		
7,400.0	7,350.8	7,447.5	7,395.2	16.0	19.3	-98.62	105.1	630.5	660.7	628.6	32.10	20.581		
7,500.0	7,424.5	7,562.0	7,494.1	16.1	19.4	-100.44	47.5	630.5	664.3	632.0	32.33	20.552		
7,600.0	7,488.7	7,680.8	7,586.3	16.5	19.5	-102.08	-27.1	630.5	668.2	635.5	32.69	20.438		
7,700.0	7,542.4	7,803.6	7,668.4	16.9	19.7	-103.50	-118.3	630.5	671.9	638.5	33.32	20.162		
7,800.0	7,584.6	7,930.1	7,736.5	17.5	20.0	-104.65	-224.8	630.5	675.1	640.8	34.28	19.697		
7,900.0	7,614.6	8,059.7	7,787.1	18.3	20.6	-105.49	-343.9	630.5	677.6	642.0	35.61	19.030		
8,000.0	7,632.0	8,191.4	7,817.2	19.2	21.5	-105.99	-471.9	630.5	679.2	641.8	37.35	18.184		
8,100.0	7,636.5	8,317.2	7,825.3	20.3	22.6	-106.13	-597.4	630.5	679.6	640.2	39.43	17.238		
8,200.0	7,636.1	8,417.2	7,826.0	21.5	23.7	-106.22	-697.4	630.5	679.9	638.3	41.63	16.333		
8,300.0	7,635.7	8,517.2	7,826.7	22.8	24.8	-106.30	-797.3	630.5	680.2	636.2	44.03	15.449		
8,400.0	7,635.4	8,617.2	7,827.4	24.1	26.1	-106.39	-897.3	630.5	680.5	633.9	46.60	14.605		
8,500.0	7,635.0	8,717.2	7,828.1	25.5	27.4	-106.47	-997.3	630.5	680.8	631.5	49.30	13.809		
8,600.0	7,634.6	8,817.2	7,828.8	27.0	28.8	-106.56	-1,097.3	630.5	681.1	629.0	52.13	13.067		
8,700.0	7,634.3	8,917.2	7,829.5	28.6	30.2	-106.65	-1,197.3	630.5	681.4	626.4	55.05	12.379		
8,800.0	7,633.9	9,017.2	7,830.2	30.2	31.7	-106.73	-1,297.3	630.5	681.7	623.7	58.06	11.743		
8,900.0	7,633.5	9,117.2	7,830.9	31.8	33.3	-106.82	-1,397.3	630.5	682.1	620.9	61.13	11.157		
9,000.0	7,633.2	9,217.2	7,831.6	33.4	34.9	-106.90	-1,497.3	630.5	682.4	618.1	64.27	10.618		
9,100.0	7,632.8	9,317.2	7,832.3	35.1	36.5	-106.99	-1,597.3	630.5	682.7	615.2	67.45	10.120		
9,200.0	7,632.4	9,417.2	7,833.0	36.8	38.1	-107.07	-1,697.3	630.5	683.0	612.3	70.69	9.662		
9,300.0	7,632.1	9,517.2	7,833.7	38.5	39.8	-107.16	-1,797.3	630.5	683.3	609.3	73.95	9.239		
9,400.0	7,631.7	9,617.1	7,834.4	40.3	41.5	-107.24	-1,897.3	630.5	683.6	606.4	77.25	8.849		
9,500.0	7,631.3	9,717.1	7,835.1	42.0	43.2	-107.33	-1,997.2	630.5	683.9	603.3	80.58	8.487		
9,600.0	7,631.0	9,817.1	7,835.8	43.8	44.9	-107.41	-2,097.2	630.5	684.2	600.3	83.94	8.152		
9,700.0	7,630.6	9,917.1	7,836.5	45.6	46.6	-107.50	-2,197.2	630.5	684.6	597.3	87.31	7.841		
9,800.0	7,630.2	10,017.1	7,837.2	47.4	48.4	-107.58	-2,297.2	630.5	684.9	594.2	90.70	7.551		

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



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Jacobucci 1N67W32O Pad Sec.32-T1N-R67W - Jacobucci 32O-423 - Wellbore #1 - Plan #1 (7-25-14)									Offset Site Error:		0.0 ft
Survey Program: 0-MWD											Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance						
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	
9,900.0	7,629.9	10,117.1	7,837.9	49.2	50.1	-107.67	-2,397.2	630.5	685.2	591.1	94.11	7.281	
10,000.0	7,629.5	10,217.1	7,838.6	51.0	51.9	-107.75	-2,497.2	630.5	685.5	588.0	97.53	7.029	
10,100.0	7,629.1	10,317.1	7,839.3	52.8	53.7	-107.84	-2,597.2	630.5	685.9	584.9	100.97	6.793	
10,200.0	7,628.8	10,417.1	7,839.9	54.6	55.5	-107.92	-2,697.2	630.5	686.2	581.8	104.41	6.572	
10,300.0	7,628.4	10,517.1	7,840.6	56.5	57.3	-108.01	-2,797.2	630.5	686.5	578.7	107.86	6.365	
10,400.0	7,628.0	10,617.1	7,841.3	58.3	59.1	-108.09	-2,897.2	630.5	686.8	575.5	111.33	6.170	
10,500.0	7,627.7	10,717.1	7,842.0	60.1	60.9	-108.18	-2,997.2	630.5	687.2	572.4	114.80	5.986	
10,600.0	7,627.3	10,817.1	7,842.7	62.0	62.7	-108.26	-3,097.2	630.5	687.5	569.2	118.27	5.813	
10,700.0	7,626.9	10,917.1	7,843.4	63.8	64.6	-108.35	-3,197.2	630.5	687.8	566.1	121.75	5.650	
10,800.0	7,626.6	11,017.1	7,844.1	65.7	66.4	-108.43	-3,297.1	630.5	688.2	562.9	125.24	5.495	
10,900.0	7,626.2	11,117.1	7,844.8	67.5	68.2	-108.51	-3,397.1	630.5	688.5	559.8	128.73	5.349	
11,000.0	7,625.8	11,217.1	7,845.5	69.4	70.1	-108.60	-3,497.1	630.5	688.9	556.6	132.22	5.210	
11,100.0	7,625.5	11,317.1	7,846.2	71.3	71.9	-108.68	-3,597.1	630.5	689.2	553.5	135.71	5.078	
11,200.0	7,625.1	11,417.0	7,846.9	73.1	73.7	-108.77	-3,697.1	630.5	689.5	550.3	139.21	4.953	
11,300.0	7,624.7	11,517.0	7,847.6	75.0	75.6	-108.85	-3,797.1	630.5	689.9	547.2	142.71	4.834	
11,400.0	7,624.4	11,617.0	7,848.3	76.9	77.5	-108.93	-3,897.1	630.5	690.2	544.0	146.21	4.721	
11,500.0	7,624.0	11,717.0	7,849.0	78.7	79.3	-109.02	-3,997.1	630.5	690.6	540.9	149.71	4.613	
11,600.0	7,623.6	11,817.0	7,849.7	80.6	81.2	-109.10	-4,097.1	630.5	690.9	537.7	153.22	4.509	
11,700.0	7,623.3	11,917.0	7,850.4	82.5	83.0	-109.18	-4,197.1	630.5	691.3	534.5	156.72	4.411	
11,800.0	7,622.9	12,017.0	7,851.1	84.4	84.9	-109.27	-4,297.1	630.5	691.6	531.4	160.22	4.317	
11,900.0	7,622.5	12,117.0	7,851.8	86.2	86.8	-109.35	-4,397.1	630.5	692.0	528.2	163.73	4.226	
12,000.0	7,622.2	12,217.0	7,852.5	88.1	88.6	-109.43	-4,497.0	630.5	692.3	525.1	167.23	4.140	
12,100.0	7,621.8	12,317.0	7,853.2	90.0	90.5	-109.52	-4,597.0	630.5	692.7	521.9	170.74	4.057	
12,200.0	7,621.4	12,417.0	7,853.9	91.9	92.4	-109.60	-4,697.0	630.5	693.0	518.8	174.24	3.978	
12,300.0	7,621.1	12,517.0	7,854.6	93.8	94.2	-109.68	-4,797.0	630.5	693.4	515.7	177.74	3.901	
12,400.0	7,620.7	12,617.0	7,855.3	95.6	96.1	-109.76	-4,897.0	630.5	693.8	512.5	181.24	3.828	
12,500.0	7,620.3	12,717.0	7,856.0	97.5	98.0	-109.85	-4,997.0	630.5	694.1	509.4	184.74	3.757	
12,600.0	7,620.0	12,817.0	7,856.7	99.4	99.9	-109.93	-5,097.0	630.5	694.5	506.2	188.24	3.689	
12,700.0	7,619.6	12,917.0	7,857.4	101.3	101.8	-110.01	-5,197.0	630.5	694.8	503.1	191.74	3.624	
12,800.0	7,619.2	13,017.0	7,858.1	103.2	103.6	-110.09	-5,297.0	630.5	695.2	500.0	195.23	3.561	
12,900.0	7,618.9	13,117.0	7,858.8	105.1	105.5	-110.18	-5,397.0	630.5	695.6	496.8	198.73	3.500	
13,000.0	7,618.5	13,216.9	7,859.5	107.0	107.4	-110.26	-5,497.0	630.5	695.9	493.7	202.22	3.441	
13,100.0	7,618.1	13,316.9	7,860.2	108.9	109.3	-110.34	-5,597.0	630.5	696.3	490.6	205.71	3.385	
13,200.0	7,617.8	13,416.9	7,860.9	110.8	111.2	-110.42	-5,696.9	630.5	696.7	487.5	209.20	3.330	
13,300.0	7,617.4	13,516.9	7,861.6	112.7	113.1	-110.51	-5,796.9	630.5	697.1	484.4	212.69	3.277	
13,400.0	7,617.0	13,616.9	7,862.3	114.6	114.9	-110.59	-5,896.9	630.5	697.4	481.3	216.17	3.226	
13,500.0	7,616.7	13,716.9	7,863.0	116.5	116.8	-110.67	-5,996.9	630.5	697.8	478.1	219.65	3.177	
13,600.0	7,616.3	13,816.9	7,863.7	118.4	118.7	-110.75	-6,096.9	630.5	698.2	475.0	223.13	3.129	
13,700.0	7,615.9	13,916.9	7,864.4	120.3	120.6	-110.83	-6,196.9	630.5	698.6	471.9	226.61	3.083	
13,800.0	7,615.6	14,016.9	7,865.1	122.1	122.5	-110.91	-6,296.9	630.5	698.9	468.8	230.09	3.038	
13,900.0	7,615.2	14,116.9	7,865.8	124.0	124.4	-111.00	-6,396.9	630.5	699.3	465.8	233.56	2.994	
14,000.0	7,614.8	14,216.9	7,866.5	125.9	126.3	-111.08	-6,496.9	630.5	699.7	462.7	237.03	2.952	
14,100.0	7,614.5	14,316.9	7,867.2	127.8	128.2	-111.16	-6,596.9	630.5	700.1	459.6	240.50	2.911	
14,200.0	7,614.1	14,416.9	7,867.9	129.7	130.1	-111.24	-6,696.9	630.5	700.5	456.5	243.97	2.871	
14,300.0	7,613.7	14,516.9	7,868.6	131.6	132.0	-111.32	-6,796.9	630.5	700.9	453.4	247.43	2.833	
14,400.0	7,613.4	14,616.9	7,869.3	133.5	133.9	-111.40	-6,896.9	630.5	701.2	450.4	250.89	2.795	
14,500.0	7,613.0	14,716.9	7,870.0	135.4	135.8	-111.48	-6,996.8	630.5	701.6	447.3	254.35	2.759	
14,502.9	7,613.0	14,719.8	7,870.0	135.5	135.8	-111.49	-6,999.8	630.5	701.6	447.2	254.45	2.758 SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Jacobucci 1N67W32O Pad Sec.32-T1N-R67W - Jacobucci 32O-443 - Wellbore #1 - Plan #1 (7-25-14)										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-90.05	0.0	-30.8	30.8					
100.0	100.0	100.0	100.0	0.1	0.1	-90.05	0.0	-30.8	30.8	30.6	0.22	137.098		
200.0	200.0	200.0	200.0	0.3	0.3	-90.05	0.0	-30.8	30.8	30.1	0.67	45.699		
300.0	300.0	300.0	300.0	0.6	0.6	-90.05	0.0	-30.8	30.8	29.7	1.12	27.420		
400.0	400.0	400.0	400.0	0.8	0.8	-90.05	0.0	-30.8	30.8	29.2	1.57	19.585		
500.0	500.0	500.0	500.0	1.0	1.0	-90.05	0.0	-30.8	30.8	28.8	2.02	15.233		
600.0	600.0	600.0	600.0	1.2	1.2	-90.05	0.0	-30.8	30.8	28.3	2.47	12.463		
700.0	700.0	700.0	700.0	1.5	1.5	-90.05	0.0	-30.8	30.8	27.9	2.92	10.546		
800.0	800.0	800.0	800.0	1.7	1.7	-90.05	0.0	-30.8	30.8	27.4	3.37	9.140		
900.0	900.0	900.0	900.0	1.9	1.9	-90.05	0.0	-30.8	30.8	27.0	3.82	8.065		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-90.05	0.0	-30.8	30.8	26.5	4.27	7.216		
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	-90.05	0.0	-30.8	30.8	26.1	4.72	6.528		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-90.05	0.0	-30.8	30.8	25.6	5.17	5.961		
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-90.05	0.0	-30.8	30.8	25.2	5.62	5.484		
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	-90.05	0.0	-30.8	30.8	24.7	6.07	5.078 CC, ES		
1,500.0	1,500.0	1,499.0	1,499.0	3.3	3.3	-88.60	0.8	-32.3	32.3	25.8	6.51	4.969		
1,600.0	1,600.0	1,597.8	1,597.7	3.5	3.5	-84.97	3.2	-36.8	37.0	30.1	6.94	5.332		
1,700.0	1,700.0	1,696.1	1,695.6	3.7	3.7	-80.63	7.3	-44.2	45.1	37.7	7.38	6.103		
1,800.0	1,800.0	1,794.5	1,793.3	3.9	3.9	-76.72	12.8	-54.4	56.3	48.5	7.82	7.195		
1,900.0	1,900.0	1,893.7	1,891.7	4.2	4.2	-73.97	18.7	-65.2	68.3	60.1	8.26	8.268		
2,000.0	2,000.0	1,992.9	1,990.2	4.4	4.4	-72.05	24.6	-76.0	80.4	71.7	8.70	9.242		
2,100.0	2,100.0	2,092.2	2,088.7	4.6	4.7	-70.63	30.5	-86.8	92.7	83.5	9.15	10.127		
2,200.0	2,200.0	2,191.4	2,187.1	4.8	5.0	-69.54	36.4	-97.5	104.9	95.3	9.60	10.932		
2,300.0	2,300.0	2,290.7	2,285.7	5.1	5.2	-62.22	42.3	-108.3	116.4	106.3	10.04	11.589		
2,400.0	2,399.8	2,390.2	2,384.4	5.3	5.5	-63.37	48.2	-119.1	126.2	115.7	10.49	12.037		
2,500.0	2,499.5	2,489.7	2,483.1	5.5	5.8	-65.69	54.1	-130.0	134.7	123.8	10.94	12.315		
2,600.0	2,598.7	2,589.1	2,581.7	5.7	6.1	-68.99	60.0	-140.8	142.2	130.8	11.40	12.470		
2,700.0	2,697.9	2,688.4	2,680.3	6.0	6.4	-72.29	65.9	-151.6	149.9	138.0	11.89	12.614		
2,800.0	2,797.1	2,787.8	2,778.9	6.2	6.7	-75.26	71.8	-162.4	158.1	145.7	12.38	12.769		
2,900.0	2,896.3	2,887.1	2,877.5	6.5	7.0	-77.93	77.7	-173.2	166.7	153.8	12.89	12.929		
3,000.0	2,995.5	2,986.4	2,976.1	6.7	7.3	-80.34	83.6	-184.0	175.6	162.2	13.41	13.090		
3,100.0	3,094.7	3,085.8	3,074.6	7.0	7.6	-82.52	89.5	-194.8	184.7	170.8	13.94	13.250		
3,200.0	3,193.9	3,185.1	3,173.2	7.3	7.9	-84.49	95.3	-205.6	194.1	179.7	14.48	13.407		
3,300.0	3,293.1	3,284.5	3,271.8	7.5	8.2	-86.27	101.2	-216.4	203.8	188.7	15.03	13.559		
3,400.0	3,392.3	3,383.8	3,370.4	7.8	8.5	-87.89	107.1	-227.2	213.5	198.0	15.58	13.707		
3,500.0	3,491.5	3,483.2	3,469.0	8.1	8.8	-89.37	113.0	-238.0	223.5	207.4	16.14	13.848		
3,600.0	3,590.7	3,582.5	3,567.5	8.4	9.1	-90.73	118.9	-248.8	233.6	216.9	16.70	13.985		
3,700.0	3,689.9	3,681.9	3,666.1	8.7	9.4	-91.96	124.8	-259.6	243.8	226.5	17.25	14.129		
3,800.0	3,789.5	3,781.4	3,764.8	8.9	9.7	-92.49	130.7	-270.4	253.9	236.2	17.74	14.314		
3,900.0	3,889.3	3,880.8	3,863.6	9.1	10.0	-92.24	136.6	-281.2	263.9	245.7	18.19	14.507		
4,000.0	3,989.3	3,980.2	3,962.1	9.2	10.4	-91.28	142.5	-292.0	273.8	255.2	18.61	14.716		
4,100.0	4,089.3	4,079.4	4,060.6	9.4	10.7	-96.83	148.4	-302.8	283.8	264.8	19.01	14.927		
4,200.0	4,189.3	4,178.6	4,159.1	9.6	11.0	-95.44	154.3	-313.6	294.0	274.6	19.44	15.121		
4,300.0	4,289.3	4,277.9	4,257.5	9.8	11.3	-94.13	160.2	-324.4	304.4	284.5	19.88	15.314		
4,400.0	4,389.3	4,377.1	4,356.0	10.1	11.6	-92.92	166.1	-335.1	314.9	294.6	20.31	15.506		
4,500.0	4,489.3	4,477.4	4,455.5	10.3	11.9	-91.77	172.0	-346.0	325.5	304.8	20.74	15.696		
4,600.0	4,589.3	4,587.9	4,565.5	10.5	12.2	-90.80	177.4	-355.8	334.3	313.1	21.15	15.806		
4,700.0	4,689.3	4,699.1	4,676.5	10.7	12.4	-90.22	180.7	-361.9	339.8	318.2	21.56	15.762		
4,800.0	4,789.3	4,810.8	4,788.1	10.9	12.6	-90.01	182.0	-364.2	341.8	319.9	21.96	15.566		
4,900.0	4,889.3	4,912.0	4,889.3	11.1	12.7	-90.00	182.0	-364.3	341.9	319.5	22.36	15.286		
5,000.0	4,989.3	5,012.0	4,989.3	11.3	12.9	-90.00	182.0	-364.3	341.9	319.1	22.78	15.006		

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance								
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	5,089.3	5,112.0	5,089.3	11.5	13.1	-90.00	182.0	-364.3	341.9	318.7	23.20	14.736			
5,200.0	5,189.3	5,212.0	5,189.3	11.8	13.3	-90.00	182.0	-364.3	341.9	318.2	23.62	14.474			
5,300.0	5,289.3	5,312.0	5,289.3	12.0	13.5	-90.00	182.0	-364.3	341.9	317.8	24.04	14.221			
5,400.0	5,389.3	5,412.0	5,389.3	12.2	13.7	-90.00	182.0	-364.3	341.9	317.4	24.46	13.975			
5,500.0	5,489.3	5,512.0	5,489.3	12.4	13.9	-90.00	182.0	-364.3	341.9	317.0	24.88	13.738			
5,600.0	5,589.3	5,612.0	5,589.3	12.6	14.1	-90.00	182.0	-364.3	341.9	316.5	25.31	13.508			
5,700.0	5,689.3	5,712.0	5,689.3	12.8	14.3	-90.00	182.0	-364.3	341.9	316.1	25.73	13.285			
5,800.0	5,789.3	5,812.0	5,789.3	13.1	14.4	-90.00	182.0	-364.3	341.9	315.7	26.16	13.069			
5,900.0	5,889.3	5,912.0	5,889.3	13.3	14.6	-90.00	182.0	-364.3	341.9	315.3	26.58	12.860			
6,000.0	5,989.3	6,012.0	5,989.3	13.5	14.8	-90.00	182.0	-364.3	341.9	314.8	27.01	12.657			
6,100.0	6,089.3	6,112.0	6,089.3	13.7	15.0	-90.00	182.0	-364.3	341.9	314.4	27.44	12.459			
6,200.0	6,189.3	6,212.0	6,189.3	13.9	15.2	-90.00	182.0	-364.3	341.9	314.0	27.87	12.268			
6,300.0	6,289.3	6,312.0	6,289.3	14.1	15.4	-90.00	182.0	-364.3	341.9	313.6	28.29	12.082			
6,400.0	6,389.3	6,412.0	6,389.3	14.4	15.6	-90.00	182.0	-364.3	341.9	313.1	28.72	11.901			
6,500.0	6,489.3	6,512.0	6,489.3	14.6	15.8	-90.00	182.0	-364.3	341.9	312.7	29.15	11.726			
6,600.0	6,589.3	6,612.0	6,589.3	14.8	16.0	-90.00	182.0	-364.3	341.9	312.3	29.58	11.555			
6,700.0	6,689.3	6,712.0	6,689.3	15.0	16.2	-90.00	182.0	-364.3	341.9	311.8	30.02	11.389			
6,800.0	6,789.3	6,812.0	6,789.3	15.2	16.4	-90.00	182.0	-364.3	341.9	311.4	30.45	11.227			
6,864.2	6,853.6	6,876.3	6,853.6	15.4	16.5	90.07	182.0	-364.3	341.9	311.1	30.72	11.128			
6,900.0	6,889.3	6,912.0	6,889.3	15.4	16.6	90.03	182.0	-364.3	341.9	311.0	30.87	11.072			
6,914.2	6,903.5	6,926.2	6,903.5	15.5	16.6	90.10	182.0	-364.3	341.9	310.9	30.92	11.055			
7,000.0	6,988.9	7,011.6	6,988.9	15.6	16.8	91.47	182.0	-364.3	342.0	310.8	31.19	10.963			
7,100.0	7,086.4	7,109.1	7,086.4	15.7	17.0	94.90	182.0	-364.3	343.2	311.8	31.42	10.925			
7,200.0	7,180.3	7,210.9	7,187.9	15.8	17.2	99.37	175.6	-364.3	346.9	315.4	31.52	11.006			
7,300.0	7,269.0	7,317.1	7,291.9	15.9	17.3	103.69	154.6	-364.3	352.7	321.1	31.52	11.187			
7,400.0	7,350.8	7,428.0	7,396.3	16.0	17.4	107.75	117.6	-364.3	360.1	328.7	31.45	11.450			
7,500.0	7,424.5	7,543.9	7,498.6	16.1	17.5	111.45	63.1	-364.3	368.8	337.4	31.35	11.764			
7,600.0	7,488.7	7,665.1	7,595.4	16.5	17.6	114.72	-9.6	-364.3	377.9	346.6	31.29	12.076			
7,700.0	7,542.4	7,791.5	7,682.7	16.9	17.7	117.47	-100.8	-364.3	386.7	355.3	31.37	12.324			
7,800.0	7,584.6	7,922.7	7,756.2	17.5	18.1	119.66	-209.2	-364.3	394.3	362.6	31.75	12.419			
7,900.0	7,614.6	8,057.9	7,811.4	18.3	18.8	121.23	-332.4	-364.3	400.3	367.7	32.54	12.299			
8,000.0	7,632.0	8,195.9	7,844.5	19.2	19.8	122.14	-466.3	-364.3	403.8	370.0	33.84	11.932			
8,100.0	7,636.5	8,328.2	7,853.4	20.3	21.2	122.39	-598.1	-364.3	404.8	369.2	35.64	11.358			
8,200.0	7,636.1	8,428.2	7,853.6	21.5	22.3	122.47	-698.1	-364.3	405.2	367.6	37.60	10.776			
8,300.0	7,635.7	8,528.2	7,853.8	22.8	23.5	122.54	-798.1	-364.3	405.5	365.8	39.73	10.206			
8,400.0	7,635.4	8,628.2	7,854.1	24.1	24.9	122.61	-898.1	-364.3	405.8	363.8	42.01	9.660			
8,500.0	7,635.0	8,728.2	7,854.3	25.5	26.2	122.68	-998.1	-364.3	406.2	361.7	44.42	9.144			
8,600.0	7,634.6	8,828.2	7,854.6	27.0	27.7	122.76	-1,098.1	-364.3	406.5	359.6	46.93	8.661			
8,700.0	7,634.3	8,928.2	7,854.8	28.6	29.2	122.83	-1,198.1	-364.3	406.8	357.3	49.53	8.213			
8,800.0	7,633.9	9,028.2	7,855.1	30.2	30.8	122.90	-1,298.1	-364.3	407.2	354.9	52.21	7.799			
8,900.0	7,633.5	9,128.2	7,855.3	31.8	32.3	122.97	-1,398.1	-364.3	407.5	352.5	54.95	7.416			
9,000.0	7,633.2	9,228.2	7,855.6	33.4	34.0	123.04	-1,498.1	-364.3	407.8	350.1	57.74	7.063			
9,100.0	7,632.8	9,328.2	7,855.8	35.1	35.6	123.12	-1,598.1	-364.3	408.2	347.6	60.57	6.738			
9,200.0	7,632.4	9,428.2	7,856.0	36.8	37.3	123.19	-1,698.1	-364.3	408.5	345.0	63.45	6.438			
9,300.0	7,632.1	9,528.2	7,856.3	38.5	39.0	123.26	-1,798.1	-364.3	408.8	342.5	66.36	6.161			
9,400.0	7,631.7	9,628.2	7,856.5	40.3	40.7	123.33	-1,898.1	-364.3	409.2	339.9	69.29	5.905			
9,500.0	7,631.3	9,728.2	7,856.8	42.0	42.5	123.40	-1,998.1	-364.3	409.5	337.2	72.25	5.668			
9,600.0	7,631.0	9,828.2	7,857.0	43.8	44.2	123.47	-2,098.1	-364.3	409.8	334.6	75.23	5.447			
9,700.0	7,630.6	9,928.2	7,857.3	45.6	46.0	123.55	-2,198.1	-364.3	410.2	331.9	78.23	5.243			
9,800.0	7,630.2	10,028.2	7,857.5	47.4	47.7	123.62	-2,298.1	-364.3	410.5	329.3	81.24	5.053			

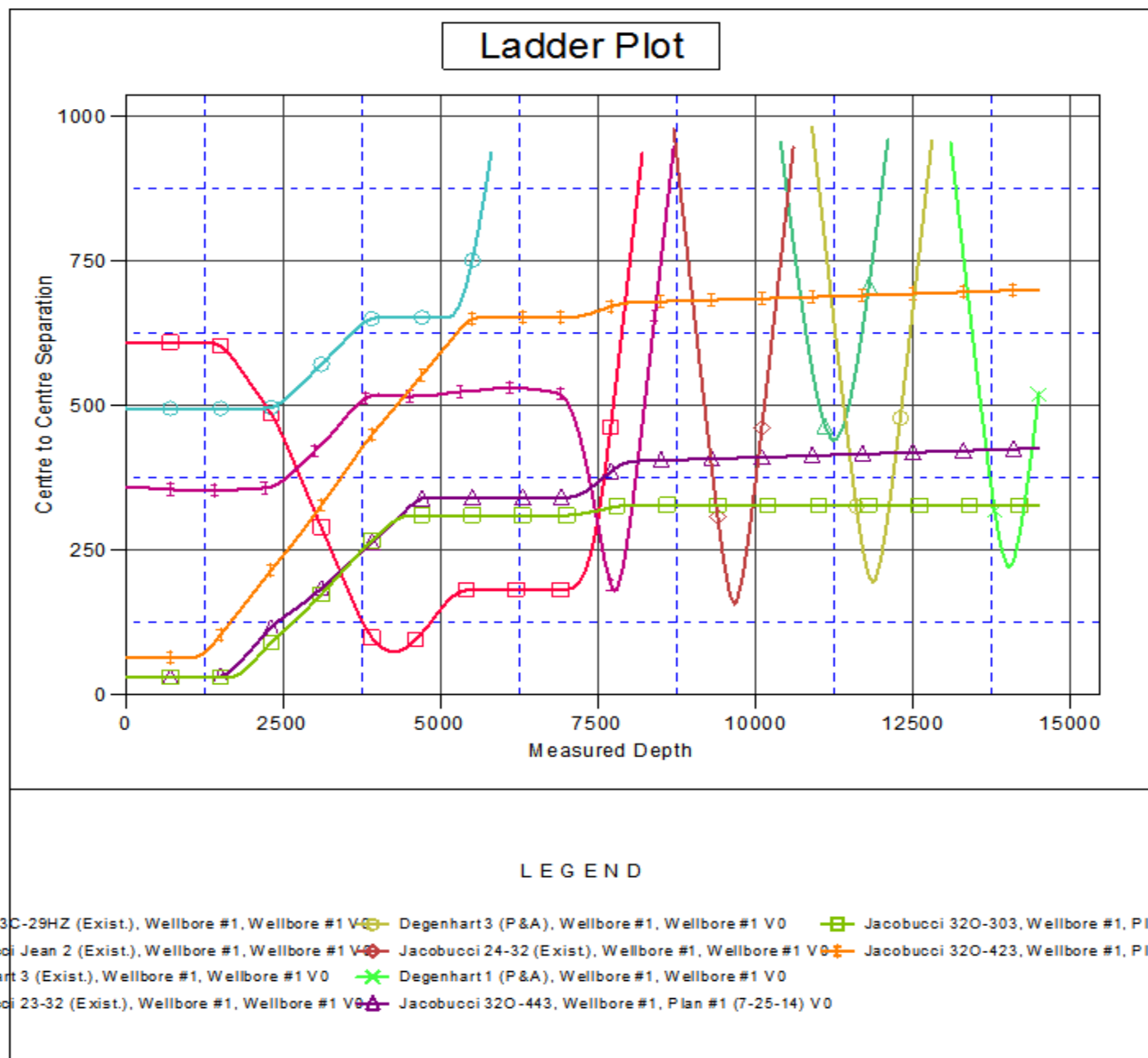
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,900.0	7,629.9	10,128.2	7,857.8	49.2	49.5	123.69	-2,398.1	-364.3	410.8	326.6	84.27	4.875		
10,000.0	7,629.5	10,228.2	7,858.0	51.0	51.3	123.76	-2,498.1	-364.3	411.2	323.9	87.31	4.710		
10,100.0	7,629.1	10,328.2	7,858.2	52.8	53.1	123.83	-2,598.1	-364.3	411.5	321.2	90.36	4.554		
10,200.0	7,628.8	10,428.2	7,858.5	54.6	54.9	123.90	-2,698.1	-364.3	411.9	318.5	93.41	4.409		
10,300.0	7,628.4	10,528.2	7,858.7	56.5	56.7	123.97	-2,798.1	-364.3	412.2	315.7	96.47	4.273		
10,400.0	7,628.0	10,628.2	7,859.0	58.3	58.6	124.04	-2,898.1	-364.3	412.5	313.0	99.54	4.144		
10,500.0	7,627.7	10,728.2	7,859.2	60.1	60.4	124.11	-2,998.1	-364.3	412.9	310.3	102.62	4.024		
10,600.0	7,627.3	10,828.2	7,859.5	62.0	62.2	124.18	-3,098.1	-364.3	413.2	307.5	105.69	3.910		
10,700.0	7,626.9	10,928.2	7,859.7	63.8	64.1	124.25	-3,198.1	-364.3	413.6	304.8	108.77	3.802		
10,800.0	7,626.6	11,028.2	7,860.0	65.7	65.9	124.32	-3,298.1	-364.3	413.9	302.1	111.86	3.700		
10,900.0	7,626.2	11,128.2	7,860.2	67.5	67.8	124.39	-3,398.1	-364.3	414.3	299.3	114.94	3.604		
11,000.0	7,625.8	11,228.2	7,860.4	69.4	69.6	124.46	-3,498.1	-364.3	414.6	296.6	118.03	3.513		
11,100.0	7,625.5	11,328.2	7,860.7	71.3	71.5	124.53	-3,598.1	-364.3	415.0	293.8	121.12	3.426		
11,200.0	7,625.1	11,428.2	7,860.9	73.1	73.3	124.60	-3,698.1	-364.3	415.3	291.1	124.21	3.344		
11,300.0	7,624.7	11,528.2	7,861.2	75.0	75.2	124.67	-3,798.1	-364.3	415.6	288.3	127.30	3.265		
11,400.0	7,624.4	11,628.2	7,861.4	76.9	77.0	124.74	-3,898.1	-364.3	416.0	285.6	130.39	3.190		
11,500.0	7,624.0	11,728.2	7,861.7	78.7	78.9	124.81	-3,998.1	-364.3	416.3	282.9	133.48	3.119		
11,600.0	7,623.6	11,828.2	7,861.9	80.6	80.8	124.88	-4,098.1	-364.3	416.7	280.1	136.57	3.051		
11,700.0	7,623.3	11,928.2	7,862.1	82.5	82.7	124.94	-4,198.1	-364.3	417.0	277.4	139.66	2.986		
11,800.0	7,622.9	12,028.2	7,862.4	84.4	84.5	125.01	-4,298.1	-364.3	417.4	274.6	142.75	2.924		
11,900.0	7,622.5	12,128.2	7,862.6	86.2	86.4	125.08	-4,398.1	-364.3	417.7	271.9	145.83	2.865		
12,000.0	7,622.2	12,228.2	7,862.9	88.1	88.3	125.15	-4,498.1	-364.3	418.1	269.2	148.92	2.808		
12,100.0	7,621.8	12,328.2	7,863.1	90.0	90.2	125.22	-4,598.1	-364.3	418.4	266.4	152.00	2.753		
12,200.0	7,621.4	12,428.2	7,863.4	91.9	92.0	125.29	-4,698.1	-364.3	418.8	263.7	155.08	2.701		
12,300.0	7,621.1	12,528.2	7,863.6	93.8	93.9	125.35	-4,798.1	-364.3	419.2	261.0	158.16	2.650		
12,400.0	7,620.7	12,628.2	7,863.9	95.6	95.8	125.42	-4,898.1	-364.3	419.5	258.3	161.24	2.602		
12,500.0	7,620.3	12,728.2	7,864.1	97.5	97.7	125.49	-4,998.1	-364.3	419.9	255.5	164.31	2.555		
12,600.0	7,620.0	12,828.2	7,864.3	99.4	99.6	125.56	-5,098.1	-364.3	420.2	252.8	167.39	2.510		
12,700.0	7,619.6	12,928.2	7,864.6	101.3	101.4	125.63	-5,198.1	-364.3	420.6	250.1	170.46	2.467		
12,800.0	7,619.2	13,028.2	7,864.8	103.2	103.3	125.69	-5,298.0	-364.3	420.9	247.4	173.53	2.426		
12,900.0	7,618.9	13,128.2	7,865.1	105.1	105.2	125.76	-5,398.0	-364.3	421.3	244.7	176.59	2.386		
13,000.0	7,618.5	13,228.2	7,865.3	107.0	107.1	125.83	-5,498.0	-364.3	421.6	242.0	179.65	2.347		
13,100.0	7,618.1	13,328.1	7,865.6	108.9	109.0	125.90	-5,598.0	-364.3	422.0	239.3	182.71	2.310		
13,200.0	7,617.8	13,428.1	7,865.8	110.8	110.9	125.96	-5,698.0	-364.3	422.4	236.6	185.77	2.274		
13,300.0	7,617.4	13,528.1	7,866.1	112.7	112.8	126.03	-5,798.0	-364.3	422.7	233.9	188.83	2.239		
13,400.0	7,617.0	13,628.1	7,866.3	114.6	114.7	126.10	-5,898.0	-364.3	423.1	231.2	191.88	2.205		
13,500.0	7,616.7	13,728.1	7,866.5	116.5	116.6	126.16	-5,998.0	-364.3	423.4	228.5	194.92	2.172		
13,600.0	7,616.3	13,828.1	7,866.8	118.4	118.5	126.23	-6,098.0	-364.3	423.8	225.8	197.97	2.141		
13,700.0	7,615.9	13,928.1	7,867.0	120.3	120.3	126.30	-6,198.0	-364.3	424.2	223.1	201.01	2.110		
13,800.0	7,615.6	14,028.1	7,867.3	122.1	122.2	126.36	-6,298.0	-364.3	424.5	220.5	204.05	2.080		
13,900.0	7,615.2	14,128.1	7,867.5	124.0	124.1	126.43	-6,398.0	-364.3	424.9	217.8	207.09	2.052		
14,000.0	7,614.8	14,228.1	7,867.8	125.9	126.0	126.50	-6,498.0	-364.3	425.2	215.1	210.12	2.024		
14,100.0	7,614.5	14,328.1	7,868.0	127.8	127.9	126.56	-6,598.0	-364.3	425.6	212.5	213.15	1.997		
14,200.0	7,614.1	14,428.1	7,868.3	129.7	129.8	126.63	-6,698.0	-364.3	426.0	209.8	216.17	1.971		
14,300.0	7,613.7	14,528.1	7,868.5	131.6	131.7	126.69	-6,798.0	-364.3	426.3	207.1	219.19	1.945		
14,400.0	7,613.4	14,628.1	7,868.7	133.5	133.6	126.76	-6,898.0	-364.3	426.7	204.5	222.21	1.920		
14,500.0	7,613.0	14,728.1	7,869.0	135.4	135.5	126.83	-6,998.0	-364.3	427.1	201.8	225.23	1.896		
14,502.9	7,613.0	14,731.1	7,869.0	135.5	135.6	126.83	-7,001.0	-364.3	427.1	201.8	225.31	1.895 SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 5073.0ft (Original Well Elev) Coordinates are relative to: Jacobucci 32O-203  
 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: 0.38°



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32O-203
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32O Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5073.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32O-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	landmark
<b>Reference Design:</b>	Plan #1 (7-25-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 5073.0ft (Original Well Elev) Coordinates are relative to: Jacobucci 32O-203

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: 0.38°

