

# PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Jacobucci 32K-403**

Surface Location: Jacobucci 1N67W32K Pad Sec.32-T1N-R67W  
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
 Ground Elevation: 5048.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1245939.15	3162493.58	40.007030	-104.919920	

Original Well Elev WELL @ 5063.0ft (Original Well Elev)

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 2437'FSL & 1068'FWL, Sec.32	1.0	0.0	0.0	Point
BHL 500'FSL & 685'FWL, Sec.5	7859.0	-7034.4	86.9	Point



Azimuths to True North  
 Magnetic North: 8.46°

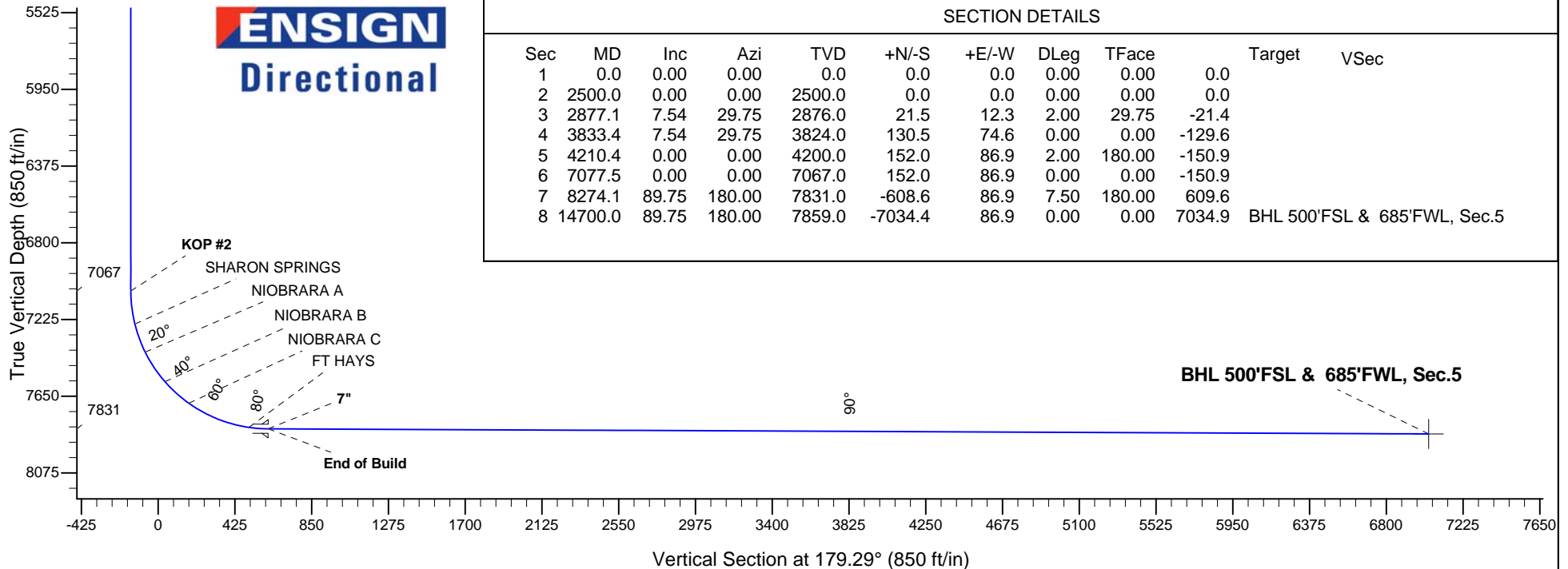
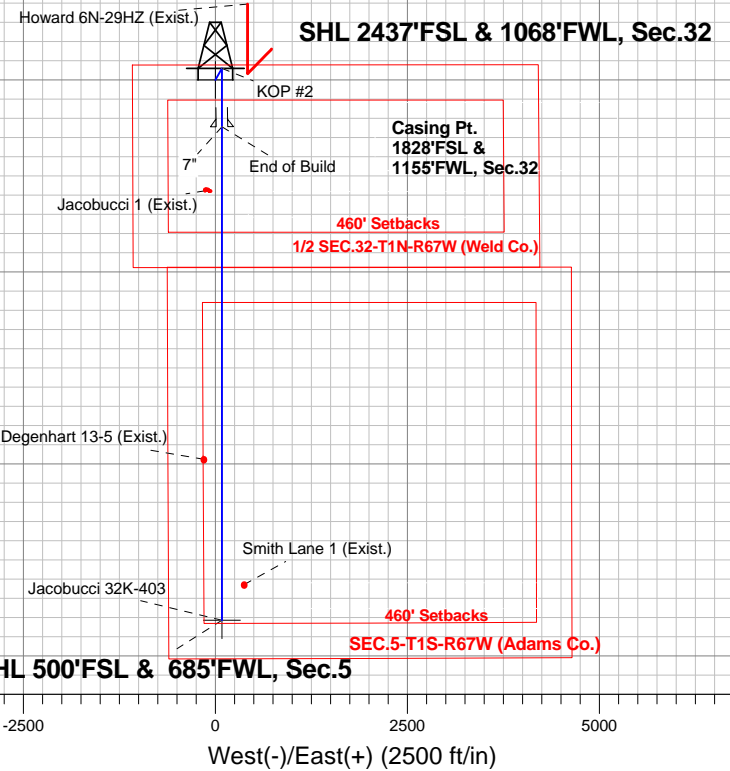
Magnetic Field  
 Strength: 52549.0snT  
 Dip Angle: 66.59°  
 Date: 11/6/2014  
 Model: IGRF2010

## ANNOTATIONS

TVD	MD	Annotation
2500.0	2500.0	KOP
7067.1	7077.5	KOP #2
7831.0	8274.1	End of Build

Jacobucci 1N67W32K Pad Sec.32-T1N-R67W  
 Jacobucci 32K-403  
 Plan #2 (11-6-14)  
 8:30, November 06 2014

South(-)/North(+) (2500 ft/in)



## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	Target	VSec
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.0	
3	2877.1	7.54	29.75	2876.0	21.5	12.3	2.00	29.75	-21.4	
4	3833.4	7.54	29.75	3824.0	130.5	74.6	0.00	0.00	-129.6	
5	4210.4	0.00	0.00	4200.0	152.0	86.9	2.00	180.00	-150.9	
6	7077.5	0.00	0.00	7067.0	152.0	86.9	0.00	0.00	-150.9	
7	8274.1	89.75	180.00	7831.0	-608.6	86.9	7.50	180.00	609.6	
8	14700.0	89.75	180.00	7859.0	-7034.4	86.9	0.00	0.00	7034.9	BHL 500'FSL & 685'FWL, Sec.5



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.32-T1N-R67W**

**Jacobucci 1N67W32K Pad Sec.32-T1N-R67W**

**Jacobucci 32K-403**

**Wellbore #1**

**Plan: Plan #2 (11-6-14)**

## **Standard Planning Report**

**06 November, 2014**

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32K-403
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Project:</b>	SEC.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Site:</b>	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Jacobucci 32K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (11-6-14)		

<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 1N67W32K Pad Sec.32-T1N-R67W			
Site Position:		Northing:	1,245,939.37 ft	Latitude:	40.007030
From:	Lat/Long	Easting:	3,162,524.40 ft	Longitude:	-104.919810
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.37 °

Well	Jacobucci 32K-403					
Well Position	+N/-S	0.0 ft	Northing:	1,245,939.15 ft	Latitude:	40.007030
	+E/-W	-30.8 ft	Easting:	3,162,493.58 ft	Longitude:	-104.919920
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,048.0 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	11/6/2014	8.46	66.59	52,549

<b>Design</b>	Plan #2 (11-6-14)			
<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	179.29

<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	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,877.1	7.54	29.75	2,876.0	21.5	12.3	2.00	2.00	0.00	29.75	
3,833.4	7.54	29.75	3,824.0	130.5	74.6	0.00	0.00	0.00	0.00	
4,210.4	0.00	0.00	4,200.0	152.0	86.9	2.00	-2.00	0.00	180.00	
7,077.5	0.00	0.00	7,067.0	152.0	86.9	0.00	0.00	0.00	0.00	
8,274.1	89.75	180.00	7,831.0	-608.6	86.9	7.50	7.50	0.00	180.00	
14,700.0	89.75	180.00	7,859.0	-7,034.4	86.9	0.00	0.00	0.00	0.00	BHL 500'FSL & 68:

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<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Project:</b>	SEC.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Site:</b>	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Jacobucci 32K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (11-6-14)		

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
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP</b>									
2,600.0	2.00	29.75	2,600.0	1.5	0.9	-1.5	2.00	2.00	0.00
2,700.0	4.00	29.75	2,699.8	6.1	3.5	-6.0	2.00	2.00	0.00
2,800.0	6.00	29.75	2,799.5	13.6	7.8	-13.5	2.00	2.00	0.00
2,877.1	7.54	29.75	2,876.0	21.5	12.3	-21.4	2.00	2.00	0.00
2,900.0	7.54	29.75	2,898.7	24.1	13.8	-24.0	0.00	0.00	0.00
3,000.0	7.54	29.75	2,997.8	35.5	20.3	-35.3	0.00	0.00	0.00
3,100.0	7.54	29.75	3,097.0	46.9	26.8	-46.6	0.00	0.00	0.00
3,200.0	7.54	29.75	3,196.1	58.3	33.3	-57.9	0.00	0.00	0.00
3,300.0	7.54	29.75	3,295.3	69.7	39.8	-69.2	0.00	0.00	0.00
3,400.0	7.54	29.75	3,394.4	81.1	46.3	-80.5	0.00	0.00	0.00
3,500.0	7.54	29.75	3,493.5	92.5	52.9	-91.8	0.00	0.00	0.00
3,600.0	7.54	29.75	3,592.7	103.9	59.4	-103.2	0.00	0.00	0.00
3,700.0	7.54	29.75	3,691.8	115.3	65.9	-114.5	0.00	0.00	0.00
3,800.0	7.54	29.75	3,790.9	126.7	72.4	-125.8	0.00	0.00	0.00
3,833.4	7.54	29.75	3,824.0	130.5	74.6	-129.6	0.00	0.00	0.00
3,900.0	6.21	29.75	3,890.2	137.4	78.5	-136.4	2.00	-2.00	0.00
4,000.0	4.21	29.75	3,989.7	145.3	83.0	-144.3	2.00	-2.00	0.00
4,100.0	2.21	29.75	4,089.6	150.2	85.8	-149.1	2.00	-2.00	0.00
4,200.0	0.21	29.75	4,189.6	152.0	86.9	-150.9	2.00	-2.00	0.00
4,210.4	0.00	0.00	4,200.0	152.0	86.9	-150.9	2.00	-2.00	0.00
4,300.0	0.00	0.00	4,289.6	152.0	86.9	-150.9	0.00	0.00	0.00
4,400.0	0.00	0.00	4,389.6	152.0	86.9	-150.9	0.00	0.00	0.00
4,500.0	0.00	0.00	4,489.6	152.0	86.9	-150.9	0.00	0.00	0.00
4,510.4	0.00	0.00	4,500.0	152.0	86.9	-150.9	0.00	0.00	0.00
<b>PARKMAN</b>									

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<b>Project:</b>	SEC.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Site:</b>	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Jacobucci 32K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (11-6-14)		

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	4,589.6	152.0	86.9	-150.9	0.00	0.00	0.00
4,700.0	0.00	0.00	4,689.6	152.0	86.9	-150.9	0.00	0.00	0.00
4,800.0	0.00	0.00	4,789.6	152.0	86.9	-150.9	0.00	0.00	0.00
4,900.0	0.00	0.00	4,889.6	152.0	86.9	-150.9	0.00	0.00	0.00
4,910.4	0.00	0.00	4,900.0	152.0	86.9	-150.9	0.00	0.00	0.00
<b>SUSSEX</b>									
5,000.0	0.00	0.00	4,989.6	152.0	86.9	-150.9	0.00	0.00	0.00
5,100.0	0.00	0.00	5,089.6	152.0	86.9	-150.9	0.00	0.00	0.00
5,200.0	0.00	0.00	5,189.6	152.0	86.9	-150.9	0.00	0.00	0.00
5,300.0	0.00	0.00	5,289.6	152.0	86.9	-150.9	0.00	0.00	0.00
5,360.4	0.00	0.00	5,350.0	152.0	86.9	-150.9	0.00	0.00	0.00
<b>SHANNON</b>									
5,400.0	0.00	0.00	5,389.6	152.0	86.9	-150.9	0.00	0.00	0.00
5,500.0	0.00	0.00	5,489.6	152.0	86.9	-150.9	0.00	0.00	0.00
5,600.0	0.00	0.00	5,589.6	152.0	86.9	-150.9	0.00	0.00	0.00
5,700.0	0.00	0.00	5,689.6	152.0	86.9	-150.9	0.00	0.00	0.00
5,800.0	0.00	0.00	5,789.6	152.0	86.9	-150.9	0.00	0.00	0.00
5,900.0	0.00	0.00	5,889.6	152.0	86.9	-150.9	0.00	0.00	0.00
6,000.0	0.00	0.00	5,989.6	152.0	86.9	-150.9	0.00	0.00	0.00
6,100.0	0.00	0.00	6,089.6	152.0	86.9	-150.9	0.00	0.00	0.00
6,200.0	0.00	0.00	6,189.6	152.0	86.9	-150.9	0.00	0.00	0.00
6,300.0	0.00	0.00	6,289.6	152.0	86.9	-150.9	0.00	0.00	0.00
6,400.0	0.00	0.00	6,389.6	152.0	86.9	-150.9	0.00	0.00	0.00
6,500.0	0.00	0.00	6,489.6	152.0	86.9	-150.9	0.00	0.00	0.00
6,600.0	0.00	0.00	6,589.6	152.0	86.9	-150.9	0.00	0.00	0.00
6,700.0	0.00	0.00	6,689.6	152.0	86.9	-150.9	0.00	0.00	0.00
6,800.0	0.00	0.00	6,789.6	152.0	86.9	-150.9	0.00	0.00	0.00
6,900.0	0.00	0.00	6,889.6	152.0	86.9	-150.9	0.00	0.00	0.00
7,000.0	0.00	0.00	6,989.6	152.0	86.9	-150.9	0.00	0.00	0.00
7,077.5	0.00	0.00	7,067.1	152.0	86.9	-150.9	0.00	0.00	0.00
<b>KOP #2</b>									
7,100.0	1.69	180.00	7,089.5	151.7	86.9	-150.6	7.51	7.51	0.00
7,200.0	9.19	180.00	7,189.0	142.2	86.9	-141.1	7.50	7.50	0.00
7,262.2	13.86	180.00	7,250.0	129.8	86.9	-128.7	7.50	7.50	0.00
<b>SHARON SPRINGS</b>									
7,300.0	16.69	180.00	7,286.4	119.8	86.9	-118.7	7.50	7.50	0.00
7,400.0	24.19	180.00	7,380.1	84.9	86.9	-83.8	7.50	7.50	0.00
7,428.7	26.34	180.00	7,406.0	72.7	86.9	-71.6	7.50	7.50	0.00
<b>NIOBRARA A</b>									
7,500.0	31.69	180.00	7,468.3	38.1	86.9	-37.0	7.50	7.50	0.00
7,600.0	39.19	180.00	7,549.8	-19.8	86.9	20.9	7.50	7.50	0.00
7,625.2	41.08	180.00	7,569.0	-36.1	86.9	37.1	7.50	7.50	0.00
<b>NIOBRARA B</b>									
7,700.0	46.69	180.00	7,622.9	-87.9	86.9	89.0	7.50	7.50	0.00
7,800.0	54.19	180.00	7,686.6	-165.0	86.9	166.0	7.50	7.50	0.00
7,804.2	54.50	180.00	7,689.0	-168.4	86.9	169.4	7.50	7.50	0.00
<b>NIOBRARA C</b>									
7,900.0	61.69	180.00	7,739.6	-249.6	86.9	250.7	7.50	7.50	0.00
8,000.0	69.19	180.00	7,781.1	-340.5	86.9	341.6	7.50	7.50	0.00
8,100.0	76.69	180.00	7,810.4	-436.1	86.9	437.1	7.50	7.50	0.00
8,167.0	81.72	180.00	7,823.0	-501.9	86.9	502.9	7.50	7.50	0.00
<b>FT HAYS</b>									

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<b>Project:</b>	SEC.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Site:</b>	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Jacobucci 32K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (11-6-14)		

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)
8,200.0	84.19	180.00	7,827.0	-534.6	86.9	535.6	7.50	7.50	0.00
8,274.1	89.75	180.00	7,831.0	-608.6	86.9	609.6	7.50	7.50	0.00
End of Build - 7"									
8,300.0	89.75	180.00	7,831.1	-634.5	86.9	635.5	0.01	0.01	0.00
8,400.0	89.75	180.00	7,831.5	-734.5	86.9	735.5	0.00	0.00	0.00
8,500.0	89.75	180.00	7,831.9	-834.5	86.9	835.5	0.00	0.00	0.00
8,600.0	89.75	180.00	7,832.4	-934.5	86.9	935.5	0.00	0.00	0.00
8,700.0	89.75	180.00	7,832.8	-1,034.5	86.9	1,035.5	0.00	0.00	0.00
8,800.0	89.75	180.00	7,833.3	-1,134.5	86.9	1,135.5	0.00	0.00	0.00
8,900.0	89.75	180.00	7,833.7	-1,234.5	86.9	1,235.4	0.00	0.00	0.00
9,000.0	89.75	180.00	7,834.1	-1,334.5	86.9	1,335.4	0.00	0.00	0.00
9,100.0	89.75	180.00	7,834.6	-1,434.5	86.9	1,435.4	0.00	0.00	0.00
9,200.0	89.75	180.00	7,835.0	-1,534.5	86.9	1,535.4	0.00	0.00	0.00
9,300.0	89.75	180.00	7,835.4	-1,634.5	86.9	1,635.4	0.00	0.00	0.00
9,400.0	89.75	180.00	7,835.9	-1,734.5	86.9	1,735.4	0.00	0.00	0.00
9,500.0	89.75	180.00	7,836.3	-1,834.5	86.9	1,835.4	0.00	0.00	0.00
9,600.0	89.75	180.00	7,836.7	-1,934.5	86.9	1,935.4	0.00	0.00	0.00
9,700.0	89.75	180.00	7,837.2	-2,034.5	86.9	2,035.4	0.00	0.00	0.00
9,800.0	89.75	180.00	7,837.6	-2,134.5	86.9	2,135.4	0.00	0.00	0.00
9,900.0	89.75	180.00	7,838.1	-2,234.5	86.9	2,235.4	0.00	0.00	0.00
10,000.0	89.75	180.00	7,838.5	-2,334.5	86.9	2,335.3	0.00	0.00	0.00
10,100.0	89.75	180.00	7,838.9	-2,434.5	86.9	2,435.3	0.00	0.00	0.00
10,200.0	89.75	180.00	7,839.4	-2,534.5	86.9	2,535.3	0.00	0.00	0.00
10,300.0	89.75	180.00	7,839.8	-2,634.5	86.9	2,635.3	0.00	0.00	0.00
10,400.0	89.75	180.00	7,840.2	-2,734.5	86.9	2,735.3	0.00	0.00	0.00
10,500.0	89.75	180.00	7,840.7	-2,834.4	86.9	2,835.3	0.00	0.00	0.00
10,600.0	89.75	180.00	7,841.1	-2,934.4	86.9	2,935.3	0.00	0.00	0.00
10,700.0	89.75	180.00	7,841.5	-3,034.4	86.9	3,035.3	0.00	0.00	0.00
10,800.0	89.75	180.00	7,842.0	-3,134.4	86.9	3,135.3	0.00	0.00	0.00
10,900.0	89.75	180.00	7,842.4	-3,234.4	86.9	3,235.3	0.00	0.00	0.00
11,000.0	89.75	180.00	7,842.9	-3,334.4	86.9	3,335.3	0.00	0.00	0.00
11,100.0	89.75	180.00	7,843.3	-3,434.4	86.9	3,435.3	0.00	0.00	0.00
11,200.0	89.75	180.00	7,843.7	-3,534.4	86.9	3,535.2	0.00	0.00	0.00
11,300.0	89.75	180.00	7,844.2	-3,634.4	86.9	3,635.2	0.00	0.00	0.00
11,400.0	89.75	180.00	7,844.6	-3,734.4	86.9	3,735.2	0.00	0.00	0.00
11,491.4	89.75	180.00	7,845.0	-3,825.8	86.9	3,826.6	0.00	0.00	0.00
CODELL									
11,500.0	89.75	180.00	7,845.0	-3,834.4	86.9	3,835.2	0.00	0.00	0.00
11,600.0	89.75	180.00	7,845.5	-3,934.4	86.9	3,935.2	0.00	0.00	0.00
11,700.0	89.75	180.00	7,845.9	-4,034.4	86.9	4,035.2	0.00	0.00	0.00
11,800.0	89.75	180.00	7,846.3	-4,134.4	86.9	4,135.2	0.00	0.00	0.00
11,900.0	89.75	180.00	7,846.8	-4,234.4	86.9	4,235.2	0.00	0.00	0.00
12,000.0	89.75	180.00	7,847.2	-4,334.4	86.9	4,335.2	0.00	0.00	0.00
12,100.0	89.75	180.00	7,847.7	-4,434.4	86.9	4,435.2	0.00	0.00	0.00
12,200.0	89.75	180.00	7,848.1	-4,534.4	86.9	4,535.2	0.00	0.00	0.00
12,300.0	89.75	180.00	7,848.5	-4,634.4	86.9	4,635.2	0.00	0.00	0.00
12,400.0	89.75	180.00	7,849.0	-4,734.4	86.9	4,735.1	0.00	0.00	0.00
12,500.0	89.75	180.00	7,849.4	-4,834.4	86.9	4,835.1	0.00	0.00	0.00
12,600.0	89.75	180.00	7,849.8	-4,934.4	86.9	4,935.1	0.00	0.00	0.00
12,700.0	89.75	180.00	7,850.3	-5,034.4	86.9	5,035.1	0.00	0.00	0.00
12,800.0	89.75	180.00	7,850.7	-5,134.4	86.9	5,135.1	0.00	0.00	0.00
12,900.0	89.75	180.00	7,851.1	-5,234.4	86.9	5,235.1	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32K-403
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Project:</b>	SEC.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Site:</b>	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Jacobucci 32K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (11-6-14)		

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)	
13,000.0	89.75	180.00	7,851.6	-5,334.4	86.9	5,335.1	0.00	0.00	0.00	
13,100.0	89.75	180.00	7,852.0	-5,434.4	86.9	5,435.1	0.00	0.00	0.00	
13,200.0	89.75	180.00	7,852.5	-5,534.4	86.9	5,535.1	0.00	0.00	0.00	
13,300.0	89.75	180.00	7,852.9	-5,634.4	86.9	5,635.1	0.00	0.00	0.00	
13,400.0	89.75	180.00	7,853.3	-5,734.4	86.9	5,735.1	0.00	0.00	0.00	
13,500.0	89.75	180.00	7,853.8	-5,834.4	86.9	5,835.0	0.00	0.00	0.00	
13,600.0	89.75	180.00	7,854.2	-5,934.4	86.9	5,935.0	0.00	0.00	0.00	
13,700.0	89.75	180.00	7,854.6	-6,034.4	86.9	6,035.0	0.00	0.00	0.00	
13,800.0	89.75	180.00	7,855.1	-6,134.4	86.9	6,135.0	0.00	0.00	0.00	
13,900.0	89.75	180.00	7,855.5	-6,234.4	86.9	6,235.0	0.00	0.00	0.00	
14,000.0	89.75	180.00	7,855.9	-6,334.4	86.9	6,335.0	0.00	0.00	0.00	
14,100.0	89.75	180.00	7,856.4	-6,434.4	86.9	6,435.0	0.00	0.00	0.00	
14,200.0	89.75	180.00	7,856.8	-6,534.4	86.9	6,535.0	0.00	0.00	0.00	
14,300.0	89.75	180.00	7,857.3	-6,634.4	86.9	6,635.0	0.00	0.00	0.00	
14,400.0	89.75	180.00	7,857.7	-6,734.4	86.9	6,735.0	0.00	0.00	0.00	
14,500.0	89.75	180.00	7,858.1	-6,834.4	86.9	6,835.0	0.00	0.00	0.00	
14,600.0	89.75	180.00	7,858.6	-6,934.4	86.9	6,935.0	0.00	0.00	0.00	
14,700.0	89.75	180.00	7,859.0	-7,034.4	86.9	7,034.9	0.00	0.00	0.00	

Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
- hit/miss target										
- Shape										
BHL 500'FSL & 685'F	0.00	0.00	7,859.0	-7,034.4	86.9	1,238,905.76	3,162,626.46	39.987720	-104.919610	
- plan hits target center										
- Point										
SHL 2437'FSL & 1068'F	0.00	0.00	1.0	0.0	0.0	1,245,939.16	3,162,493.58	40.007030	-104.919920	
- plan hits target center										
- Point										

Casing Points										
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")						
8,274.1	7,831.0	7"	7	7-1/2						

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32K-403
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Project:</b>	SEC.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Site:</b>	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Jacobucci 32K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (11-6-14)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,510.4	4,500.0	PARKMAN		0.00		
4,910.4	4,900.0	SUSSEX		0.00		
5,360.4	5,350.0	SHANNON		0.00		
7,262.2	7,250.0	SHARON SPRINGS		0.00		
7,428.7	7,406.0	NIOBRARA A		0.00		
7,625.2	7,569.0	NIOBRARA B		0.00		
7,804.2	7,689.0	NIOBRARA C		0.00		
8,167.0	7,823.0	FT HAYS		0.00		
11,491.4	7,845.0	CODELL		0.00		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,500.0	2,500.0	0.0	0.0	KOP
7,077.5	7,067.1	152.0	86.9	KOP #2
8,274.1	7,831.0	-608.6	86.9	End of Build



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.32-T1N-R67W**

**Jacobucci 1N67W32K Pad Sec.32-T1N-R67W**

**Jacobucci 32K-403**

**Wellbore #1**

**Plan #2 (11-6-14)**

## **Anticollision Report**

**06 November, 2014**



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32K-403
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (11-6-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #2 (11-6-14)		
<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> 11/6/2014			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	14,699.2	Plan #2 (11-6-14) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Existings Sec.32-T1N-R67W						
Degenhart 13-5 (Exist.) - Wellbore #1 - Wellbore #1	12,605.2	7,906.9	235.4	-19.1	0.925	Level 1, CC, ES, SF
Howard 6N-29HZ (Exist.) - Wellbore #1 - Wellbore #1	7,274.8	7,290.2	335.3	198.9	2.458	CC, ES
Howard 6N-29HZ (Exist.) - Wellbore #1 - Wellbore #1	7,300.0	7,309.5	335.6	199.0	2.456	SF
Jacobucci 1 (Exist.) - Wellbore #1 - Wellbore #1	9,102.7	7,795.0	218.7	168.8	4.383	CC, ES, SF
Smith Lane 1 (Exist.) - Wellbore #1 - Wellbore #1	14,233.7	7,951.0	288.6	2.5	1.009	Level 2, CC, ES, SF
Jacobucci 1N67W32K Pad Sec.32-T1N-R67W						
Jacobucci 32K-243 - Wellbore #1 - Plan #1 (7-25-14)	1,800.0	1,797.0	30.8	23.0	3.920	CC, ES
Jacobucci 32K-243 - Wellbore #1 - Plan #1 (7-25-14)	14,700.0	14,483.0	425.3	198.2	1.873	SF
Jacobucci 32K-323 - Wellbore #1 - Plan #1 (7-24-14)	966.0	968.0	30.8	26.7	7.475	CC
Jacobucci 32K-323 - Wellbore #1 - Plan #1 (7-24-14)	1,000.0	1,002.0	30.8	26.5	7.209	ES
Jacobucci 32K-323 - Wellbore #1 - Plan #1 (7-24-14)	14,700.0	14,611.8	439.4	181.6	1.704	SF
Jacobucci 32K-443 - Wellbore #1 - Plan #1 (7-25-14)	1,400.0	1,397.0	53.2	47.2	8.780	CC, ES
Jacobucci 32K-443 - Wellbore #1 - Plan #1 (7-25-14)	14,700.0	14,719.5	610.9	339.2	2.249	SF

<b>Offset Design</b>	Existings Sec.32-T1N-R67W - Degenhart 13-5 (Exist.) - Wellbore #1 - Wellbore #1											<b>Offset Site Error:</b>	0.0 ft
<b>Survey Program:</b>	8644-UNKNOWN											<b>Offset Well Error:</b>	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
11,700.0	7,845.9	7,902.9	7,902.9	79.3	158.1	89.04	-4,939.7	-148.5	935.4	698.1	237.30	3.942	
11,800.0	7,846.3	7,903.3	7,903.3	81.2	158.1	89.14	-4,939.7	-148.5	839.0	599.8	239.18	3.508	
11,900.0	7,846.8	7,903.8	7,903.8	83.0	158.1	89.25	-4,939.7	-148.5	743.5	502.5	241.07	3.084	
12,000.0	7,847.2	7,904.2	7,904.2	84.9	158.1	89.36	-4,939.7	-148.5	649.4	406.5	242.96	2.673	
12,100.0	7,847.7	7,904.7	7,904.7	86.8	158.1	89.46	-4,939.7	-148.5	557.4	312.6	244.86	2.277	
12,200.0	7,848.1	7,905.1	7,905.1	88.7	158.1	89.57	-4,939.7	-148.5	468.7	221.9	246.75	1.899	
12,300.0	7,848.5	7,905.5	7,905.5	90.5	158.1	89.68	-4,939.7	-148.5	385.5	136.8	248.64	1.550	
12,400.0	7,849.0	7,906.0	7,906.0	92.4	158.1	89.78	-4,939.7	-148.5	312.3	61.8	250.53	1.247	Level 2
12,500.0	7,849.4	7,906.4	7,906.4	94.3	158.1	89.89	-4,939.7	-148.5	257.8	5.4	252.43	1.021	Level 2
12,600.0	7,849.8	7,906.8	7,906.8	96.2	158.1	89.99	-4,939.7	-148.5	235.4	-18.9	254.32	0.926	Level 1
12,605.2	7,849.9	7,906.9	7,906.9	96.3	158.1	90.00	-4,939.7	-148.5	235.4	-19.1	254.42	0.925	Level 1, CC, ES, SF
12,700.0	7,850.3	7,907.3	7,907.3	98.1	158.1	90.10	-4,939.7	-148.5	253.7	-2.5	256.22	0.990	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 32K-403
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (11-6-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b>													Offset Site Error:	0.0 ft
Survey Program: 8644-UNKNOWN													Offset Well Error:	0.0 ft
Reference Offset Semi Major Axis														
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	
12,800.0	7,850.7	7,907.7	7,907.7	100.0	158.2	90.21	-4,939.7	-148.5	305.5	47.3	258.11	1.183	Level 2	
12,900.0	7,851.1	7,908.1	7,908.1	101.9	158.2	90.31	-4,939.7	-148.5	377.2	117.1	260.01	1.451	Level 3	
13,000.0	7,851.6	7,908.6	7,908.6	103.7	158.2	90.42	-4,939.7	-148.5	459.5	197.6	261.91	1.755		
13,100.0	7,852.0	7,909.0	7,909.0	105.6	158.2	90.53	-4,939.7	-148.5	547.8	284.0	263.80	2.077		
13,200.0	7,852.5	7,909.5	7,909.5	107.5	158.2	90.63	-4,939.7	-148.5	639.6	373.9	265.70	2.407		
13,300.0	7,852.9	7,909.9	7,909.9	109.4	158.2	90.74	-4,939.7	-148.5	733.5	465.9	267.59	2.741		
13,400.0	7,853.3	7,910.3	7,910.3	111.3	158.2	90.84	-4,939.7	-148.5	828.8	559.3	269.49	3.076		
13,500.0	7,853.8	7,910.8	7,910.8	113.2	158.2	90.95	-4,939.7	-148.5	925.1	653.8	271.38	3.409		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32K-403
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (11-6-14)	<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															
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	61.21	403.3	733.9	837.6						
100.0	100.0	86.0	86.0	0.1	1.7	61.21	403.3	733.9	837.4	835.6	1.83	457.014			
200.0	200.0	186.0	186.0	0.3	5.4	61.21	403.3	733.9	837.4	831.7	5.78	144.957			
300.0	300.0	286.0	286.0	0.6	9.4	61.21	403.3	733.9	837.4	827.4	10.00	83.728			
400.0	400.0	386.0	386.0	0.8	13.4	61.21	403.3	733.9	837.4	823.2	14.23	58.864			
500.0	500.0	486.0	486.0	1.0	17.4	61.21	403.3	733.9	837.4	819.0	18.45	45.386			
600.0	600.0	586.0	586.0	1.2	21.4	61.21	403.3	733.9	837.4	814.8	22.68	36.930			
700.0	700.0	686.0	686.0	1.5	25.4	61.21	403.3	733.9	837.4	810.5	26.90	31.130			
800.0	800.0	786.0	786.0	1.7	29.4	61.21	403.3	733.9	837.4	806.3	31.13	26.905			
900.0	900.0	886.0	886.0	1.9	33.4	61.21	403.3	733.9	837.4	802.1	35.35	23.690			
1,000.0	1,000.0	986.0	986.0	2.1	37.4	61.21	403.3	733.9	837.4	797.9	39.58	21.161			
1,100.0	1,100.0	1,093.8	1,093.8	2.4	40.8	61.22	403.2	733.8	837.3	794.2	43.16	19.401			
1,200.0	1,200.0	1,232.4	1,232.3	2.6	37.3	61.31	399.8	730.6	834.1	794.2	39.90	20.905			
1,300.0	1,300.0	1,370.3	1,369.7	2.8	34.1	61.54	391.7	722.7	826.3	789.3	36.93	22.375			
1,400.0	1,400.0	1,506.8	1,505.1	3.0	31.7	61.91	379.1	710.3	813.9	779.3	34.61	23.519			
1,500.0	1,500.0	1,621.3	1,617.9	3.3	30.5	62.34	365.3	696.8	797.7	764.4	33.36	23.910			
1,600.0	1,600.0	1,719.8	1,714.9	3.5	30.1	62.73	353.1	684.8	781.2	748.4	32.80	23.816			
1,700.0	1,700.0	1,818.3	1,811.9	3.7	30.4	63.14	340.8	672.9	764.7	732.0	32.74	23.358			
1,800.0	1,800.0	1,916.8	1,908.9	3.9	31.2	63.56	328.6	660.9	748.3	715.1	33.19	22.543			
1,900.0	1,900.0	2,015.2	2,005.9	4.2	32.5	64.01	316.4	649.0	731.9	697.7	34.15	21.432			
2,000.0	2,000.0	2,113.7	2,102.9	4.4	34.4	64.48	304.1	637.0	715.5	679.9	35.57	20.115			
2,100.0	2,100.0	2,212.2	2,199.9	4.6	36.7	64.97	291.9	625.1	699.2	661.8	37.41	18.691			
2,200.0	2,200.0	2,310.7	2,296.8	4.8	39.3	65.48	279.7	613.1	683.0	643.3	39.60	17.244			
2,300.0	2,300.0	2,409.2	2,393.8	5.1	42.2	66.02	267.5	601.2	666.8	624.7	42.10	15.838			
2,400.0	2,400.0	2,507.6	2,490.8	5.3	45.4	66.58	255.2	589.2	650.6	605.8	44.84	14.509			
2,500.0	2,500.0	2,606.1	2,587.8	5.5	48.7	67.17	243.0	577.3	634.5	586.8	47.78	13.279			
2,600.0	2,600.0	2,704.3	2,684.5	5.7	52.2	67.73	230.8	565.3	617.2	565.7	51.52	11.980			
2,700.0	2,699.8	2,801.8	2,780.4	6.0	55.7	68.31	218.7	553.5	597.3	542.6	54.63	10.934			
2,800.0	2,799.5	2,898.4	2,875.6	6.2	59.3	68.91	206.7	541.8	574.9	517.1	57.82	9.944			
2,900.0	2,898.7	2,994.1	2,969.9	6.4	63.0	69.52	194.8	530.2	550.5	489.3	61.20	8.995			
3,000.0	2,997.8	3,089.5	3,063.9	6.6	66.7	70.13	183.0	518.6	525.8	460.8	65.00	8.089			
3,100.0	3,097.0	3,185.0	3,157.8	6.9	70.5	70.73	171.1	507.0	501.6	432.7	68.94	7.276			
3,200.0	3,196.1	3,280.4	3,251.8	7.1	74.3	71.33	159.3	495.4	478.1	405.1	73.03	6.546			
3,300.0	3,295.3	3,375.8	3,345.8	7.4	78.1	71.93	147.4	483.8	455.3	378.1	77.28	5.892			
3,400.0	3,394.4	3,471.2	3,439.8	7.7	82.0	72.53	135.6	472.2	433.5	351.8	81.68	5.306			
3,500.0	3,493.5	3,566.7	3,533.7	7.9	85.9	73.13	123.7	460.7	412.6	326.3	86.25	4.783			
3,600.0	3,592.7	3,659.5	3,625.2	8.2	89.7	73.73	112.3	449.5	393.0	302.1	90.86	4.325			
3,700.0	3,691.8	3,747.4	3,712.1	8.5	93.3	74.33	102.9	440.3	376.2	280.9	95.27	3.948			
3,800.0	3,790.9	3,836.7	3,800.8	8.8	96.8	74.93	95.3	432.9	362.6	262.9	99.71	3.637			
3,900.0	3,890.2	3,927.6	3,891.3	9.0	100.2	75.53	89.6	427.3	352.4	248.2	104.17	3.383			
4,000.0	3,989.7	4,020.0	3,983.5	9.2	103.6	76.13	85.9	423.7	345.9	237.5	108.41	3.191			
4,100.0	4,089.6	4,113.4	4,076.9	9.4	106.5	76.73	84.4	422.2	342.7	230.7	112.01	3.060			
4,200.0	4,189.6	4,212.0	4,175.6	9.6	109.4	77.33	84.3	422.1	342.0	230.8	111.26	3.074			
4,242.2	4,231.8	4,254.3	4,217.8	9.7	104.8	77.93	84.3	422.1	342.0	231.3	110.68	3.090			
4,300.0	4,289.6	4,312.0	4,275.6	9.8	103.9	78.53	84.3	422.1	342.0	232.1	109.89	3.112			
4,400.0	4,389.6	4,412.0	4,375.6	10.0	102.5	79.13	84.3	422.1	342.0	233.4	108.66	3.148			
4,500.0	4,489.6	4,512.0	4,475.6	10.2	101.3	79.73	84.3	422.1	342.0	234.4	107.58	3.179			
4,600.0	4,589.6	4,612.0	4,575.6	10.4	100.2	80.33	84.3	422.1	342.0	235.4	106.64	3.207			
4,700.0	4,689.6	4,712.0	4,675.6	10.6	99.2	80.93	84.3	422.1	342.0	236.2	105.86	3.231			
4,800.0	4,789.6	4,812.0	4,775.6	10.9	98.5	81.53	84.3	422.1	342.0	236.8	105.24	3.250			
4,900.0	4,889.6	4,912.0	4,875.6	11.1	97.8	82.13	84.3	422.1	342.0	237.2	104.79	3.264			

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 32K-403
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (11-6-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Existings Sec.32-T1N-R67W - Howard 6N-29HZ (Exist.) - Wellbore #1 - Wellbore #1														Offset Well Error:	0.0 ft
Survey Program: 100-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		
5,000.0	4,989.6	5,012.0	4,975.6	11.3	97.3	101.42	84.3	422.1	342.0	237.5	104.50	3.273			
5,100.0	5,089.6	5,112.0	5,075.6	11.5	97.0	101.42	84.3	422.1	342.0	237.6	104.38	3.275			
5,200.0	5,189.6	5,212.0	5,175.6	11.7	96.9	101.42	84.3	422.1	342.0	237.6	104.43	3.277			
5,300.0	5,289.6	5,312.0	5,275.6	11.9	96.9	101.42	84.3	422.1	342.0	237.4	104.65	3.268			
5,400.0	5,389.6	5,412.0	5,375.6	12.1	97.1	101.42	84.3	422.1	342.0	237.0	105.05	3.256			
5,500.0	5,489.6	5,512.0	5,475.6	12.4	97.4	101.42	84.3	422.1	342.0	236.4	105.62	3.238			
5,600.0	5,589.6	5,612.0	5,575.6	12.6	97.9	101.42	84.3	422.1	342.0	235.7	106.36	3.216			
5,700.0	5,689.6	5,712.0	5,675.6	12.8	98.6	101.42	84.3	422.1	342.0	234.8	107.26	3.189			
5,800.0	5,789.6	5,812.0	5,775.6	13.0	99.4	101.42	84.3	422.1	342.0	233.7	108.33	3.157			
5,900.0	5,889.6	5,912.0	5,875.6	13.2	100.4	101.42	84.3	422.1	342.0	232.5	109.56	3.122			
6,000.0	5,989.6	6,012.0	5,975.6	13.4	101.5	101.42	84.3	422.1	342.0	231.1	110.94	3.083			
6,100.0	6,089.6	6,112.0	6,075.6	13.7	102.8	101.42	84.3	422.1	342.0	229.6	112.47	3.041			
6,200.0	6,189.6	6,212.0	6,175.6	13.9	104.2	101.42	84.3	422.1	342.0	227.9	114.14	2.996			
6,300.0	6,289.6	6,312.0	6,275.6	14.1	105.7	101.42	84.3	422.1	342.0	226.1	115.95	2.950			
6,400.0	6,389.6	6,412.0	6,375.6	14.3	107.4	101.42	84.3	422.1	342.0	224.1	117.89	2.901			
6,500.0	6,489.6	6,512.0	6,475.6	14.5	109.2	101.42	84.3	422.1	342.0	222.1	119.95	2.851			
6,600.0	6,589.6	6,612.0	6,575.6	14.8	111.1	101.42	84.3	422.1	342.0	219.9	122.14	2.800			
6,700.0	6,689.6	6,712.0	6,675.6	15.0	113.1	101.42	84.3	422.1	342.0	217.6	124.43	2.749			
6,800.0	6,789.6	6,812.0	6,775.6	15.2	115.2	101.42	84.3	422.1	342.0	215.2	126.82	2.697			
6,900.0	6,889.6	6,912.0	6,875.6	15.4	117.4	101.42	84.3	422.1	342.0	212.7	129.32	2.645			
7,000.0	6,989.6	7,012.0	6,975.6	15.6	119.8	101.42	84.3	422.1	342.0	210.1	131.91	2.593			
7,100.0	7,089.5	7,117.7	7,081.2	15.8	122.2	-79.02	86.4	422.1	341.6	207.1	134.48	2.540			
7,200.0	7,189.0	7,223.7	7,185.3	16.0	124.3	-84.06	105.2	422.1	337.4	201.7	135.76	2.486			
7,274.8	7,262.2	7,290.2	7,248.2	16.1	125.4	-90.00	126.6	422.1	335.3	198.9	136.40	2.458 CC, ES			
7,300.0	7,286.4	7,309.5	7,266.0	16.1	125.7	-92.04	134.2	422.1	335.6	199.0	136.64	2.456 SF			
7,400.0	7,380.1	7,371.2	7,320.8	16.2	126.6	-98.84	162.4	422.1	347.1	209.5	137.57	2.523			
7,500.0	7,468.3	7,411.5	7,354.9	16.3	127.1	-102.09	183.9	422.1	378.9	240.6	138.32	2.739			
7,600.0	7,549.8	7,435.0	7,374.0	16.5	127.4	-101.19	197.6	422.1	431.1	291.9	139.13	3.098			
7,700.0	7,622.9	7,450.0	7,385.9	16.6	127.6	-96.78	206.7	422.1	498.9	358.8	140.11	3.561			
7,800.0	7,686.6	7,450.0	7,385.9	17.0	127.6	-87.44	206.7	422.1	576.8	437.2	139.56	4.133			
7,900.0	7,739.6	7,450.0	7,385.9	17.5	127.6	-76.16	206.7	422.1	660.3	525.8	134.54	4.908			
8,000.0	7,781.1	7,432.3	7,371.9	18.1	127.3	-61.92	196.0	422.1	746.0	625.6	120.33	6.199			
8,100.0	7,810.4	7,418.1	7,360.3	18.9	127.2	-50.05	187.7	422.1	831.7	729.7	101.95	8.158			
8,200.0	7,827.0	7,400.0	7,345.3	19.9	127.0	-40.45	177.6	422.1	915.6	831.8	83.84	10.920			
8,300.0	7,831.1	7,381.4	7,329.6	20.9	126.7	-34.71	167.6	422.1	996.7	923.2	73.50	13.560			

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32K-403
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (11-6-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design														Offset Site Error:	0.0 ft
Existings Sec.32-T1N-R67W - Jacobucci 1 (Exist.) - Wellbore #1 - Wellbore #1														Offset Well Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS															
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
8,200.0	7,827.0	7,782.7	7,781.9	19.9	17.4	65.97	-1,437.1	-131.7	928.6	894.1	34.59	26.849			
8,300.0	7,831.1	7,787.3	7,786.5	20.9	17.4	87.63	-1,437.2	-131.7	831.9	793.7	38.29	21.726			
8,400.0	7,831.5	7,788.2	7,787.5	22.1	17.4	87.88	-1,437.2	-131.8	735.9	696.5	39.48	18.638			
8,500.0	7,831.9	7,789.2	7,788.5	23.4	17.4	88.14	-1,437.2	-131.8	641.1	600.4	40.77	15.724			
8,600.0	7,832.4	7,790.2	7,789.4	24.8	17.4	88.39	-1,437.2	-131.8	548.2	506.1	42.15	13.008			
8,700.0	7,832.8	7,791.1	7,790.4	26.2	17.4	88.64	-1,437.2	-131.8	458.3	414.7	43.58	10.514			
8,800.0	7,833.3	7,792.1	7,791.4	27.7	17.4	88.90	-1,437.2	-131.8	373.4	328.4	45.08	8.283			
8,900.0	7,833.7	7,793.1	7,792.3	29.2	17.4	89.15	-1,437.2	-131.8	298.2	251.6	46.63	6.395			
9,000.0	7,834.1	7,794.1	7,793.3	30.8	17.4	89.41	-1,437.2	-131.8	241.6	193.4	48.22	5.011			
9,100.0	7,834.6	7,795.0	7,794.3	32.4	17.4	89.66	-1,437.2	-131.8	218.7	168.8	49.84	4.388			
9,102.7	7,834.6	7,795.0	7,794.3	32.5	17.4	89.67	-1,437.2	-131.8	218.7	168.8	49.89	4.383	CC, ES, SF		
9,200.0	7,835.0	7,796.0	7,795.2	34.1	17.5	89.91	-1,437.2	-131.8	239.3	187.8	51.49	4.648			
9,300.0	7,835.4	7,797.0	7,796.2	35.7	17.5	90.17	-1,437.2	-131.8	294.5	241.3	53.17	5.538			
9,400.0	7,835.9	7,797.9	7,797.2	37.4	17.5	90.42	-1,437.2	-131.8	369.0	314.1	54.87	6.725			
9,500.0	7,836.3	7,798.9	7,798.1	39.2	17.5	90.67	-1,437.2	-131.8	453.5	396.9	56.59	8.013			
9,600.0	7,836.7	7,799.9	7,799.1	40.9	17.5	90.93	-1,437.2	-131.8	543.2	484.9	58.33	9.313			
9,700.0	7,837.2	7,800.8	7,800.1	42.7	17.5	91.18	-1,437.2	-131.8	636.0	575.9	60.08	10.586			
9,800.0	7,837.6	7,801.8	7,801.0	44.4	17.5	91.43	-1,437.2	-131.8	730.7	668.9	61.84	11.816			
9,900.0	7,838.1	7,802.7	7,802.0	46.2	17.5	91.68	-1,437.2	-131.8	826.7	763.1	63.61	12.995			
10,000.0	7,838.5	7,803.7	7,803.0	48.0	17.5	91.94	-1,437.2	-131.8	923.5	858.1	65.40	14.121			

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32K-403
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (11-6-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Existings Sec.32-T1N-R67W - Smith Lane 1 (Exist.) - Wellbore #1 - Wellbore #1										Offset Site Error:		0.0 ft		
Survey Program: 8493-UNKNOWN														Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
13,300.0	7,852.9	7,946.9	7,946.9	109.4	158.9	-89.19	-6,568.1	375.5	977.3	708.9	268.33	3.642				
13,400.0	7,853.3	7,947.3	7,947.3	111.3	158.9	-89.28	-6,568.1	375.5	882.2	612.0	270.23	3.265				
13,500.0	7,853.8	7,947.8	7,947.8	113.2	159.0	-89.36	-6,568.1	375.5	788.4	516.3	272.14	2.897				
13,600.0	7,854.2	7,948.2	7,948.2	115.1	159.0	-89.45	-6,568.1	375.5	696.3	422.3	274.05	2.541				
13,700.0	7,854.6	7,948.6	7,948.6	117.0	159.0	-89.54	-6,568.1	375.5	606.7	330.8	275.95	2.199				
13,800.0	7,855.1	7,949.1	7,949.1	118.9	159.0	-89.62	-6,568.1	375.5	520.9	243.1	277.86	1.875				
13,900.0	7,855.5	7,949.5	7,949.5	120.8	159.0	-89.71	-6,568.1	375.5	441.2	161.4	279.77	1.577				
14,000.0	7,855.9	7,949.9	7,949.9	122.7	159.0	-89.80	-6,568.1	375.5	371.4	89.7	281.67	1.318	Level 3			
14,100.0	7,856.4	7,950.4	7,950.4	124.6	159.0	-89.88	-6,568.1	375.5	318.1	34.5	283.58	1.122	Level 2			
14,200.0	7,856.8	7,950.8	7,950.8	126.5	159.0	-89.97	-6,568.1	375.5	290.6	5.1	285.49	1.018	Level 2			
14,233.7	7,857.0	7,951.0	7,951.0	127.1	159.0	-90.00	-6,568.1	375.5	288.6	2.5	286.13	1.009	Level 2, CC, ES, SF			
14,300.0	7,857.3	7,951.3	7,951.3	128.4	159.0	-90.06	-6,568.1	375.5	296.1	8.7	287.39	1.030	Level 2			
14,400.0	7,857.7	7,951.7	7,951.7	130.3	159.0	-90.14	-6,568.1	375.5	333.1	43.8	289.30	1.151	Level 2			
14,500.0	7,858.1	7,952.1	7,952.1	132.2	159.0	-90.23	-6,568.1	375.5	392.7	101.5	291.20	1.349	Level 3			
14,600.0	7,858.6	7,952.6	7,952.6	134.1	159.1	-90.32	-6,568.1	375.5	466.4	173.2	293.11	1.591				
14,700.0	7,859.0	7,953.0	7,953.0	135.6	159.1	-90.40	-6,568.1	375.5	548.4	253.7	294.66	1.861				

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32K-403
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (11-6-14)	<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	-90.01	0.0	-30.8	31.0					
100.0	100.0	97.0	97.0	0.1	0.1	-90.01	0.0	-30.8	30.8	30.6	0.22	139.181		
200.0	200.0	197.0	197.0	0.3	0.3	-90.01	0.0	-30.8	30.8	30.1	0.67	46.161		
300.0	300.0	297.0	297.0	0.6	0.6	-90.01	0.0	-30.8	30.8	29.7	1.12	27.585		
400.0	400.0	397.0	397.0	0.8	0.8	-90.01	0.0	-30.8	30.8	29.2	1.57	19.670		
500.0	500.0	497.0	497.0	1.0	1.0	-90.01	0.0	-30.8	30.8	28.8	2.02	15.284		
600.0	600.0	597.0	597.0	1.2	1.2	-90.01	0.0	-30.8	30.8	28.3	2.47	12.497		
700.0	700.0	697.0	697.0	1.5	1.5	-90.01	0.0	-30.8	30.8	27.9	2.92	10.570		
800.0	800.0	797.0	797.0	1.7	1.7	-90.01	0.0	-30.8	30.8	27.5	3.36	9.158		
900.0	900.0	897.0	897.0	1.9	1.9	-90.01	0.0	-30.8	30.8	27.0	3.81	8.079		
1,000.0	1,000.0	997.0	997.0	2.1	2.1	-90.01	0.0	-30.8	30.8	26.6	4.26	7.227		
1,100.0	1,100.0	1,097.0	1,097.0	2.4	2.4	-90.01	0.0	-30.8	30.8	26.1	4.71	6.538		
1,200.0	1,200.0	1,197.0	1,197.0	2.6	2.6	-90.01	0.0	-30.8	30.8	25.7	5.16	5.969		
1,300.0	1,300.0	1,297.0	1,297.0	2.8	2.8	-90.01	0.0	-30.8	30.8	25.2	5.61	5.490		
1,400.0	1,400.0	1,397.0	1,397.0	3.0	3.0	-90.01	0.0	-30.8	30.8	24.8	6.06	5.083		
1,500.0	1,500.0	1,497.0	1,497.0	3.3	3.3	-90.01	0.0	-30.8	30.8	24.3	6.51	4.732		
1,600.0	1,600.0	1,597.0	1,597.0	3.5	3.5	-90.01	0.0	-30.8	30.8	23.9	6.96	4.427		
1,700.0	1,700.0	1,697.0	1,697.0	3.7	3.7	-90.01	0.0	-30.8	30.8	23.4	7.41	4.158		
1,800.0	1,800.0	1,797.0	1,797.0	3.9	3.9	-90.01	0.0	-30.8	30.8	23.0	7.86	3.920 CC, ES		
1,900.0	1,900.0	1,896.1	1,896.1	4.2	4.1	-88.40	0.9	-32.1	32.2	23.9	8.30	3.876		
2,000.0	2,000.0	1,995.0	1,994.8	4.4	4.4	-84.15	3.7	-36.3	36.6	27.8	8.74	4.184		
2,100.0	2,100.0	2,093.3	2,092.8	4.6	4.6	-78.98	8.4	-43.2	44.2	35.1	9.18	4.821		
2,200.0	2,200.0	2,191.6	2,190.4	4.8	4.8	-74.24	14.9	-52.8	55.3	45.6	9.62	5.743		
2,300.0	2,300.0	2,290.8	2,288.8	5.1	5.1	-70.87	21.9	-63.1	67.3	57.2	10.07	6.683		
2,400.0	2,400.0	2,390.0	2,387.2	5.3	5.3	-68.52	28.9	-73.4	79.5	69.0	10.52	7.556		
2,500.0	2,500.0	2,489.2	2,485.7	5.5	5.6	-66.80	35.9	-83.7	91.8	80.8	10.98	8.364		
2,600.0	2,600.0	2,588.4	2,584.1	5.7	5.8	-95.95	42.9	-94.1	104.4	93.0	11.38	9.168		
2,700.0	2,699.8	2,687.5	2,682.4	6.0	6.1	-97.13	49.9	-104.4	117.3	105.5	11.82	9.920		
2,800.0	2,799.5	2,786.5	2,780.5	6.2	6.4	-99.53	56.8	-114.7	130.8	118.5	12.27	10.663		
2,900.0	2,898.7	2,885.0	2,878.4	6.4	6.7	-102.79	63.8	-124.9	145.3	132.6	12.72	11.422		
3,000.0	2,997.8	2,983.5	2,976.1	6.6	6.9	-105.99	70.7	-135.1	160.5	147.3	13.19	12.171		
3,100.0	3,097.0	3,082.0	3,073.7	6.9	7.2	-108.64	77.7	-145.4	176.1	162.4	13.66	12.888		
3,200.0	3,196.1	3,180.5	3,171.4	7.1	7.5	-110.85	84.6	-155.6	192.0	177.9	14.15	13.571		
3,300.0	3,295.3	3,279.0	3,269.1	7.4	7.8	-112.72	91.6	-165.9	208.2	193.5	14.64	14.217		
3,400.0	3,394.4	3,377.4	3,366.8	7.7	8.1	-114.33	98.5	-176.1	224.5	209.3	15.14	14.826		
3,500.0	3,493.5	3,475.9	3,464.5	7.9	8.4	-115.71	105.5	-186.4	241.0	225.3	15.65	15.401		
3,600.0	3,592.7	3,574.4	3,562.2	8.2	8.7	-116.92	112.4	-196.6	257.6	241.4	16.16	15.942		
3,700.0	3,691.8	3,672.9	3,659.9	8.5	9.0	-117.98	119.3	-206.8	274.3	257.6	16.67	16.451		
3,800.0	3,790.9	3,771.3	3,757.6	8.8	9.3	-118.92	126.3	-217.1	291.1	273.9	17.19	16.930		
3,900.0	3,890.2	3,869.9	3,855.4	9.0	9.6	-119.82	133.2	-227.3	307.5	289.8	17.71	17.366		
4,000.0	3,989.7	3,970.2	3,954.9	9.2	9.9	-120.21	140.3	-237.7	322.4	304.2	18.18	17.728		
4,100.0	4,089.6	4,079.8	4,064.0	9.4	10.1	-120.22	146.5	-246.9	333.5	314.9	18.62	17.915		
4,200.0	4,189.6	4,190.3	4,174.2	9.6	10.4	-120.00	150.4	-252.7	339.8	320.8	19.01	17.870		
4,300.0	4,289.6	4,301.2	4,285.1	9.8	10.5	-90.00	152.0	-255.0	341.8	322.4	19.40	17.618		
4,400.0	4,389.6	4,402.7	4,386.6	10.0	10.7	-90.00	152.0	-255.0	341.9	322.0	19.81	17.259		
4,500.0	4,489.6	4,502.7	4,486.6	10.2	10.9	-90.00	152.0	-255.0	341.9	321.6	20.23	16.897		
4,600.0	4,589.6	4,602.7	4,586.6	10.4	11.1	-90.00	152.0	-255.0	341.9	321.2	20.66	16.550		
4,700.0	4,689.6	4,702.7	4,686.6	10.6	11.3	-90.00	152.0	-255.0	341.9	320.8	21.08	16.216		
4,800.0	4,789.6	4,802.7	4,786.6	10.9	11.5	-90.00	152.0	-255.0	341.9	320.3	21.51	15.894		
4,900.0	4,889.6	4,902.7	4,886.6	11.1	11.7	-90.00	152.0	-255.0	341.9	319.9	21.94	15.584		
5,000.0	4,989.6	5,002.7	4,986.6	11.3	11.9	-90.00	152.0	-255.0	341.9	319.5	22.36	15.286		

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 32K-403
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (11-6-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Jacobucci 1N67W32K Pad Sec.32-T1N-R67W - Jacobucci 32K-243 - 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	5,089.6	5,102.7	5,086.6	11.5	12.1	-90.00	152.0	-255.0	341.9	319.1	22.79	14.998		
5,200.0	5,189.6	5,202.7	5,186.6	11.7	12.3	-90.00	152.0	-255.0	341.9	318.6	23.22	14.720		
5,300.0	5,289.6	5,302.7	5,286.6	11.9	12.5	-90.00	152.0	-255.0	341.9	318.2	23.65	14.452		
5,400.0	5,389.6	5,402.7	5,386.6	12.1	12.7	-90.00	152.0	-255.0	341.9	317.8	24.09	14.193		
5,500.0	5,489.6	5,502.7	5,486.6	12.4	12.9	-90.00	152.0	-255.0	341.9	317.3	24.52	13.943		
5,600.0	5,589.6	5,602.7	5,586.6	12.6	13.1	-90.00	152.0	-255.0	341.9	316.9	24.95	13.701		
5,700.0	5,689.6	5,702.7	5,686.6	12.8	13.4	-90.00	152.0	-255.0	341.9	316.5	25.38	13.467		
5,800.0	5,789.6	5,802.7	5,786.6	13.0	13.6	-90.00	152.0	-255.0	341.9	316.0	25.82	13.241		
5,900.0	5,889.6	5,902.7	5,886.6	13.2	13.8	-90.00	152.0	-255.0	341.9	315.6	26.25	13.022		
6,000.0	5,989.6	6,002.7	5,986.6	13.4	14.0	-90.00	152.0	-255.0	341.9	315.2	26.69	12.810		
6,100.0	6,089.6	6,102.7	6,086.6	13.7	14.2	-90.00	152.0	-255.0	341.9	314.7	27.12	12.604		
6,200.0	6,189.6	6,202.7	6,186.6	13.9	14.4	-90.00	152.0	-255.0	341.9	314.3	27.56	12.405		
6,300.0	6,289.6	6,302.7	6,286.6	14.1	14.6	-90.00	152.0	-255.0	341.9	313.9	27.99	12.212		
6,400.0	6,389.6	6,402.7	6,386.6	14.3	14.8	-90.00	152.0	-255.0	341.9	313.4	28.43	12.024		
6,500.0	6,489.6	6,502.7	6,486.6	14.5	15.0	-90.00	152.0	-255.0	341.9	313.0	28.87	11.842		
6,600.0	6,589.6	6,602.7	6,586.6	14.8	15.2	-90.00	152.0	-255.0	341.9	312.5	29.31	11.665		
6,700.0	6,689.6	6,702.7	6,686.6	15.0	15.5	-90.00	152.0	-255.0	341.9	312.1	29.74	11.494		
6,800.0	6,789.6	6,802.7	6,786.6	15.2	15.7	-90.00	152.0	-255.0	341.9	311.7	30.18	11.327		
6,852.8	6,842.3	6,855.5	6,839.3	15.3	15.8	-90.00	152.0	-255.0	341.9	311.4	30.41	11.241		
6,900.0	6,889.6	6,902.6	6,886.5	15.4	15.9	-90.19	150.8	-255.0	341.9	311.2	30.61	11.169		
7,000.0	6,989.6	7,001.1	6,984.2	15.6	16.0	-92.15	139.1	-255.0	342.1	311.1	30.97	11.045		
7,100.0	7,089.5	7,095.1	7,075.4	15.8	16.1	84.05	116.3	-255.0	343.9	312.5	31.31	10.983		
7,200.0	7,189.0	7,185.5	7,159.7	16.0	16.2	79.78	84.0	-255.0	347.8	316.2	31.54	11.026		
7,300.0	7,286.4	7,273.4	7,237.5	16.1	16.3	75.80	43.2	-255.0	353.3	321.6	31.70	11.146		
7,400.0	7,380.1	7,359.2	7,308.4	16.2	16.4	72.16	-4.9	-255.0	360.1	328.3	31.78	11.330		
7,500.0	7,468.3	7,443.1	7,372.2	16.3	16.5	68.90	-59.4	-255.0	367.5	335.7	31.80	11.555		
7,600.0	7,549.8	7,525.6	7,428.7	16.5	16.6	66.05	-119.4	-255.0	375.1	343.4	31.79	11.801		
7,700.0	7,622.9	7,606.7	7,477.6	16.6	16.8	63.62	-184.1	-255.0	382.6	350.8	31.80	12.031		
7,800.0	7,686.6	7,686.8	7,518.9	17.0	17.2	61.59	-252.7	-255.0	389.5	357.5	31.92	12.201		
7,900.0	7,739.6	7,766.0	7,552.4	17.5	17.7	59.97	-324.4	-255.0	395.4	363.2	32.23	12.270		
8,000.0	7,781.1	7,844.6	7,578.2	18.1	18.3	58.74	-398.7	-255.0	400.3	367.5	32.80	12.202		
8,100.0	7,810.4	7,922.7	7,596.2	18.9	19.0	57.89	-474.7	-255.0	403.7	370.0	33.72	11.974		
8,200.0	7,827.0	8,000.0	7,606.2	19.9	19.8	57.42	-551.2	-255.0	405.7	370.7	34.98	11.597		
8,300.0	7,831.1	8,083.1	7,608.6	20.9	20.7	57.30	-634.3	-255.0	406.2	369.6	36.66	11.081		
8,400.0	7,831.5	8,183.1	7,608.5	22.1	21.9	57.24	-734.3	-255.0	406.5	367.8	38.69	10.506		
8,500.0	7,831.9	8,283.1	7,608.4	23.4	23.2	57.17	-834.3	-255.0	406.8	365.9	40.89	9.950		
8,600.0	7,832.4	8,383.1	7,608.3	24.8	24.6	57.11	-934.3	-255.0	407.1	363.9	43.22	9.420		
8,700.0	7,832.8	8,483.1	7,608.2	26.2	26.0	57.05	-1,034.3	-255.0	407.4	361.7	45.66	8.922		
8,800.0	7,833.3	8,583.1	7,608.1	27.7	27.5	56.99	-1,134.3	-255.0	407.7	359.5	48.21	8.457		
8,900.0	7,833.7	8,683.1	7,608.1	29.2	29.1	56.93	-1,234.3	-255.0	408.0	357.1	50.83	8.025		
9,000.0	7,834.1	8,783.1	7,608.0	30.8	30.7	56.86	-1,334.3	-255.0	408.2	354.7	53.53	7.626		
9,100.0	7,834.6	8,883.1	7,607.9	32.4	32.3	56.80	-1,434.3	-255.0	408.5	352.2	56.29	7.258		
9,200.0	7,835.0	8,983.1	7,607.8	34.1	34.0	56.74	-1,534.3	-255.0	408.8	349.7	59.09	6.918		
9,300.0	7,835.4	9,083.1	7,607.7	35.7	35.6	56.68	-1,634.3	-255.0	409.1	347.2	61.94	6.605		
9,400.0	7,835.9	9,183.1	7,607.6	37.4	37.3	56.62	-1,734.3	-255.0	409.4	344.6	64.83	6.315		
9,500.0	7,836.3	9,283.1	7,607.5	39.2	39.1	56.56	-1,834.3	-255.0	409.7	341.9	67.74	6.048		
9,600.0	7,836.7	9,383.1	7,607.5	40.9	40.8	56.50	-1,934.3	-255.0	410.0	339.3	70.69	5.800		
9,700.0	7,837.2	9,483.1	7,607.4	42.7	42.6	56.44	-2,034.3	-255.0	410.3	336.6	73.65	5.570		
9,800.0	7,837.6	9,583.1	7,607.3	44.4	44.3	56.38	-2,134.3	-255.0	410.5	333.9	76.64	5.357		
9,900.0	7,838.1	9,683.1	7,607.2	46.2	46.1	56.31	-2,234.3	-255.0	410.8	331.2	79.64	5.158		

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 32K-403
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (11-6-14)	<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		
10,000.0	7,838.5	9,783.1	7,607.1	48.0	47.9	56.25	-2,334.3	-255.0	411.1	328.5	82.66	4.973		
10,100.0	7,838.9	9,883.1	7,607.0	49.8	49.7	56.19	-2,434.3	-255.0	411.4	325.7	85.70	4.801		
10,200.0	7,839.4	9,983.1	7,606.9	51.6	51.5	56.13	-2,534.3	-255.0	411.7	323.0	88.74	4.640		
10,300.0	7,839.8	10,083.1	7,606.8	53.4	53.3	56.07	-2,634.3	-255.0	412.0	320.2	91.79	4.488		
10,400.0	7,840.2	10,183.1	7,606.8	55.2	55.2	56.01	-2,734.2	-255.0	412.3	317.4	94.85	4.347		
10,500.0	7,840.7	10,283.1	7,606.7	57.0	57.0	55.95	-2,834.2	-255.0	412.6	314.7	97.92	4.213		
10,600.0	7,841.1	10,383.1	7,606.6	58.9	58.8	55.89	-2,934.2	-255.0	412.9	311.9	101.00	4.088		
10,700.0	7,841.5	10,483.1	7,606.5	60.7	60.7	55.83	-3,034.2	-255.0	413.2	309.1	104.08	3.970		
10,800.0	7,842.0	10,583.1	7,606.4	62.6	62.5	55.77	-3,134.2	-255.0	413.5	306.3	107.16	3.858		
10,900.0	7,842.4	10,683.1	7,606.3	64.4	64.3	55.71	-3,234.2	-255.0	413.8	303.5	110.25	3.753		
11,000.0	7,842.9	10,783.1	7,606.2	66.2	66.2	55.65	-3,334.2	-255.0	414.1	300.7	113.35	3.653		
11,100.0	7,843.3	10,883.1	7,606.1	68.1	68.1	55.59	-3,434.2	-255.0	414.4	297.9	116.44	3.559		
11,200.0	7,843.7	10,983.1	7,606.1	70.0	69.9	55.53	-3,534.2	-255.0	414.7	295.1	119.54	3.469		
11,300.0	7,844.2	11,083.1	7,606.0	71.8	71.8	55.47	-3,634.2	-255.0	414.9	292.3	122.64	3.384		
11,400.0	7,844.6	11,183.1	7,605.9	73.7	73.6	55.41	-3,734.2	-255.0	415.2	289.5	125.74	3.303		
11,500.0	7,845.0	11,283.1	7,605.8	75.5	75.5	55.35	-3,834.2	-255.0	415.5	286.7	128.84	3.225		
11,600.0	7,845.5	11,383.1	7,605.7	77.4	77.4	55.29	-3,934.2	-255.0	415.8	283.9	131.94	3.152		
11,700.0	7,845.9	11,483.1	7,605.6	79.3	79.2	55.23	-4,034.2	-255.0	416.1	281.1	135.04	3.082		
11,800.0	7,846.3	11,583.1	7,605.5	81.2	81.1	55.18	-4,134.2	-255.0	416.4	278.3	138.14	3.015		
11,900.0	7,846.8	11,683.1	7,605.4	83.0	83.0	55.12	-4,234.2	-255.0	416.7	275.5	141.24	2.951		
12,000.0	7,847.2	11,783.1	7,605.4	84.9	84.9	55.06	-4,334.2	-255.0	417.0	272.7	144.34	2.889		
12,100.0	7,847.7	11,883.1	7,605.3	86.8	86.7	55.00	-4,434.2	-255.0	417.3	269.9	147.44	2.830		
12,200.0	7,848.1	11,983.1	7,605.2	88.7	88.6	54.94	-4,534.2	-255.0	417.6	267.1	150.54	2.774		
12,300.0	7,848.5	12,083.1	7,605.1	90.5	90.5	54.88	-4,634.2	-255.0	417.9	264.3	153.64	2.720		
12,400.0	7,849.0	12,183.1	7,605.0	92.4	92.4	54.82	-4,734.2	-255.0	418.2	261.5	156.74	2.668		
12,500.0	7,849.4	12,283.1	7,604.9	94.3	94.3	54.76	-4,834.2	-255.0	418.5	258.7	159.83	2.619		
12,600.0	7,849.8	12,383.1	7,604.8	96.2	96.2	54.70	-4,934.2	-255.0	418.8	255.9	162.93	2.571		
12,700.0	7,850.3	12,483.1	7,604.7	98.1	98.0	54.65	-5,034.2	-255.0	419.1	253.1	166.02	2.525		
12,800.0	7,850.7	12,583.1	7,604.7	100.0	99.9	54.59	-5,134.2	-255.0	419.4	250.3	169.11	2.480		
12,900.0	7,851.1	12,683.1	7,604.6	101.9	101.8	54.53	-5,234.2	-255.0	419.8	247.6	172.20	2.438		
13,000.0	7,851.6	12,783.1	7,604.5	103.7	103.7	54.47	-5,334.2	-255.0	420.1	244.8	175.29	2.396		
13,100.0	7,852.0	12,883.1	7,604.4	105.6	105.6	54.41	-5,434.2	-255.0	420.4	242.0	178.37	2.357		
13,200.0	7,852.5	12,983.1	7,604.3	107.5	107.5	54.36	-5,534.2	-255.0	420.7	239.2	181.45	2.318		
13,300.0	7,852.9	13,083.0	7,604.2	109.4	109.4	54.30	-5,634.2	-255.0	421.0	236.4	184.53	2.281		
13,400.0	7,853.3	13,183.0	7,604.1	111.3	111.3	54.24	-5,734.2	-255.0	421.3	233.7	187.61	2.245		
13,500.0	7,853.8	13,283.0	7,604.0	113.2	113.2	54.18	-5,834.2	-255.0	421.6	230.9	190.69	2.211		
13,600.0	7,854.2	13,383.0	7,604.0	115.1	115.1	54.12	-5,934.2	-255.0	421.9	228.1	193.76	2.177		
13,700.0	7,854.6	13,483.0	7,603.9	117.0	117.0	54.07	-6,034.2	-255.0	422.2	225.4	196.83	2.145		
13,800.0	7,855.1	13,583.0	7,603.8	118.9	118.9	54.01	-6,134.2	-255.0	422.5	222.6	199.90	2.114		
13,900.0	7,855.5	13,683.0	7,603.7	120.8	120.8	53.95	-6,234.2	-255.0	422.8	219.8	202.97	2.083		
14,000.0	7,855.9	13,783.0	7,603.6	122.7	122.7	53.89	-6,334.2	-255.0	423.1	217.1	206.03	2.054		
14,100.0	7,856.4	13,883.0	7,603.5	124.6	124.6	53.84	-6,434.2	-255.0	423.4	214.3	209.09	2.025		
14,200.0	7,856.8	13,983.0	7,603.4	126.5	126.5	53.78	-6,534.2	-255.0	423.7	211.6	212.15	1.997		
14,300.0	7,857.3	14,083.0	7,603.3	128.4	128.3	53.72	-6,634.2	-255.0	424.0	208.8	215.20	1.970		
14,400.0	7,857.7	14,183.0	7,603.3	130.3	130.2	53.67	-6,734.2	-255.0	424.4	206.1	218.26	1.944		
14,500.0	7,858.1	14,283.0	7,603.2	132.2	132.1	53.61	-6,834.2	-255.0	424.7	203.4	221.31	1.919		
14,600.0	7,858.6	14,383.0	7,603.1	134.1	134.0	53.55	-6,934.2	-255.0	425.0	200.6	224.35	1.894		
14,700.0	7,859.0	14,483.0	7,603.0	135.6	135.9	53.50	-7,034.1	-255.0	425.3	198.2	227.06	1.873 SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32K-403
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (11-6-14)	<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	2.0	2.0	0.0	0.0	89.99	0.0	30.8	30.8	30.8	0.00	N/A		
100.0	100.0	102.0	102.0	0.1	0.1	89.99	0.0	30.8	30.8	30.6	0.23	134.409		
200.0	200.0	202.0	202.0	0.3	0.3	89.99	0.0	30.8	30.8	30.1	0.68	45.396		
300.0	300.0	302.0	302.0	0.6	0.6	89.99	0.0	30.8	30.8	29.7	1.13	27.310		
400.0	400.0	402.0	402.0	0.8	0.8	89.99	0.0	30.8	30.8	29.2	1.58	19.530		
500.0	500.0	502.0	502.0	1.0	1.0	89.99	0.0	30.8	30.8	28.8	2.03	15.199		
600.0	600.0	602.0	602.0	1.2	1.2	89.99	0.0	30.8	30.8	28.3	2.48	12.441		
700.0	700.0	702.0	702.0	1.5	1.5	89.99	0.0	30.8	30.8	27.9	2.93	10.530		
800.0	800.0	802.0	802.0	1.7	1.7	89.99	0.0	30.8	30.8	27.4	3.38	9.128		
900.0	900.0	902.0	902.0	1.9	1.9	89.99	0.0	30.8	30.8	27.0	3.83	8.055		
966.0	966.0	968.0	968.0	2.1	2.1	89.99	0.0	30.8	30.8	26.7	4.12	7.475 CC		
1,000.0	1,000.0	1,002.0	1,002.0	2.1	2.1	89.99	0.0	30.8	30.8	26.5	4.27	7.209 ES		
1,100.0	1,100.0	1,100.9	1,100.9	2.4	2.4	89.02	0.6	32.5	32.5	27.8	4.71	6.902		
1,200.0	1,200.0	1,199.8	1,199.8	2.6	2.6	86.70	2.2	37.5	37.6	32.4	5.15	7.299		
1,300.0	1,300.0	1,297.9	1,297.3	2.8	2.8	84.00	4.8	45.5	46.0	40.4	5.59	8.237		
1,400.0	1,400.0	1,395.5	1,394.3	3.0	3.0	81.55	8.4	56.7	57.9	51.8	6.03	9.592		
1,500.0	1,500.0	1,494.6	1,492.5	3.3	3.3	79.75	12.6	69.5	71.2	64.7	6.48	10.984		
1,600.0	1,600.0	1,593.7	1,590.6	3.5	3.6	78.52	16.7	82.2	84.6	77.7	6.94	12.194		
1,700.0	1,700.0	1,692.8	1,688.8	3.7	3.8	77.63	20.8	94.9	98.0	90.6	7.40	13.249		
1,800.0	1,800.0	1,791.9	1,787.0	3.9	4.1	76.95	25.0	107.6	111.5	103.6	7.86	14.176		
1,900.0	1,900.0	1,891.0	1,885.2	4.2	4.4	76.41	29.1	120.3	124.9	116.6	8.33	14.993		
2,000.0	2,000.0	1,990.1	1,983.4	4.4	4.7	75.98	33.2	133.1	138.4	129.6	8.80	15.719		
2,100.0	2,100.0	2,089.1	2,081.5	4.6	5.0	75.63	37.3	145.8	151.9	142.6	9.28	16.368		
2,200.0	2,200.0	2,188.2	2,179.7	4.8	5.3	75.33	41.5	158.5	165.4	155.6	9.76	16.950		
2,300.0	2,300.0	2,287.3	2,277.9	5.1	5.7	75.08	45.6	171.2	178.8	168.6	10.23	17.476		
2,400.0	2,400.0	2,386.4	2,376.1	5.3	6.0	74.87	49.7	183.9	192.3	181.6	10.71	17.952		
2,500.0	2,500.0	2,485.5	2,474.2	5.5	6.3	74.68	53.9	196.7	205.8	194.6	11.19	18.385		
2,600.0	2,600.0	2,584.7	2,572.6	5.7	6.6	74.42	58.0	209.4	218.1	206.6	11.43	19.073		
2,700.0	2,699.8	2,684.2	2,671.1	6.0	6.9	74.15	62.2	222.2	227.9	216.0	11.89	19.173		
2,800.0	2,799.5	2,783.8	2,769.8	6.2	7.3	73.86	66.3	235.0	235.3	223.0	12.34	19.078		
2,900.0	2,898.7	2,883.3	2,868.4	6.4	7.6	73.57	70.5	247.7	240.7	227.9	12.79	18.813		
3,000.0	2,997.8	2,982.9	2,967.1	6.6	7.9	73.28	74.6	260.5	245.6	232.3	13.27	18.508		
3,100.0	3,097.0	3,082.4	3,065.7	6.9	8.2	72.99	78.8	273.3	250.8	237.0	13.76	18.230		
3,200.0	3,196.1	3,181.9	3,164.3	7.1	8.6	72.70	82.9	286.1	256.2	241.9	14.25	17.975		
3,300.0	3,295.3	3,281.5	3,263.0	7.4	8.9	72.41	87.1	298.9	261.9	247.1	14.76	17.742		
3,400.0	3,394.4	3,381.0	3,361.6	7.7	9.2	72.12	91.2	311.6	267.8	252.5	15.28	17.527		
3,500.0	3,493.5	3,480.6	3,460.2	7.9	9.5	71.83	95.4	324.4	273.9	258.1	15.80	17.328		
3,600.0	3,592.7	3,580.1	3,558.8	8.2	9.9	71.54	99.5	337.2	280.2	263.8	16.34	17.145		
3,700.0	3,691.8	3,679.6	3,657.5	8.5	10.2	71.25	103.7	350.0	286.6	269.8	16.89	16.975		
3,800.0	3,790.9	3,779.2	3,756.1	8.8	10.5	70.96	107.8	362.8	293.3	275.9	17.44	16.818		
3,900.0	3,890.2	3,878.7	3,854.7	9.0	10.9	70.67	112.0	375.5	300.4	282.5	17.98	16.711		
4,000.0	3,989.7	3,978.3	3,953.4	9.2	11.2	70.38	116.1	388.3	309.1	290.6	18.46	16.745		
4,100.0	4,089.6	4,077.8	4,052.0	9.4	11.5	70.09	120.3	401.1	319.2	300.3	18.90	16.885		
4,200.0	4,189.6	4,177.1	4,150.3	9.6	11.9	69.80	124.4	413.8	330.7	311.4	19.31	17.127		
4,300.0	4,289.6	4,276.1	4,248.5	9.8	12.2	69.51	128.6	426.6	343.2	323.5	19.72	17.405		
4,400.0	4,389.6	4,375.2	4,346.7	10.0	12.5	69.22	132.7	439.3	355.8	335.6	20.15	17.654		
4,500.0	4,489.6	4,474.3	4,444.9	10.2	12.9	68.93	136.8	452.0	368.4	347.8	20.59	17.894		
4,600.0	4,589.6	4,573.4	4,543.1	10.4	13.2	68.64	140.9	464.7	381.1	360.1	21.03	18.126		
4,700.0	4,689.6	4,676.7	4,645.4	10.6	13.5	68.35	145.2	477.8	393.7	372.3	21.47	18.341		
4,800.0	4,789.6	4,791.3	4,759.4	10.9	13.8	68.06	148.9	489.1	403.6	381.7	21.89	18.434		
4,900.0	4,889.6	4,906.6	4,874.5	11.1	14.0	67.77	152.2	496.2	409.6	387.3	22.31	18.361		

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 32K-403
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (11-6-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Jacobucci 1N67W32K Pad Sec.32-T1N-R67W - Jacobucci 32K-323 - Wellbore #1 - Plan #1 (7-24-14)										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			
5,000.0	4,989.6	5,022.4	4,990.2	11.3	14.2	90.00	152.0	498.8	411.9	389.2	22.73	18.124			
5,100.0	5,089.6	5,123.7	5,091.6	11.5	14.4	90.00	152.0	498.8	411.9	388.8	23.13	17.806			
5,200.0	5,189.6	5,223.7	5,191.6	11.7	14.5	90.00	152.0	498.8	411.9	388.4	23.55	17.492			
5,300.0	5,289.6	5,323.7	5,291.6	11.9	14.7	90.00	152.0	498.8	411.9	387.9	23.96	17.188			
5,400.0	5,389.6	5,423.7	5,391.6	12.1	14.9	90.00	152.0	498.8	411.9	387.5	24.38	16.894			
5,500.0	5,489.6	5,523.7	5,491.6	12.4	15.0	90.00	152.0	498.8	411.9	387.1	24.80	16.609			
5,600.0	5,589.6	5,623.7	5,591.6	12.6	15.2	90.00	152.0	498.8	411.9	386.7	25.22	16.332			
5,700.0	5,689.6	5,723.7	5,691.6	12.8	15.4	90.00	152.0	498.8	411.9	386.3	25.64	16.064			
5,800.0	5,789.6	5,823.7	5,791.6	13.0	15.6	90.00	152.0	498.8	411.9	385.8	26.06	15.804			
5,900.0	5,889.6	5,923.7	5,891.6	13.2	15.7	90.00	152.0	498.8	411.9	385.4	26.49	15.552			
6,000.0	5,989.6	6,023.7	5,991.6	13.4	15.9	90.00	152.0	498.8	411.9	385.0	26.91	15.308			
6,100.0	6,089.6	6,123.7	6,091.6	13.7	16.1	90.00	152.0	498.8	411.9	384.6	27.33	15.070			
6,200.0	6,189.6	6,223.7	6,191.6	13.9	16.3	90.00	152.0	498.8	411.9	384.1	27.76	14.839			
6,300.0	6,289.6	6,323.7	6,291.6	14.1	16.5	90.00	152.0	498.8	411.9	383.7	28.18	14.615			
6,400.0	6,389.6	6,423.7	6,391.6	14.3	16.6	90.00	152.0	498.8	411.9	383.3	28.61	14.397			
6,500.0	6,489.6	6,523.7	6,491.6	14.5	16.8	90.00	152.0	498.8	411.9	382.9	29.04	14.185			
6,600.0	6,589.6	6,623.7	6,591.6	14.8	17.0	90.00	152.0	498.8	411.9	382.4	29.47	13.979			
6,700.0	6,689.6	6,723.7	6,691.6	15.0	17.2	90.00	152.0	498.8	411.9	382.0	29.89	13.779			
6,800.0	6,789.6	6,823.7	6,791.6	15.2	17.4	90.00	152.0	498.8	411.9	381.6	30.32	13.584			
6,900.0	6,889.6	6,923.7	6,891.6	15.4	17.6	90.00	152.0	498.8	411.9	381.2	30.75	13.394			
6,959.9	6,949.4	6,983.6	6,951.4	15.5	17.7	90.00	152.0	498.8	411.9	380.9	31.01	13.283			
7,000.0	6,989.6	7,023.7	6,991.5	15.6	17.7	90.10	151.2	498.8	411.9	380.7	31.17	13.214			
7,100.0	7,089.5	7,122.4	7,089.6	15.8	17.9	-88.44	140.5	498.8	412.1	380.5	31.57	13.054			
7,200.0	7,189.0	7,219.1	7,183.5	16.0	18.0	-86.49	117.8	498.8	412.7	380.8	31.87	12.951			
7,300.0	7,286.4	7,314.1	7,272.3	16.1	18.1	-84.62	84.1	498.8	413.8	381.7	32.10	12.890			
7,400.0	7,380.1	7,407.7	7,355.0	16.2	18.2	-82.85	40.5	498.8	415.2	382.9	32.29	12.858			
7,500.0	7,468.3	7,500.0	7,430.7	16.3	18.3	-81.22	-12.2	498.8	416.9	384.4	32.48	12.834			
7,600.0	7,549.8	7,591.1	7,498.7	16.5	18.4	-79.74	-72.7	498.8	418.7	385.9	32.73	12.791			
7,700.0	7,622.9	7,681.2	7,558.4	16.6	18.6	-78.44	-140.2	498.8	420.5	387.4	33.11	12.700			
7,800.0	7,686.6	7,770.4	7,609.3	17.0	18.8	-77.32	-213.4	498.8	422.3	388.6	33.69	12.534			
7,900.0	7,739.6	7,859.0	7,651.0	17.5	19.2	-76.40	-291.5	498.8	423.8	389.3	34.53	12.274			
8,000.0	7,781.1	7,950.0	7,684.2	18.1	19.7	-75.68	-376.2	498.8	425.1	389.4	35.71	11.906			
8,100.0	7,810.4	8,034.7	7,705.8	18.9	20.4	-75.20	-458.0	498.8	426.1	388.9	37.18	11.459			
8,200.0	7,827.0	8,122.1	7,718.5	19.9	21.1	-74.92	-544.4	498.8	426.6	387.6	38.99	10.941			
8,300.0	7,831.1	8,212.0	7,721.4	20.9	22.0	-74.83	-634.2	498.8	426.8	385.7	41.08	10.389			
8,400.0	7,831.5	8,312.0	7,721.2	22.1	23.2	-74.75	-734.2	498.8	426.9	383.6	43.38	9.843			
8,500.0	7,831.9	8,412.0	7,721.0	23.4	24.4	-74.66	-834.2	498.8	427.1	381.3	45.86	9.314			
8,600.0	7,832.4	8,512.0	7,720.8	24.8	25.7	-74.58	-934.2	498.8	427.3	378.8	48.50	8.811			
8,700.0	7,832.8	8,612.0	7,720.6	26.2	27.1	-74.50	-1,034.2	498.8	427.5	376.2	51.26	8.339			
8,800.0	7,833.3	8,712.0	7,720.4	27.7	28.5	-74.41	-1,134.2	498.8	427.6	373.5	54.14	7.899			
8,900.0	7,833.7	8,812.0	7,720.1	29.2	30.0	-74.33	-1,234.2	498.8	427.8	370.7	57.11	7.491			
9,000.0	7,834.1	8,912.0	7,719.9	30.8	31.6	-74.25	-1,334.2	498.8	428.0	367.8	60.16	7.114			
9,100.0	7,834.6	9,012.0	7,719.7	32.4	33.2	-74.16	-1,434.2	498.8	428.2	364.9	63.27	6.767			
9,200.0	7,835.0	9,112.0	7,719.5	34.1	34.8	-74.08	-1,534.2	498.8	428.3	361.9	66.45	6.446			
9,300.0	7,835.4	9,212.0	7,719.3	35.7	36.4	-74.00	-1,634.2	498.8	428.5	358.8	69.67	6.151			
9,400.0	7,835.9	9,312.0	7,719.1	37.4	38.1	-73.92	-1,734.2	498.8	428.7	355.8	72.93	5.878			
9,500.0	7,836.3	9,412.0	7,718.9	39.2	39.8	-73.83	-1,834.2	498.8	428.9	352.6	76.23	5.626			
9,600.0	7,836.7	9,511.9	7,718.7	40.9	41.5	-73.75	-1,934.2	498.8	429.0	349.5	79.56	5.393			
9,700.0	7,837.2	9,611.9	7,718.5	42.7	43.2	-73.67	-2,034.2	498.8	429.2	346.3	82.91	5.177			
9,800.0	7,837.6	9,711.9	7,718.3	44.4	45.0	-73.58	-2,134.2	498.8	429.4	343.1	86.29	4.976			

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 32K-403
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (11-6-14)	<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	7,838.1	9,811.9	7,718.1	46.2	46.7	-73.50	-2,234.2	498.8	429.6	339.9	89.69	4.790		
10,000.0	7,838.5	9,911.9	7,717.8	48.0	48.5	-73.42	-2,334.2	498.8	429.8	336.7	93.11	4.616		
10,100.0	7,838.9	10,011.9	7,717.6	49.8	50.3	-73.34	-2,434.2	498.8	430.0	333.4	96.55	4.453		
10,200.0	7,839.4	10,111.9	7,717.4	51.6	52.1	-73.25	-2,534.2	498.8	430.1	330.2	99.99	4.302		
10,300.0	7,839.8	10,211.9	7,717.2	53.4	53.9	-73.17	-2,634.2	498.8	430.3	326.9	103.45	4.160		
10,400.0	7,840.2	10,311.9	7,717.0	55.2	55.7	-73.09	-2,734.2	498.8	430.5	323.6	106.92	4.026		
10,500.0	7,840.7	10,411.9	7,716.8	57.0	57.5	-73.01	-2,834.2	498.8	430.7	320.3	110.40	3.901		
10,600.0	7,841.1	10,511.9	7,716.6	58.9	59.3	-72.93	-2,934.2	498.8	430.9	317.0	113.89	3.783		
10,700.0	7,841.5	10,611.9	7,716.4	60.7	61.1	-72.84	-3,034.2	498.8	431.1	313.7	117.39	3.672		
10,800.0	7,842.0	10,711.9	7,716.2	62.6	63.0	-72.76	-3,134.2	498.8	431.3	310.4	120.89	3.568		
10,900.0	7,842.4	10,811.9	7,716.0	64.4	64.8	-72.68	-3,234.2	498.8	431.5	307.1	124.40	3.469		
11,000.0	7,842.9	10,911.9	7,715.7	66.2	66.6	-72.60	-3,334.2	498.8	431.7	303.8	127.91	3.375		
11,100.0	7,843.3	11,011.9	7,715.5	68.1	68.5	-72.52	-3,434.2	498.8	431.9	300.4	131.42	3.286		
11,200.0	7,843.7	11,111.9	7,715.3	70.0	70.3	-72.43	-3,534.2	498.8	432.1	297.1	134.94	3.202		
11,300.0	7,844.2	11,211.9	7,715.1	71.8	72.2	-72.35	-3,634.2	498.8	432.2	293.8	138.46	3.122		
11,400.0	7,844.6	11,311.9	7,714.9	73.7	74.0	-72.27	-3,734.2	498.8	432.4	290.5	141.99	3.046		
11,500.0	7,845.0	11,411.9	7,714.7	75.5	75.9	-72.19	-3,834.2	498.8	432.6	287.1	145.52	2.973		
11,600.0	7,845.5	11,511.9	7,714.5	77.4	77.8	-72.11	-3,934.2	498.8	432.8	283.8	149.04	2.904		
11,700.0	7,845.9	11,611.9	7,714.3	79.3	79.6	-72.03	-4,034.2	498.8	433.0	280.5	152.57	2.838		
11,800.0	7,846.3	11,711.9	7,714.1	81.2	81.5	-71.95	-4,134.2	498.8	433.2	277.1	156.11	2.775		
11,900.0	7,846.8	11,811.9	7,713.9	83.0	83.4	-71.86	-4,234.2	498.8	433.4	273.8	159.64	2.715		
12,000.0	7,847.2	11,911.9	7,713.7	84.9	85.2	-71.78	-4,334.2	498.8	433.6	270.5	163.17	2.658		
12,100.0	7,847.7	12,011.9	7,713.4	86.8	87.1	-71.70	-4,434.1	498.8	433.8	267.1	166.70	2.602		
12,200.0	7,848.1	12,111.9	7,713.2	88.7	89.0	-71.62	-4,534.1	498.8	434.0	263.8	170.24	2.550		
12,300.0	7,848.5	12,211.9	7,713.0	90.5	90.8	-71.54	-4,634.1	498.8	434.3	260.5	173.77	2.499		
12,400.0	7,849.0	12,311.9	7,712.8	92.4	92.7	-71.46	-4,734.1	498.8	434.5	257.2	177.30	2.450		
12,500.0	7,849.4	12,411.9	7,712.6	94.3	94.6	-71.38	-4,834.1	498.8	434.7	253.8	180.83	2.404		
12,600.0	7,849.8	12,511.9	7,712.4	96.2	96.5	-71.30	-4,934.1	498.8	434.9	250.5	184.36	2.359		
12,700.0	7,850.3	12,611.9	7,712.2	98.1	98.4	-71.22	-5,034.1	498.8	435.1	247.2	187.89	2.316		
12,800.0	7,850.7	12,711.9	7,712.0	100.0	100.2	-71.14	-5,134.1	498.8	435.3	243.9	191.42	2.274		
12,900.0	7,851.1	12,811.9	7,711.8	101.9	102.1	-71.06	-5,234.1	498.8	435.5	240.5	194.95	2.234		
13,000.0	7,851.6	12,911.9	7,711.6	103.7	104.0	-70.98	-5,334.1	498.8	435.7	237.2	198.48	2.195		
13,100.0	7,852.0	13,011.9	7,711.4	105.6	105.9	-70.90	-5,434.1	498.8	435.9	233.9	202.00	2.158		
13,200.0	7,852.5	13,111.9	7,711.1	107.5	107.8	-70.82	-5,534.1	498.8	436.1	230.6	205.53	2.122		
13,300.0	7,852.9	13,211.9	7,710.9	109.4	109.7	-70.74	-5,634.1	498.8	436.3	227.3	209.05	2.087		
13,400.0	7,853.3	13,311.9	7,710.7	111.3	111.6	-70.66	-5,734.1	498.8	436.6	224.0	212.57	2.054		
13,500.0	7,853.8	13,411.9	7,710.5	113.2	113.4	-70.58	-5,834.1	498.8	436.8	220.7	216.09	2.021		
13,600.0	7,854.2	13,511.9	7,710.3	115.1	115.3	-70.50	-5,934.1	498.8	437.0	217.4	219.61	1.990		
13,700.0	7,854.6	13,611.9	7,710.1	117.0	117.2	-70.42	-6,034.1	498.8	437.2	214.1	223.12	1.959		
13,800.0	7,855.1	13,711.9	7,709.9	118.9	119.1	-70.34	-6,134.1	498.8	437.4	210.8	226.64	1.930		
13,900.0	7,855.5	13,811.9	7,709.7	120.8	121.0	-70.26	-6,234.1	498.8	437.6	207.5	230.15	1.902		
14,000.0	7,855.9	13,911.9	7,709.5	122.7	122.9	-70.18	-6,334.1	498.8	437.9	204.2	233.66	1.874		
14,100.0	7,856.4	14,011.9	7,709.3	124.6	124.8	-70.10	-6,434.1	498.8	438.1	200.9	237.16	1.847		
14,200.0	7,856.8	14,111.9	7,709.0	126.5	126.7	-70.02	-6,534.1	498.8	438.3	197.6	240.67	1.821		
14,300.0	7,857.3	14,211.9	7,708.8	128.4	128.6	-69.94	-6,634.1	498.8	438.5	194.3	244.17	1.796		
14,400.0	7,857.7	14,311.8	7,708.6	130.3	130.5	-69.86	-6,734.1	498.8	438.7	191.1	247.67	1.771		
14,500.0	7,858.1	14,411.8	7,708.4	132.2	132.4	-69.78	-6,834.1	498.8	439.0	187.8	251.17	1.748		
14,600.0	7,858.6	14,511.8	7,708.2	134.1	134.3	-69.70	-6,934.1	498.8	439.2	184.5	254.66	1.725		
14,700.0	7,859.0	14,611.8	7,708.0	135.6	136.2	-69.62	-7,034.0	498.8	439.4	181.6	257.80	1.704 SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Jacobucci 32K-403
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (11-6-14)	<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	-53.2	53.3					
100.0	100.0	97.0	97.0	0.1	0.1	-90.00	0.0	-53.2	53.2	53.0	0.22	240.404		
200.0	200.0	197.0	197.0	0.3	0.3	-90.00	0.0	-53.2	53.2	52.6	0.67	79.732		
300.0	300.0	297.0	297.0	0.6	0.6	-90.00	0.0	-53.2	53.2	52.1	1.12	47.647		
400.0	400.0	397.0	397.0	0.8	0.8	-90.00	0.0	-53.2	53.2	51.7	1.57	33.975		
500.0	500.0	497.0	497.0	1.0	1.0	-90.00	0.0	-53.2	53.2	51.2	2.02	26.400		
600.0	600.0	597.0	597.0	1.2	1.2	-90.00	0.0	-53.2	53.2	50.8	2.47	21.587		
700.0	700.0	697.0	697.0	1.5	1.5	-90.00	0.0	-53.2	53.2	50.3	2.92	18.258		
800.0	800.0	797.0	797.0	1.7	1.7	-90.00	0.0	-53.2	53.2	49.9	3.36	15.819		
900.0	900.0	897.0	897.0	1.9	1.9	-90.00	0.0	-53.2	53.2	49.4	3.81	13.954		
1,000.0	1,000.0	997.0	997.0	2.1	2.1	-90.00	0.0	-53.2	53.2	49.0	4.26	12.483		
1,100.0	1,100.0	1,097.0	1,097.0	2.4	2.4	-90.00	0.0	-53.2	53.2	48.5	4.71	11.293		
1,200.0	1,200.0	1,197.0	1,197.0	2.6	2.6	-90.00	0.0	-53.2	53.2	48.1	5.16	10.309		
1,300.0	1,300.0	1,297.0	1,297.0	2.8	2.8	-90.00	0.0	-53.2	53.2	47.6	5.61	9.484		
1,400.0	1,400.0	1,397.0	1,397.0	3.0	3.0	-90.00	0.0	-53.2	53.2	47.2	6.06	8.780 CC, ES		
1,500.0	1,500.0	1,495.3	1,495.3	3.3	3.2	-89.49	0.5	-54.7	54.8	48.3	6.50	8.427		
1,600.0	1,600.0	1,593.3	1,593.1	3.5	3.4	-88.07	2.0	-59.4	59.6	52.7	6.93	8.600		
1,700.0	1,700.0	1,690.8	1,690.3	3.7	3.7	-86.15	4.5	-67.3	67.7	60.4	7.36	9.200		
1,800.0	1,800.0	1,788.5	1,787.4	3.9	3.9	-84.13	8.0	-78.1	79.1	71.3	7.81	10.135		
1,900.0	1,900.0	1,887.8	1,885.8	4.2	4.1	-82.50	11.8	-89.9	91.3	83.1	8.25	11.065		
2,000.0	2,000.0	1,987.0	1,984.3	4.4	4.4	-81.26	15.6	-101.6	103.6	94.9	8.71	11.900		
2,100.0	2,100.0	2,086.2	2,082.7	4.6	4.7	-80.28	19.4	-113.4	115.9	106.7	9.16	12.653		
2,200.0	2,200.0	2,185.4	2,181.2	4.8	4.9	-79.49	23.2	-125.1	128.2	118.6	9.62	13.333		
2,300.0	2,300.0	2,284.6	2,279.6	5.1	5.2	-78.84	27.0	-136.9	140.6	130.5	10.08	13.949		
2,400.0	2,400.0	2,383.9	2,378.1	5.3	5.5	-78.29	30.8	-148.6	153.0	142.4	10.54	14.510		
2,500.0	2,500.0	2,483.1	2,476.5	5.5	5.8	-77.83	34.6	-160.4	165.4	154.4	11.01	15.023		
2,600.0	2,600.0	2,582.2	2,574.9	5.7	6.1	-107.46	38.4	-172.2	178.3	166.9	11.34	15.719		
2,700.0	2,699.8	2,681.2	2,673.1	6.0	6.4	-108.32	42.2	-183.9	192.3	180.5	11.78	16.318		
2,800.0	2,799.5	2,779.8	2,770.9	6.2	6.7	-109.91	46.0	-195.6	207.5	195.3	12.22	16.974		
2,900.0	2,898.7	2,878.0	2,868.3	6.4	7.0	-112.10	49.7	-207.2	224.1	211.5	12.67	17.691		
3,000.0	2,997.8	2,976.0	2,965.6	6.6	7.3	-114.43	53.5	-218.8	241.6	228.4	13.13	18.395		
3,100.0	3,097.0	3,074.0	3,062.9	6.9	7.5	-116.44	57.2	-230.4	259.3	245.7	13.60	19.064		
3,200.0	3,196.1	3,172.1	3,160.1	7.1	7.9	-118.19	61.0	-242.0	277.4	263.3	14.08	19.696		
3,300.0	3,295.3	3,270.1	3,257.4	7.4	8.2	-119.73	64.7	-253.7	295.6	281.0	14.57	20.293		
3,400.0	3,394.4	3,368.1	3,354.7	7.7	8.5	-121.09	68.5	-265.3	314.0	299.0	15.06	20.856		
3,500.0	3,493.5	3,466.2	3,451.9	7.9	8.8	-122.29	72.2	-276.9	332.6	317.1	15.55	21.387		
3,600.0	3,592.7	3,564.2	3,549.2	8.2	9.1	-123.37	76.0	-288.5	351.3	335.3	16.05	21.887		
3,700.0	3,691.8	3,662.2	3,646.5	8.5	9.4	-124.35	79.7	-300.1	370.2	353.6	16.56	22.358		
3,800.0	3,790.9	3,760.2	3,743.7	8.8	9.7	-125.22	83.5	-311.7	389.1	372.0	17.06	22.803		
3,900.0	3,890.2	3,858.4	3,841.1	9.0	10.0	-126.13	87.2	-323.4	407.6	390.1	17.57	23.196		
4,000.0	3,989.7	3,957.0	3,938.9	9.2	10.3	-126.69	91.0	-335.1	424.3	406.3	18.05	23.509		
4,100.0	4,089.6	4,055.9	4,037.1	9.4	10.6	-126.82	94.8	-346.8	438.9	420.4	18.50	23.721		
4,200.0	4,189.6	4,155.0	4,135.4	9.6	10.9	-126.57	98.6	-358.5	451.5	432.5	18.94	23.842		
4,300.0	4,289.6	4,254.2	4,233.9	9.8	11.2	-96.20	102.4	-370.3	462.8	443.5	19.36	23.901		
4,400.0	4,389.6	4,353.5	4,332.3	10.0	11.5	-95.58	106.2	-382.0	474.2	454.4	19.82	23.932		
4,500.0	4,489.6	4,452.7	4,430.8	10.2	11.9	-95.00	110.0	-393.8	485.7	465.4	20.27	23.965		
4,600.0	4,589.6	4,551.9	4,529.2	10.4	12.2	-94.44	113.8	-405.5	497.2	476.5	20.72	23.999		
4,700.0	4,689.6	4,651.1	4,627.7	10.6	12.5	-93.91	117.6	-417.3	508.8	487.6	21.17	24.033		
4,800.0	4,789.6	4,750.3	4,726.1	10.9	12.8	-93.40	121.4	-429.1	520.4	498.7	21.62	24.067		
4,900.0	4,889.6	4,849.6	4,824.6	11.1	13.1	-92.91	125.1	-440.8	532.0	509.9	22.07	24.102		
5,000.0	4,989.6	4,948.8	4,923.0	11.3	13.4	-92.45	128.9	-452.6	543.7	521.1	22.52	24.136		

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 32K-403
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (11-6-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design										Jacobucci 1N67W32K Pad Sec.32-T1N-R67W - Jacobucci 32K-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	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)					
5,100.0	5,089.6	5,048.0	5,021.5	11.5	13.8	-92.00	132.7	-464.3	555.4	532.4	22.98	24.171				
5,200.0	5,189.6	5,147.2	5,119.9	11.7	14.1	-91.57	136.5	-476.1	567.1	543.7	23.43	24.206				
5,300.0	5,289.6	5,246.4	5,218.4	11.9	14.4	-91.16	140.3	-487.9	578.9	555.0	23.88	24.240				
5,400.0	5,389.6	5,345.7	5,316.8	12.1	14.7	-90.77	144.1	-499.6	590.7	566.3	24.33	24.274				
5,500.0	5,489.6	5,463.0	5,433.4	12.4	15.0	-90.37	148.2	-512.2	601.4	576.6	24.79	24.258				
5,600.0	5,589.6	5,587.8	5,557.8	12.6	15.3	-90.10	150.9	-520.6	608.2	582.9	25.24	24.097				
5,700.0	5,689.6	5,713.1	5,683.1	12.8	15.5	-90.00	152.0	-523.9	610.8	585.1	25.68	23.787				
5,800.0	5,789.6	5,816.5	5,786.6	13.0	15.6	-90.00	152.0	-524.0	610.9	584.8	26.09	23.411				
5,900.0	5,889.6	5,916.5	5,886.6	13.2	15.8	-90.00	152.0	-524.0	610.9	584.3	26.51	23.039				
6,000.0	5,989.6	6,016.5	5,986.6	13.4	16.0	-90.00	152.0	-524.0	610.9	583.9	26.94	22.678				
6,100.0	6,089.6	6,116.5	6,086.6	13.7	16.2	-90.00	152.0	-524.0	610.9	583.5	27.36	22.327				
6,200.0	6,189.6	6,216.5	6,186.6	13.9	16.4	-90.00	152.0	-524.0	610.9	583.1	27.78	21.987				
6,300.0	6,289.6	6,316.5	6,286.6	14.1	16.5	-90.00	152.0	-524.0	610.9	582.6	28.21	21.655				
6,400.0	6,389.6	6,416.5	6,386.6	14.3	16.7	-90.00	152.0	-524.0	610.9	582.2	28.63	21.334				
6,500.0	6,489.6	6,516.5	6,486.6	14.5	16.9	-90.00	152.0	-524.0	610.9	581.8	29.06	21.021				
6,600.0	6,589.6	6,616.5	6,586.6	14.8	17.1	-90.00	152.0	-524.0	610.9	581.4	29.49	20.716				
6,700.0	6,689.6	6,716.5	6,686.6	15.0	17.3	-90.00	152.0	-524.0	610.9	580.9	29.91	20.420				
6,800.0	6,789.6	6,816.5	6,786.6	15.2	17.5	-90.00	152.0	-524.0	610.9	580.5	30.34	20.132				
6,900.0	6,889.6	6,916.5	6,886.6	15.4	17.6	-90.00	152.0	-524.0	610.9	580.1	30.77	19.852				
7,000.0	6,989.6	7,016.5	6,986.6	15.6	17.8	-90.00	152.0	-524.0	610.9	579.7	31.20	19.579				
7,057.8	7,047.3	7,074.3	7,044.3	15.8	17.9	90.05	152.0	-524.0	610.9	579.4	31.44	19.427				
7,100.0	7,089.5	7,116.5	7,086.6	15.8	18.0	90.01	151.8	-524.0	610.9	579.2	31.62	19.321				
7,200.0	7,189.0	7,216.6	7,186.1	16.0	18.1	90.04	142.7	-524.0	610.9	578.9	31.91	19.145				
7,300.0	7,286.4	7,316.7	7,283.7	16.1	18.3	90.08	120.6	-524.0	610.9	578.7	32.13	19.011				
7,400.0	7,380.1	7,416.8	7,377.6	16.2	18.4	90.11	86.0	-524.0	610.9	578.5	32.33	18.896				
7,500.0	7,468.3	7,517.0	7,466.2	16.3	18.4	90.15	39.4	-524.0	610.9	578.3	32.54	18.770				
7,600.0	7,549.8	7,617.2	7,547.9	16.5	18.5	90.18	-18.4	-524.0	610.9	578.0	32.85	18.595				
7,700.0	7,622.9	7,717.5	7,621.5	16.6	18.7	90.20	-86.4	-524.0	610.9	577.5	33.32	18.335				
7,800.0	7,686.6	7,817.8	7,685.5	17.0	18.9	90.23	-163.5	-524.0	610.9	576.8	34.01	17.959				
7,900.0	7,739.6	7,818.1	7,738.9	17.5	19.2	90.25	-248.4	-524.0	610.9	575.9	34.99	17.457				
8,000.0	7,781.1	8,018.5	7,780.7	18.1	19.7	90.26	-339.5	-524.0	610.9	574.6	36.29	16.834				
8,100.0	7,810.4	8,118.8	7,810.3	18.9	20.4	90.27	-435.4	-524.0	610.9	573.0	37.90	16.119				
8,200.0	7,827.0	8,219.2	7,827.0	19.9	21.2	90.28	-534.3	-524.0	610.9	571.1	39.80	15.348				
8,300.0	7,831.1	8,319.5	7,831.1	20.9	22.2	90.28	-634.5	-524.0	610.9	568.9	41.95	14.560				
8,400.0	7,831.5	8,419.5	7,831.5	22.1	23.3	90.28	-734.5	-524.0	610.9	566.5	44.32	13.783				
8,500.0	7,831.9	8,519.5	7,831.9	23.4	24.6	90.28	-834.5	-524.0	610.9	564.0	46.88	13.031				
8,600.0	7,832.4	8,619.5	7,832.4	24.8	25.9	90.28	-934.5	-524.0	610.9	561.3	49.60	12.315				
8,700.0	7,832.8	8,719.5	7,832.8	26.2	27.2	90.28	-1,034.5	-524.0	610.9	558.4	52.46	11.643				
8,800.0	7,833.3	8,819.5	7,833.2	27.7	28.7	90.28	-1,134.5	-524.0	610.9	555.4	55.44	11.018				
8,900.0	7,833.7	8,919.5	7,833.7	29.2	30.2	90.28	-1,234.5	-524.0	610.9	552.3	58.52	10.438				
9,000.0	7,834.1	9,019.5	7,834.1	30.8	31.7	90.28	-1,334.5	-524.0	610.9	549.2	61.68	9.903				
9,100.0	7,834.6	9,119.5	7,834.5	32.4	33.3	90.28	-1,434.4	-524.0	610.9	545.9	64.92	9.410				
9,200.0	7,835.0	9,219.5	7,835.0	34.1	34.9	90.28	-1,534.4	-524.0	610.9	542.6	68.22	8.955				
9,300.0	7,835.4	9,319.5	7,835.4	35.7	36.6	90.28	-1,634.4	-524.0	610.9	539.3	71.57	8.536				
9,400.0	7,835.9	9,419.5	7,835.9	37.4	38.2	90.28	-1,734.4	-524.0	610.9	535.9	74.96	8.149				
9,500.0	7,836.3	9,519.5	7,836.3	39.2	39.9	90.28	-1,834.4	-524.0	610.9	532.5	78.40	7.792				
9,600.0	7,836.7	9,619.5	7,836.7	40.9	41.6	90.28	-1,934.4	-524.0	610.9	529.0	81.87	7.462				
9,700.0	7,837.2	9,719.5	7,837.2	42.7	43.3	90.28	-2,034.4	-524.0	610.9	525.5	85.37	7.155				
9,800.0	7,837.6	9,819.5	7,837.6	44.4	45.1	90.28	-2,134.4	-524.0	610.9	522.0	88.90	6.871				
9,900.0	7,838.1	9,919.5	7,838.0	46.2	46.8	90.28	-2,234.4	-524.0	610.9	518.4	92.45	6.607				

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 32K-403
<b>Project:</b>	SEC.32-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Reference Site:</b>	Jacobucci 1N67W32K Pad Sec.32-T1N-R67W	<b>MD Reference:</b>	WELL @ 5063.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Jacobucci 32K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (11-6-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Jacobucci 1N67W32K Pad Sec.32-T1N-R67W - Jacobucci 32K-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			
10,000.0	7,838.5	10,019.5	7,838.5	48.0	48.6	90.28	-2,334.4	-524.0	610.9	514.8	96.03	6.361			
10,100.0	7,838.9	10,119.5	7,838.9	49.8	50.4	90.28	-2,434.4	-524.0	610.9	511.2	99.62	6.132			
10,200.0	7,839.4	10,219.5	7,839.3	51.6	52.2	90.28	-2,534.4	-524.0	610.9	507.6	103.23	5.918			
10,300.0	7,839.8	10,319.5	7,839.8	53.4	54.0	90.28	-2,634.4	-524.0	610.9	504.0	106.85	5.717			
10,400.0	7,840.2	10,419.5	7,840.2	55.2	55.8	90.28	-2,734.4	-524.0	610.9	500.4	110.49	5.528			
10,500.0	7,840.7	10,519.5	7,840.7	57.0	57.6	90.28	-2,834.4	-524.0	610.9	496.7	114.15	5.352			
10,600.0	7,841.1	10,619.5	7,841.1	58.9	59.4	90.28	-2,934.4	-524.0	610.9	493.1	117.81	5.185			
10,700.0	7,841.5	10,719.5	7,841.5	60.7	61.2	90.28	-3,034.4	-524.0	610.9	489.4	121.48	5.028			
10,800.0	7,842.0	10,819.5	7,842.0	62.6	63.1	90.28	-3,134.4	-524.0	610.9	485.7	125.17	4.880			
10,900.0	7,842.4	10,919.5	7,842.4	64.4	64.9	90.28	-3,234.4	-524.0	610.9	482.0	128.86	4.741			
11,000.0	7,842.9	11,019.5	7,842.8	66.2	66.7	90.28	-3,334.4	-524.0	610.9	478.3	132.56	4.608			
11,100.0	7,843.3	11,119.5	7,843.3	68.1	68.6	90.28	-3,434.4	-524.0	610.9	474.6	136.26	4.483			
11,200.0	7,843.7	11,219.5	7,843.7	70.0	70.4	90.28	-3,534.4	-524.0	610.9	470.9	139.98	4.364			
11,300.0	7,844.2	11,319.5	7,844.1	71.8	72.3	90.28	-3,634.4	-524.0	610.9	467.2	143.70	4.251			
11,400.0	7,844.6	11,419.5	7,844.6	73.7	74.1	90.28	-3,734.4	-524.0	610.9	463.4	147.42	4.144			
11,500.0	7,845.0	11,519.5	7,845.0	75.5	76.0	90.28	-3,834.4	-524.0	610.9	459.7	151.15	4.041			
11,600.0	7,845.5	11,619.5	7,845.5	77.4	77.8	90.28	-3,934.4	-524.0	610.9	456.0	154.89	3.944			
11,700.0	7,845.9	11,719.5	7,845.9	79.3	79.7	90.28	-4,034.4	-524.0	610.9	452.2	158.63	3.851			
11,800.0	7,846.3	11,819.5	7,846.3	81.2	81.6	90.28	-4,134.4	-524.0	610.9	448.5	162.37	3.762			
11,900.0	7,846.8	11,919.5	7,846.8	83.0	83.4	90.28	-4,234.4	-524.0	610.9	444.7	166.12	3.677			
12,000.0	7,847.2	12,019.5	7,847.2	84.9	85.3	90.28	-4,334.4	-524.0	610.9	441.0	169.87	3.596			
12,100.0	7,847.7	12,119.5	7,847.6	86.8	87.2	90.28	-4,434.4	-524.0	610.9	437.2	173.63	3.518			
12,200.0	7,848.1	12,219.5	7,848.1	88.7	89.0	90.28	-4,534.4	-524.0	610.9	433.5	177.38	3.444			
12,300.0	7,848.5	12,319.5	7,848.5	90.5	90.9	90.28	-4,634.4	-524.0	610.9	429.7	181.15	3.372			
12,400.0	7,849.0	12,419.5	7,848.9	92.4	92.8	90.28	-4,734.4	-524.0	610.9	425.9	184.91	3.304			
12,500.0	7,849.4	12,519.5	7,849.4	94.3	94.7	90.28	-4,834.4	-524.0	610.9	422.2	188.68	3.238			
12,600.0	7,849.8	12,619.5	7,849.8	96.2	96.5	90.28	-4,934.4	-524.0	610.9	418.4	192.45	3.174			
12,700.0	7,850.3	12,719.5	7,850.3	98.1	98.4	90.28	-5,034.4	-524.0	610.9	414.6	196.22	3.113			
12,800.0	7,850.7	12,819.5	7,850.7	100.0	100.3	90.28	-5,134.4	-524.0	610.9	410.9	199.99	3.054			
12,900.0	7,851.1	12,919.5	7,851.1	101.9	102.2	90.28	-5,234.4	-524.0	610.9	407.1	203.77	2.998			
13,000.0	7,851.6	13,019.5	7,851.6	103.7	104.1	90.28	-5,334.4	-524.0	610.9	403.3	207.55	2.943			
13,100.0	7,852.0	13,119.5	7,852.0	105.6	106.0	90.28	-5,434.4	-524.0	610.9	399.5	211.33	2.891			
13,200.0	7,852.5	13,219.5	7,852.4	107.5	107.8	90.28	-5,534.4	-524.0	610.9	395.8	215.11	2.840			
13,300.0	7,852.9	13,319.5	7,852.9	109.4	109.7	90.28	-5,634.4	-524.0	610.9	392.0	218.89	2.791			
13,400.0	7,853.3	13,419.5	7,853.3	111.3	111.6	90.28	-5,734.4	-524.0	610.9	388.2	222.68	2.743			
13,500.0	7,853.8	13,519.5	7,853.7	113.2	113.5	90.28	-5,834.4	-524.0	610.9	384.4	226.46	2.697			
13,600.0	7,854.2	13,619.5	7,854.2	115.1	115.4	90.28	-5,934.4	-524.0	610.9	380.6	230.25	2.653			
13,700.0	7,854.6	13,719.5	7,854.6	117.0	117.3	90.28	-6,034.4	-524.0	610.9	376.8	234.04	2.610			
13,800.0	7,855.1	13,819.5	7,855.1	118.9	119.2	90.28	-6,134.4	-524.0	610.9	373.0	237.83	2.568			
13,900.0	7,855.5	13,919.5	7,855.5	120.8	121.1	90.28	-6,234.4	-524.0	610.9	369.2	241.62	2.528			
14,000.0	7,855.9	14,019.5	7,855.9	122.7	123.0	90.28	-6,334.4	-524.0	610.9	365.4	245.42	2.489			
14,100.0	7,856.4	14,119.5	7,856.4	124.6	124.9	90.28	-6,434.4	-524.0	610.9	361.6	249.21	2.451			
14,200.0	7,856.8	14,219.5	7,856.8	126.5	126.8	90.28	-6,534.4	-524.0	610.9	357.9	253.01	2.414			
14,300.0	7,857.3	14,319.5	7,857.2	128.4	128.7	90.28	-6,634.4	-524.0	610.9	354.1	256.80	2.379			
14,400.0	7,857.7	14,419.5	7,857.7	130.3	130.6	90.28	-6,734.4	-524.0	610.9	350.3	260.60	2.344			
14,500.0	7,858.1	14,519.5	7,858.1	132.2	132.4	90.28	-6,834.4	-524.0	610.9	346.5	264.40	2.310			
14,600.0	7,858.6	14,619.5	7,858.5	134.1	134.3	90.28	-6,934.4	-524.0	610.9	342.7	268.20	2.278			
14,700.0	7,859.0	14,719.5	7,859.0	135.6	136.2	90.28	-7,034.4	-524.0	610.9	339.2	271.64	2.249 SF			

Reference Depths are relative to WELL @ 5063.0ft (Original Well Elev)	Coordinates are relative to: Jacobucci 32K-403
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: 0.37°



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