

# PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Schneider 19Q-202**

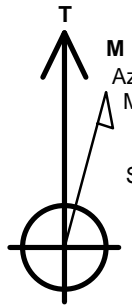
Surface Location: Schneider 19Q-HZ Pad Sec.19-T5N-R64W  
North American Datum 1983 , US State Plane 1983, Colorado Northern Zone  
Ground Elevation: 4653.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1382010.18	3253829.81	40.378440	-104.588890	

RKB - 15' WELL @ 4668.0ft (RKB - 15')

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
50' N Hardline (19Q-202)	1.0	-232.2	5119.4	Rectangle (Sides: L9283.5 W0.0)
SHL 409'FSL, 1577'FEL, SEC.19	1.0	0.0	0.0	Point
BHL 8'FSL, 2396'FEL, SEC.21	6657.0	-282.2	9757.1	Point



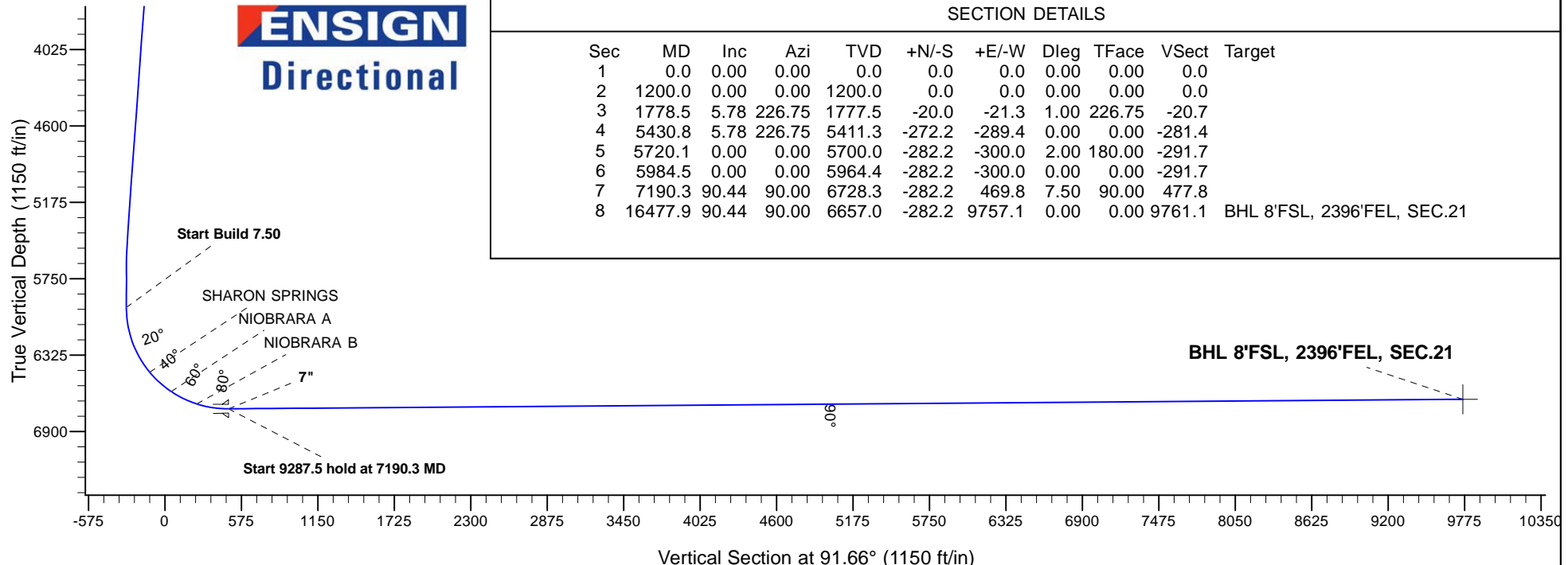
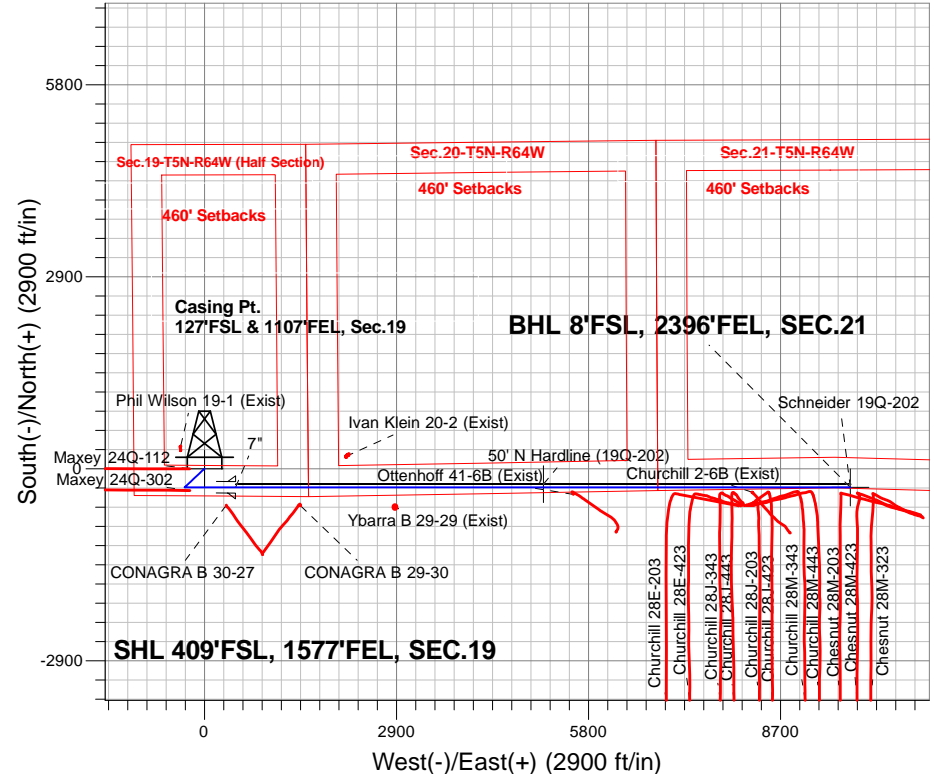
Azimuths to True North  
Magnetic North: 8.21°

Magnetic Field  
Strength: 52708.1snT  
Dip Angle: 66.92°  
Date: 7/20/2015  
Model: IGRF2010

## ANNOTATIONS

TVD	MD	Annotation
1200.0	1200.0	KOP - Start Build 1.00
5964.4	5984.5	Start Build 7.50
6728.3	7190.3	Start 9287.5 hold at 7190.3 MD
6657.0	16477.9	TD at 16477.9

Schneider 19Q-HZ Pad Sec.19-T5N-R64W  
Schneider 19Q-202  
Plan #3 (7-20-15)  
11:15, July 22 2015



## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
3	1778.5	5.78	226.75	1777.5	-20.0	-21.3	1.00	226.75	-20.7	
4	5430.8	5.78	226.75	5411.3	-272.2	-289.4	0.00	0.00	-281.4	
5	5720.1	0.00	0.00	5700.0	-282.2	-300.0	2.00	180.00	-291.7	
6	5984.5	0.00	0.00	5964.4	-282.2	-300.0	0.00	0.00	-291.7	
7	7190.3	90.44	90.00	6728.3	-282.2	469.8	7.50	90.00	477.8	
8	16477.9	90.44	90.00	6657.0	-282.2	9757.1	0.00	0.00	9761.1	BHL 8'FSL, 2396'FEL, SEC.21



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.19-T5N-R64W**

**Schneider 19Q-HZ Pad Sec.19-T5N-R64W**

**Schneider 19Q-202**

**Wellbore #1**

**Plan: Plan #3 (7-20-15)**

## **Standard Planning Report**

**22 July, 2015**

<b>Database:</b>	US_EDM	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Project:</b>	SEC.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #3 (7-20-15)		

<b>Project</b>	SEC.19-T5N-R64W		
<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		Schneider 19Q-HZ Pad Sec.19-T5N-R64W			
Site Position:		Northing:	1,382,009.88 usft	Latitude:	40.378440
From:	Lat/Long	Easting:	3,253,799.16 usft	Longitude:	-104.589000
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.59

Well	Schneider 19Q-202					
Well Position	+N/-S	0.0 ft	Northing:	1,382,010.18 usft	Latitude:	40.378440
	+E/-W	30.6 ft	Easting:	3,253,829.81 usft	Longitude:	-104.588890
Position Uncertainty		0.0 ft	Wellhead Elevation:		Ground Level:	4,653.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	7/20/2015	8.22	66.92	52,708

<b>Design</b>	Plan #3 (7-20-15)			
<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	91.66

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,778.5	5.78	226.75	1,777.5	-20.0	-21.3	1.00	1.00	0.00	226.75	
5,430.8	5.78	226.75	5,411.3	-272.2	-289.4	0.00	0.00	0.00	0.00	
5,720.1	0.00	0.00	5,700.0	-282.2	-300.0	2.00	-2.00	0.00	180.00	
5,984.5	0.00	0.00	5,964.4	-282.2	-300.0	0.00	0.00	0.00	0.00	
7,190.3	90.44	90.00	6,728.3	-282.2	469.8	7.50	7.50	0.00	90.00	
16,477.9	90.44	90.00	6,657.0	-282.2	9,757.1	0.00	0.00	0.00	0.00	BHL 8'FSL, 2396'FEL

<b>Database:</b>	US_EDM	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Project:</b>	SEC.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #3 (7-20-15)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
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
KOP - Start Build 1.00									
1,300.0	1.00	226.75	1,300.0	-0.6	-0.6	-0.6	1.00	1.00	0.00
1,400.0	2.00	226.75	1,400.0	-2.4	-2.5	-2.5	1.00	1.00	0.00
1,500.0	3.00	226.75	1,499.9	-5.4	-5.7	-5.6	1.00	1.00	0.00
1,600.0	4.00	226.75	1,599.7	-9.6	-10.2	-9.9	1.00	1.00	0.00
1,700.0	5.00	226.75	1,699.4	-14.9	-15.9	-15.4	1.00	1.00	0.00
1,778.5	5.78	226.75	1,777.5	-20.0	-21.3	-20.7	1.00	1.00	0.00
1,800.0	5.78	226.75	1,798.9	-21.5	-22.8	-22.2	0.00	0.00	0.00
1,900.0	5.78	226.75	1,898.4	-28.4	-30.2	-29.3	0.00	0.00	0.00
2,000.0	5.78	226.75	1,997.9	-35.3	-37.5	-36.5	0.00	0.00	0.00
2,100.0	5.78	226.75	2,097.4	-42.2	-44.9	-43.6	0.00	0.00	0.00
2,200.0	5.78	226.75	2,196.9	-49.1	-52.2	-50.8	0.00	0.00	0.00
2,300.0	5.78	226.75	2,296.4	-56.0	-59.5	-57.9	0.00	0.00	0.00
2,400.0	5.78	226.75	2,395.9	-62.9	-66.9	-65.0	0.00	0.00	0.00
2,500.0	5.78	226.75	2,495.3	-69.8	-74.2	-72.2	0.00	0.00	0.00
2,600.0	5.78	226.75	2,594.8	-76.7	-81.6	-79.3	0.00	0.00	0.00
2,700.0	5.78	226.75	2,694.3	-83.6	-88.9	-86.4	0.00	0.00	0.00
2,800.0	5.78	226.75	2,793.8	-90.5	-96.2	-93.6	0.00	0.00	0.00
2,900.0	5.78	226.75	2,893.3	-97.4	-103.6	-100.7	0.00	0.00	0.00
3,000.0	5.78	226.75	2,992.8	-104.3	-110.9	-107.9	0.00	0.00	0.00
3,100.0	5.78	226.75	3,092.3	-111.3	-118.3	-115.0	0.00	0.00	0.00
3,200.0	5.78	226.75	3,191.8	-118.2	-125.6	-122.1	0.00	0.00	0.00
3,300.0	5.78	226.75	3,291.3	-125.1	-132.9	-129.3	0.00	0.00	0.00
3,400.0	5.78	226.75	3,390.8	-132.0	-140.3	-136.4	0.00	0.00	0.00
3,500.0	5.78	226.75	3,490.3	-138.9	-147.6	-143.6	0.00	0.00	0.00
3,600.0	5.78	226.75	3,589.7	-145.8	-155.0	-150.7	0.00	0.00	0.00
3,700.0	5.78	226.75	3,689.2	-152.7	-162.3	-157.8	0.00	0.00	0.00
3,800.0	5.78	226.75	3,788.7	-159.6	-169.7	-165.0	0.00	0.00	0.00
3,900.0	5.78	226.75	3,888.2	-166.5	-177.0	-172.1	0.00	0.00	0.00
4,000.0	5.78	226.75	3,987.7	-173.4	-184.3	-179.2	0.00	0.00	0.00
4,100.0	5.78	226.75	4,087.2	-180.3	-191.7	-186.4	0.00	0.00	0.00
4,200.0	5.78	226.75	4,186.7	-187.2	-199.0	-193.5	0.00	0.00	0.00
4,300.0	5.78	226.75	4,286.2	-194.1	-206.4	-200.7	0.00	0.00	0.00
4,400.0	5.78	226.75	4,385.7	-201.0	-213.7	-207.8	0.00	0.00	0.00
4,500.0	5.78	226.75	4,485.2	-207.9	-221.0	-214.9	0.00	0.00	0.00
4,600.0	5.78	226.75	4,584.7	-214.8	-228.4	-222.1	0.00	0.00	0.00
4,700.0	5.78	226.75	4,684.1	-221.7	-235.7	-229.2	0.00	0.00	0.00
4,800.0	5.78	226.75	4,783.6	-228.7	-243.1	-236.4	0.00	0.00	0.00
4,900.0	5.78	226.75	4,883.1	-235.6	-250.4	-243.5	0.00	0.00	0.00
5,000.0	5.78	226.75	4,982.6	-242.5	-257.7	-250.6	0.00	0.00	0.00

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<b>Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #3 (7-20-15)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,100.0	5.78	226.75	5,082.1	-249.4	-265.1	-257.8	0.00	0.00	0.00
5,200.0	5.78	226.75	5,181.6	-256.3	-272.4	-264.9	0.00	0.00	0.00
5,300.0	5.78	226.75	5,281.1	-263.2	-279.8	-272.0	0.00	0.00	0.00
5,400.0	5.78	226.75	5,380.6	-270.1	-287.1	-279.2	0.00	0.00	0.00
5,430.8	5.78	226.75	5,411.3	-272.2	-289.4	-281.4	0.00	0.00	0.00
5,500.0	4.40	226.75	5,480.1	-276.4	-293.8	-285.7	2.00	-2.00	0.00
5,600.0	2.40	226.75	5,580.0	-280.5	-298.2	-289.9	2.00	-2.00	0.00
5,700.0	0.40	226.75	5,679.9	-282.2	-299.9	-291.7	2.00	-2.00	0.00
5,720.1	0.00	0.00	5,700.0	-282.2	-300.0	-291.7	2.00	-2.00	0.00
5,800.0	0.00	0.00	5,779.9	-282.2	-300.0	-291.7	0.00	0.00	0.00
5,900.0	0.00	0.00	5,879.9	-282.2	-300.0	-291.7	0.00	0.00	0.00
5,984.5	0.00	0.00	5,964.4	-282.2	-300.0	-291.7	0.00	0.00	0.00
Start Build 7.50									
6,000.0	1.16	90.00	5,979.9	-282.2	-299.8	-291.6	7.51	7.51	0.00
6,100.0	8.66	90.00	6,079.5	-282.2	-291.3	-283.0	7.50	7.50	0.00
6,200.0	16.16	90.00	6,177.1	-282.2	-269.8	-261.5	7.50	7.50	0.00
6,300.0	23.66	90.00	6,271.0	-282.2	-235.8	-227.5	7.50	7.50	0.00
6,400.0	31.16	90.00	6,359.7	-282.2	-189.8	-181.5	7.50	7.50	0.00
6,500.0	38.66	90.00	6,441.7	-282.2	-132.6	-124.3	7.50	7.50	0.00
6,600.0	46.16	90.00	6,515.5	-282.2	-65.2	-57.0	7.50	7.50	0.00
6,700.0	53.66	90.00	6,579.8	-282.2	11.3	19.5	7.50	7.50	0.00
6,800.0	61.16	90.00	6,633.6	-282.2	95.5	103.6	7.50	7.50	0.00
6,900.0	68.66	90.00	6,676.0	-282.2	186.0	194.1	7.50	7.50	0.00
7,000.0	76.16	90.00	6,706.2	-282.2	281.3	289.3	7.50	7.50	0.00
7,100.0	83.66	90.00	6,723.7	-282.2	379.6	387.6	7.50	7.50	0.00
7,190.3	90.44	90.00	6,728.3	-282.2	469.8	477.7	7.50	7.50	0.00
Start 9287.5 hold at 7190.3 MD - 7"									
7,200.0	90.44	90.00	6,728.2	-282.2	479.5	487.4	0.03	0.03	0.00
7,300.0	90.44	90.00	6,727.5	-282.2	579.5	587.4	0.00	0.00	0.00
7,400.0	90.44	90.00	6,726.7	-282.2	679.5	687.3	0.00	0.00	0.00
7,500.0	90.44	90.00	6,725.9	-282.2	779.5	787.3	0.00	0.00	0.00
7,600.0	90.44	90.00	6,725.2	-282.2	879.5	887.3	0.00	0.00	0.00
7,700.0	90.44	90.00	6,724.4	-282.2	979.5	987.2	0.00	0.00	0.00
7,800.0	90.44	90.00	6,723.6	-282.2	1,079.5	1,087.2	0.00	0.00	0.00
7,900.0	90.44	90.00	6,722.9	-282.2	1,179.5	1,187.1	0.00	0.00	0.00
8,000.0	90.44	90.00	6,722.1	-282.2	1,279.4	1,287.1	0.00	0.00	0.00
8,100.0	90.44	90.00	6,721.3	-282.2	1,379.4	1,387.0	0.00	0.00	0.00
8,200.0	90.44	90.00	6,720.6	-282.2	1,479.4	1,487.0	0.00	0.00	0.00
8,300.0	90.44	90.00	6,719.8	-282.2	1,579.4	1,586.9	0.00	0.00	0.00
8,400.0	90.44	90.00	6,719.0	-282.2	1,679.4	1,686.9	0.00	0.00	0.00
8,500.0	90.44	90.00	6,718.3	-282.2	1,779.4	1,786.8	0.00	0.00	0.00
8,600.0	90.44	90.00	6,717.5	-282.2	1,879.4	1,886.8	0.00	0.00	0.00
8,700.0	90.44	90.00	6,716.7	-282.2	1,979.4	1,986.8	0.00	0.00	0.00
8,800.0	90.44	90.00	6,716.0	-282.2	2,079.4	2,086.7	0.00	0.00	0.00
8,900.0	90.44	90.00	6,715.2	-282.2	2,179.4	2,186.7	0.00	0.00	0.00
9,000.0	90.44	90.00	6,714.4	-282.2	2,279.4	2,286.6	0.00	0.00	0.00
9,100.0	90.44	90.00	6,713.7	-282.2	2,379.4	2,386.6	0.00	0.00	0.00
9,200.0	90.44	90.00	6,712.9	-282.2	2,479.4	2,486.5	0.00	0.00	0.00
9,300.0	90.44	90.00	6,712.1	-282.2	2,579.4	2,586.5	0.00	0.00	0.00
9,400.0	90.44	90.00	6,711.4	-282.2	2,679.4	2,686.4	0.00	0.00	0.00
9,500.0	90.44	90.00	6,710.6	-282.2	2,779.4	2,786.4	0.00	0.00	0.00
9,600.0	90.44	90.00	6,709.8	-282.2	2,879.4	2,886.4	0.00	0.00	0.00
9,700.0	90.44	90.00	6,709.0	-282.2	2,979.4	2,986.3	0.00	0.00	0.00

<b>Database:</b>	US_EDM	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Project:</b>	SEC.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #3 (7-20-15)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,800.0	90.44	90.00	6,708.3	-282.2	3,079.4	3,086.3	0.00	0.00	0.00
9,900.0	90.44	90.00	6,707.5	-282.2	3,179.4	3,186.2	0.00	0.00	0.00
10,000.0	90.44	90.00	6,706.7	-282.2	3,279.4	3,286.2	0.00	0.00	0.00
10,100.0	90.44	90.00	6,706.0	-282.2	3,379.4	3,386.1	0.00	0.00	0.00
10,200.0	90.44	90.00	6,705.2	-282.2	3,479.4	3,486.1	0.00	0.00	0.00
10,300.0	90.44	90.00	6,704.4	-282.2	3,579.4	3,586.0	0.00	0.00	0.00
10,400.0	90.44	90.00	6,703.7	-282.2	3,679.4	3,686.0	0.00	0.00	0.00
10,500.0	90.44	90.00	6,702.9	-282.2	3,779.4	3,786.0	0.00	0.00	0.00
10,600.0	90.44	90.00	6,702.1	-282.2	3,879.4	3,885.9	0.00	0.00	0.00
10,700.0	90.44	90.00	6,701.4	-282.2	3,979.4	3,985.9	0.00	0.00	0.00
10,800.0	90.44	90.00	6,700.6	-282.2	4,079.4	4,085.8	0.00	0.00	0.00
10,900.0	90.44	90.00	6,699.8	-282.2	4,179.4	4,185.8	0.00	0.00	0.00
11,000.0	90.44	90.00	6,699.1	-282.2	4,279.4	4,285.7	0.00	0.00	0.00
11,100.0	90.44	90.00	6,698.3	-282.2	4,379.4	4,385.7	0.00	0.00	0.00
11,200.0	90.44	90.00	6,697.5	-282.2	4,479.4	4,485.6	0.00	0.00	0.00
11,300.0	90.44	90.00	6,696.8	-282.2	4,579.4	4,585.6	0.00	0.00	0.00
11,400.0	90.44	90.00	6,696.0	-282.2	4,679.3	4,685.6	0.00	0.00	0.00
11,500.0	90.44	90.00	6,695.2	-282.2	4,779.3	4,785.5	0.00	0.00	0.00
11,600.0	90.44	90.00	6,694.5	-282.2	4,879.3	4,885.5	0.00	0.00	0.00
11,700.0	90.44	90.00	6,693.7	-282.2	4,979.3	4,985.4	0.00	0.00	0.00
11,800.0	90.44	90.00	6,692.9	-282.2	5,079.3	5,085.4	0.00	0.00	0.00
11,900.0	90.44	90.00	6,692.2	-282.2	5,179.3	5,185.3	0.00	0.00	0.00
12,000.0	90.44	90.00	6,691.4	-282.2	5,279.3	5,285.3	0.00	0.00	0.00
12,100.0	90.44	90.00	6,690.6	-282.2	5,379.3	5,385.2	0.00	0.00	0.00
12,200.0	90.44	90.00	6,689.9	-282.2	5,479.3	5,485.2	0.00	0.00	0.00
12,300.0	90.44	90.00	6,689.1	-282.2	5,579.3	5,585.1	0.00	0.00	0.00
12,400.0	90.44	90.00	6,688.3	-282.2	5,679.3	5,685.1	0.00	0.00	0.00
12,500.0	90.44	90.00	6,687.5	-282.2	5,779.3	5,785.1	0.00	0.00	0.00
12,600.0	90.44	90.00	6,686.8	-282.2	5,879.3	5,885.0	0.00	0.00	0.00
12,700.0	90.44	90.00	6,686.0	-282.2	5,979.3	5,985.0	0.00	0.00	0.00
12,800.0	90.44	90.00	6,685.2	-282.2	6,079.3	6,084.9	0.00	0.00	0.00
12,900.0	90.44	90.00	6,684.5	-282.2	6,179.3	6,184.9	0.00	0.00	0.00
13,000.0	90.44	90.00	6,683.7	-282.2	6,279.3	6,284.8	0.00	0.00	0.00
13,100.0	90.44	90.00	6,682.9	-282.2	6,379.3	6,384.8	0.00	0.00	0.00
13,200.0	90.44	90.00	6,682.2	-282.2	6,479.3	6,484.7	0.00	0.00	0.00
13,300.0	90.44	90.00	6,681.4	-282.2	6,579.3	6,584.7	0.00	0.00	0.00
13,400.0	90.44	90.00	6,680.6	-282.2	6,679.3	6,684.7	0.00	0.00	0.00
13,500.0	90.44	90.00	6,679.9	-282.2	6,779.3	6,784.6	0.00	0.00	0.00
13,600.0	90.44	90.00	6,679.1	-282.2	6,879.3	6,884.6	0.00	0.00	0.00
13,700.0	90.44	90.00	6,678.3	-282.2	6,979.3	6,984.5	0.00	0.00	0.00
13,800.0	90.44	90.00	6,677.6	-282.2	7,079.3	7,084.5	0.00	0.00	0.00
13,900.0	90.44	90.00	6,676.8	-282.2	7,179.3	7,184.4	0.00	0.00	0.00
14,000.0	90.44	90.00	6,676.0	-282.2	7,279.3	7,284.4	0.00	0.00	0.00
14,100.0	90.44	90.00	6,675.3	-282.2	7,379.3	7,384.3	0.00	0.00	0.00
14,200.0	90.44	90.00	6,674.5	-282.2	7,479.3	7,484.3	0.00	0.00	0.00
14,300.0	90.44	90.00	6,673.7	-282.2	7,579.3	7,584.3	0.00	0.00	0.00
14,400.0	90.44	90.00	6,673.0	-282.2	7,679.3	7,684.2	0.00	0.00	0.00
14,500.0	90.44	90.00	6,672.2	-282.2	7,779.3	7,784.2	0.00	0.00	0.00
14,600.0	90.44	90.00	6,671.4	-282.2	7,879.3	7,884.1	0.00	0.00	0.00
14,700.0	90.44	90.00	6,670.7	-282.2	7,979.3	7,984.1	0.00	0.00	0.00
14,800.0	90.44	90.00	6,669.9	-282.2	8,079.2	8,084.0	0.00	0.00	0.00
14,900.0	90.44	90.00	6,669.1	-282.2	8,179.2	8,184.0	0.00	0.00	0.00
15,000.0	90.44	90.00	6,668.3	-282.2	8,279.2	8,283.9	0.00	0.00	0.00

<b>Database:</b>	US_EDM	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Project:</b>	SEC.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #3 (7-20-15)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,100.0	90.44	90.00	6,667.6	-282.2	8,379.2	8,383.9	0.00	0.00	0.00
15,200.0	90.44	90.00	6,666.8	-282.2	8,479.2	8,483.9	0.00	0.00	0.00
15,300.0	90.44	90.00	6,666.0	-282.2	8,579.2	8,583.8	0.00	0.00	0.00
15,400.0	90.44	90.00	6,665.3	-282.2	8,679.2	8,683.8	0.00	0.00	0.00
15,500.0	90.44	90.00	6,664.5	-282.2	8,779.2	8,783.7	0.00	0.00	0.00
15,600.0	90.44	90.00	6,663.7	-282.2	8,879.2	8,883.7	0.00	0.00	0.00
15,700.0	90.44	90.00	6,663.0	-282.2	8,979.2	8,983.6	0.00	0.00	0.00
15,800.0	90.44	90.00	6,662.2	-282.2	9,079.2	9,083.6	0.00	0.00	0.00
15,900.0	90.44	90.00	6,661.4	-282.2	9,179.2	9,183.5	0.00	0.00	0.00
16,000.0	90.44	90.00	6,660.7	-282.2	9,279.2	9,283.5	0.00	0.00	0.00
16,100.0	90.44	90.00	6,659.9	-282.2	9,379.2	9,383.4	0.00	0.00	0.00
16,200.0	90.44	90.00	6,659.1	-282.2	9,479.2	9,483.4	0.00	0.00	0.00
16,300.0	90.44	90.00	6,658.4	-282.2	9,579.2	9,583.4	0.00	0.00	0.00
16,400.0	90.44	90.00	6,657.6	-282.2	9,679.2	9,683.3	0.00	0.00	0.00
16,477.9	90.44	90.00	6,657.0	-282.2	9,757.1	9,761.1	0.00	0.00	0.00
TD at 16477.9									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
50' N Hardline (19Q-202 - hit/miss target - Shape - plan misses target center by 5124.6ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E) - Rectangle (sides W0.0 H9,283.5 D0.0)	0.00	0.00	1.0	-232.2	5,119.3	1,381,830.60	3,258,951.05	40.377801	-104.570516
SHL 409'FSL, 1577'FEL - plan hits target center - Point	0.00	0.00	1.0	0.0	0.0	1,382,010.19	3,253,829.81	40.378440	-104.588890
BHL 8'FSL, 2396'FEL, S - plan hits target center - Point	0.00	0.00	6,657.0	-282.2	9,757.1	1,381,828.23	3,263,588.84	40.377660	-104.553870

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
7,190.3	6,728.3	7"	7	7-1/2	

<b>Database:</b>	US_EDM	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Project:</b>	SEC.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #3 (7-20-15)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,524.9	3,515.0	PARKMAN				
4,326.0	4,312.0	SUSSEX				
4,514.9	4,500.0	SHANNON				
6,514.6	6,453.0	SHARON SPRINGS				
6,733.4	6,599.0	NIOBRARA A				
6,947.9	6,692.0	NIOBRARA B				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,200.0	1,200.0	0.0	0.0	KOP - Start Build 1.00	
5,984.5	5,964.4	-282.2	-300.0	Start Build 7.50	
7,190.3	6,728.3	-282.2	469.8	Start 9287.5 hold at 7190.3 MD	
16,477.9	6,657.0	-282.2	9,757.1	TD at 16477.9	





## **Directional**

# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.19-T5N-R64W**

**Schneider 19Q-HZ Pad Sec.19-T5N-R64W**

**Schneider 19Q-202**

**Wellbore #1**

**Plan #3 (7-20-15)**

## **Anticollision Report**

**22 July, 2015**



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #3 (7-20-15)		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	Stations	<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 1,000.0 ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma	<b>Casing Method:</b>	Not applied

<b>Survey Tool Program</b>	<b>Date</b>	7/22/2015		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	16,477.4	Plan #3 (7-20-15) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
Chesnut 28M-HZ Pad Sec.28-T5N-R64W						
Chesnut 28M-203 - Wellbore #1 - Wellbore #1	16,335.0	6,581.3	362.5	131.9	1.572	CC, ES, SF
Chesnut 28M-323 - Wellbore #1 - Wellbore #1	16,477.9	6,598.8	436.0	174.0	1.664	CC, ES, SF
Chesnut 28M-423 - Wellbore #1 - Wellbore #1	16,477.9	6,608.0	308.4	55.7	1.221	Level 2, CC, ES, SF
Churchill 28J-HZ Pad Sec.28-T5N-R64W						
Churchill 28E-203 - Wellbore #1 - Plan #2 (3-12-15)R	13,700.0	6,550.0	389.5	215.3	2.236	ES, SF
Churchill 28E-203 - Wellbore #1 - Plan #2 (3-12-15)R	13,741.7	6,540.0	387.2	215.6	2.256	CC
Churchill 28E-423 - Wellbore #1 - Wellbore #1	14,080.9	6,573.4	283.3	89.7	1.464	Level 3, CC, ES, SF
Churchill 28J-203 - Wellbore #1 - Wellbore #1	15,089.9	6,408.0	467.8	260.2	2.253	CC
Churchill 28J-203 - Wellbore #1 - Wellbore #1	15,100.0	6,408.0	467.9	260.0	2.251	ES, SF
Churchill 28J-343 - Wellbore #1 - Wellbore #1	14,511.5	6,501.0	338.0	147.2	1.772	CC, ES, SF
Churchill 28J-423 - Wellbore #1 - Wellbore #1	15,280.0	6,534.4	264.1	51.0	1.240	Level 2, CC
Churchill 28J-423 - Wellbore #1 - Wellbore #1	15,300.0	6,535.6	264.9	50.7	1.237	Level 2, ES, SF
Churchill 28J-443 - Wellbore #1 - Wellbore #1	14,686.2	6,534.5	258.2	58.8	1.295	Level 3, CC, ES
Churchill 28J-443 - Wellbore #1 - Wellbore #1	14,700.0	6,534.5	258.5	58.9	1.295	Level 3, SF
Churchill 28M-343 - Wellbore #1 - Wellbore #1	15,742.2	6,538.6	308.1	96.7	1.458	Level 3, CC, ES, SF
Churchill 28M-443 - Wellbore #1 - Wellbore #1	15,939.0	6,597.0	254.1	22.3	1.096	Level 2, CC, ES, SF
CONAGRA B 29 & 30 PAD SEC.30-T5N-R64W						
CONAGRA B 29-30 - Wellbore #1 - Wellbore #1	8,169.3	6,844.7	262.8	199.2	4.129	CC, ES
CONAGRA B 29-30 - Wellbore #1 - Wellbore #1	8,200.0	6,844.8	264.6	200.2	4.105	SF
CONAGRA B 30-27 - Wellbore #1 - Wellbore #1	7,051.6	6,861.9	270.8	233.7	7.305	CC, ES
CONAGRA B 30-27 - Wellbore #1 - Wellbore #1	7,100.0	6,868.8	275.0	237.0	7.244	SF
Existing Wells - Churchill 28J-HZ Sec.28-T5N-R64W						
Churchill 2-6B (Exist) - Wellbore #1 - Wellbore #1	14,992.5	6,711.4	73.5	-178.3	0.292	Level 1, CC, ES, SF
Ottenhoff 41-6B (Exist) - Wellbore #1 - Wellbore #1	12,276.5	6,778.1	79.5	-95.4	0.454	Level 1, CC, ES, SF
Maxey 24Q-HZ Pad Sec.24-T5N-R65W						
Maxey 24Q-112 - Wellbore #1 - Plan #4 (5-29-14)R	6,565.5	12,334.8	337.0	183.6	2.197	CC, ES, SF
Maxey 24Q-302 - Wellbore #1 - Plan #3 (6-12-14)R	6,000.0	12,474.8	810.2	634.8	4.619	SF
Maxey 24Q-302 - Wellbore #1 - Plan #3 (6-12-14)R	6,655.0	12,545.1	310.1	257.2	5.863	CC, ES

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Schneider 19Q-HZ Pad (Existing) Sec.19-T5N-R64W						
Evert 20-2 (Exist) - Wellbore #1 - Wellbore #1	10,358.0	6,693.0	614.9	497.0	5.217	CC, ES
Evert 20-2 (Exist) - Wellbore #1 - Wellbore #1	10,400.0	6,691.9	616.3	497.3	5.179	SF
Gilbert Danley 20-1 (Exist) - Wellbore #1 - Wellbore #1	12,944.4	6,705.8	558.6	368.5	2.938	CC, ES
Gilbert Danley 20-1 (Exist) - Wellbore #1 - Wellbore #1	13,000.0	6,705.3	561.3	369.6	2.928	SF
Hoff 20-1 (Exist) - Wellbore #1 - Wellbore #1	11,695.3	6,680.9	596.5	439.5	3.798	CC
Hoff 20-1 (Exist) - Wellbore #1 - Wellbore #1	11,700.0	6,680.8	596.6	439.4	3.795	ES
Hoff 20-1 (Exist) - Wellbore #1 - Wellbore #1	11,800.0	6,679.9	605.7	445.7	3.786	SF
Ivan Klein 20-2 (Exist) - Wellbore #1 - Wellbore #1	8,858.8	6,706.1	466.3	388.0	5.955	CC, ES
Ivan Klein 20-2 (Exist) - Wellbore #1 - Wellbore #1	8,900.0	6,705.5	468.1	388.7	5.894	SF
Phil Wilson 19-1 (Exist) - Wellbore #1 - Wellbore #1	2,390.1	2,361.2	449.3	439.9	47.654	CC
Phil Wilson 19-1 (Exist) - Wellbore #1 - Wellbore #1	2,400.0	2,370.8	449.3	439.8	47.445	ES
Phil Wilson 19-1 (Exist) - Wellbore #1 - Wellbore #1	6,250.0	6,194.7	630.6	603.8	23.538	SF
Ybarra B 29-29 (Exist) - Wellbore #1 - Wellbore #1	9,598.7	6,727.8	289.6	70.0	1.319	Level 3, CC
Ybarra B 29-29 (Exist) - Wellbore #1 - Wellbore #1	9,600.0	6,727.8	289.6	70.0	1.319	Level 3, ES, SF
Schneider 19Q-HZ Pad Sec.19-T5N-R64W						
Schneider 19P-232 - Wellbore #1 - Plan #3 (7-20-15)	1,000.0	999.0	30.6	26.4	7.180	CC, ES
Schneider 19P-232 - Wellbore #1 - Plan #3 (7-20-15)	16,477.9	16,614.6	721.4	165.3	1.297	Level 3, SF
Schneider 19P-332 - Wellbore #1 - Plan #3 (7-20-15)	200.0	199.0	61.3	60.6	91.205	CC, ES
Schneider 19P-332 - Wellbore #1 - Plan #3 (7-20-15)	16,477.9	16,804.1	976.2	420.0	1.755	SF
Schneider 19Q-312 - Wellbore #1 - Plan #2 (7-20-15)	1,200.0	1,200.0	27.9	22.7	5.389	CC
Schneider 19Q-312 - Wellbore #1 - Plan #2 (7-20-15)	16,477.9	16,469.7	355.2	-183.5	0.659	Level 1, ES, SF

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 155-MWD													Offset Well Error:	0.0 ft
Chesnut 28M-HZ Pad Sec.28-T5N-R64W - Chesnut 28M-203 - Wellbore #1 - Wellbore #1														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
15,500.0	6,664.5	6,608.3	6,404.3	249.9	26.2	52.93	-572.5	9,611.5	909.9	685.5	224.36	4.055		
15,600.0	6,663.7	6,604.6	6,401.6	252.7	26.2	52.36	-570.1	9,611.6	819.2	594.1	225.10	3.639		
15,700.0	6,663.0	6,598.0	6,396.7	255.5	26.2	51.32	-565.6	9,611.9	730.9	506.4	224.47	3.256		
15,800.0	6,662.2	6,598.0	6,396.7	258.3	26.2	51.32	-565.6	9,611.9	646.0	419.3	226.70	2.850		
15,900.0	6,661.4	6,594.0	6,393.8	261.1	26.2	50.69	-562.9	9,612.0	566.1	339.0	227.11	2.493		
16,000.0	6,660.7	6,590.6	6,391.3	263.9	26.2	50.15	-560.6	9,612.1	493.5	265.7	227.77	2.167		
16,100.0	6,659.9	6,587.5	6,389.0	266.7	26.2	49.67	-558.6	9,612.2	431.9	203.4	228.51	1.890		
16,200.0	6,659.1	6,584.7	6,386.9	269.5	26.2	49.22	-556.7	9,612.3	386.8	157.4	229.34	1.686		
16,300.0	6,658.4	6,582.1	6,384.9	272.3	26.2	48.82	-555.0	9,612.4	364.2	133.9	230.25	1.582		
16,335.0	6,658.1	6,581.3	6,384.3	273.3	26.2	48.68	-554.4	9,612.4	362.5	131.9	230.58	1.572	CC, ES, SF	
16,400.0	6,657.6	6,579.7	6,383.1	275.1	26.2	48.44	-553.4	9,612.4	368.2	137.0	231.22	1.593		
16,477.9	6,657.0	6,578.0	6,381.8	276.5	26.2	48.16	-552.3	9,612.5	389.6	158.1	231.42	1.683		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Chesnut 28M-HZ Pad Sec.28-T5N-R64W - Chesnut 28M-323 - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program:		159-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		
15,900.0	6,661.4	6,615.0	6,507.1	261.1	19.7	64.76	-521.4	10,103.4	962.1	706.6	255.47	3.766		
16,000.0	6,660.7	6,612.0	6,504.6	263.9	19.7	64.11	-519.7	10,103.5	866.4	609.6	256.74	3.374		
16,100.0	6,659.9	6,609.0	6,502.1	266.7	19.7	63.48	-518.2	10,103.6	771.7	513.7	258.00	2.991		
16,200.0	6,659.1	6,606.2	6,499.7	269.5	19.7	62.87	-516.7	10,103.6	678.6	419.4	259.24	2.618		
16,300.0	6,658.4	6,603.5	6,497.4	272.3	19.7	62.28	-515.2	10,103.7	587.7	327.2	260.47	2.256		
16,400.0	6,657.6	6,600.8	6,495.1	275.1	19.7	61.70	-513.8	10,103.8	500.3	238.6	261.69	1.912		
16,477.9	6,657.0	6,598.8	6,493.4	276.5	19.7	61.26	-512.8	10,103.9	436.0	174.0	261.94	1.664 CC, ES, SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Chesnut 28M-HZ Pad Sec.28-T5N-R64W - Chesnut 28M-423 - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
<b>Survey Program:</b> 156-MWD												<b>Offset Well Error:</b>	0.0 ft
<b>Reference</b>		<b>Offset</b>		<b>Semi Major Axis</b>		<b>Distance</b>							<b>Warning</b>
<b>Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Reference (ft)</b>	<b>Offset (ft)</b>	<b>Highside Toolface (°)</b>	<b>Offset Wellbore Centre +N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Between Centres (ft)</b>	<b>Between Ellipses (ft)</b>	<b>Minimum Separation (ft)</b>	<b>Separation Factor</b>	
15,700.0	6,663.0	6,703.0	6,535.6	255.5	22.6	73.85	-579.6	9,864.6	938.6	671.0	267.61	3.508	
15,800.0	6,662.2	6,703.0	6,535.6	258.3	22.6	73.85	-579.6	9,864.6	844.9	574.6	270.31	3.126	
15,900.0	6,661.4	6,678.7	6,518.5	261.1	22.5	69.82	-562.8	9,868.6	752.1	484.9	267.17	2.815	
16,000.0	6,660.7	6,668.1	6,510.9	263.9	22.5	67.94	-555.6	9,870.3	661.4	394.7	266.65	2.480	
16,100.0	6,659.9	6,656.9	6,502.7	266.7	22.5	65.91	-548.1	9,872.3	573.4	307.9	265.52	2.160	
16,200.0	6,659.1	6,645.1	6,494.1	269.5	22.5	63.72	-540.4	9,874.3	489.7	226.1	263.68	1.857	
16,300.0	6,658.4	6,632.8	6,484.9	272.3	22.4	61.37	-532.6	9,876.5	412.8	151.8	261.03	1.581	
16,400.0	6,657.6	6,608.0	6,466.0	275.1	22.4	56.50	-517.2	9,881.2	347.4	95.9	251.47	1.381	Level 3
16,477.9	6,657.0	6,608.0	6,466.0	276.5	22.4	56.50	-517.2	9,881.2	308.4	55.7	252.65	1.221	Level 2, CC, ES, SF

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Churchill 28J-HZ Pad Sec.28-T5N-R64W - Churchill 28E-203 - Wellbore #1 - Plan #2 (3-12-15)R												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
12,900.0	6,684.5	6,610.5	6,447.3	177.0	24.7	57.98	-618.5	7,010.0	922.1	748.6	173.43	5.317	
13,000.0	6,683.7	6,600.0	6,440.2	179.8	24.7	56.52	-610.9	7,011.3	832.8	659.6	173.22	4.808	
13,100.0	6,682.9	6,600.0	6,440.2	182.6	24.7	56.52	-610.9	7,011.3	746.3	570.7	175.59	4.250	
13,200.0	6,682.2	6,586.8	6,431.1	185.4	24.7	54.65	-601.4	7,013.0	663.2	488.8	174.39	3.803	
13,300.0	6,681.4	6,578.6	6,425.3	188.2	24.7	53.46	-595.6	7,014.0	585.4	411.1	174.34	3.358	
13,400.0	6,680.6	6,570.1	6,419.4	191.0	24.6	52.25	-589.8	7,015.1	515.0	341.0	174.09	2.959	
13,500.0	6,679.9	6,561.5	6,413.3	193.8	24.6	50.99	-583.8	7,016.2	455.7	282.0	173.63	2.624	
13,600.0	6,679.1	6,550.0	6,404.9	196.6	24.6	49.31	-576.0	7,017.6	412.0	240.0	172.05	2.395	
13,700.0	6,678.3	6,550.0	6,404.9	199.4	24.6	49.31	-576.0	7,017.6	389.5	215.3	174.22	2.236 ES, SF	
13,741.7	6,678.0	6,540.0	6,397.6	200.6	24.6	47.84	-569.2	7,019.0	387.2	215.6	171.64	2.256 CC	
13,800.0	6,677.6	6,534.6	6,393.6	202.2	24.6	47.05	-565.7	7,019.7	391.5	220.6	170.97	2.290	
13,900.0	6,676.8	6,525.2	6,386.7	205.0	24.5	45.68	-559.5	7,020.9	418.0	248.3	169.64	2.464	
14,000.0	6,676.0	6,515.6	6,379.5	207.8	24.5	44.28	-553.4	7,022.2	464.5	296.5	168.09	2.764	
14,100.0	6,675.3	6,500.0	6,367.6	210.6	24.5	42.02	-543.5	7,024.4	526.0	362.0	164.03	3.207	
14,200.0	6,674.5	6,500.0	6,367.6	213.4	24.5	42.02	-543.5	7,024.4	597.7	431.7	165.98	3.601	
14,300.0	6,673.7	6,485.7	6,356.5	216.2	24.4	39.98	-534.6	7,026.4	676.4	514.2	162.15	4.171	
14,400.0	6,673.0	6,475.3	6,348.3	219.0	24.4	38.52	-528.3	7,027.8	759.9	600.1	159.76	4.756	
14,500.0	6,672.2	6,464.6	6,339.9	221.8	24.4	37.06	-522.0	7,029.3	846.8	689.6	157.20	5.387	
14,600.0	6,671.4	6,450.0	6,328.2	224.6	24.3	35.09	-513.5	7,031.4	936.2	783.3	152.92	6.122	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Churchill 28J-HZ Pad Sec.28-T5N-R64W - Churchill 28E-423 - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 69-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
13,200.0	6,682.2	6,664.7	6,568.2	185.4	19.2	73.43	-574.0	7,345.7	919.0	722.2	196.78	4.670		
13,300.0	6,681.4	6,654.3	6,560.6	188.2	19.2	71.67	-567.0	7,347.3	825.2	627.5	197.68	4.175		
13,400.0	6,680.6	6,643.9	6,552.9	191.0	19.2	69.83	-560.1	7,348.9	732.9	534.6	198.27	3.696		
13,500.0	6,679.9	6,636.0	6,547.0	193.8	19.1	68.41	-555.1	7,350.1	642.5	443.4	199.16	3.226		
13,600.0	6,679.1	6,621.9	6,536.3	196.6	19.1	65.78	-546.2	7,352.2	555.2	357.0	198.20	2.801		
13,700.0	6,678.3	6,611.1	6,527.9	199.4	19.1	63.73	-539.6	7,353.7	472.6	274.9	197.68	2.391		
13,800.0	6,677.6	6,600.8	6,519.8	202.2	19.0	61.72	-533.4	7,355.2	397.6	200.7	196.92	2.019		
13,900.0	6,676.8	6,591.0	6,511.9	205.0	19.0	59.77	-527.7	7,356.6	335.5	139.5	195.98	1.712		
14,000.0	6,676.0	6,581.1	6,503.9	207.8	19.0	57.80	-522.1	7,357.9	294.5	99.8	194.70	1.512		
14,080.9	6,675.4	6,573.4	6,497.6	210.1	19.0	56.27	-517.8	7,358.9	283.3	89.7	193.59	1.464	Level 3, CC, ES, SF	
14,100.0	6,675.3	6,571.7	6,496.1	210.6	19.0	55.91	-516.9	7,359.2	284.0	90.6	193.31	1.469	Level 3	
14,200.0	6,674.5	6,562.6	6,488.6	213.4	18.9	54.10	-512.0	7,360.3	307.1	115.2	191.82	1.601		
14,300.0	6,673.7	6,546.0	6,474.6	216.2	18.9	50.80	-503.3	7,362.4	357.5	170.9	186.60	1.916		
14,400.0	6,673.0	6,546.0	6,474.6	219.0	18.9	50.80	-503.3	7,362.4	425.3	236.5	188.82	2.253		
14,500.0	6,672.2	6,546.0	6,474.6	221.8	18.9	50.80	-503.3	7,362.4	504.0	312.9	191.03	2.638		
14,600.0	6,671.4	6,532.0	6,462.6	224.6	18.9	48.06	-496.3	7,364.1	588.8	402.4	186.40	3.159		
14,700.0	6,670.7	6,525.9	6,457.3	227.4	18.9	46.89	-493.3	7,364.7	677.8	492.3	185.47	3.654		
14,800.0	6,669.9	6,520.2	6,452.3	230.2	18.8	45.81	-490.6	7,365.3	769.4	584.7	184.67	4.166		
14,900.0	6,669.1	6,514.9	6,447.7	233.0	18.8	44.83	-488.1	7,365.9	862.7	678.8	184.00	4.689		
15,000.0	6,668.3	6,501.0	6,435.3	235.8	18.8	42.28	-481.8	7,367.2	957.5	778.8	178.70	5.358		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Churchill 28J-HZ Pad Sec.28-T5N-R64W - Churchill 28J-203 - Wellbore #1 - Wellbore #1													<b>Offset Site Error:</b>	0.0 ft
Survey Program: 68-MWD													<b>Offset Well Error:</b>	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
14,300.0	6,673.7	6,386.1	6,352.1	216.2	13.7	51.13	-647.1	8,365.8	917.5	734.0	183.53	4.999		
14,400.0	6,673.0	6,388.7	6,354.2	219.0	13.7	51.45	-648.6	8,365.9	833.1	646.6	186.49	4.467		
14,500.0	6,672.2	6,391.3	6,356.4	221.8	13.7	51.77	-650.1	8,366.0	752.5	563.0	189.47	3.972		
14,600.0	6,671.4	6,394.0	6,358.6	224.6	13.8	52.10	-651.6	8,366.2	677.1	484.6	192.48	3.518		
14,700.0	6,670.7	6,396.8	6,360.9	227.4	13.8	52.44	-653.2	8,366.3	608.8	413.2	195.53	3.114		
14,800.0	6,669.9	6,408.0	6,369.9	230.2	13.8	53.81	-659.8	8,367.0	550.3	349.4	200.97	2.738		
14,900.0	6,669.1	6,408.0	6,369.9	233.0	13.8	53.81	-659.8	8,367.0	504.9	301.6	203.27	2.484		
15,000.0	6,668.3	6,408.0	6,369.9	235.8	13.8	53.81	-659.8	8,367.0	476.3	270.8	205.57	2.317		
15,089.9	6,667.7	6,408.0	6,369.9	238.4	13.8	53.81	-659.8	8,367.0	467.8	260.2	207.63	2.253 CC		
15,100.0	6,667.6	6,408.0	6,369.9	238.6	13.8	53.81	-659.8	8,367.0	467.9	260.0	207.87	2.251 ES, SF		
15,200.0	6,666.8	6,408.0	6,369.9	241.5	13.8	53.81	-659.8	8,367.0	480.6	270.4	210.17	2.287		
15,300.0	6,666.0	6,408.0	6,369.9	244.3	13.8	53.81	-659.8	8,367.0	512.8	300.4	212.47	2.414		
15,400.0	6,665.3	6,408.0	6,369.9	247.1	13.8	53.81	-659.8	8,367.0	561.3	346.5	214.77	2.613		
15,500.0	6,664.5	6,419.2	6,378.9	249.9	13.8	55.17	-666.4	8,367.6	621.9	401.5	220.39	2.822		
15,600.0	6,663.7	6,421.9	6,381.0	252.7	13.9	55.51	-668.1	8,367.8	691.9	468.4	223.53	3.095		
15,700.0	6,663.0	6,424.6	6,383.2	255.5	13.9	55.84	-669.8	8,367.9	768.5	541.8	226.68	3.390		
15,800.0	6,662.2	6,427.3	6,385.3	258.3	13.9	56.17	-671.4	8,368.1	849.9	620.1	229.84	3.698		
15,900.0	6,661.4	6,430.1	6,387.4	261.1	13.9	56.50	-673.2	8,368.3	935.0	702.0	233.01	4.013		



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Churchill 28J-HZ Pad Sec.28-T5N-R64W - Churchill 28J-343 - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 69-MWD												<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
13,600.0	6,679.1	6,515.3	6,454.4	196.6	14.7	54.34	-557.1	7,788.9	971.9	796.7	175.15	5.549	
13,700.0	6,678.3	6,514.3	6,453.6	199.4	14.7	54.17	-556.5	7,788.9	878.8	701.7	177.13	4.962	
13,800.0	6,677.6	6,513.2	6,452.8	202.2	14.7	54.00	-555.8	7,788.9	787.5	608.4	179.08	4.397	
13,900.0	6,676.8	6,501.0	6,443.2	205.0	14.7	51.93	-548.3	7,789.1	698.7	521.6	177.06	3.946	
14,000.0	6,676.0	6,501.0	6,443.2	207.8	14.7	51.93	-548.3	7,789.1	613.1	433.8	179.30	3.419	
14,100.0	6,675.3	6,501.0	6,443.2	210.6	14.7	51.93	-548.3	7,789.1	532.5	351.0	181.55	2.933	
14,200.0	6,674.5	6,501.0	6,443.2	213.4	14.7	51.93	-548.3	7,789.1	459.6	275.8	183.80	2.501	
14,300.0	6,673.7	6,501.0	6,443.2	216.2	14.7	51.93	-548.3	7,789.1	398.7	212.7	186.05	2.143	
14,400.0	6,673.0	6,501.0	6,443.2	219.0	14.7	51.93	-548.3	7,789.1	355.9	167.6	188.30	1.890	
14,500.0	6,672.2	6,501.0	6,443.2	221.8	14.7	51.93	-548.3	7,789.1	338.2	147.7	190.54	1.775	
14,511.5	6,672.1	6,501.0	6,443.2	222.2	14.7	51.93	-548.3	7,789.1	338.0	147.2	190.80	1.772 CC, ES, SF	
14,600.0	6,671.4	6,501.0	6,443.2	224.6	14.7	51.93	-548.3	7,789.1	349.4	156.6	192.79	1.812	
14,700.0	6,670.7	6,501.0	6,443.2	227.4	14.7	51.93	-548.3	7,789.1	387.0	192.0	195.04	1.984	
14,800.0	6,669.9	6,501.0	6,443.2	230.2	14.7	51.93	-548.3	7,789.1	444.4	247.1	197.29	2.253	
14,900.0	6,669.1	6,501.0	6,443.2	233.0	14.7	51.93	-548.3	7,789.1	515.0	315.4	199.54	2.581	
15,000.0	6,668.3	6,501.0	6,443.2	235.8	14.7	51.93	-548.3	7,789.1	594.1	392.3	201.79	2.944	
15,100.0	6,667.6	6,501.0	6,443.2	238.6	14.7	51.93	-548.3	7,789.1	678.7	474.6	204.04	3.326	
15,200.0	6,666.8	6,501.0	6,443.2	241.5	14.7	51.93	-548.3	7,789.1	767.0	560.7	206.29	3.718	
15,300.0	6,666.0	6,501.0	6,443.2	244.3	14.7	51.93	-548.3	7,789.1	857.9	649.4	208.54	4.114	
15,400.0	6,665.3	6,501.0	6,443.2	247.1	14.7	51.93	-548.3	7,789.1	950.6	739.9	210.79	4.510	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Churchill 28J-HZ Pad Sec.28-T5N-R64W - Churchill 28J-423 - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 68-MWD												<b>Offset Well Error:</b>	0.0 ft
Reference	Offset		Semi Major Axis		Distance								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
14,400.0	6,673.0	6,470.3	6,434.7	219.0	14.7	40.57	-461.2	8,551.1	915.8	756.0	159.72	5.734	
14,500.0	6,672.2	6,477.5	6,441.0	221.8	14.7	42.01	-464.8	8,551.9	820.9	655.3	165.55	4.959	
14,600.0	6,671.4	6,484.8	6,447.2	224.6	14.8	43.47	-468.5	8,552.7	727.3	555.8	171.48	4.241	
14,700.0	6,670.7	6,499.0	6,459.2	227.4	14.8	46.39	-475.9	8,554.3	635.5	454.3	181.27	3.506	
14,800.0	6,669.9	6,499.0	6,459.2	230.2	14.8	46.39	-475.9	8,554.3	546.5	363.1	183.36	2.980	
14,900.0	6,669.1	6,507.5	6,466.3	233.0	14.8	48.17	-480.5	8,555.3	461.8	271.6	190.13	2.429	
15,000.0	6,668.3	6,515.1	6,472.5	235.8	14.8	49.79	-484.7	8,556.1	384.3	187.8	196.46	1.956	
15,100.0	6,667.6	6,522.3	6,478.5	238.6	14.8	51.34	-488.8	8,556.8	319.3	116.7	202.58	1.576	
15,200.0	6,666.8	6,529.1	6,484.0	241.5	14.8	52.81	-492.7	8,557.5	275.9	67.4	208.49	1.323	Level 3
15,280.0	6,666.2	6,534.4	6,488.2	243.7	14.8	53.94	-495.7	8,558.1	264.1	51.0	213.07	1.240	Level 2, CC
15,300.0	6,666.0	6,535.6	6,489.3	244.3	14.8	54.22	-496.5	8,558.2	264.9	50.7	214.19	1.237	Level 2, ES, SF
15,400.0	6,665.3	6,544.0	6,495.9	247.1	14.8	56.02	-501.5	8,559.0	290.0	69.2	220.80	1.313	Level 3
15,500.0	6,664.5	6,544.0	6,495.9	249.9	14.8	56.02	-501.5	8,559.0	343.4	120.2	223.16	1.539	
15,600.0	6,663.7	6,544.0	6,495.9	252.7	14.8	56.02	-501.5	8,559.0	414.4	188.9	225.52	1.837	
15,700.0	6,663.0	6,556.3	6,505.7	255.5	14.9	58.67	-509.0	8,560.1	495.2	261.2	234.03	2.116	
15,800.0	6,662.2	6,560.1	6,508.6	258.3	14.9	59.47	-511.3	8,560.4	582.1	343.8	238.25	2.443	
15,900.0	6,661.4	6,563.4	6,511.2	261.1	14.9	60.18	-513.4	8,560.7	672.6	430.3	242.27	2.776	
16,000.0	6,660.7	6,566.4	6,513.5	263.9	14.9	60.82	-515.3	8,560.9	765.4	519.3	246.13	3.110	
16,100.0	6,659.9	6,569.2	6,515.6	266.7	14.9	61.39	-517.0	8,561.1	859.8	610.0	249.85	3.441	
16,200.0	6,659.1	6,571.7	6,517.5	269.5	14.9	61.91	-518.6	8,561.2	955.4	701.9	253.47	3.769	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Churchill 28J-HZ Pad Sec.28-T5N-R64W - Churchill 28J-443 - Wellbore #1 - Wellbore #1													Offset Well Error:	0.0 ft
Survey Program: 70-MWD														
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
13,800.0	6,677.6	6,545.0	6,506.6	202.2	14.1	56.50	-497.7	7,964.4	923.2	739.7	183.41	5.033		
13,900.0	6,676.8	6,545.0	6,506.6	205.0	14.1	56.50	-497.7	7,964.4	827.6	641.9	185.78	4.455		
14,000.0	6,676.0	6,534.6	6,498.2	207.8	14.1	54.18	-491.6	7,964.3	733.2	549.6	183.52	3.995		
14,100.0	6,675.3	6,534.5	6,498.2	210.6	14.1	54.18	-491.5	7,964.3	640.5	454.7	185.82	3.447		
14,200.0	6,674.5	6,534.5	6,498.2	213.4	14.1	54.18	-491.5	7,964.3	550.5	362.4	188.13	2.926		
14,300.0	6,673.7	6,534.5	6,498.2	216.2	14.1	54.18	-491.5	7,964.3	464.5	274.1	190.43	2.439		
14,400.0	6,673.0	6,534.5	6,498.1	219.0	14.1	54.17	-491.5	7,964.3	385.4	192.7	192.73	2.000		
14,500.0	6,672.2	6,534.5	6,498.1	221.8	14.1	54.17	-491.5	7,964.3	318.3	123.3	195.04	1.632		
14,600.0	6,671.4	6,534.5	6,498.1	224.6	14.1	54.17	-491.5	7,964.3	272.2	74.8	197.34	1.379 Level 3		
14,686.2	6,670.8	6,534.5	6,498.1	227.1	14.1	54.17	-491.5	7,964.3	258.2	58.8	199.33	1.295 Level 3, CC, ES		
14,700.0	6,670.7	6,534.5	6,498.1	227.4	14.1	54.17	-491.5	7,964.3	258.5	58.9	199.65	1.295 Level 3, SF		
14,800.0	6,669.9	6,534.5	6,498.1	230.2	14.1	54.16	-491.5	7,964.3	282.1	80.2	201.95	1.397 Level 3		
14,900.0	6,669.1	6,534.5	6,498.1	233.0	14.1	54.16	-491.5	7,964.3	335.2	130.9	204.25	1.641		
15,000.0	6,668.3	6,534.4	6,498.1	235.8	14.1	54.16	-491.5	7,964.3	406.3	199.8	206.55	1.967		
15,100.0	6,667.6	6,534.4	6,498.1	238.6	14.1	54.15	-491.5	7,964.3	487.7	278.9	208.85	2.335		
15,200.0	6,666.8	6,534.4	6,498.1	241.5	14.1	54.15	-491.5	7,964.3	575.0	363.9	211.16	2.723		
15,300.0	6,666.0	6,534.4	6,498.0	244.3	14.1	54.15	-491.5	7,964.3	665.9	452.4	213.45	3.120		
15,400.0	6,665.3	6,534.4	6,498.0	247.1	14.1	54.14	-491.4	7,964.3	759.0	543.3	215.75	3.518		
15,500.0	6,664.5	6,534.3	6,498.0	249.9	14.1	54.14	-491.4	7,964.3	853.8	635.7	218.05	3.915		
15,600.0	6,663.7	6,534.3	6,498.0	252.7	14.1	54.13	-491.4	7,964.3	949.6	729.2	220.34	4.309		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Churchill 28J-HZ Pad Sec.28-T5N-R64W - Churchill 28M-343 - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 129-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)			
14,800.0	6,669.9	6,473.9	6,384.2	230.2	19.1	36.51	-471.8	9,013.2	988.7	830.8	157.87	6.263		
14,900.0	6,669.1	6,482.8	6,391.4	233.0	19.1	38.04	-476.9	9,014.3	894.6	730.2	164.33	5.444		
15,000.0	6,668.3	6,491.0	6,398.1	235.8	19.2	39.48	-481.7	9,015.2	801.7	631.2	170.54	4.701		
15,100.0	6,667.6	6,498.6	6,404.1	238.6	19.2	40.83	-486.2	9,016.0	710.7	534.2	176.50	4.027		
15,200.0	6,666.8	6,511.0	6,413.7	241.5	19.2	43.06	-493.9	9,017.2	622.4	437.3	185.16	3.361		
15,300.0	6,666.0	6,511.0	6,413.7	244.3	19.2	43.06	-493.9	9,017.2	538.0	350.9	187.15	2.875		
15,400.0	6,665.3	6,518.3	6,419.4	247.1	19.2	44.41	-498.5	9,017.9	459.8	266.6	193.17	2.380		
15,500.0	6,664.5	6,524.4	6,424.0	249.9	19.2	45.53	-502.4	9,018.5	391.5	193.0	198.55	1.972		
15,600.0	6,663.7	6,530.4	6,428.5	252.7	19.2	46.63	-506.3	9,019.1	339.2	135.3	203.88	1.664		
15,700.0	6,663.0	6,536.2	6,432.9	255.5	19.2	47.71	-510.1	9,019.6	310.9	101.8	209.15	1.487	Level 3	
15,742.2	6,662.6	6,538.6	6,434.7	256.7	19.2	48.16	-511.7	9,019.9	308.1	96.7	211.36	1.458	Level 3, CC, ES, SF	
15,800.0	6,662.2	6,541.9	6,437.1	258.3	19.2	48.77	-513.9	9,020.2	313.4	99.1	214.36	1.462	Level 3	
15,900.0	6,661.4	6,547.5	6,441.2	261.1	19.3	49.80	-517.7	9,020.7	345.9	126.4	219.50	1.576		
16,000.0	6,660.7	6,556.0	6,447.4	263.9	19.3	51.37	-523.5	9,021.4	401.3	175.1	226.17	1.774		
16,100.0	6,659.9	6,556.0	6,447.4	266.7	19.3	51.37	-523.5	9,021.4	471.5	243.1	228.41	2.064		
16,200.0	6,659.1	6,565.7	6,454.4	269.5	19.3	53.16	-530.2	9,022.3	550.9	315.2	235.67	2.337		
16,300.0	6,658.4	6,572.7	6,459.3	272.3	19.3	54.42	-535.0	9,022.9	636.0	394.6	241.43	2.634		
16,400.0	6,657.6	6,579.7	6,464.3	275.1	19.3	55.69	-539.9	9,023.6	724.8	477.7	247.18	2.932		
16,477.9	6,657.0	6,585.3	6,468.2	276.5	19.3	56.69	-543.8	9,024.1	795.8	544.8	250.98	3.171		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Churchill 28J-HZ Pad Sec.28-T5N-R64W - Churchill 28M-443 - Wellbore #1 - Wellbore #1													<b>Offset Site Error:</b>	0.0 ft
<b>Survey Program:</b> 121-MWD													<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
15,000.0	6,668.3	6,506.0	6,411.3	235.8	21.4	34.02	-435.0	9,204.7	966.6	811.9	154.75	6.246		
15,100.0	6,667.6	6,514.1	6,418.2	238.6	21.4	35.56	-439.1	9,205.8	871.1	709.7	161.41	5.397		
15,200.0	6,666.8	6,522.8	6,425.6	241.5	21.5	37.28	-443.7	9,206.9	776.6	607.9	168.71	4.603		
15,300.0	6,666.0	6,531.6	6,432.9	244.3	21.5	39.06	-448.4	9,208.1	683.4	507.2	176.22	3.878		
15,400.0	6,665.3	6,540.5	6,440.2	247.1	21.5	40.90	-453.2	9,209.3	592.3	408.4	183.91	3.221		
15,500.0	6,664.5	6,551.0	6,448.8	249.9	21.5	43.13	-459.1	9,210.7	504.4	311.6	192.84	2.616		
15,600.0	6,663.7	6,559.4	6,455.6	252.7	21.5	44.94	-463.9	9,211.9	421.6	221.2	200.42	2.104		
15,700.0	6,663.0	6,569.9	6,464.1	255.5	21.6	47.25	-470.0	9,213.3	347.6	138.1	209.43	1.660		
15,800.0	6,662.2	6,580.6	6,472.7	258.3	21.6	49.62	-476.2	9,214.8	289.1	70.6	218.53	1.323	Level 3	
15,900.0	6,661.4	6,591.6	6,481.4	261.1	21.6	52.07	-482.7	9,216.3	257.0	29.4	227.64	1.129	Level 2	
15,939.0	6,661.1	6,597.0	6,485.7	262.2	21.6	53.28	-485.9	9,217.0	254.1	22.3	231.86	1.096	Level 2, CC, ES, SF	
16,000.0	6,660.7	6,603.1	6,490.5	263.9	21.6	54.65	-489.6	9,217.9	261.3	24.3	236.92	1.103	Level 2	
16,100.0	6,659.9	6,615.1	6,499.9	266.7	21.7	57.31	-496.8	9,219.6	300.2	54.1	246.12	1.220	Level 2	
16,200.0	6,659.1	6,627.0	6,509.3	269.5	21.7	59.94	-504.0	9,221.2	362.9	108.0	254.93	1.424	Level 3	
16,300.0	6,658.4	6,638.9	6,518.5	272.3	21.7	62.53	-511.2	9,222.9	439.2	175.9	263.30	1.668		
16,400.0	6,657.6	6,648.9	6,526.3	275.1	21.8	64.67	-517.4	9,224.3	523.3	252.9	270.38	1.936		
16,477.9	6,657.0	6,656.1	6,531.8	276.5	21.8	66.19	-521.9	9,225.3	592.1	317.4	274.71	2.155		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
CONAGRA B 29 & 30 PAD SEC.30-T5N-R64W - CONAGRA B 29-30 - Wellbore #1 - Wellbore #1													Offset Well Error:	0.0 ft
Survey Program:	516-													
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		
7,300.0	6,727.5	6,839.7	6,738.2	24.5	21.2	87.25	-544.8	1,448.6	908.1	866.1	42.00	21.624		
7,400.0	6,726.7	6,840.3	6,738.8	26.7	21.2	87.38	-544.8	1,448.6	812.9	768.7	44.24	18.374		
7,500.0	6,725.9	6,840.9	6,739.4	29.1	21.2	87.50	-544.8	1,448.6	719.0	672.4	46.59	15.434		
7,600.0	6,725.2	6,841.5	6,739.9	31.5	21.2	87.63	-544.8	1,448.6	627.0	578.0	49.01	12.794		
7,700.0	6,724.4	6,842.0	6,740.5	34.0	21.2	87.75	-544.9	1,448.6	537.9	486.4	51.49	10.445		
7,800.0	6,723.6	6,842.6	6,741.1	36.5	21.2	87.87	-544.9	1,448.6	453.3	399.2	54.02	8.390		
7,900.0	6,722.9	6,843.2	6,741.6	39.1	21.2	88.00	-544.9	1,448.6	376.3	319.7	56.59	6.649		
8,000.0	6,722.1	6,843.7	6,742.2	41.7	21.2	88.12	-544.9	1,448.7	312.6	253.4	59.20	5.281		
8,100.0	6,721.3	6,844.3	6,742.7	44.3	21.2	88.24	-544.9	1,448.7	271.8	210.0	61.82	4.397		
8,169.3	6,720.8	6,844.7	6,743.1	46.1	21.2	88.32	-544.9	1,448.7	262.8	199.2	63.66	4.129 CC, ES		
8,200.0	6,720.6	6,844.8	6,743.3	46.9	21.2	88.36	-544.9	1,448.7	264.6	200.2	64.47	4.105 SF		
8,300.0	6,719.8	6,845.4	6,743.8	49.6	21.2	88.48	-545.0	1,448.7	293.5	226.4	67.14	4.372		
8,400.0	6,719.0	6,845.9	6,744.4	52.3	21.2	88.60	-545.0	1,448.7	349.7	279.9	69.82	5.009		
8,500.0	6,718.3	6,846.5	6,744.9	55.0	21.3	88.72	-545.0	1,448.7	422.4	349.9	72.52	5.825		
8,600.0	6,717.5	6,847.0	6,745.5	57.7	21.3	88.83	-545.0	1,448.7	504.6	429.3	75.23	6.707		
8,700.0	6,716.7	6,847.5	6,746.0	60.4	21.3	88.95	-545.0	1,448.7	592.2	514.3	77.94	7.598		
8,800.0	6,716.0	6,848.1	6,746.5	63.1	21.3	89.07	-545.0	1,448.7	683.3	602.6	80.67	8.470		
8,900.0	6,715.2	6,848.6	6,747.1	65.8	21.3	89.18	-545.1	1,448.7	776.5	693.1	83.40	9.311		
9,000.0	6,714.4	6,849.1	6,747.6	68.5	21.3	89.30	-545.1	1,448.7	871.3	785.2	86.14	10.115		
9,100.0	6,713.7	6,849.7	6,748.1	71.3	21.3	89.41	-545.1	1,448.7	967.1	878.2	88.88	10.880		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		CONAGRA B 29 & 30 PAD SEC.30-T5N-R64W - CONAGRA B 30-27 - Wellbore #1 - Wellbore #1											Offset Site Error:		0.0 ft
Survey Program: 516-Reference													Offset Well Error:		0.0 ft
		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			
3,900.0	3,888.2	4,263.4	4,188.8	9.5	13.6	-95.22	-818.9	519.2	991.7	972.8	18.93	52.385			
4,000.0	3,987.7	4,348.5	4,270.7	9.8	14.1	-96.05	-800.0	505.9	965.9	946.4	19.49	49.567			
4,100.0	4,087.2	4,429.8	4,349.0	10.1	14.5	-96.95	-781.7	494.5	941.4	921.4	20.04	46.975			
4,200.0	4,186.7	4,540.0	4,455.5	10.4	15.0	-98.13	-758.2	478.3	917.5	896.8	20.70	44.332			
4,300.0	4,286.2	4,625.0	4,537.4	10.7	15.4	-99.08	-739.8	465.4	893.3	872.0	21.28	41.977			
4,400.0	4,385.7	4,711.7	4,621.2	11.0	15.8	-100.14	-721.2	453.5	870.6	848.8	21.88	39.793			
4,500.0	4,485.2	4,809.5	4,715.9	11.3	16.3	-101.40	-700.4	440.2	848.6	826.1	22.53	37.658			
4,600.0	4,584.7	4,894.0	4,797.9	11.6	16.7	-102.50	-683.3	429.0	827.7	804.6	23.15	35.761			
4,700.0	4,684.1	4,987.6	4,888.8	11.8	17.1	-103.75	-664.9	416.9	808.0	784.2	23.79	33.957			
4,800.0	4,783.6	5,091.7	4,990.1	12.1	17.6	-105.16	-645.1	403.0	788.7	764.2	24.50	32.195			
4,900.0	4,883.1	5,182.5	5,078.2	12.4	18.0	-106.39	-627.8	389.6	768.6	743.5	25.15	30.560			
5,000.0	4,982.6	5,257.5	5,151.5	12.7	18.4	-107.35	-615.8	379.5	751.5	725.8	25.73	29.209			
5,100.0	5,082.1	5,337.5	5,230.2	13.0	18.7	-108.35	-604.5	370.2	737.3	711.0	26.31	28.020			
5,200.0	5,181.6	5,419.5	5,311.2	13.3	19.0	-109.32	-594.7	361.6	725.6	698.7	26.89	26.982			
5,300.0	5,281.1	5,502.2	5,393.1	13.6	19.2	-110.29	-586.2	354.4	716.4	688.9	27.46	26.087			
5,400.0	5,380.6	5,586.8	5,477.2	13.9	19.4	-111.21	-579.1	347.9	709.4	681.4	28.02	25.313			
5,430.8	5,411.3	5,610.6	5,500.9	14.0	19.5	-111.46	-577.5	346.4	707.8	679.6	28.19	25.110			
5,500.0	5,480.1	5,666.1	5,556.2	14.2	19.6	-111.93	-574.0	343.5	704.9	676.4	28.51	24.726			
5,600.0	5,580.0	5,756.2	5,646.0	14.4	19.8	-112.45	-569.7	339.6	701.3	672.3	28.91	24.256			
5,700.0	5,679.9	5,840.9	5,730.7	14.5	20.0	-112.59	-567.8	336.6	698.0	668.8	29.22	23.886			
5,720.1	5,700.0	5,856.6	5,746.4	14.6	20.0	114.17	-567.7	336.2	697.5	666.1	31.38	22.225			
5,800.0	5,779.9	5,921.1	5,810.9	14.7	20.1	114.24	-568.3	335.2	696.6	665.0	31.64	22.017			
5,822.1	5,802.0	5,942.5	5,832.3	14.7	20.1	114.27	-568.6	335.0	696.6	664.9	31.71	21.967			
5,900.0	5,879.9	6,020.5	5,910.3	14.9	20.2	114.32	-569.1	334.9	696.7	664.7	31.96	21.797			
5,984.5	5,964.4	6,109.7	5,999.5	15.0	20.3	114.32	-569.0	334.4	696.3	664.0	32.24	21.594			
6,000.0	5,979.9	6,125.4	6,015.1	15.0	20.3	24.33	-568.9	334.4	696.0	665.9	30.11	23.113			
6,050.0	6,029.8	6,175.7	6,065.4	15.1	20.4	24.48	-568.4	334.1	693.2	663.1	30.06	23.059			
6,100.0	6,079.5	6,225.7	6,115.5	15.1	20.5	24.83	-567.8	334.0	687.4	657.5	29.88	23.004			
6,150.0	6,128.6	6,274.4	6,164.1	15.2	20.5	25.37	-567.0	333.9	678.7	649.1	29.58	22.947			
6,200.0	6,177.1	6,321.4	6,211.2	15.2	20.6	26.15	-566.3	333.8	667.1	638.0	29.15	22.885			
6,250.0	6,224.6	6,370.2	6,260.0	15.2	20.7	27.21	-565.6	333.8	652.9	624.2	28.63	22.807			
6,300.0	6,271.0	6,419.3	6,309.0	15.2	20.8	28.60	-564.8	333.6	635.7	607.7	28.02	22.692			
6,350.0	6,316.1	6,466.7	6,356.5	15.2	20.8	30.35	-564.0	333.2	615.8	588.5	27.35	22.516			
6,400.0	6,359.7	6,512.3	6,402.1	15.2	20.9	32.52	-563.2	332.7	593.4	566.7	26.68	22.241			
6,450.0	6,401.6	6,555.9	6,445.7	15.2	21.0	35.15	-562.2	332.1	568.5	542.5	26.07	21.807			
6,500.0	6,441.7	6,597.6	6,487.3	15.2	21.0	38.30	-560.8	331.7	541.6	516.0	25.62	21.141			
6,550.0	6,479.7	6,636.6	6,526.3	15.2	21.1	42.06	-559.3	331.2	512.9	487.4	25.44	20.163			
6,600.0	6,515.5	6,673.2	6,562.8	15.2	21.2	46.50	-557.9	330.6	482.6	457.0	25.65	18.817			
6,650.0	6,548.9	6,702.6	6,592.2	15.3	21.2	51.23	-556.8	330.2	451.5	425.3	26.26	17.196			
6,700.0	6,579.8	6,729.0	6,618.6	15.4	21.3	56.40	-555.9	330.1	420.2	392.9	27.29	15.396			
6,750.0	6,608.1	6,753.7	6,643.3	15.6	21.3	61.99	-555.2	330.2	389.4	360.7	28.70	13.565			
6,800.0	6,633.6	6,777.9	6,667.5	16.0	21.4	68.03	-554.6	330.4	359.7	329.3	30.38	11.839			
6,850.0	6,656.3	6,801.0	6,690.6	16.5	21.4	74.20	-554.1	330.6	332.0	299.9	32.11	10.339			
6,900.0	6,676.0	6,820.9	6,710.5	17.1	21.4	79.87	-553.7	330.7	307.7	274.0	33.67	9.138			
6,950.0	6,692.6	6,837.7	6,727.2	17.8	21.4	84.70	-553.4	330.8	288.2	253.3	34.98	8.240			
7,000.0	6,706.2	6,851.2	6,740.7	18.6	21.5	88.43	-553.1	330.9	275.4	239.4	36.07	7.636			
7,050.0	6,716.5	6,861.6	6,751.2	19.5	21.5	90.94	-552.9	330.9	270.8	233.7	37.03	7.311			
7,051.6	6,716.8	6,861.9	6,751.4	19.5	21.5	90.99	-552.9	330.9	270.8	233.7	37.06	7.305 CC, ES			
7,100.0	6,723.7	6,868.8	6,758.4	20.4	21.5	92.12	-552.8	330.9	275.0	237.0	37.96	7.244 SF			
7,150.0	6,727.6	6,872.8	6,762.3	21.3	21.5	91.95	-552.7	330.9	288.0	249.1	38.91	7.401			
7,190.3	6,728.3	6,873.6	6,763.2	22.2	21.5	90.80	-552.7	330.9	304.1	264.4	39.71	7.659			

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 Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b>													Offset Site Error:	0.0 ft
Survey Program: 516- CONAGRA B 29 & 30 PAD SEC.30-T5N-R64W - CONAGRA B 30-27 - Wellbore #1 - Wellbore #1													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
7,200.0	6,728.2	6,873.6	6,763.1	22.4	21.5	90.79	-552.7	330.9	308.7	268.7	39.91	7.735		
7,300.0	6,727.5	6,873.0	6,762.6	24.5	21.5	90.67	-552.7	330.9	367.4	325.4	42.02	8.744		
7,400.0	6,726.7	6,872.5	6,762.0	26.7	21.5	90.56	-552.7	330.9	441.2	397.0	44.26	9.969		
7,500.0	6,725.9	6,871.9	6,761.5	29.1	21.5	90.44	-552.8	330.9	523.8	477.2	46.60	11.241		
7,600.0	6,725.2	6,871.4	6,760.9	31.5	21.5	90.32	-552.8	330.9	611.7	562.6	49.02	12.478		
7,700.0	6,724.4	6,870.8	6,760.4	34.0	21.5	90.21	-552.8	330.9	702.7	651.2	51.50	13.646		
7,800.0	6,723.6	6,870.3	6,759.8	36.5	21.5	90.10	-552.8	330.9	796.0	741.9	54.02	14.734		
7,900.0	6,722.9	6,869.8	6,759.3	39.1	21.5	89.98	-552.8	330.9	890.7	834.1	56.59	15.740		
8,000.0	6,722.1	6,869.2	6,758.8	41.7	21.5	89.87	-552.8	330.9	986.4	927.2	59.18	16.667		



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells - Churchill 28J-HZ Sec.28-T5N-R64W - Churchill 2-6B (Exist) - Wellbore #1 - Wellbore #													Offset Site Error:	0.0 ft
Survey Program: 800-NS-GYRO-MS													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,000.0	6,676.0	6,733.2	6,651.1	207.8	16.9	106.42	-355.7	8,271.4	995.0	779.1	215.86	4.609		
14,100.0	6,675.3	6,731.0	6,648.9	210.6	16.9	104.82	-355.7	8,271.4	895.3	675.2	220.11	4.068		
14,200.0	6,674.5	6,728.8	6,646.6	213.4	16.9	103.19	-355.7	8,271.5	795.7	571.4	224.24	3.548		
14,300.0	6,673.7	6,726.6	6,644.4	216.2	16.9	101.55	-355.7	8,271.5	696.2	467.9	228.26	3.050		
14,400.0	6,673.0	6,724.4	6,642.2	219.0	16.9	99.89	-355.7	8,271.5	596.9	364.7	232.15	2.571		
14,500.0	6,672.2	6,722.2	6,640.0	221.8	16.9	98.21	-355.7	8,271.6	497.8	261.9	235.88	2.110		
14,600.0	6,671.4	6,720.0	6,637.8	224.6	16.9	96.53	-355.7	8,271.6	399.2	159.7	239.46	1.667		
14,700.0	6,670.7	6,717.8	6,635.6	227.4	16.9	94.83	-355.7	8,271.6	301.5	58.6	242.87	1.241 Level 2		
14,800.0	6,669.9	6,715.6	6,633.4	230.2	16.9	93.13	-355.7	8,271.7	206.0	-40.1	246.09	0.837 Level 1		
14,900.0	6,669.1	6,713.4	6,631.2	233.0	16.9	91.43	-355.7	8,271.7	118.1	-131.0	249.11	0.474 Level 1		
14,992.5	6,668.4	6,711.4	6,629.2	235.6	16.9	89.85	-355.7	8,271.7	73.5	-178.3	251.73	0.292 Level 1, CC, ES, SF		
15,000.0	6,668.3	6,711.2	6,629.1	235.8	16.9	89.72	-355.7	8,271.7	73.8	-178.1	251.94	0.293 Level 1		
15,100.0	6,667.6	6,709.0	6,626.9	238.6	16.9	88.02	-355.7	8,271.8	130.2	-124.4	254.56	0.511 Level 1		
15,200.0	6,666.8	6,706.9	6,624.7	241.5	16.9	86.33	-355.7	8,271.8	220.1	-36.9	256.96	0.856 Level 1		
15,300.0	6,666.0	6,704.7	6,622.5	244.3	16.9	84.64	-355.7	8,271.8	316.1	56.9	259.15	1.220 Level 2		
15,400.0	6,665.3	6,702.5	6,620.4	247.1	16.9	82.97	-355.7	8,271.9	414.0	152.9	261.13	1.585		
15,500.0	6,664.5	6,700.4	6,618.2	249.9	16.9	81.31	-355.7	8,271.9	512.7	249.8	262.88	1.950		
15,600.0	6,663.7	6,698.2	6,616.0	252.7	16.9	79.67	-355.6	8,271.9	611.8	347.4	264.43	2.314		
15,700.0	6,663.0	6,696.0	6,613.9	255.5	16.9	78.05	-355.6	8,271.9	711.2	445.4	265.76	2.676		
15,800.0	6,662.2	6,693.9	6,611.7	258.3	16.9	76.45	-355.6	8,272.0	810.7	543.8	266.89	3.037		
15,900.0	6,661.4	6,691.7	6,609.6	261.1	16.9	74.88	-355.6	8,272.0	910.3	642.4	267.83	3.399		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells - Churchill 28J-HZ Sec.28-T5N-R64W - Ottenhoff 41-6B (Exist) - Wellbore #1 - Wellbore													Offset Site Error:	0.0 ft
Survey Program: 488-NS-GYRO-MS													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)			
11,300.0	6,696.8	6,765.7	6,663.5	132.3	16.2	78.68	-361.1	5,555.5	979.6	834.7	144.86	6.762		
11,400.0	6,696.0	6,766.8	6,664.7	135.1	16.2	79.52	-361.1	5,555.5	880.0	732.0	148.00	5.946		
11,500.0	6,695.2	6,768.1	6,665.9	137.9	16.2	80.37	-361.2	5,555.5	780.4	629.3	151.14	5.164		
11,600.0	6,694.5	6,769.3	6,667.1	140.7	16.2	81.24	-361.2	5,555.6	681.0	526.8	154.27	4.415		
11,700.0	6,693.7	6,770.5	6,668.3	143.5	16.2	82.13	-361.3	5,555.6	581.9	424.5	157.38	3.697		
11,800.0	6,692.9	6,771.8	6,669.6	146.3	16.2	83.03	-361.3	5,555.6	483.0	322.5	160.48	3.010		
11,900.0	6,692.2	6,773.1	6,670.9	149.1	16.2	83.95	-361.4	5,555.6	384.7	221.2	163.55	2.352		
12,000.0	6,691.4	6,774.4	6,672.2	151.8	16.2	84.89	-361.5	5,555.7	287.6	121.0	166.60	1.726		
12,100.0	6,690.6	6,775.7	6,673.5	154.6	16.2	85.84	-361.5	5,555.7	193.5	23.9	169.62	1.141	Level 2	
12,200.0	6,689.9	6,777.0	6,674.8	157.4	16.2	86.81	-361.6	5,555.7	110.3	-62.3	172.60	0.639	Level 1	
12,276.5	6,689.3	6,778.1	6,675.9	159.6	16.2	87.56	-361.6	5,555.7	79.5	-95.4	174.86	0.454	Level 1, CC, ES, SF	
12,300.0	6,689.1	6,778.4	6,676.2	160.2	16.2	87.79	-361.6	5,555.8	82.9	-92.7	175.55	0.472	Level 1	
12,400.0	6,688.3	6,779.8	6,677.6	163.0	16.2	88.79	-361.7	5,555.8	146.9	-31.6	178.46	0.823	Level 1	
12,500.0	6,687.5	6,781.2	6,679.0	165.8	16.2	89.81	-361.7	5,555.8	237.2	55.9	181.31	1.308	Level 3	
12,600.0	6,686.8	6,782.6	6,680.4	168.6	16.2	90.84	-361.8	5,555.8	333.1	149.0	184.12	1.809		
12,700.0	6,686.0	6,784.1	6,681.9	171.4	16.2	91.89	-361.9	5,555.9	430.9	244.0	186.86	2.306		
12,800.0	6,685.2	6,785.6	6,683.4	174.2	16.2	92.96	-361.9	5,555.9	529.5	340.0	189.55	2.793		
12,900.0	6,684.5	6,787.1	6,684.9	177.0	16.2	94.03	-362.0	5,555.9	628.5	436.4	192.16	3.271		
13,000.0	6,683.7	6,788.6	6,686.4	179.8	16.2	95.12	-362.1	5,556.0	727.8	533.1	194.70	3.738		
13,100.0	6,682.9	6,790.2	6,688.0	182.6	16.2	96.23	-362.1	5,556.0	827.3	630.1	197.17	4.196		
13,200.0	6,682.2	6,791.8	6,689.6	185.4	16.2	97.35	-362.2	5,556.0	926.9	727.3	199.55	4.645		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<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													Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,700.0	5,679.9	12,264.1	6,600.5	14.5	163.3	135.46	0.0	-293.7	980.1	803.5	176.60	5.550		
5,720.1	5,700.0	12,263.9	6,600.5	14.6	163.3	1.25	0.0	-293.8	960.9	931.5	29.38	32.706		
5,800.0	5,779.9	12,263.4	6,600.5	14.7	163.2	1.14	0.0	-294.4	884.8	855.3	29.45	30.044		
5,900.0	5,879.9	12,262.7	6,600.5	14.9	163.2	1.01	0.0	-295.0	790.7	761.1	29.54	26.767		
5,984.5	5,964.4	12,262.1	6,600.5	15.0	163.2	0.89	0.0	-295.6	712.4	682.8	29.62	24.050		
6,000.0	5,979.9	12,262.2	6,600.5	15.0	163.2	-91.76	0.0	-295.5	698.2	520.9	177.29	3.938		
6,050.0	6,029.8	12,264.5	6,600.5	15.1	163.3	-99.35	0.0	-293.2	652.8	477.2	175.64	3.717		
6,100.0	6,079.5	12,270.1	6,600.4	15.1	163.4	-105.37	0.0	-287.6	608.4	436.0	172.40	3.529		
6,150.0	6,128.6	12,278.9	6,600.4	15.2	163.7	-109.88	0.0	-278.8	565.3	396.3	168.92	3.346		
6,200.0	6,177.1	12,290.9	6,600.3	15.2	164.0	-113.03	0.0	-266.8	523.8	357.7	166.05	3.154		
6,250.0	6,224.6	12,306.1	6,600.2	15.2	164.4	-114.99	0.0	-251.6	484.3	320.2	164.14	2.951		
6,300.0	6,271.0	12,324.3	6,600.1	15.2	164.7	-115.91	0.0	-233.4	447.3	284.0	163.36	2.738		
6,350.0	6,316.1	12,334.8	6,600.0	15.2	164.9	-117.46	0.0	-222.9	413.3	251.8	161.58	2.558		
6,400.0	6,359.7	12,334.8	6,600.0	15.2	164.9	-119.86	0.0	-222.9	384.0	225.7	158.32	2.425		
6,450.0	6,401.6	12,334.8	6,600.0	15.2	164.9	-121.56	0.0	-222.9	360.7	204.9	155.83	2.315		
6,500.0	6,441.7	12,334.8	6,600.0	15.2	164.9	-122.63	0.0	-222.9	344.8	190.6	154.20	2.236		
6,550.0	6,479.7	12,334.8	6,600.0	15.2	164.9	-123.10	0.0	-222.9	337.5	184.0	153.47	2.199		
6,565.5	6,491.0	12,334.8	6,600.0	15.2	164.9	-123.13	0.0	-222.9	337.0	183.6	153.43	2.197	CC, ES, SF	
6,600.0	6,515.5	12,334.8	6,600.0	15.2	164.9	-122.99	0.0	-222.9	339.2	185.5	153.66	2.207		
6,650.0	6,548.9	12,334.8	6,600.0	15.3	164.9	-122.29	0.0	-222.9	349.9	195.1	154.78	2.261		
6,700.0	6,579.8	12,334.8	6,600.0	15.4	164.9	-120.99	0.0	-222.9	368.7	211.9	156.86	2.351		
6,750.0	6,608.1	12,334.8	6,600.0	15.6	164.9	-119.03	0.0	-222.9	394.5	234.6	159.87	2.467		
6,800.0	6,633.6	12,334.8	6,600.0	16.0	164.9	-116.36	0.0	-222.9	425.8	262.0	163.75	2.600		
6,850.0	6,656.3	12,334.8	6,600.0	16.5	164.9	-112.90	0.0	-222.9	461.4	293.0	168.35	2.740		
6,900.0	6,676.0	12,334.8	6,600.0	17.1	164.9	-108.56	0.0	-222.9	500.2	326.9	173.36	2.885		
6,950.0	6,692.6	12,334.8	6,600.0	17.8	164.9	-103.28	0.0	-222.9	541.5	363.2	178.25	3.038		
7,000.0	6,706.2	12,334.8	6,600.0	18.6	164.9	-97.06	0.0	-222.9	584.5	402.2	182.23	3.207		
7,050.0	6,716.5	12,334.8	6,600.0	19.5	164.9	-89.97	0.0	-222.9	628.7	444.3	184.34	3.411		
7,100.0	6,723.7	12,334.8	6,600.0	20.4	164.9	-82.22	0.0	-222.9	673.7	490.1	183.62	3.669		
7,150.0	6,727.6	12,334.8	6,600.0	21.3	164.9	-74.17	0.0	-222.9	719.2	539.7	179.54	4.006		
7,190.3	6,728.3	12,334.8	6,600.0	22.2	164.9	-67.72	0.0	-222.9	756.1	582.2	173.89	4.348		
7,200.0	6,728.2	12,334.8	6,600.0	22.4	164.9	-67.72	0.0	-222.9	764.9	590.9	174.08	4.394		
7,300.0	6,727.5	12,334.8	6,600.0	24.5	164.9	-67.72	0.0	-222.9	857.6	681.5	176.05	4.871		
7,400.0	6,726.7	12,334.8	6,600.0	26.7	164.9	-67.72	0.0	-222.9	951.7	773.5	178.15	5.342		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<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		
5,900.0	5,879.9	12,475.9	6,770.8	14.9	163.0	166.71	-327.5	-289.3	910.1	853.1	57.01	15.962		
5,984.5	5,964.4	12,474.8	6,770.8	15.0	163.0	167.93	-327.5	-290.3	825.7	771.7	54.09	15.266		
6,000.0	5,979.9	12,474.8	6,770.8	15.0	163.0	98.74	-327.5	-290.4	810.2	634.8	175.40	4.619 SF		
6,050.0	6,029.8	12,476.9	6,770.8	15.1	163.1	141.14	-327.5	-288.3	760.4	641.7	118.69	6.406		
6,100.0	6,079.5	12,482.2	6,770.8	15.1	163.2	155.34	-327.5	-283.0	710.8	624.8	85.93	8.271		
6,150.0	6,128.6	12,490.7	6,770.7	15.2	163.5	161.36	-327.6	-274.4	661.6	590.5	71.14	9.300		
6,200.0	6,177.1	12,502.5	6,770.5	15.2	163.8	164.47	-327.6	-262.7	613.2	549.5	63.65	9.633		
6,250.0	6,224.6	12,517.4	6,770.3	15.2	164.2	166.25	-327.7	-247.8	565.6	505.9	59.69	9.475		
6,300.0	6,271.0	12,535.4	6,770.1	15.2	164.7	167.29	-327.8	-229.8	519.1	461.4	57.72	8.994		
6,350.0	6,316.1	12,545.1	6,770.0	15.2	165.0	168.41	-327.9	-220.1	474.1	418.4	55.67	8.517		
6,400.0	6,359.7	12,545.1	6,770.0	15.2	165.0	169.56	-327.9	-220.1	431.8	378.1	53.69	8.041		
6,450.0	6,401.6	12,545.1	6,770.0	15.2	165.0	170.35	-327.9	-220.1	393.3	340.6	52.66	7.468		
6,500.0	6,441.7	12,545.1	6,770.0	15.2	165.0	170.89	-327.9	-220.1	360.1	307.9	52.23	6.894		
6,550.0	6,479.7	12,545.1	6,770.0	15.2	165.0	171.25	-327.9	-220.1	334.0	281.8	52.20	6.399		
6,600.0	6,515.5	12,545.1	6,770.0	15.2	165.0	171.46	-327.9	-220.1	316.8	264.4	52.43	6.043		
6,650.0	6,548.9	12,545.1	6,770.0	15.3	165.0	171.53	-327.9	-220.1	310.1	257.3	52.83	5.870		
6,655.0	6,552.1	12,545.1	6,770.0	15.3	165.0	171.53	-327.9	-220.1	310.1	257.2	52.88	5.863 CC, ES		
6,700.0	6,579.8	12,545.1	6,770.0	15.4	165.0	171.48	-327.9	-220.1	314.6	261.2	53.38	5.894		
6,750.0	6,608.1	12,545.1	6,770.0	15.6	165.0	171.30	-327.9	-220.1	329.8	275.8	54.04	6.103		
6,800.0	6,633.6	12,545.1	6,770.0	16.0	165.0	170.98	-327.9	-220.1	354.3	299.4	54.86	6.458		
6,850.0	6,656.3	12,545.1	6,770.0	16.5	165.0	170.47	-327.9	-220.1	386.2	330.3	55.88	6.911		
6,900.0	6,676.0	12,545.1	6,770.0	17.1	165.0	169.74	-327.9	-220.1	423.7	366.5	57.25	7.401		
6,950.0	6,692.6	12,545.1	6,770.0	17.8	165.0	168.67	-327.9	-220.1	465.4	406.2	59.21	7.861		
7,000.0	6,706.2	12,545.1	6,770.0	18.6	165.0	167.10	-327.9	-220.1	510.0	447.8	62.21	8.199		
7,050.0	6,716.5	12,545.1	6,770.0	19.5	165.0	164.69	-327.9	-220.1	556.8	489.6	67.17	8.289		
7,100.0	6,723.7	12,545.1	6,770.0	20.4	165.0	160.67	-327.9	-220.1	604.9	528.8	76.13	7.945		
7,150.0	6,727.6	12,545.1	6,770.0	21.3	165.0	153.02	-327.9	-220.1	654.0	559.6	94.39	6.928		
7,190.3	6,728.3	12,545.1	6,770.0	22.2	165.0	139.99	-327.9	-220.1	694.0	568.7	125.25	5.541		
7,200.0	6,728.2	12,545.1	6,770.0	22.4	165.0	139.99	-327.9	-220.1	703.6	578.2	125.39	5.611		
7,300.0	6,727.5	12,545.1	6,770.0	24.5	165.0	139.99	-327.9	-220.1	803.2	676.3	126.85	6.332		
7,400.0	6,726.7	12,545.1	6,770.0	26.7	165.0	139.99	-327.9	-220.1	902.8	774.4	128.39	7.032		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Schneider 19Q-HZ Pad (Existing) Sec.19-T5N-R64W - Evert 20-2 (Exist) - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 100-NS-GYRO-MS												<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
9,600.0	6,709.8	6,716.6	6,715.1	85.1	11.9	-91.87	332.8	3,636.9	975.8	878.9	96.86	10.075	
9,700.0	6,709.0	6,713.2	6,711.7	87.8	11.9	-91.56	332.8	3,636.9	900.4	800.8	99.62	9.038	
9,800.0	6,708.3	6,709.8	6,708.3	90.6	11.9	-91.24	332.7	3,637.0	830.2	727.8	102.39	8.108	
9,900.0	6,707.5	6,706.5	6,705.0	93.4	11.9	-90.93	332.7	3,637.1	766.6	661.4	105.16	7.290	
10,000.0	6,706.7	6,703.3	6,701.8	96.1	11.8	-90.63	332.7	3,637.2	711.4	603.5	107.93	6.592	
10,100.0	6,706.0	6,700.1	6,698.6	98.9	11.8	-90.33	332.7	3,637.2	666.8	556.1	110.70	6.023	
10,200.0	6,705.2	6,697.3	6,695.8	101.7	11.8	-90.08	332.7	3,637.3	634.8	521.4	113.47	5.595	
10,300.0	6,704.4	6,694.6	6,693.1	104.4	11.8	-89.82	332.7	3,637.3	617.6	501.4	116.24	5.313	
10,358.0	6,704.0	6,693.0	6,691.5	106.1	11.8	-89.68	332.6	3,637.4	614.9	497.0	117.85	5.217 CC, ES	
10,400.0	6,703.7	6,691.9	6,690.4	107.2	11.8	-89.57	332.6	3,637.4	616.3	497.3	119.01	5.179 SF	
10,500.0	6,702.9	6,689.3	6,687.8	110.0	11.8	-89.33	332.6	3,637.5	631.0	509.3	121.78	5.182	
10,600.0	6,702.1	6,686.6	6,685.1	112.8	11.8	-89.08	332.6	3,637.5	660.7	536.2	124.55	5.305	
10,700.0	6,701.4	6,684.1	6,682.6	115.6	11.8	-88.84	332.6	3,637.6	703.5	576.2	127.32	5.526	
10,800.0	6,700.6	6,681.5	6,680.0	118.4	11.8	-88.60	332.6	3,637.6	757.1	627.1	130.08	5.820	
10,900.0	6,699.8	6,679.0	6,677.5	121.1	11.8	-88.37	332.6	3,637.7	819.5	686.7	132.85	6.169	
11,000.0	6,699.1	6,676.5	6,675.0	123.9	11.8	-88.14	332.6	3,637.7	888.8	753.1	135.61	6.554	
11,100.0	6,698.3	6,674.0	6,672.5	126.7	11.8	-87.91	332.6	3,637.8	963.4	825.0	138.38	6.962	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Schneider 19Q-HZ Pad (Existing) Sec.19-T5N-R64W - Gilbert Danley 20-1 (Exist) - Wellbore #1 - Wellb													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
12,200.0	6,689.9	6,712.8	6,710.7	157.4	12.2	-94.06	275.0	6,223.9	930.6	761.4	169.22	5.499		
12,300.0	6,689.1	6,711.9	6,709.8	160.2	12.2	-93.97	275.1	6,223.9	852.8	680.7	172.03	4.957		
12,400.0	6,688.3	6,711.0	6,708.9	163.0	12.2	-93.87	275.1	6,223.9	780.0	605.1	174.83	4.461		
12,500.0	6,687.5	6,710.0	6,707.9	165.8	12.2	-93.78	275.2	6,223.9	713.8	536.1	177.64	4.018		
12,600.0	6,686.8	6,709.1	6,707.0	168.6	12.2	-93.68	275.2	6,223.9	656.2	475.8	180.45	3.637		
12,700.0	6,686.0	6,708.1	6,706.0	171.4	12.2	-93.58	275.3	6,223.9	609.7	426.4	183.26	3.327		
12,800.0	6,685.2	6,707.2	6,705.1	174.2	12.2	-93.49	275.3	6,223.9	576.9	390.9	186.07	3.101		
12,900.0	6,684.5	6,706.2	6,704.1	177.0	12.2	-93.39	275.4	6,223.9	560.3	371.5	188.88	2.967		
12,944.4	6,684.1	6,705.8	6,703.7	178.3	12.2	-93.34	275.4	6,223.9	558.6	368.5	190.12	2.938 CC, ES		
13,000.0	6,683.7	6,705.3	6,703.2	179.8	12.2	-93.29	275.4	6,224.0	561.3	369.6	191.69	2.928 SF		
13,100.0	6,682.9	6,700.0	6,697.9	182.6	12.2	-92.75	275.7	6,224.0	579.9	385.3	194.56	2.980		
13,200.0	6,682.2	6,700.0	6,697.9	185.4	12.2	-92.75	275.7	6,224.0	614.3	416.9	197.36	3.113		
13,300.0	6,681.4	6,700.0	6,697.9	188.2	12.2	-92.75	275.7	6,224.0	662.2	462.0	200.15	3.308		
13,400.0	6,680.6	6,700.0	6,697.9	191.0	12.2	-92.75	275.7	6,224.0	720.8	517.9	202.95	3.552		
13,500.0	6,679.9	6,700.0	6,697.9	193.8	12.2	-92.75	275.7	6,224.0	787.8	582.1	205.75	3.829		
13,600.0	6,679.1	6,699.1	6,697.1	196.6	12.2	-92.66	275.8	6,224.0	861.3	652.7	208.56	4.130		
13,700.0	6,678.3	6,697.9	6,695.9	199.4	12.2	-92.54	275.9	6,224.0	939.6	728.2	211.37	4.445		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Schneider 19Q-HZ Pad (Existing) Sec.19-T5N-R64W - Hoff 20-1 (Exist) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.0 ft
Reference				Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
10,900.0	6,699.8	6,687.9	6,685.9	121.1	13.9	-88.77	314.2	4,974.4	994.1	859.2	134.95	7.366		
11,000.0	6,699.1	6,687.0	6,685.0	123.9	13.9	-88.68	314.2	4,974.4	916.1	778.4	137.74	6.651		
11,100.0	6,698.3	6,686.1	6,684.1	126.7	13.9	-88.60	314.2	4,974.4	842.7	702.2	140.52	5.997		
11,200.0	6,697.5	6,685.3	6,683.2	129.5	13.9	-88.51	314.1	4,974.5	775.3	632.0	143.30	5.411		
11,300.0	6,696.8	6,684.4	6,682.4	132.3	13.9	-88.43	314.1	4,974.5	715.6	569.5	146.08	4.899		
11,400.0	6,696.0	6,683.5	6,681.5	135.1	13.9	-88.34	314.1	4,974.5	665.6	516.8	148.86	4.471		
11,500.0	6,695.2	6,682.6	6,680.6	137.9	13.9	-88.26	314.1	4,974.5	627.7	476.0	151.65	4.139		
11,600.0	6,694.5	6,681.7	6,679.7	140.7	13.9	-88.17	314.0	4,974.5	604.1	449.7	154.43	3.912		
11,695.3	6,693.7	6,680.9	6,678.9	143.3	13.9	-88.09	314.0	4,974.5	596.5	439.5	157.08	3.798 CC		
11,700.0	6,693.7	6,680.8	6,678.8	143.5	13.9	-88.09	314.0	4,974.5	596.6	439.4	157.21	3.795 ES		
11,800.0	6,692.9	6,679.9	6,677.9	146.3	13.9	-88.00	314.0	4,974.5	605.7	445.7	160.00	3.786 SF		
11,900.0	6,692.2	6,679.1	6,677.0	149.1	13.9	-87.92	313.9	4,974.5	630.7	467.9	162.78	3.875		
12,000.0	6,691.4	6,678.2	6,676.2	151.8	13.9	-87.83	313.9	4,974.5	669.9	504.3	165.56	4.046		
12,100.0	6,690.6	6,677.3	6,675.3	154.6	13.9	-87.75	313.9	4,974.5	720.9	552.5	168.35	4.282		
12,200.0	6,689.9	6,676.4	6,674.4	157.4	13.9	-87.66	313.9	4,974.5	781.4	610.3	171.13	4.566		
12,300.0	6,689.1	6,675.5	6,673.5	160.2	13.9	-87.58	313.8	4,974.5	849.4	675.5	173.91	4.884		
12,400.0	6,688.3	6,674.6	6,672.6	163.0	13.9	-87.49	313.8	4,974.5	923.3	746.6	176.69	5.225		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Schneider 19Q-HZ Pad (Existing) Sec.19-T5N-R64W - Ivan Klein 20-2 (Exist) - Wellbore #1 - Wellbore #													Offset Site Error: 0.0 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
8,000.0	6,722.1	6,718.7	6,717.8	41.7	13.7	-91.02	184.2	2,138.1	977.2	921.9	55.29	17.672	
8,100.0	6,721.3	6,717.3	6,716.4	44.3	13.7	-90.85	184.2	2,138.1	890.6	832.6	57.92	15.377	
8,200.0	6,720.6	6,715.8	6,715.0	46.9	13.7	-90.67	184.1	2,138.1	807.1	746.5	60.56	13.327	
8,300.0	6,719.8	6,714.4	6,713.5	49.6	13.7	-90.49	184.1	2,138.1	727.8	664.5	63.22	11.512	
8,400.0	6,719.0	6,712.9	6,712.0	52.3	13.7	-90.31	184.1	2,138.2	654.1	588.2	65.89	9.927	
8,500.0	6,718.3	6,711.5	6,710.6	55.0	13.7	-90.13	184.1	2,138.2	588.3	519.8	68.58	8.579	
8,600.0	6,717.5	6,710.0	6,709.1	57.7	13.7	-89.95	184.1	2,138.2	533.3	462.0	71.28	7.482	
8,700.0	6,716.7	6,708.5	6,707.6	60.4	13.7	-89.77	184.1	2,138.2	492.6	418.6	73.99	6.658	
8,800.0	6,716.0	6,707.0	6,706.1	63.1	13.7	-89.58	184.1	2,138.2	470.0	393.3	76.70	6.127	
8,858.8	6,715.5	6,706.1	6,705.2	64.7	13.7	-89.47	184.1	2,138.2	466.3	388.0	78.30	5.955 CC, ES	
8,900.0	6,715.2	6,705.5	6,704.6	65.8	13.7	-89.39	184.1	2,138.2	468.1	388.7	79.42	5.894 SF	
9,000.0	6,714.4	6,703.9	6,703.1	68.5	13.7	-89.21	184.0	2,138.2	487.2	405.0	82.15	5.930	
9,100.0	6,713.7	6,702.4	6,701.5	71.3	13.7	-89.02	184.0	2,138.2	525.0	440.1	84.88	6.184	
9,200.0	6,712.9	6,700.9	6,700.0	74.0	13.7	-88.83	184.0	2,138.2	577.8	490.1	87.62	6.594	
9,300.0	6,712.1	6,699.2	6,698.3	76.8	13.7	-88.63	184.0	2,138.2	641.9	551.5	90.36	7.104	
9,400.0	6,711.4	6,697.4	6,696.5	79.5	13.7	-88.40	184.0	2,138.3	714.3	621.2	93.10	7.672	
9,500.0	6,710.6	6,695.5	6,694.6	82.3	13.7	-88.17	184.0	2,138.3	792.8	696.9	95.84	8.271	
9,600.0	6,709.8	6,693.6	6,692.7	85.1	13.7	-87.94	183.9	2,138.3	875.6	777.0	98.59	8.881	
9,700.0	6,709.0	6,691.6	6,690.7	87.8	13.7	-87.69	183.9	2,138.3	961.7	860.4	101.33	9.491	



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Schneider 19Q-HZ Pad (Existing) Sec.19-T5N-R64W - Phil Wilson 19-1 (Exist) - Wellbore #1 - Wellbore												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
0.0	0.0	0.0	0.0	0.0	0.0	-52.97	273.2	-362.2	454.5				
100.0	100.0	75.8	75.8	0.1	0.1	-52.96	273.2	-362.0	453.5	453.3	0.21	2,127.296	
193.6	193.6	166.6	166.6	0.3	0.2	-52.95	273.0	-361.5	453.0	452.5	0.56	815.880	
200.0	200.0	172.7	172.7	0.3	0.2	-52.95	273.0	-361.6	453.0	452.4	0.58	782.984	
300.0	300.0	274.8	274.8	0.6	0.4	-52.95	273.0	-361.6	453.1	452.1	0.97	467.728	
400.0	400.0	373.0	373.0	0.8	0.6	-52.93	272.9	-361.2	452.7	451.3	1.36	332.622	
400.4	400.4	373.4	373.4	0.8	0.6	-52.93	272.9	-361.2	452.7	451.3	1.36	332.204	
500.0	500.0	473.2	473.2	1.0	0.7	-52.91	273.1	-361.2	452.8	451.1	1.75	258.111	
600.0	600.0	573.1	573.1	1.2	0.9	-52.83	273.5	-360.7	452.7	450.6	2.15	210.479	
700.0	700.0	674.1	674.1	1.5	1.1	-52.81	273.6	-360.6	452.7	450.1	2.55	177.368	
800.0	800.0	774.2	774.2	1.7	1.3	-52.73	273.9	-360.0	452.4	449.4	2.97	152.564	
849.3	849.3	822.3	822.3	1.8	1.4	-52.73	273.9	-359.9	452.3	449.1	3.17	142.854	
900.0	900.0	870.6	870.6	1.9	1.5	-52.71	274.1	-359.9	452.4	449.0	3.37	134.326	
1,000.0	1,000.0	973.2	973.1	2.1	1.7	-52.62	274.9	-359.9	452.9	449.1	3.79	119.603	
1,058.0	1,058.0	1,030.9	1,030.9	2.3	1.8	-52.58	275.1	-359.6	452.8	448.8	4.03	112.448	
1,100.0	1,100.0	1,070.6	1,070.6	2.4	1.8	-52.56	275.3	-359.6	452.9	448.7	4.20	107.949	
1,200.0	1,200.0	1,170.4	1,170.4	2.6	2.0	-52.51	276.1	-359.9	453.6	449.0	4.61	98.399	
1,300.0	1,300.0	1,270.8	1,270.8	2.8	2.2	80.95	277.0	-359.8	454.0	449.0	5.00	90.747	
1,400.0	1,400.0	1,373.7	1,373.7	3.0	2.4	81.30	277.3	-360.0	453.8	448.5	5.38	84.382	
1,500.0	1,499.9	1,473.4	1,473.4	3.2	2.6	81.90	277.4	-359.5	452.9	447.2	5.73	78.979	
1,600.0	1,599.7	1,570.6	1,570.6	3.4	2.7	82.64	277.5	-359.7	452.3	446.2	6.09	74.314	
1,700.0	1,699.4	1,669.1	1,669.0	3.6	2.9	83.64	278.0	-360.0	452.0	445.5	6.48	69.727	
1,778.5	1,777.5	1,749.9	1,749.8	3.7	3.1	84.66	278.6	-360.1	451.7	444.8	6.82	66.257	
1,800.0	1,798.9	1,772.6	1,772.6	3.8	3.1	84.96	278.7	-360.0	451.5	444.6	6.91	65.329	
1,900.0	1,898.4	1,869.8	1,869.8	4.0	3.3	86.24	278.9	-359.7	450.6	443.2	7.33	61.444	
2,000.0	1,997.9	1,972.1	1,972.0	4.3	3.5	87.58	279.2	-359.8	450.3	442.6	7.76	57.998	
2,100.0	2,097.4	2,071.9	2,071.9	4.5	3.7	88.88	279.0	-359.4	449.6	441.4	8.17	55.044	
2,176.6	2,173.6	2,146.5	2,146.5	4.7	3.8	89.83	278.9	-359.3	449.3	440.9	8.48	52.974	
2,200.0	2,196.9	2,169.2	2,169.2	4.8	3.8	90.14	279.0	-359.3	449.4	440.8	8.58	52.366	
2,300.0	2,296.4	2,271.6	2,271.6	5.0	4.0	91.54	279.5	-358.8	449.5	440.5	9.04	49.745	
2,390.1	2,386.0	2,361.2	2,361.1	5.3	4.2	92.73	279.3	-358.1	449.3	439.9	9.43	47.654 CC	
2,400.0	2,395.9	2,370.8	2,370.8	5.3	4.2	92.86	279.2	-358.1	449.3	439.8	9.47	47.445 ES	
2,500.0	2,495.3	2,467.3	2,467.3	5.6	4.3	94.10	279.2	-358.0	449.8	439.9	9.90	45.431	
2,600.0	2,594.8	2,568.6	2,568.6	5.8	4.5	95.45	279.6	-357.8	450.9	440.5	10.35	43.547	
2,700.0	2,694.3	2,668.6	2,668.6	6.1	4.7	96.72	279.3	-357.6	451.6	440.8	10.79	41.865	
2,800.0	2,793.8	2,767.4	2,767.4	6.4	4.9	97.99	279.2	-357.4	452.7	441.5	11.23	40.322	
2,900.0	2,893.3	2,864.8	2,864.8	6.7	5.0	99.34	279.9	-356.6	454.3	442.6	11.70	38.840	
3,000.0	2,992.8	2,965.4	2,965.4	6.9	5.3	100.74	280.8	-355.8	456.4	444.2	12.19	37.456	
3,100.0	3,092.3	3,062.8	3,062.8	7.2	5.5	102.03	281.2	-355.3	458.5	445.9	12.66	36.227	
3,200.0	3,191.8	3,158.1	3,158.0	7.5	5.6	103.21	282.2	-355.7	461.8	448.7	13.11	35.223	
3,300.0	3,291.3	3,254.8	3,254.7	7.8	5.8	104.44	283.9	-356.2	466.0	452.5	13.57	34.344	
3,400.0	3,390.8	3,354.3	3,354.2	8.1	6.0	105.71	286.1	-356.6	470.8	456.8	14.04	33.535	
3,500.0	3,490.3	3,455.9	3,455.8	8.4	6.2	106.91	287.8	-357.3	475.5	460.9	14.52	32.756	
3,600.0	3,589.7	3,556.6	3,556.5	8.6	6.4	108.11	289.2	-357.6	479.9	464.9	14.99	32.008	
3,700.0	3,689.2	3,656.7	3,656.6	8.9	6.7	109.26	290.4	-358.0	484.4	468.9	15.47	31.302	
3,800.0	3,788.7	3,755.3	3,755.1	9.2	6.9	110.42	291.6	-358.1	489.0	473.1	15.96	30.638	
3,900.0	3,888.2	3,854.1	3,853.9	9.5	7.1	111.58	293.2	-358.0	494.1	477.7	16.45	30.042	
4,000.0	3,987.7	3,951.5	3,951.4	9.8	7.3	112.62	294.6	-358.7	499.5	482.6	16.92	29.514	
4,100.0	4,087.2	4,047.1	4,046.9	10.1	7.5	113.59	296.5	-359.7	505.8	488.4	17.39	29.075	
4,200.0	4,186.7	4,143.5	4,143.3	10.4	7.7	114.58	299.2	-360.7	512.8	495.0	17.87	28.694	
4,300.0	4,286.2	4,240.9	4,240.6	10.7	7.9	115.58	302.4	-361.7	520.5	502.2	18.36	28.357	

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 Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Schneider 19Q-HZ Pad (Existing) Sec.19-T5N-R64W - Phil Wilson 19-1 (Exist) - Wellbore #1 - Wellbore												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
4,400.0	4,385.7	4,339.8	4,339.4	11.0	8.2	116.55	305.8	-362.8	528.7	509.8	18.84	28.054	
4,500.0	4,485.2	4,438.0	4,437.6	11.3	8.4	117.47	309.1	-364.1	536.9	517.5	19.33	27.773	
4,600.0	4,584.7	4,534.7	4,534.2	11.6	8.6	118.33	312.9	-365.6	545.8	526.0	19.82	27.546	
4,700.0	4,684.1	4,636.0	4,635.4	11.8	8.9	119.30	317.0	-366.4	554.8	534.5	20.31	27.316	
4,800.0	4,783.6	4,736.4	4,735.7	12.1	9.1	120.23	320.8	-367.0	563.6	542.8	20.81	27.089	
4,900.0	4,883.1	4,836.1	4,835.3	12.4	9.4	121.05	324.3	-368.3	572.5	551.2	21.30	26.879	
5,000.0	4,982.6	4,937.4	4,936.5	12.7	9.6	121.89	327.7	-369.3	581.2	559.4	21.80	26.668	
5,100.0	5,082.1	5,040.8	5,039.9	13.0	9.9	122.78	330.8	-369.6	589.7	567.4	22.30	26.444	
5,200.0	5,181.6	5,148.8	5,147.9	13.3	10.1	123.71	332.9	-369.4	597.1	574.3	22.80	26.193	
5,300.0	5,281.1	5,251.0	5,250.1	13.6	10.3	124.69	333.8	-367.8	603.4	580.2	23.26	25.947	
5,400.0	5,380.6	5,349.3	5,348.4	13.9	10.5	125.62	334.8	-366.3	610.1	586.4	23.70	25.740	
5,430.8	5,411.3	5,380.6	5,379.7	14.0	10.6	125.91	335.2	-365.7	612.2	588.3	23.84	25.676	
5,500.0	5,480.1	5,452.1	5,451.2	14.2	10.7	126.60	335.8	-364.2	616.2	592.1	24.13	25.533	
5,600.0	5,580.0	5,552.7	5,551.7	14.4	10.9	127.27	336.1	-362.4	619.9	595.4	24.51	25.294	
5,700.0	5,679.9	5,651.3	5,650.3	14.5	11.1	127.59	336.5	-361.3	621.7	596.9	24.87	24.998	
5,720.1	5,700.0	5,671.3	5,670.3	14.6	11.2	-5.63	336.6	-361.0	621.9	597.4	24.48	25.400	
5,800.0	5,779.9	5,750.9	5,749.9	14.7	11.3	-5.48	337.2	-359.4	622.2	597.4	24.80	25.088	
5,900.0	5,879.9	5,851.6	5,850.6	14.9	11.5	-5.34	337.8	-357.9	622.7	597.5	25.19	24.717	
5,984.5	5,964.4	5,936.0	5,935.0	15.0	11.7	-5.22	338.2	-356.7	623.0	597.4	25.52	24.409	
6,000.0	5,979.9	5,951.1	5,950.1	15.0	11.7	-95.22	338.2	-356.6	623.0	597.0	26.01	23.957	
6,050.0	6,029.8	6,000.0	5,999.0	15.1	11.8	-95.42	338.5	-356.6	623.6	597.4	26.18	23.817	
6,100.0	6,079.5	6,048.7	6,047.7	15.1	12.0	-95.88	338.8	-356.7	624.5	598.2	26.36	23.695	
6,150.0	6,128.6	6,097.3	6,096.3	15.2	12.1	-96.57	339.2	-356.6	625.9	599.4	26.52	23.606	
6,200.0	6,177.1	6,146.5	6,145.5	15.2	12.2	-97.51	339.7	-356.5	627.9	601.2	26.66	23.551	
6,250.0	6,224.6	6,194.7	6,193.7	15.2	12.3	-98.67	340.0	-356.6	630.6	603.8	26.79	23.538 SF	
6,300.0	6,271.0	6,242.0	6,241.0	15.2	12.4	-99.99	340.2	-356.8	634.1	607.2	26.89	23.579	
6,350.0	6,316.1	6,288.3	6,287.3	15.2	12.5	-101.41	340.4	-356.7	638.7	611.7	26.97	23.678	
6,400.0	6,359.7	6,330.1	6,329.1	15.2	12.6	-102.74	340.6	-356.5	644.8	617.7	27.04	23.848	
6,450.0	6,401.6	6,369.1	6,368.1	15.2	12.7	-103.99	340.9	-356.5	652.7	625.6	27.08	24.098	
6,500.0	6,441.7	6,407.1	6,406.0	15.2	12.8	-105.21	341.4	-356.6	662.7	635.6	27.13	24.430	
6,550.0	6,479.7	6,447.4	6,446.4	15.2	12.8	-106.54	341.8	-356.7	674.8	647.6	27.17	24.839	
6,600.0	6,515.5	6,485.4	6,484.4	15.2	12.9	-107.69	342.1	-356.9	689.1	661.9	27.22	25.314	
6,650.0	6,548.9	6,519.5	6,518.5	15.3	13.0	-108.54	342.2	-357.1	705.8	678.5	27.31	25.841	
6,700.0	6,579.8	6,550.3	6,549.2	15.4	13.0	-109.04	342.2	-357.2	725.1	697.6	27.47	26.394	
6,750.0	6,608.1	6,578.3	6,577.3	15.6	13.1	-109.21	342.3	-357.4	747.0	719.3	27.73	26.942	
6,800.0	6,633.6	6,603.6	6,602.6	16.0	13.1	-108.99	342.4	-357.5	771.6	743.5	28.11	27.452	
6,850.0	6,656.3	6,626.0	6,625.0	16.5	13.2	-108.35	342.4	-357.7	798.7	770.1	28.63	27.894	
6,900.0	6,676.0	6,645.5	6,644.5	17.1	13.2	-107.22	342.5	-357.8	828.2	798.9	29.32	28.245	
6,950.0	6,692.6	6,661.9	6,660.9	17.8	13.2	-105.56	342.5	-357.8	860.0	829.8	30.18	28.499	
7,000.0	6,706.2	6,675.2	6,674.2	18.6	13.3	-103.32	342.6	-357.9	893.8	862.6	31.18	28.666	
7,050.0	6,716.5	6,685.3	6,684.3	19.5	13.3	-100.46	342.6	-358.0	929.5	897.2	32.30	28.777	
7,100.0	6,723.7	6,692.2	6,691.1	20.4	13.3	-96.92	342.6	-358.0	966.7	933.3	33.47	28.886	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Schneider 19Q-HZ Pad (Existing) Sec.19-T5N-R64W - Ybarra B 29-29 (Exist) - Wellbore #1 - Wellbore		Offset Site Error:		0.0 ft	
Survey Program: 7068-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)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor						
8,700.0	6,716.7	6,734.7	6,734.7	60.4	134.7	91.37	-571.8	2,878.1	944.2	749.2	194.94	4.843						
8,800.0	6,716.0	6,734.0	6,734.0	63.1	134.7	91.21	-571.8	2,878.1	849.6	651.9	197.66	4.298						
8,900.0	6,715.2	6,733.2	6,733.2	65.8	134.7	91.06	-571.8	2,878.1	756.3	555.9	200.39	3.774						
9,000.0	6,714.4	6,732.4	6,732.4	68.5	134.6	90.91	-571.8	2,878.1	665.1	461.9	203.12	3.274						
9,100.0	6,713.7	6,731.7	6,731.7	71.3	134.6	90.76	-571.8	2,878.1	576.7	370.8	205.85	2.801						
9,200.0	6,712.9	6,730.9	6,730.9	74.0	134.6	90.61	-571.8	2,878.1	492.8	284.2	208.59	2.362						
9,300.0	6,712.1	6,730.1	6,730.1	76.8	134.6	90.45	-571.8	2,878.1	416.0	204.7	211.33	1.969						
9,400.0	6,711.4	6,729.4	6,729.4	79.5	134.6	90.30	-571.8	2,878.1	351.2	137.1	214.08	1.641						
9,500.0	6,710.6	6,728.6	6,728.6	82.3	134.6	90.15	-571.8	2,878.1	305.9	89.1	216.82	1.411	Level 3					
9,598.7	6,709.8	6,727.8	6,727.8	85.0	134.6	90.00	-571.8	2,878.1	289.6	70.0	219.54	1.319	Level 3, CC					
9,600.0	6,709.8	6,727.8	6,727.8	85.1	134.6	90.00	-571.8	2,878.1	289.6	70.0	219.57	1.319	Level 3, ES, SF					
9,700.0	6,709.0	6,727.0	6,727.0	87.8	134.5	89.85	-571.8	2,878.1	306.8	84.5	222.32	1.380	Level 3					
9,800.0	6,708.3	6,726.3	6,726.3	90.6	134.5	89.69	-571.8	2,878.1	352.7	127.6	225.07	1.567						
9,900.0	6,707.5	6,725.5	6,725.5	93.4	134.5	89.54	-571.8	2,878.1	417.9	190.1	227.82	1.834						
10,000.0	6,706.7	6,724.7	6,724.7	96.1	134.5	89.39	-571.8	2,878.1	494.8	264.3	230.58	2.146						
10,100.0	6,706.0	6,724.0	6,724.0	98.9	134.5	89.24	-571.8	2,878.1	578.9	345.6	233.33	2.481						
10,200.0	6,705.2	6,723.2	6,723.2	101.7	134.5	89.09	-571.8	2,878.1	667.4	431.3	236.08	2.827						
10,300.0	6,704.4	6,722.4	6,722.4	104.4	134.4	88.93	-571.8	2,878.1	758.7	519.9	238.83	3.177						
10,400.0	6,703.7	6,721.7	6,721.7	107.2	134.4	88.78	-571.8	2,878.1	852.0	610.4	241.59	3.527						
10,500.0	6,702.9	6,720.9	6,720.9	110.0	134.4	88.63	-571.8	2,878.1	946.6	702.3	244.34	3.874						

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Schneider 19Q-HZ Pad Sec.19-T5N-R64W - Schneider 19P-232 - Wellbore #1 - Plan #3 (7-20-15)												Offset Well Error:	0.0 ft
Survey Program: 0-MWD													
Reference				Offset			Semi Major Axis		Distance				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-89.98	0.0	-30.6	30.7				
100.0	100.0	99.0	99.0	0.1	0.1	-89.98	0.0	-30.6	30.6	30.4	0.22	137.035	
200.0	200.0	199.0	199.0	0.3	0.3	-89.98	0.0	-30.6	30.6	30.0	0.67	45.603	
300.0	300.0	299.0	299.0	0.6	0.6	-89.98	0.0	-30.6	30.6	29.5	1.12	27.325	
400.0	400.0	399.0	399.0	0.8	0.8	-89.98	0.0	-30.6	30.6	29.1	1.57	19.507	
500.0	500.0	499.0	499.0	1.0	1.0	-89.98	0.0	-30.6	30.6	28.6	2.02	15.167	
600.0	600.0	599.0	599.0	1.2	1.2	-89.98	0.0	-30.6	30.6	28.2	2.47	12.407	
700.0	700.0	699.0	699.0	1.5	1.5	-89.98	0.0	-30.6	30.6	27.7	2.92	10.497	
800.0	800.0	799.0	799.0	1.7	1.7	-89.98	0.0	-30.6	30.6	27.3	3.37	9.096	
900.0	900.0	899.0	899.0	1.9	1.9	-89.98	0.0	-30.6	30.6	26.8	3.82	8.025	
1,000.0	1,000.0	999.0	999.0	2.1	2.1	-89.98	0.0	-30.6	30.6	26.4	4.27	7.180 CC, ES	
1,100.0	1,100.0	1,098.6	1,098.6	2.4	2.4	-88.81	0.6	-31.2	31.2	26.5	4.71	6.622	
1,200.0	1,200.0	1,198.2	1,198.2	2.6	2.6	-85.48	2.6	-32.9	33.0	27.8	5.16	6.401	
1,300.0	1,300.0	1,297.7	1,297.5	2.8	2.8	53.63	5.8	-35.7	35.7	30.1	5.57	6.403	
1,400.0	1,400.0	1,396.9	1,396.6	3.0	3.0	62.16	10.4	-39.7	39.3	33.3	5.98	6.580	
1,500.0	1,499.9	1,495.9	1,495.2	3.2	3.3	72.02	16.2	-44.7	44.7	38.3	6.39	7.000	
1,600.0	1,599.7	1,594.4	1,593.3	3.4	3.5	81.78	23.3	-50.8	52.5	45.7	6.81	7.716	
1,700.0	1,699.4	1,692.4	1,690.7	3.6	3.7	90.45	31.6	-58.0	63.2	56.0	7.25	8.727	
1,778.5	1,777.5	1,769.0	1,766.6	3.7	3.9	96.22	38.9	-64.4	73.7	66.1	7.60	9.697	
1,800.0	1,798.9	1,790.0	1,787.5	3.8	4.0	97.64	41.1	-66.3	76.9	69.2	7.70	9.986	
1,900.0	1,898.4	1,888.4	1,885.0	4.0	4.3	102.99	51.3	-75.1	92.3	84.1	8.16	11.303	
2,000.0	1,997.9	1,986.9	1,982.6	4.3	4.6	106.79	61.4	-83.9	108.2	99.6	8.64	12.530	
2,100.0	2,097.4	2,085.4	2,080.2	4.5	4.9	109.61	71.6	-92.8	124.5	115.4	9.12	13.654	
2,200.0	2,196.9	2,183.9	2,177.7	4.8	5.2	111.77	81.8	-101.6	141.1	131.5	9.61	14.678	
2,300.0	2,296.4	2,282.4	2,275.3	5.0	5.5	113.48	92.0	-110.4	157.8	147.7	10.11	15.607	
2,400.0	2,395.9	2,380.9	2,372.9	5.3	5.8	114.86	102.1	-119.3	174.6	164.0	10.61	16.452	
2,500.0	2,495.3	2,479.4	2,470.5	5.6	6.1	116.00	112.3	-128.1	191.4	180.3	11.12	17.220	
2,600.0	2,594.8	2,577.9	2,568.0	5.8	6.4	116.96	122.5	-136.9	208.4	196.8	11.63	17.921	
2,700.0	2,694.3	2,676.4	2,665.6	6.1	6.7	117.77	132.7	-145.8	225.4	213.2	12.14	18.561	
2,800.0	2,793.8	2,774.9	2,763.2	6.4	7.0	118.46	142.9	-154.6	242.4	229.7	12.66	19.147	
2,900.0	2,893.3	2,873.4	2,860.8	6.7	7.3	119.07	153.0	-163.4	259.5	246.3	13.18	19.685	
3,000.0	2,992.8	2,971.9	2,958.3	6.9	7.6	119.60	163.2	-172.3	276.5	262.8	13.70	20.181	
3,100.0	3,092.3	3,070.4	3,055.9	7.2	8.0	120.07	173.4	-181.1	293.6	279.4	14.23	20.638	
3,200.0	3,191.8	3,168.9	3,153.5	7.5	8.3	120.49	183.6	-189.9	310.8	296.0	14.76	21.062	
3,300.0	3,291.3	3,267.4	3,251.1	7.8	8.6	120.86	193.8	-198.8	327.9	312.6	15.28	21.454	
3,400.0	3,390.8	3,365.9	3,348.6	8.1	8.9	121.20	203.9	-207.6	345.0	329.2	15.81	21.819	
3,500.0	3,490.3	3,464.4	3,446.2	8.4	9.3	121.50	214.1	-216.4	362.2	345.9	16.35	22.159	
3,600.0	3,589.7	3,562.9	3,543.8	8.6	9.6	121.78	224.3	-225.2	379.4	362.5	16.88	22.477	
3,700.0	3,689.2	3,661.4	3,641.3	8.9	9.9	122.03	234.5	-234.1	396.5	379.1	17.41	22.774	
3,800.0	3,788.7	3,759.9	3,738.9	9.2	10.2	122.26	244.7	-242.9	413.7	395.8	17.95	23.052	
3,900.0	3,888.2	3,858.4	3,836.5	9.5	10.6	122.48	254.8	-251.7	430.9	412.4	18.48	23.313	
4,000.0	3,987.7	3,956.9	3,934.1	9.8	10.9	122.68	265.0	-260.6	448.1	429.1	19.02	23.559	
4,100.0	4,087.2	4,055.4	4,031.6	10.1	11.2	122.86	275.2	-269.4	465.3	445.7	19.56	23.791	
4,200.0	4,186.7	4,153.9	4,129.2	10.4	11.5	123.03	285.4	-278.2	482.5	462.4	20.10	24.009	
4,300.0	4,286.2	4,252.4	4,226.8	10.7	11.9	123.19	295.6	-287.1	499.7	479.1	20.64	24.215	
4,400.0	4,385.7	4,350.9	4,324.4	11.0	12.2	123.33	305.7	-295.9	516.9	495.7	21.18	24.411	
4,500.0	4,485.2	4,449.4	4,421.9	11.3	12.5	123.47	315.9	-304.7	534.1	512.4	21.72	24.596	
4,600.0	4,584.7	4,547.9	4,519.5	11.6	12.9	123.60	326.1	-313.6	551.3	529.1	22.26	24.771	
4,700.0	4,684.1	4,646.4	4,617.1	11.8	13.2	123.72	336.3	-322.4	568.6	545.8	22.80	24.938	
4,800.0	4,783.6	4,744.9	4,714.7	12.1	13.5	123.84	346.4	-331.2	585.8	562.4	23.34	25.097	
4,900.0	4,883.1	4,843.4	4,812.2	12.4	13.8	123.94	356.6	-340.1	603.0	579.1	23.88	25.248	

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 Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<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		
5,000.0	4,982.6	4,941.9	4,909.8	12.7	14.2	124.05	366.8	-348.9	620.2	595.8	24.43	25.392		
5,100.0	5,082.1	5,040.4	5,007.4	13.0	14.5	124.14	377.0	-357.7	637.4	612.5	24.97	25.529		
5,200.0	5,181.6	5,138.9	5,105.0	13.3	14.8	124.23	387.2	-366.6	654.7	629.2	25.51	25.661		
5,300.0	5,281.1	5,237.4	5,202.5	13.6	15.2	124.32	397.3	-375.4	671.9	645.8	26.06	25.786		
5,400.0	5,380.6	5,335.9	5,300.1	13.9	15.5	124.40	407.5	-384.2	689.1	662.5	26.60	25.906		
5,430.8	5,411.3	5,366.3	5,330.2	14.0	15.6	124.43	410.7	-386.9	694.4	667.7	26.77	25.942		
5,500.0	5,480.1	5,434.5	5,397.8	14.2	15.8	124.62	417.7	-393.1	705.9	678.7	27.15	25.999		
5,600.0	5,580.0	5,557.2	5,519.5	14.4	16.2	124.68	428.7	-402.6	719.3	691.7	27.64	26.023		
5,700.0	5,679.9	5,683.9	5,645.8	14.5	16.4	124.61	436.0	-408.9	727.1	699.1	28.07	25.909		
5,720.1	5,700.0	5,709.4	5,671.3	14.6	16.5	-8.68	436.9	-409.8	728.0	699.3	28.68	25.384		
5,800.0	5,779.9	5,811.2	5,773.1	14.7	16.6	-8.79	439.0	-411.6	729.8	700.8	29.00	25.166		
5,900.0	5,879.9	5,917.0	5,878.9	14.9	16.8	-8.80	439.1	-411.6	729.9	700.6	29.35	24.870		
5,984.5	5,964.4	6,001.5	5,963.4	15.0	16.9	-8.80	439.1	-411.6	729.9	700.3	29.65	24.618		
6,000.0	5,979.9	6,017.0	5,978.9	15.0	17.0	-98.81	439.1	-411.6	730.0	700.8	29.17	25.021		
6,050.0	6,029.8	6,075.5	6,037.3	15.1	17.0	-98.87	439.1	-409.5	730.1	700.8	29.32	24.902		
6,100.0	6,079.5	6,134.1	6,095.6	15.1	17.1	-98.89	439.1	-402.8	730.1	700.7	29.42	24.820		
6,150.0	6,128.6	6,192.8	6,153.2	15.2	17.1	-98.87	439.1	-391.8	730.1	700.6	29.48	24.768		
6,200.0	6,177.1	6,251.4	6,209.7	15.2	17.1	-98.80	439.1	-376.3	729.9	700.4	29.50	24.740		
6,250.0	6,224.6	6,309.8	6,264.7	15.2	17.1	-98.68	439.1	-356.6	729.7	700.2	29.51	24.728		
6,300.0	6,271.0	6,368.1	6,317.9	15.2	17.1	-98.52	439.1	-332.8	729.4	699.9	29.51	24.720		
6,350.0	6,316.1	6,426.2	6,369.0	15.2	17.0	-98.32	439.1	-305.2	729.0	699.5	29.51	24.702		
6,400.0	6,359.7	6,484.0	6,417.5	15.2	17.0	-98.08	439.1	-273.9	728.6	699.1	29.55	24.660		
6,450.0	6,401.6	6,541.5	6,463.4	15.2	16.9	-97.80	439.1	-239.2	728.1	698.5	29.63	24.575		
6,500.0	6,441.7	6,598.6	6,506.2	15.2	16.9	-97.48	439.1	-201.5	727.6	697.8	29.78	24.428		
6,550.0	6,479.7	6,655.3	6,545.8	15.2	16.8	-97.13	439.1	-160.9	727.0	697.0	30.05	24.196		
6,600.0	6,515.5	6,711.5	6,582.0	15.2	16.8	-96.74	439.1	-117.9	726.4	696.0	30.44	23.867		
6,650.0	6,548.9	6,767.3	6,614.7	15.3	16.8	-96.33	439.1	-72.7	725.8	694.8	30.97	23.433		
6,700.0	6,579.8	6,822.6	6,643.8	15.4	17.0	-95.88	439.1	-25.7	725.2	693.5	31.68	22.895		
6,750.0	6,608.1	6,877.4	6,669.2	15.6	17.3	-95.41	439.1	22.8	724.6	692.1	32.55	22.259		
6,800.0	6,633.6	6,931.7	6,690.8	16.0	17.8	-94.92	439.1	72.6	724.1	690.4	33.61	21.540		
6,850.0	6,656.3	6,985.4	6,708.7	16.5	18.5	-94.40	439.1	123.3	723.5	688.7	34.85	20.762		
6,900.0	6,676.0	7,038.6	6,722.9	17.1	19.3	-93.87	439.1	174.5	723.0	686.8	36.26	19.942		
6,950.0	6,692.6	7,091.3	6,733.4	17.8	20.1	-93.33	439.1	226.1	722.6	684.8	37.82	19.107		
7,000.0	6,706.2	7,143.5	6,740.2	18.6	21.0	-92.77	439.1	277.8	722.2	682.7	39.51	18.277		
7,050.0	6,716.5	7,195.1	6,743.5	19.5	22.0	-92.20	439.1	329.3	721.9	680.6	41.32	17.469		
7,100.0	6,723.7	7,245.6	6,743.7	20.4	23.0	-91.65	439.1	379.8	721.6	678.4	43.22	16.696		
7,150.0	6,727.6	7,295.4	6,743.2	21.3	24.0	-91.32	439.1	429.6	721.5	676.4	45.18	15.971		
7,190.3	6,728.3	7,335.7	6,742.8	22.2	24.8	-91.23	439.1	470.0	721.5	674.7	46.83	15.407		
7,200.0	6,728.2	7,345.4	6,742.7	22.4	25.0	-91.23	439.1	479.6	721.5	674.3	47.23	15.276		
7,300.0	6,727.5	7,445.4	6,741.8	24.5	27.2	-91.22	439.1	579.6	721.5	670.0	51.51	14.006		
7,400.0	6,726.7	7,545.4	6,740.9	26.7	29.5	-91.21	439.1	679.6	721.5	665.5	56.03	12.876		
7,500.0	6,725.9	7,645.4	6,740.0	29.1	31.9	-91.19	439.1	779.6	721.5	660.8	60.74	11.879		
7,600.0	6,725.2	7,745.4	6,739.0	31.5	34.3	-91.18	439.1	879.6	721.5	655.9	65.59	11.000		
7,700.0	6,724.4	7,845.4	6,738.1	34.0	36.8	-91.17	439.1	979.6	721.5	650.9	70.55	10.226		
7,800.0	6,723.6	7,945.4	6,737.2	36.5	39.3	-91.16	439.1	1,079.6	721.5	645.9	75.61	9.543		
7,900.0	6,722.9	8,045.4	6,736.3	39.1	41.9	-91.14	439.1	1,179.6	721.5	640.7	80.74	8.936		
8,000.0	6,722.1	8,145.4	6,735.3	41.7	44.5	-91.13	439.1	1,279.6	721.5	635.6	85.93	8.396		
8,100.0	6,721.3	8,245.4	6,734.4	44.3	47.1	-91.12	439.1	1,379.6	721.5	630.3	91.17	7.913		
8,200.0	6,720.6	8,345.4	6,733.5	46.9	49.7	-91.11	439.1	1,479.6	721.5	625.0	96.46	7.480		
8,300.0	6,719.8	8,445.4	6,732.6	49.6	52.4	-91.09	439.1	1,579.6	721.5	619.7	101.78	7.089		
8,400.0	6,719.0	8,545.4	6,731.6	52.3	55.1	-91.08	439.1	1,679.6	721.5	614.3	107.13	6.735		

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 Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Schneider 19Q-HZ Pad Sec.19-T5N-R64W - Schneider 19P-232 - Wellbore #1 - Plan #3 (7-20-15)													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
Reference				Offset			Semi Major Axis			Distance				Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
8,500.0	6,718.3	8,645.4	6,730.7	55.0	57.7	-91.07	439.1	1,779.6		721.5	609.0	112.51	6.413	
8,600.0	6,717.5	8,745.4	6,729.8	57.7	60.4	-91.06	439.1	1,879.6		721.5	603.6	117.91	6.119	
8,700.0	6,716.7	8,845.4	6,728.9	60.4	63.1	-91.04	439.1	1,979.5		721.5	598.1	123.33	5.850	
8,800.0	6,716.0	8,945.4	6,727.9	63.1	65.9	-91.03	439.1	2,079.5		721.5	592.7	128.76	5.603	
8,900.0	6,715.2	9,045.4	6,727.0	65.8	68.6	-91.02	439.1	2,179.5		721.5	587.2	134.21	5.375	
9,000.0	6,714.4	9,145.4	6,726.1	68.5	71.3	-91.01	439.1	2,279.5		721.5	581.8	139.68	5.165	
9,100.0	6,713.7	9,245.4	6,725.2	71.3	74.0	-90.99	439.1	2,379.5		721.4	576.3	145.15	4.970	
9,200.0	6,712.9	9,345.4	6,724.2	74.0	76.8	-90.98	439.1	2,479.5		721.4	570.8	150.64	4.789	
9,300.0	6,712.1	9,445.4	6,723.3	76.8	79.5	-90.97	439.1	2,579.5		721.4	565.3	156.14	4.621	
9,400.0	6,711.4	9,545.4	6,722.4	79.5	82.3	-90.96	439.1	2,679.5		721.4	559.8	161.64	4.463	
9,500.0	6,710.6	9,645.4	6,721.5	82.3	85.0	-90.94	439.1	2,779.5		721.4	554.3	167.16	4.316	
9,600.0	6,709.8	9,745.4	6,720.5	85.1	87.8	-90.93	439.1	2,879.5		721.4	548.8	172.68	4.178	
9,700.0	6,709.0	9,845.4	6,719.6	87.8	90.5	-90.92	439.1	2,979.5		721.4	543.2	178.20	4.048	
9,800.0	6,708.3	9,945.4	6,718.7	90.6	93.3	-90.91	439.1	3,079.5		721.4	537.7	183.73	3.927	
9,900.0	6,707.5	10,045.4	6,717.8	93.4	96.1	-90.89	439.1	3,179.5		721.4	532.2	189.27	3.812	
10,000.0	6,706.7	10,145.4	6,716.8	96.1	98.8	-90.88	439.1	3,279.5		721.4	526.6	194.81	3.703	
10,100.0	6,706.0	10,245.4	6,715.9	98.9	101.6	-90.87	439.1	3,379.5		721.4	521.1	200.36	3.601	
10,200.0	6,705.2	10,345.4	6,715.0	101.7	104.4	-90.86	439.1	3,479.5		721.4	515.5	205.91	3.504	
10,300.0	6,704.4	10,445.4	6,714.1	104.4	107.1	-90.84	439.1	3,579.5		721.4	510.0	211.46	3.412	
10,400.0	6,703.7	10,545.4	6,713.1	107.2	109.9	-90.83	439.1	3,679.5		721.4	504.4	217.02	3.324	
10,500.0	6,702.9	10,645.4	6,712.2	110.0	112.7	-90.82	439.1	3,779.5		721.4	498.8	222.58	3.241	
10,600.0	6,702.1	10,745.4	6,711.3	112.8	115.5	-90.81	439.1	3,879.5		721.4	493.3	228.14	3.162	
10,700.0	6,701.4	10,845.4	6,710.4	115.6	118.3	-90.79	439.1	3,979.5		721.4	487.7	233.70	3.087	
10,800.0	6,700.6	10,945.4	6,709.4	118.4	121.0	-90.78	439.1	4,079.5		721.4	482.1	239.27	3.015	
10,900.0	6,699.8	11,045.4	6,708.5	121.1	123.8	-90.77	439.1	4,179.5		721.4	476.6	244.84	2.946	
11,000.0	6,699.1	11,145.4	6,707.6	123.9	126.6	-90.76	439.1	4,279.4		721.4	471.0	250.42	2.881	
11,100.0	6,698.3	11,245.4	6,706.7	126.7	129.4	-90.74	439.1	4,379.4		721.4	465.4	255.99	2.818	
11,200.0	6,697.5	11,345.4	6,705.7	129.5	132.2	-90.73	439.1	4,479.4		721.4	459.8	261.57	2.758	
11,300.0	6,696.8	11,445.4	6,704.8	132.3	135.0	-90.72	439.1	4,579.4		721.4	454.3	267.15	2.700	
11,400.0	6,696.0	11,545.4	6,703.9	135.1	137.7	-90.71	439.1	4,679.4		721.4	448.7	272.73	2.645	
11,500.0	6,695.2	11,645.4	6,703.0	137.9	140.5	-90.69	439.1	4,779.4		721.4	443.1	278.31	2.592	
11,600.0	6,694.5	11,745.4	6,702.0	140.7	143.3	-90.68	439.1	4,879.4		721.4	437.5	283.89	2.541	
11,700.0	6,693.7	11,845.4	6,701.1	143.5	146.1	-90.67	439.1	4,979.4		721.4	431.9	289.47	2.492	
11,800.0	6,692.9	11,945.4	6,700.2	146.3	148.9	-90.66	439.1	5,079.4		721.4	426.3	295.06	2.445	
11,900.0	6,692.2	12,045.4	6,699.3	149.1	151.7	-90.64	439.1	5,179.4		721.4	420.7	300.65	2.399	
12,000.0	6,691.4	12,145.4	6,698.3	151.8	154.5	-90.63	439.1	5,279.4		721.4	415.1	306.24	2.356	
12,100.0	6,690.6	12,245.4	6,697.4	154.6	157.3	-90.62	439.1	5,379.4		721.4	409.6	311.83	2.313	
12,200.0	6,689.9	12,345.4	6,696.5	157.4	160.1	-90.61	439.1	5,479.4		721.4	404.0	317.42	2.273	
12,300.0	6,689.1	12,445.4	6,695.6	160.2	162.9	-90.59	439.1	5,579.4		721.4	398.4	323.01	2.233	
12,400.0	6,688.3	12,545.4	6,694.6	163.0	165.7	-90.58	439.1	5,679.4		721.4	392.8	328.60	2.195	
12,500.0	6,687.5	12,645.4	6,693.7	165.8	168.5	-90.57	439.1	5,779.4		721.4	387.2	334.19	2.159	
12,600.0	6,686.8	12,745.4	6,692.8	168.6	171.3	-90.56	439.1	5,879.4		721.4	381.6	339.79	2.123	
12,700.0	6,686.0	12,845.4	6,691.9	171.4	174.1	-90.54	439.1	5,979.4		721.4	376.0	345.38	2.089	
12,800.0	6,685.2	12,945.4	6,690.9	174.2	176.8	-90.53	439.1	6,079.4		721.4	370.4	350.98	2.055	
12,900.0	6,684.5	13,045.4	6,690.0	177.0	179.6	-90.52	439.1	6,179.4		721.4	364.8	356.58	2.023	
13,000.0	6,683.7	13,145.4	6,689.1	179.8	182.4	-90.51	439.1	6,279.4		721.4	359.2	362.17	1.992	
13,100.0	6,682.9	13,245.4	6,688.2	182.6	185.2	-90.49	439.1	6,379.4		721.4	353.6	367.77	1.961	
13,200.0	6,682.2	13,345.4	6,687.2	185.4	188.0	-90.48	439.1	6,479.4		721.4	348.0	373.37	1.932	
13,300.0	6,681.4	13,445.4	6,686.3	188.2	190.8	-90.47	439.1	6,579.3		721.4	342.4	378.97	1.903	
13,400.0	6,680.6	13,545.4	6,685.4	191.0	193.6	-90.46	439.1	6,679.3		721.4	336.8	384.57	1.876	
13,500.0	6,679.9	13,645.4	6,684.5	193.8	196.4	-90.44	439.1	6,779.3		721.4	331.2	390.17	1.849	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Schneider 19Q-HZ Pad Sec.19-T5N-R64W - Schneider 19P-232 - Wellbore #1 - Plan #3 (7-20-15)													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
13,600.0	6,679.1	13,745.4	6,683.5	196.6	199.2	-90.43	439.1	6,879.3	721.4	325.6	395.77	1.823		
13,700.0	6,678.3	13,845.4	6,682.6	199.4	202.0	-90.42	439.1	6,979.3	721.4	320.0	401.37	1.797		
13,800.0	6,677.6	13,945.4	6,681.7	202.2	204.8	-90.41	439.1	7,079.3	721.4	314.4	406.98	1.772		
13,900.0	6,676.8	14,045.4	6,680.8	205.0	207.6	-90.39	439.1	7,179.3	721.4	308.8	412.58	1.748		
14,000.0	6,676.0	14,145.4	6,679.8	207.8	210.4	-90.38	439.1	7,279.3	721.4	303.2	418.18	1.725		
14,100.0	6,675.3	14,245.4	6,678.9	210.6	213.2	-90.37	439.1	7,379.3	721.3	297.6	423.79	1.702		
14,200.0	6,674.5	14,345.4	6,678.0	213.4	216.0	-90.36	439.1	7,479.3	721.3	292.0	429.39	1.680		
14,300.0	6,673.7	14,445.4	6,677.1	216.2	218.8	-90.34	439.1	7,579.3	721.3	286.4	434.99	1.658		
14,400.0	6,673.0	14,545.4	6,676.1	219.0	221.6	-90.33	439.1	7,679.3	721.3	280.7	440.60	1.637		
14,500.0	6,672.2	14,645.4	6,675.2	221.8	224.4	-90.32	439.1	7,779.3	721.3	275.1	446.20	1.617		
14,600.0	6,671.4	14,745.4	6,674.3	224.6	227.2	-90.31	439.1	7,879.3	721.3	269.5	451.81	1.597		
14,700.0	6,670.7	14,845.4	6,673.4	227.4	230.0	-90.29	439.1	7,979.3	721.3	263.9	457.42	1.577		
14,800.0	6,669.9	14,945.4	6,672.4	230.2	232.8	-90.28	439.1	8,079.3	721.3	258.3	463.02	1.558		
14,900.0	6,669.1	15,045.4	6,671.5	233.0	235.6	-90.27	439.1	8,179.3	721.3	252.7	468.63	1.539		
15,000.0	6,668.3	15,145.4	6,670.6	235.8	238.4	-90.26	439.1	8,279.3	721.3	247.1	474.24	1.521		
15,100.0	6,667.6	15,245.4	6,669.7	238.6	241.3	-90.24	439.1	8,379.3	721.3	241.5	479.84	1.503		
15,200.0	6,666.8	15,345.4	6,668.7	241.5	244.1	-90.23	439.1	8,479.3	721.3	235.9	485.45	1.486 Level 3		
15,300.0	6,666.0	15,445.4	6,667.8	244.3	246.9	-90.22	439.1	8,579.3	721.3	230.3	491.06	1.469 Level 3		
15,400.0	6,665.3	15,545.4	6,666.9	247.1	249.7	-90.21	439.1	8,679.3	721.3	224.7	496.67	1.452 Level 3		
15,500.0	6,664.5	15,645.4	6,666.0	249.9	252.5	-90.20	439.1	8,779.3	721.3	219.1	502.27	1.436 Level 3		
15,600.0	6,663.7	15,745.4	6,665.0	252.7	255.3	-90.18	439.1	8,879.2	721.3	213.5	507.88	1.420 Level 3		
15,700.0	6,663.0	15,845.4	6,664.1	255.5	258.1	-90.17	439.1	8,979.2	721.3	207.8	513.49	1.405 Level 3		
15,800.0	6,662.2	15,945.4	6,663.2	258.3	260.9	-90.16	439.1	9,079.2	721.3	202.2	519.10	1.390 Level 3		
15,900.0	6,661.4	16,045.4	6,662.3	261.1	263.7	-90.15	439.1	9,179.2	721.3	196.6	524.71	1.375 Level 3		
16,000.0	6,660.7	16,145.4	6,661.3	263.9	266.5	-90.13	439.1	9,279.2	721.3	191.0	530.32	1.360 Level 3		
16,100.0	6,659.9	16,245.4	6,660.4	266.7	269.3	-90.12	439.1	9,379.2	721.3	185.4	535.93	1.346 Level 3		
16,200.0	6,659.1	16,345.4	6,659.5	269.5	272.1	-90.11	439.1	9,479.2	721.3	179.8	541.54	1.332 Level 3		
16,300.0	6,658.4	16,445.4	6,658.6	272.3	274.9	-90.10	439.1	9,579.2	721.3	174.2	547.15	1.318 Level 3		
16,400.0	6,657.6	16,545.4	6,657.6	275.1	277.7	-90.08	439.1	9,679.2	721.3	168.6	552.76	1.305 Level 3		
16,453.7	6,657.2	16,599.1	6,657.1	276.1	279.2	-90.08	439.1	9,732.9	721.3	166.1	555.24	1.299 Level 3		
16,477.9	6,657.0	16,614.6	6,657.0	276.5	279.6	-90.07	439.1	9,748.4	721.4	165.3	556.11	1.297 Level 3, SF		



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<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
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-90.02	0.0	-61.3	61.3				
100.0	100.0	99.0	99.0	0.1	0.1	-90.02	0.0	-61.3	61.3	61.1	0.22	274.071	
200.0	200.0	199.0	199.0	0.3	0.3	-90.02	0.0	-61.3	61.3	60.6	0.67	91.205 CC, ES	
300.0	300.0	298.4	298.4	0.6	0.6	-89.36	0.7	-61.8	61.8	60.6	1.12	55.214	
400.0	400.0	397.8	397.7	0.8	0.8	-87.42	2.8	-63.1	63.2	61.7	1.57	40.366	
500.0	500.0	497.0	496.9	1.0	1.0	-84.38	6.4	-65.5	65.8	63.8	2.02	32.602	
600.0	600.0	596.1	595.7	1.2	1.2	-80.52	11.5	-68.7	69.8	67.3	2.48	28.132	
700.0	700.0	694.9	694.3	1.5	1.5	-76.19	17.9	-72.9	75.2	72.3	2.95	25.493	
800.0	800.0	793.4	792.3	1.7	1.8	-71.72	25.8	-78.0	82.4	79.0	3.43	23.993	
900.0	900.0	891.6	889.9	1.9	2.0	-67.38	35.0	-83.9	91.4	87.5	3.93	23.252	
1,000.0	1,000.0	989.4	986.9	2.1	2.3	-63.35	45.6	-90.8	102.3	97.9	4.44	23.035	
1,100.0	1,100.0	1,086.7	1,083.1	2.4	2.6	-59.74	57.5	-98.5	115.1	110.2	4.97	23.187	
1,200.0	1,200.0	1,184.5	1,179.7	2.6	3.0	-56.58	70.6	-107.0	129.7	124.2	5.50	23.564	
1,300.0	1,300.0	1,283.1	1,277.0	2.8	3.3	-79.44	84.1	-115.7	144.6	138.9	5.69	25.392	
1,400.0	1,400.0	1,381.7	1,374.3	3.0	3.7	-82.28	97.5	-124.4	159.5	153.4	6.11	26.108	
1,500.0	1,499.9	1,480.1	1,471.4	3.2	4.0	-85.18	110.9	-133.1	174.7	168.2	6.53	26.745	
1,600.0	1,599.7	1,578.4	1,568.4	3.4	4.4	-88.10	124.3	-141.8	190.2	183.2	6.96	27.327	
1,700.0	1,699.4	1,676.6	1,665.2	3.6	4.7	-91.03	137.7	-150.5	206.2	198.8	7.40	27.869	
1,778.5	1,777.5	1,753.4	1,741.1	3.7	5.0	-93.33	148.2	-157.2	219.2	211.4	7.75	28.272	
1,800.0	1,798.9	1,774.5	1,761.9	3.8	5.1	-93.98	151.1	-159.1	222.8	215.0	7.85	28.380	
1,900.0	1,898.4	1,872.4	1,858.5	4.0	5.5	-96.76	164.4	-167.7	240.0	231.7	8.32	28.860	
2,000.0	1,997.9	1,970.3	1,955.0	4.3	5.8	-99.17	177.8	-176.4	257.7	248.9	8.80	29.303	
2,100.0	2,097.4	2,068.1	2,051.6	4.5	6.2	-101.26	191.1	-185.0	275.8	266.5	9.28	29.709	
2,200.0	2,196.9	2,166.0	2,148.2	4.8	6.5	-103.10	204.5	-193.7	294.2	284.5	9.78	30.081	
2,300.0	2,296.4	2,263.9	2,244.8	5.0	6.9	-104.72	217.8	-202.3	312.9	302.6	10.29	30.422	
2,400.0	2,395.9	2,361.8	2,341.3	5.3	7.3	-106.16	231.1	-210.9	331.8	321.0	10.80	30.734	
2,500.0	2,495.3	2,459.6	2,437.9	5.6	7.6	-107.45	244.5	-219.6	350.9	339.5	11.31	31.021	
2,600.0	2,594.8	2,557.5	2,534.5	5.8	8.0	-108.60	257.8	-228.2	370.1	358.3	11.83	31.284	
2,700.0	2,694.3	2,655.4	2,631.1	6.1	8.4	-109.64	271.2	-236.8	389.4	377.1	12.35	31.527	
2,800.0	2,793.8	2,753.3	2,727.6	6.4	8.7	-110.58	284.5	-245.5	408.9	396.0	12.88	31.751	
2,900.0	2,893.3	2,851.1	2,824.2	6.7	9.1	-111.43	297.9	-254.1	428.5	415.0	13.41	31.959	
3,000.0	2,992.8	2,949.0	2,920.8	6.9	9.5	-112.21	311.2	-262.8	448.1	434.2	13.94	32.152	
3,100.0	3,092.3	3,046.9	3,017.4	7.2	9.8	-112.93	324.6	-271.4	467.8	453.3	14.47	32.331	
3,200.0	3,191.8	3,144.8	3,113.9	7.5	10.2	-113.59	337.9	-280.0	487.6	472.6	15.00	32.498	
3,300.0	3,291.3	3,242.7	3,210.5	7.8	10.6	-114.19	351.2	-288.7	507.4	491.9	15.54	32.655	
3,400.0	3,390.8	3,340.5	3,307.1	8.1	10.9	-114.75	364.6	-297.3	527.3	511.2	16.08	32.801	
3,500.0	3,490.3	3,438.4	3,403.7	8.4	11.3	-115.27	377.9	-306.0	547.3	530.6	16.61	32.938	
3,600.0	3,589.7	3,536.3	3,500.3	8.6	11.7	-115.76	391.3	-314.6	567.2	550.1	17.15	33.067	
3,700.0	3,689.2	3,634.2	3,596.8	8.9	12.0	-116.21	404.6	-323.2	587.2	569.5	17.69	33.188	
3,800.0	3,788.7	3,732.0	3,693.4	9.2	12.4	-116.63	418.0	-331.9	607.3	589.1	18.24	33.303	
3,900.0	3,888.2	3,829.9	3,790.0	9.5	12.8	-117.02	431.3	-340.5	627.4	608.6	18.78	33.411	
4,000.0	3,987.7	3,927.8	3,886.6	9.8	13.1	-117.39	444.7	-349.1	647.5	628.1	19.32	33.513	
4,100.0	4,087.2	4,025.7	3,983.1	10.1	13.5	-117.74	458.0	-357.8	667.6	647.7	19.86	33.610	
4,200.0	4,186.7	4,123.5	4,079.7	10.4	13.9	-118.07	471.4	-366.4	687.7	667.3	20.41	33.702	
4,300.0	4,286.2	4,221.4	4,176.3	10.7	14.3	-118.38	484.7	-375.1	707.9	686.9	20.95	33.789	
4,400.0	4,385.7	4,319.3	4,272.9	11.0	14.6	-118.67	498.0	-383.7	728.1	706.6	21.50	33.871	
4,500.0	4,485.2	4,417.2	4,369.4	11.3	15.0	-118.94	511.4	-392.3	748.3	726.2	22.04	33.950	
4,600.0	4,584.7	4,515.0	4,466.0	11.6	15.4	-119.21	524.7	-401.0	768.5	745.9	22.59	34.025	
4,700.0	4,684.1	4,612.9	4,562.6	11.8	15.7	-119.45	538.1	-409.6	788.7	765.6	23.13	34.097	
4,800.0	4,783.6	4,710.8	4,659.2	12.1	16.1	-119.69	551.4	-418.3	809.0	785.3	23.68	34.166	
4,900.0	4,883.1	4,808.7	4,755.7	12.4	16.5	-119.91	564.8	-426.9	829.2	805.0	24.22	34.231	

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 Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Schneider 19Q-HZ Pad Sec.19-T5N-R64W - Schneider 19P-332 - Wellbore #1 - Plan #3 (7-20-15)											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	4,982.6	4,906.5	4,852.3	12.7	16.8	120.13	578.1	-435.5	849.5	824.7	24.77	34.294			
5,100.0	5,082.1	5,004.4	4,948.9	13.0	17.2	120.33	591.5	-444.2	869.8	844.5	25.32	34.354			
5,200.0	5,181.6	5,102.3	5,045.5	13.3	17.6	120.52	604.8	-452.8	890.1	864.2	25.87	34.411			
5,300.0	5,281.1	5,200.2	5,142.1	13.6	17.9	120.71	618.1	-461.4	910.4	884.0	26.41	34.466			
5,400.0	5,380.6	5,298.1	5,238.6	13.9	18.3	120.89	631.5	-470.1	930.7	903.7	26.96	34.519			
5,430.8	5,411.3	5,328.2	5,268.4	14.0	18.4	120.94	635.6	-472.7	937.0	909.8	27.13	34.535			
5,500.0	5,480.1	5,396.0	5,335.3	14.2	18.7	121.25	644.8	-478.7	950.6	923.1	27.53	34.534			
5,600.0	5,580.0	5,494.3	5,432.3	14.4	19.0	121.52	658.3	-487.4	968.8	940.8	28.04	34.553			
5,700.0	5,679.9	5,638.2	5,574.8	14.5	19.4	121.51	675.0	-498.2	983.0	954.5	28.53	34.457			
5,720.1	5,700.0	5,667.6	5,604.0	14.6	19.5	-11.77	677.6	-500.0	985.1	953.2	31.86	30.919			
5,800.0	5,779.9	5,785.1	5,721.1	14.7	19.7	-11.97	685.8	-505.3	991.2	959.0	32.26	30.726			
5,900.0	5,879.9	5,932.9	5,868.8	14.9	20.0	-12.08	690.4	-508.2	994.7	962.0	32.68	30.437			
5,984.5	5,964.4	6,027.5	5,963.4	15.0	20.1	-12.09	690.5	-508.3	994.8	961.8	32.96	30.180			
6,000.0	5,979.9	6,043.1	5,978.9	15.0	20.1	-102.09	690.5	-508.3	994.8	965.1	29.72	33.472			
6,050.0	6,029.8	6,093.0	6,028.8	15.1	20.2	-102.20	690.5	-508.3	995.4	965.5	29.85	33.342			
6,100.0	6,079.5	6,152.9	6,088.8	15.1	20.3	-102.48	690.5	-507.4	996.5	966.5	29.96	33.258			
6,150.0	6,128.6	6,222.7	6,158.2	15.2	20.3	-102.76	690.5	-500.9	997.5	967.5	30.02	33.224			
6,200.0	6,177.1	6,293.1	6,227.4	15.2	20.3	-102.96	690.5	-488.0	998.2	968.2	30.04	33.226			
6,250.0	6,224.6	6,363.9	6,295.5	15.2	20.3	-103.08	690.5	-468.6	998.6	968.6	30.03	33.256			
6,300.0	6,271.0	6,435.0	6,361.7	15.2	20.3	-103.11	690.5	-442.9	998.8	968.8	30.00	33.295			
6,350.0	6,316.1	6,506.0	6,425.2	15.2	20.2	-103.06	690.5	-411.2	998.6	968.6	29.97	33.320			
6,400.0	6,359.7	6,576.8	6,485.3	15.2	20.1	-102.91	690.5	-373.9	998.1	968.1	29.97	33.301			
6,450.0	6,401.6	6,647.0	6,541.3	15.2	20.0	-102.69	690.5	-331.4	997.3	967.2	30.03	33.209			
6,500.0	6,441.7	6,716.6	6,592.7	15.2	19.9	-102.39	690.5	-284.6	996.2	966.0	30.19	32.993			
6,550.0	6,479.7	6,785.3	6,639.0	15.2	19.8	-102.01	690.5	-233.9	994.9	964.4	30.49	32.635			
6,600.0	6,515.5	6,852.9	6,680.0	15.2	19.7	-101.56	690.5	-180.1	993.4	962.4	30.94	32.110			
6,650.0	6,548.9	6,919.4	6,715.5	15.3	19.6	-101.05	690.5	-123.9	991.7	960.1	31.59	31.393			
6,700.0	6,579.8	6,984.6	6,745.4	15.4	19.6	-100.49	690.5	-66.1	989.9	957.5	32.44	30.517			
6,750.0	6,608.1	7,048.4	6,769.8	15.6	19.5	-99.87	690.5	-7.1	988.1	954.6	33.49	29.506			
6,800.0	6,633.6	7,110.9	6,788.9	16.0	19.5	-99.21	690.5	52.4	986.1	951.4	34.76	28.372			
6,850.0	6,656.3	7,171.9	6,802.8	16.5	20.2	-98.51	690.5	111.8	984.3	948.1	36.19	27.195			
6,900.0	6,676.0	7,231.5	6,811.7	17.1	21.2	-97.78	690.5	170.7	982.4	944.6	37.81	25.986			
6,950.0	6,692.6	7,289.7	6,816.0	17.8	22.3	-97.02	690.5	228.8	980.7	941.1	39.55	24.793			
7,000.0	6,706.2	7,343.2	6,816.3	18.6	23.3	-96.31	690.5	282.2	979.0	937.7	41.36	23.673			
7,050.0	6,716.5	7,392.0	6,815.8	19.5	24.2	-95.79	690.5	331.0	977.9	934.7	43.16	22.657			
7,100.0	6,723.7	7,441.4	6,815.4	20.4	25.2	-95.41	690.5	380.4	977.1	932.1	45.09	21.673			
7,150.0	6,727.6	7,491.2	6,815.0	21.3	26.3	-95.19	690.5	430.2	976.7	929.7	47.07	20.753			
7,190.3	6,728.3	7,531.5	6,814.7	22.2	27.2	-95.13	690.5	470.5	976.6	927.9	48.73	20.044			
7,200.0	6,728.2	7,541.2	6,814.6	22.4	27.4	-95.13	690.5	480.2	976.6	927.5	49.13	19.879			
7,300.0	6,727.5	7,641.2	6,813.8	24.5	29.6	-95.13	690.5	580.2	976.6	923.2	53.44	18.275			
7,400.0	6,726.7	7,741.2	6,812.9	26.7	31.9	-95.12	690.5	680.2	976.6	918.7	57.98	16.845			
7,500.0	6,725.9	7,841.2	6,812.1	29.1	34.3	-95.12	690.5	780.2	976.6	913.9	62.69	15.579			
7,600.0	6,725.2	7,941.2	6,811.2	31.5	36.8	-95.12	690.5	880.2	976.6	909.1	67.53	14.461			
7,700.0	6,724.4	8,041.2	6,810.4	34.0	39.3	-95.11	690.5	980.2	976.6	904.1	72.49	13.472			
7,800.0	6,723.6	8,141.2	6,809.6	36.5	41.8	-95.11	690.5	1,080.2	976.6	899.1	77.53	12.596			
7,900.0	6,722.9	8,241.2	6,808.7	39.1	44.3	-95.10	690.5	1,180.2	976.6	893.9	82.65	11.816			
8,000.0	6,722.1	8,341.2	6,807.9	41.7	46.9	-95.10	690.5	1,280.2	976.6	888.8	87.82	11.120			
8,100.0	6,721.3	8,441.2	6,807.1	44.3	49.6	-95.09	690.5	1,380.2	976.6	883.5	93.05	10.496			
8,200.0	6,720.6	8,541.2	6,806.2	46.9	52.2	-95.09	690.5	1,480.2	976.6	878.3	98.31	9.933			
8,300.0	6,719.8	8,641.2	6,805.4	49.6	54.8	-95.09	690.5	1,580.2	976.6	873.0	103.61	9.425			
8,400.0	6,719.0	8,741.2	6,804.5	52.3	57.5	-95.08	690.5	1,680.2	976.6	867.6	108.94	8.964			

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 Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Schneider 19Q-HZ Pad Sec.19-T5N-R64W - Schneider 19P-332 - Wellbore #1 - Plan #3 (7-20-15)													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
Reference				Offset			Semi Major Axis			Distance				Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
8,500.0	6,718.3	8,841.2	6,803.7	55.0	60.2	-95.08	690.5	1,780.2		976.6	862.3	114.30	8.544	
8,600.0	6,717.5	8,941.2	6,802.9	57.7	62.9	-95.07	690.5	1,880.2		976.6	856.9	119.68	8.160	
8,700.0	6,716.7	9,041.2	6,802.0	60.4	65.6	-95.07	690.5	1,980.2		976.5	851.5	125.08	7.808	
8,800.0	6,716.0	9,141.2	6,801.2	63.1	68.3	-95.07	690.5	2,080.1		976.5	846.0	130.49	7.484	
8,900.0	6,715.2	9,241.2	6,800.4	65.8	71.0	-95.06	690.5	2,180.1		976.5	840.6	135.92	7.185	
9,000.0	6,714.4	9,341.2	6,799.5	68.5	73.7	-95.06	690.5	2,280.1		976.5	835.2	141.36	6.908	
9,100.0	6,713.7	9,441.2	6,798.7	71.3	76.4	-95.05	690.5	2,380.1		976.5	829.7	146.82	6.651	
9,200.0	6,712.9	9,541.2	6,797.8	74.0	79.2	-95.05	690.5	2,480.1		976.5	824.2	152.28	6.412	
9,300.0	6,712.1	9,641.2	6,797.0	76.8	81.9	-95.05	690.5	2,580.1		976.5	818.7	157.76	6.190	
9,400.0	6,711.4	9,741.2	6,796.2	79.5	84.6	-95.04	690.5	2,680.1		976.5	813.3	163.24	5.982	
9,500.0	6,710.6	9,841.2	6,795.3	82.3	87.4	-95.04	690.5	2,780.1		976.5	807.8	168.73	5.787	
9,600.0	6,709.8	9,941.2	6,794.5	85.1	90.1	-95.03	690.5	2,880.1		976.5	802.3	174.23	5.605	
9,700.0	6,709.0	10,041.2	6,793.7	87.8	92.9	-95.03	690.5	2,980.1		976.5	796.7	179.73	5.433	
9,800.0	6,708.3	10,141.2	6,792.8	90.6	95.7	-95.03	690.5	3,080.1		976.5	791.2	185.24	5.271	
9,900.0	6,707.5	10,241.2	6,792.0	93.4	98.4	-95.02	690.5	3,180.1		976.5	785.7	190.76	5.119	
10,000.0	6,706.7	10,341.2	6,791.1	96.1	101.2	-95.02	690.5	3,280.1		976.5	780.2	196.28	4.975	
10,100.0	6,706.0	10,441.2	6,790.3	98.9	103.9	-95.01	690.5	3,380.1		976.5	774.7	201.80	4.839	
10,200.0	6,705.2	10,541.2	6,789.5	101.7	106.7	-95.01	690.5	3,480.1		976.4	769.1	207.33	4.710	
10,300.0	6,704.4	10,641.2	6,788.6	104.4	109.5	-95.01	690.5	3,580.1		976.4	763.6	212.86	4.587	
10,400.0	6,703.7	10,741.2	6,787.8	107.2	112.3	-95.00	690.5	3,680.1		976.4	758.0	218.40	4.471	
10,500.0	6,702.9	10,841.2	6,787.0	110.0	115.0	-95.00	690.5	3,780.1		976.4	752.5	223.94	4.360	
10,600.0	6,702.1	10,941.2	6,786.1	112.8	117.8	-94.99	690.5	3,880.1		976.4	746.9	229.48	4.255	
10,700.0	6,701.4	11,041.2	6,785.3	115.6	120.6	-94.99	690.5	3,980.1		976.4	741.4	235.02	4.155	
10,800.0	6,700.6	11,141.2	6,784.4	118.4	123.4	-94.98	690.5	4,080.1		976.4	735.8	240.57	4.059	
10,900.0	6,699.8	11,241.2	6,783.6	121.1	126.1	-94.98	690.5	4,180.1		976.4	730.3	246.12	3.967	
11,000.0	6,699.1	11,341.2	6,782.8	123.9	128.9	-94.98	690.5	4,280.1		976.4	724.7	251.67	3.880	
11,100.0	6,698.3	11,441.2	6,781.9	126.7	131.7	-94.97	690.5	4,380.1		976.4	719.2	257.23	3.796	
11,200.0	6,697.5	11,541.2	6,781.1	129.5	134.5	-94.97	690.5	4,480.1		976.4	713.6	262.78	3.716	
11,300.0	6,696.8	11,641.2	6,780.3	132.3	137.3	-94.96	690.5	4,580.1		976.4	708.0	268.34	3.639	
11,400.0	6,696.0	11,741.2	6,779.4	135.1	140.1	-94.96	690.5	4,680.1		976.4	702.5	273.90	3.565	
11,500.0	6,695.2	11,841.2	6,778.6	137.9	142.8	-94.96	690.5	4,780.1		976.4	696.9	279.46	3.494	
11,600.0	6,694.5	11,941.2	6,777.7	140.7	145.6	-94.95	690.5	4,880.1		976.4	691.3	285.02	3.426	
11,700.0	6,693.7	12,041.2	6,776.9	143.5	148.4	-94.95	690.5	4,980.0		976.4	685.8	290.59	3.360	
11,800.0	6,692.9	12,141.2	6,776.1	146.3	151.2	-94.94	690.5	5,080.0		976.3	680.2	296.16	3.297	
11,900.0	6,692.2	12,241.2	6,775.2	149.1	154.0	-94.94	690.5	5,180.0		976.3	674.6	301.72	3.236	
12,000.0	6,691.4	12,341.2	6,774.4	151.8	156.8	-94.94	690.5	5,280.0		976.3	669.0	307.29	3.177	
12,100.0	6,690.6	12,441.2	6,773.5	154.6	159.6	-94.93	690.5	5,380.0		976.3	663.5	312.86	3.121	
12,200.0	6,689.9	12,541.2	6,772.7	157.4	162.4	-94.93	690.5	5,480.0		976.3	657.9	318.43	3.066	
12,300.0	6,689.1	12,641.2	6,771.9	160.2	165.2	-94.92	690.5	5,580.0		976.3	652.3	324.00	3.013	
12,400.0	6,688.3	12,741.2	6,771.0	163.0	167.9	-94.92	690.5	5,680.0		976.3	646.7	329.58	2.962	
12,500.0	6,687.5	12,841.2	6,770.2	165.8	170.7	-94.92	690.5	5,780.0		976.3	641.2	335.15	2.913	
12,600.0	6,686.8	12,941.2	6,769.4	168.6	173.5	-94.91	690.5	5,880.0		976.3	635.6	340.73	2.865	
12,700.0	6,686.0	13,041.2	6,768.5	171.4	176.3	-94.91	690.5	5,980.0		976.3	630.0	346.30	2.819	
12,800.0	6,685.2	13,141.2	6,767.7	174.2	179.1	-94.90	690.5	6,080.0		976.3	624.4	351.88	2.774	
12,900.0	6,684.5	13,241.2	6,766.8	177.0	181.9	-94.90	690.5	6,180.0		976.3	618.8	357.46	2.731	
13,000.0	6,683.7	13,341.2	6,766.0	179.8	184.7	-94.89	690.5	6,280.0		976.3	613.2	363.03	2.689	
13,100.0	6,682.9	13,441.2	6,765.2	182.6	187.5	-94.89	690.5	6,380.0		976.3	607.7	368.61	2.648	
13,200.0	6,682.2	13,541.2	6,764.3	185.4	190.3	-94.89	690.5	6,480.0		976.3	602.1	374.19	2.609	
13,300.0	6,681.4	13,641.2	6,763.5	188.2	193.1	-94.88	690.5	6,580.0		976.3	596.5	379.77	2.571	
13,400.0	6,680.6	13,741.2	6,762.7	191.0	195.9	-94.88	690.5	6,680.0		976.2	590.9	385.36	2.533	
13,500.0	6,679.9	13,841.2	6,761.8	193.8	198.7	-94.87	690.5	6,780.0		976.2	585.3	390.94	2.497	

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 Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Schneider 19Q-HZ Pad Sec.19-T5N-R64W - Schneider 19P-332 - Wellbore #1 - Plan #3 (7-20-15)													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
13,600.0	6,679.1	13,941.2	6,761.0	196.6	201.5	-94.87	690.5	6,880.0	976.2	579.7	396.52	2.462		
13,700.0	6,678.3	14,041.2	6,760.1	199.4	204.3	-94.87	690.5	6,980.0	976.2	574.1	402.10	2.428		
13,800.0	6,677.6	14,141.2	6,759.3	202.2	207.1	-94.86	690.5	7,080.0	976.2	568.5	407.69	2.395		
13,900.0	6,676.8	14,241.2	6,758.5	205.0	209.9	-94.86	690.5	7,180.0	976.2	562.9	413.27	2.362		
14,000.0	6,676.0	14,341.2	6,757.6	207.8	212.7	-94.85	690.5	7,280.0	976.2	557.4	418.85	2.331		
14,100.0	6,675.3	14,441.2	6,756.8	210.6	215.5	-94.85	690.5	7,380.0	976.2	551.8	424.44	2.300		
14,200.0	6,674.5	14,541.2	6,756.0	213.4	218.3	-94.85	690.5	7,480.0	976.2	546.2	430.03	2.270		
14,300.0	6,673.7	14,641.2	6,755.1	216.2	221.1	-94.84	690.5	7,580.0	976.2	540.6	435.61	2.241		
14,400.0	6,673.0	14,741.2	6,754.3	219.0	223.9	-94.84	690.5	7,680.0	976.2	535.0	441.20	2.213		
14,500.0	6,672.2	14,841.2	6,753.4	221.8	226.7	-94.83	690.5	7,779.9	976.2	529.4	446.79	2.185		
14,600.0	6,671.4	14,941.2	6,752.6	224.6	229.5	-94.83	690.5	7,879.9	976.2	523.8	452.37	2.158		
14,700.0	6,670.7	15,041.2	6,751.8	227.4	232.3	-94.83	690.5	7,979.9	976.2	518.2	457.96	2.132		
14,800.0	6,669.9	15,141.2	6,750.9	230.2	235.1	-94.82	690.5	8,079.9	976.2	512.6	463.55	2.106		
14,900.0	6,669.1	15,241.2	6,750.1	233.0	237.9	-94.82	690.5	8,179.9	976.2	507.0	469.14	2.081		
15,000.0	6,668.3	15,341.2	6,749.3	235.8	240.7	-94.81	690.5	8,279.9	976.2	501.4	474.73	2.056		
15,100.0	6,667.6	15,441.2	6,748.4	238.6	243.5	-94.81	690.5	8,379.9	976.1	495.8	480.32	2.032		
15,200.0	6,666.8	15,541.2	6,747.6	241.5	246.3	-94.81	690.5	8,479.9	976.1	490.2	485.91	2.009		
15,300.0	6,666.0	15,641.2	6,746.7	244.3	249.1	-94.80	690.5	8,579.9	976.1	484.6	491.50	1.986		
15,400.0	6,665.3	15,741.2	6,745.9	247.1	251.9	-94.80	690.5	8,679.9	976.1	479.0	497.09	1.964		
15,500.0	6,664.5	15,841.2	6,745.1	249.9	254.7	-94.79	690.5	8,779.9	976.1	473.4	502.68	1.942		
15,600.0	6,663.7	15,941.2	6,744.2	252.7	257.5	-94.79	690.5	8,879.9	976.1	467.8	508.27	1.920		
15,700.0	6,663.0	16,041.2	6,743.4	255.5	260.3	-94.78	690.5	8,979.9	976.1	462.2	513.86	1.900		
15,800.0	6,662.2	16,141.2	6,742.6	258.3	263.1	-94.78	690.5	9,079.9	976.1	456.6	519.45	1.879		
15,900.0	6,661.4	16,241.2	6,741.7	261.1	265.9	-94.78	690.5	9,179.9	976.1	451.1	525.04	1.859		
16,000.0	6,660.7	16,341.2	6,740.9	263.9	268.7	-94.77	690.5	9,279.9	976.1	445.5	530.64	1.839		
16,100.0	6,659.9	16,441.2	6,740.0	266.7	271.5	-94.77	690.5	9,379.9	976.1	439.9	536.23	1.820		
16,200.0	6,659.1	16,541.2	6,739.2	269.5	274.3	-94.76	690.5	9,479.9	976.1	434.3	541.82	1.801		
16,300.0	6,658.4	16,641.2	6,738.4	272.3	277.1	-94.76	690.5	9,579.9	976.1	428.7	547.42	1.783		
16,400.0	6,657.6	16,741.2	6,737.5	275.1	279.9	-94.76	690.5	9,679.9	976.1	423.1	553.01	1.765		
16,451.0	6,657.2	16,792.2	6,737.1	276.0	281.4	-94.75	690.5	9,730.9	976.1	420.7	555.35	1.758		
16,477.9	6,657.0	16,804.1	6,737.0	276.5	281.7	-94.75	690.5	9,742.7	976.2	420.0	556.17	1.755 SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Schneider 19Q-HZ Pad Sec.19-T5N-R64W - Schneider 19Q-312 - Wellbore #1 - Plan #2 (7-20-15)													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
Reference				Offset			Semi Major Axis			Distance				Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.0	0.0	0.0	0.0	0.0	0.0	89.99	0.0	27.9		27.9				
100.0	100.0	100.0	100.0	0.1	0.1	89.99	0.0	27.9		27.9	27.6	0.22	123.956	
200.0	200.0	200.0	200.0	0.3	0.3	89.99	0.0	27.9		27.9	27.2	0.67	41.319	
300.0	300.0	300.0	300.0	0.6	0.6	89.99	0.0	27.9		27.9	26.7	1.12	24.791	
400.0	400.0	400.0	400.0	0.8	0.8	89.99	0.0	27.9		27.9	26.3	1.57	17.708	
500.0	500.0	500.0	500.0	1.0	1.0	89.99	0.0	27.9		27.9	25.8	2.02	13.773	
600.0	600.0	600.0	600.0	1.2	1.2	89.99	0.0	27.9		27.9	25.4	2.47	11.269	
700.0	700.0	700.0	700.0	1.5	1.5	89.99	0.0	27.9		27.9	24.9	2.92	9.535	
800.0	800.0	800.0	800.0	1.7	1.7	89.99	0.0	27.9		27.9	24.5	3.37	8.264	
900.0	900.0	900.0	900.0	1.9	1.9	89.99	0.0	27.9		27.9	24.0	3.82	7.292	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	89.99	0.0	27.9		27.9	23.6	4.27	6.524	
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	89.99	0.0	27.9		27.9	23.1	4.72	5.903	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	89.99	0.0	27.9		27.9	22.7	5.17	5.389 CC	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-137.96	0.0	27.9		28.5	22.9	5.59	5.095	
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	-141.24	0.0	27.9		30.5	24.5	6.00	5.083	
1,500.0	1,499.9	1,499.9	1,499.9	3.2	3.3	-145.82	0.0	27.9		34.0	27.6	6.41	5.305	
1,600.0	1,599.7	1,599.7	1,599.7	3.4	3.5	-150.81	0.0	27.9		39.2	32.4	6.82	5.746	
1,700.0	1,699.4	1,699.4	1,699.4	3.6	3.7	-155.53	0.0	27.9		46.2	39.0	7.24	6.383	
1,778.5	1,777.5	1,777.5	1,777.5	3.7	3.9	-158.80	0.0	27.9		53.0	45.5	7.57	7.005	
1,800.0	1,798.9	1,798.9	1,798.9	3.8	3.9	-159.62	0.0	27.9		55.1	47.4	7.66	7.187	
1,900.0	1,898.4	1,898.4	1,898.4	4.0	4.2	-162.73	0.0	27.9		64.6	56.5	8.09	7.987	
2,000.0	1,997.9	1,997.9	1,997.9	4.3	4.4	-165.04	0.0	27.9		74.3	65.8	8.52	8.721	
2,100.0	2,097.4	2,098.4	2,098.4	4.5	4.6	-167.24	0.2	27.0		83.5	74.5	8.94	9.333	
2,200.0	2,196.9	2,199.1	2,199.0	4.8	4.8	-169.80	0.8	24.5		91.6	82.2	9.36	9.781	
2,300.0	2,296.4	2,299.8	2,299.7	5.0	5.0	-172.71	1.9	20.3		98.7	88.9	9.78	10.085	
2,400.0	2,395.9	2,400.6	2,400.2	5.3	5.2	-176.00	3.4	14.3		104.9	94.7	10.21	10.275	
2,500.0	2,495.3	2,500.5	2,499.9	5.6	5.5	-179.46	5.2	7.1		110.7	100.1	10.64	10.404	
2,600.0	2,594.8	2,600.1	2,599.2	5.8	5.7	177.42	7.1	-0.2		116.9	105.8	11.09	10.544	
2,700.0	2,694.3	2,699.7	2,698.6	6.1	5.9	174.61	8.9	-7.4		123.3	111.8	11.53	10.693	
2,800.0	2,793.8	2,799.4	2,797.9	6.4	6.1	172.09	10.7	-14.7		130.1	118.1	11.99	10.847	
2,900.0	2,893.3	2,899.0	2,897.3	6.7	6.4	169.82	12.5	-21.9		137.0	124.6	12.45	11.002	
3,000.0	2,992.8	2,998.6	2,996.6	6.9	6.6	167.77	14.4	-29.2		144.2	131.2	12.92	11.157	
3,100.0	3,092.3	3,098.2	3,095.9	7.2	6.8	165.91	16.2	-36.5		151.5	138.1	13.40	11.308	
3,200.0	3,191.8	3,197.8	3,195.3	7.5	7.1	164.23	18.0	-43.7		158.9	145.1	13.87	11.455	
3,300.0	3,291.3	3,297.5	3,294.6	7.8	7.3	162.70	19.8	-51.0		166.5	152.2	14.36	11.598	
3,400.0	3,390.8	3,397.1	3,393.9	8.1	7.6	161.30	21.7	-58.2		174.2	159.4	14.84	11.736	
3,500.0	3,490.3	3,496.7	3,493.3	8.4	7.8	160.03	23.5	-65.5		182.0	166.6	15.33	11.868	
3,600.0	3,589.7	3,596.3	3,592.6	8.6	8.0	158.85	25.3	-72.7		189.8	174.0	15.83	11.995	
3,700.0	3,689.2	3,695.9	3,691.9	8.9	8.3	157.77	27.1	-80.0		197.8	181.5	16.32	12.117	
3,800.0	3,788.7	3,795.5	3,791.3	9.2	8.5	156.78	28.9	-87.3		205.8	189.0	16.82	12.233	
3,900.0	3,888.2	3,895.2	3,890.6	9.5	8.8	155.86	30.8	-94.5		213.8	196.5	17.32	12.345	
4,000.0	3,987.7	3,994.8	3,990.0	9.8	9.0	155.00	32.6	-101.8		221.9	204.1	17.82	12.452	
4,100.0	4,087.2	4,094.4	4,089.3	10.1	9.3	154.21	34.4	-109.0		230.1	211.8	18.33	12.554	
4,200.0	4,186.7	4,194.0	4,188.6	10.4	9.5	153.47	36.2	-116.3		238.3	219.5	18.84	12.651	
4,300.0	4,286.2	4,293.6	4,288.0	10.7	9.8	152.78	38.1	-123.5		246.5	227.2	19.34	12.744	
4,400.0	4,385.7	4,393.2	4,387.3	11.0	10.0	152.13	39.9	-130.8		254.8	234.9	19.85	12.834	
4,500.0	4,485.2	4,492.9	4,486.6	11.3	10.3	151.53	41.7	-138.1		263.1	242.7	20.36	12.919	
4,600.0	4,584.7	4,592.5	4,586.0	11.6	10.6	150.96	43.5	-145.3		271.4	250.5	20.88	13.001	
4,700.0	4,684.1	4,692.1	4,685.3	11.8	10.8	150.43	45.4	-152.6		279.8	258.4	21.39	13.079	
4,800.0	4,783.6	4,791.7	4,784.6	12.1	11.1	149.92	47.2	-159.8		288.1	266.2	21.90	13.155	
4,900.0	4,883.1	4,891.3	4,884.0	12.4	11.3	149.45	49.0	-167.1		296.5	274.1	22.42	13.227	

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 Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Schneider 19Q-HZ Pad Sec.19-T5N-R64W - Schneider 19Q-312 - Wellbore #1 - Plan #2 (7-20-15)													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
Reference				Offset			Semi Major Axis			Distance				Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,000.0	4,982.6	4,991.0	4,983.3	12.7	11.6	149.00	50.8	-174.3		304.9	282.0	22.93	13.296	
5,100.0	5,082.1	5,090.6	5,082.7	13.0	11.8	148.58	52.7	-181.6		313.4	289.9	23.45	13.362	
5,200.0	5,181.6	5,190.2	5,182.0	13.3	12.1	148.17	54.5	-188.9		321.8	297.8	23.97	13.426	
5,300.0	5,281.1	5,289.8	5,281.3	13.6	12.3	147.79	56.3	-196.1		330.3	305.8	24.49	13.488	
5,400.0	5,380.6	5,389.4	5,380.7	13.9	12.6	147.43	58.1	-203.4		338.7	313.7	25.01	13.547	
5,430.8	5,411.3	5,420.2	5,411.3	14.0	12.7	147.32	58.7	-205.6		341.4	316.2	25.17	13.564	
5,500.0	5,480.1	5,489.1	5,480.0	14.2	12.9	147.07	60.0	-210.6		346.5	321.0	25.53	13.574	
5,600.0	5,580.0	5,588.9	5,579.5	14.4	13.1	146.42	61.8	-217.9		351.6	325.6	26.02	13.513	
5,700.0	5,679.9	5,689.0	5,679.5	14.5	13.3	145.70	63.2	-223.7		353.7	327.3	26.42	13.390	
5,720.1	5,700.0	5,709.1	5,699.6	14.6	13.3	12.33	63.4	-224.4		353.8	327.4	26.44	13.379	
5,800.0	5,779.9	5,789.4	5,779.8	14.7	13.5	12.06	63.8	-226.1		353.9	327.1	26.72	13.242	
5,900.0	5,879.9	5,889.5	5,879.9	14.9	13.7	12.05	63.9	-226.1		353.9	326.8	27.09	13.063	
5,984.5	5,964.4	5,973.9	5,964.4	15.0	13.8	12.05	63.9	-226.1		353.9	326.5	27.41	12.909	
6,000.0	5,979.9	5,989.5	5,979.9	15.0	13.9	-77.98	63.9	-226.1		353.8	326.3	27.55	12.845	
6,050.0	6,029.8	6,039.4	6,029.8	15.1	14.0	-78.44	63.9	-226.1		353.3	325.6	27.73	12.741	
6,100.0	6,079.5	6,086.3	6,076.8	15.1	14.1	-79.29	63.9	-225.5		352.3	324.4	27.89	12.631	
6,150.0	6,128.6	6,132.2	6,122.6	15.2	14.1	-80.19	63.9	-222.2		351.3	323.3	28.02	12.536	
6,200.0	6,177.1	6,178.4	6,168.3	15.2	14.2	-81.14	63.9	-216.2		350.3	322.2	28.13	12.454	
6,250.0	6,224.6	6,224.9	6,214.0	15.2	14.2	-82.13	63.9	-207.3		349.4	321.2	28.22	12.381	
6,300.0	6,271.0	6,271.8	6,259.3	15.2	14.3	-83.16	63.9	-195.6		348.6	320.3	28.31	12.315	
6,350.0	6,316.1	6,318.9	6,304.2	15.2	14.3	-84.22	63.9	-181.0		347.9	319.5	28.39	12.253	
6,400.0	6,359.7	6,366.5	6,348.4	15.2	14.3	-85.32	63.9	-163.5		347.3	318.8	28.48	12.192	
6,450.0	6,401.6	6,414.4	6,391.8	15.2	14.4	-86.44	63.9	-143.1		346.8	318.2	28.60	12.126	
6,500.0	6,441.7	6,462.8	6,434.2	15.2	14.4	-87.58	63.9	-119.8		346.4	317.6	28.75	12.049	
6,550.0	6,479.7	6,511.6	6,475.3	15.2	14.5	-88.73	63.9	-93.7		346.2	317.2	28.95	11.957	
6,600.0	6,515.5	6,560.8	6,515.1	15.2	14.6	-89.90	63.9	-64.7		346.1	316.9	29.22	11.843	
6,604.1	6,518.3	6,564.9	6,518.3	15.2	14.6	-90.00	63.9	-62.2		346.1	316.8	29.25	11.831	
6,650.0	6,548.9	6,610.5	6,553.3	15.3	14.7	-91.08	63.9	-32.9		346.1	316.6	29.58	11.701	
6,700.0	6,579.8	6,660.6	6,589.6	15.4	14.9	-92.25	63.9	1.7		346.4	316.3	30.05	11.525	
6,750.0	6,608.1	6,711.3	6,623.9	15.6	15.1	-93.42	63.9	38.9		346.7	316.1	30.64	11.314	
6,800.0	6,633.6	6,762.4	6,656.0	16.0	15.5	-94.58	63.9	78.7		347.2	315.8	31.38	11.065	
6,850.0	6,656.3	6,814.0	6,685.6	16.5	15.9	-95.72	63.9	121.0		347.8	315.6	32.26	10.781	
6,900.0	6,676.0	6,866.2	6,712.5	17.1	16.4	-96.83	63.9	165.6		348.6	315.3	33.31	10.466	
6,950.0	6,692.6	6,918.8	6,736.6	17.8	16.9	-97.92	63.9	212.4		349.5	315.0	34.51	10.126	
7,000.0	6,706.2	6,972.0	6,757.6	18.6	17.6	-98.97	63.9	261.3		350.4	314.6	35.88	9.768	
7,050.0	6,716.5	7,025.7	6,775.2	19.5	18.4	-99.99	63.9	312.0		351.5	314.1	37.39	9.401	
7,100.0	6,723.7	7,079.9	6,789.4	20.4	19.3	-100.96	63.9	364.3		352.6	313.6	39.04	9.032	
7,150.0	6,727.6	7,134.6	6,799.9	21.3	20.3	-101.87	63.9	418.0		353.7	312.9	40.81	8.668	
7,190.3	6,728.3	7,179.1	6,805.6	22.2	21.1	-102.57	63.9	462.1		354.7	312.4	42.32	8.382	
7,200.0	6,728.2	7,189.8	6,806.6	22.4	21.3	-102.74	63.9	472.8		354.9	312.2	42.68	8.315	
7,300.0	6,727.5	7,297.2	6,809.0	24.5	23.4	-103.26	63.9	580.1		355.6	308.8	46.77	7.603	
7,400.0	6,726.7	7,397.2	6,808.2	26.7	25.6	-103.26	63.9	680.1		355.6	304.5	51.06	6.964	
7,500.0	6,725.9	7,497.2	6,807.5	29.1	27.9	-103.25	63.9	780.1		355.6	300.0	55.56	6.399	
7,600.0	6,725.2	7,597.2	6,806.7	31.5	30.2	-103.25	63.9	880.1		355.6	295.3	60.22	5.904	
7,700.0	6,724.4	7,697.2	6,805.9	34.0	32.7	-103.25	63.9	980.1		355.5	290.5	65.01	5.469	
7,800.0	6,723.6	7,797.2	6,805.1	36.5	35.2	-103.25	63.9	1,080.1		355.5	285.6	69.91	5.086	
7,900.0	6,722.9	7,897.2	6,804.3	39.1	37.7	-103.24	63.9	1,180.1		355.5	280.7	74.88	4.748	
8,000.0	6,722.1	7,997.2	6,803.5	41.7	40.3	-103.24	63.9	1,280.1		355.5	275.6	79.92	4.449	
8,100.0	6,721.3	8,097.2	6,802.7	44.3	42.9	-103.24	63.9	1,380.1		355.5	270.5	85.01	4.182	
8,200.0	6,720.6	8,197.2	6,802.0	46.9	45.5	-103.24	63.9	1,480.1		355.5	265.4	90.15	3.944	
8,300.0	6,719.8	8,297.2	6,801.2	49.6	48.1	-103.23	63.9	1,580.1		355.5	260.2	95.33	3.729	

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 Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference														
Offset														
Semi Major Axis														
Distance														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
8,400.0	6,719.0	8,397.2	6,800.4	52.3	50.8	-103.23	63.9	1,680.1	355.5	255.0	100.54	3.536		
8,500.0	6,718.3	8,497.2	6,799.6	55.0	53.5	-103.23	63.9	1,780.1	355.5	249.7	105.78	3.361		
8,600.0	6,717.5	8,597.2	6,798.8	57.7	56.2	-103.22	63.9	1,880.1	355.5	244.5	111.04	3.202		
8,700.0	6,716.7	8,697.2	6,798.0	60.4	58.9	-103.22	63.9	1,980.1	355.5	239.2	116.32	3.056		
8,800.0	6,716.0	8,797.2	6,797.3	63.1	61.6	-103.22	63.9	2,080.1	355.5	233.9	121.61	2.923		
8,900.0	6,715.2	8,897.2	6,796.5	65.8	64.3	-103.22	63.9	2,180.1	355.5	228.6	126.93	2.801		
9,000.0	6,714.4	8,997.2	6,795.7	68.5	67.0	-103.21	63.9	2,280.1	355.5	223.2	132.25	2.688		
9,100.0	6,713.7	9,097.2	6,794.9	71.3	69.8	-103.21	63.9	2,380.1	355.5	217.9	137.59	2.584		
9,200.0	6,712.9	9,197.2	6,794.1	74.0	72.5	-103.21	63.9	2,480.0	355.5	212.5	142.94	2.487		
9,300.0	6,712.1	9,297.2	6,793.3	76.8	75.3	-103.21	63.9	2,580.0	355.5	207.2	148.30	2.397		
9,400.0	6,711.4	9,397.2	6,792.5	79.5	78.0	-103.20	63.9	2,680.0	355.5	201.8	153.67	2.313		
9,500.0	6,710.6	9,497.2	6,791.8	82.3	80.8	-103.20	63.9	2,780.0	355.5	196.4	159.05	2.235		
9,600.0	6,709.8	9,597.2	6,791.0	85.1	83.5	-103.20	63.9	2,880.0	355.5	191.0	164.43	2.162		
9,700.0	6,709.0	9,697.2	6,790.2	87.8	86.3	-103.19	63.9	2,980.0	355.5	185.6	169.82	2.093		
9,800.0	6,708.3	9,797.2	6,789.4	90.6	89.0	-103.19	63.9	3,080.0	355.5	180.2	175.22	2.029		
9,900.0	6,707.5	9,897.2	6,788.6	93.4	91.8	-103.19	63.9	3,180.0	355.5	174.8	180.62	1.968		
10,000.0	6,706.7	9,997.2	6,787.8	96.1	94.6	-103.19	63.9	3,280.0	355.5	169.4	186.02	1.911		
10,100.0	6,706.0	10,097.2	6,787.0	98.9	97.4	-103.18	63.9	3,380.0	355.5	164.0	191.43	1.857		
10,200.0	6,705.2	10,197.2	6,786.3	101.7	100.1	-103.18	63.9	3,480.0	355.4	158.6	196.84	1.806		
10,300.0	6,704.4	10,297.2	6,785.5	104.4	102.9	-103.18	63.9	3,580.0	355.4	153.2	202.26	1.757		
10,400.0	6,703.7	10,397.2	6,784.7	107.2	105.7	-103.17	63.9	3,680.0	355.4	147.8	207.68	1.711		
10,500.0	6,702.9	10,497.2	6,783.9	110.0	108.5	-103.17	63.9	3,780.0	355.4	142.3	213.11	1.668		
10,600.0	6,702.1	10,597.2	6,783.1	112.8	111.2	-103.17	63.9	3,880.0	355.4	136.9	218.53	1.626		
10,700.0	6,701.4	10,697.2	6,782.3	115.6	114.0	-103.17	63.9	3,980.0	355.4	131.5	223.96	1.587		
10,800.0	6,700.6	10,797.2	6,781.5	118.4	116.8	-103.16	63.9	4,080.0	355.4	126.0	229.39	1.549		
10,900.0	6,699.8	10,897.2	6,780.8	121.1	119.6	-103.16	63.9	4,180.0	355.4	120.6	234.83	1.514		
11,000.0	6,699.1	10,997.2	6,780.0	123.9	122.4	-103.16	63.9	4,280.0	355.4	115.2	240.27	1.479 Level 3		
11,100.0	6,698.3	11,097.2	6,779.2	126.7	125.2	-103.16	63.9	4,380.0	355.4	109.7	245.70	1.447 Level 3		
11,200.0	6,697.5	11,197.2	6,778.4	129.5	128.0	-103.15	63.9	4,480.0	355.4	104.3	251.15	1.415 Level 3		
11,300.0	6,696.8	11,297.2	6,777.6	132.3	130.7	-103.15	63.9	4,580.0	355.4	98.8	256.59	1.385 Level 3		
11,400.0	6,696.0	11,397.2	6,776.8	135.1	133.5	-103.15	63.9	4,680.0	355.4	93.4	262.03	1.356 Level 3		
11,500.0	6,695.2	11,497.2	6,776.0	137.9	136.3	-103.14	63.9	4,780.0	355.4	87.9	267.48	1.329 Level 3		
11,600.0	6,694.5	11,597.2	6,775.3	140.7	139.1	-103.14	63.9	4,880.0	355.4	82.5	272.93	1.302 Level 3		
11,700.0	6,693.7	11,697.2	6,774.5	143.5	141.9	-103.14	63.9	4,980.0	355.4	77.0	278.38	1.277 Level 3		
11,800.0	6,692.9	11,797.2	6,773.7	146.3	144.7	-103.14	63.9	5,080.0	355.4	71.6	283.83	1.252 Level 3		
11,900.0	6,692.2	11,897.2	6,772.9	149.1	147.5	-103.13	63.9	5,180.0	355.4	66.1	289.28	1.229 Level 2		
12,000.0	6,691.4	11,997.2	6,772.1	151.8	150.3	-103.13	63.9	5,280.0	355.4	60.6	294.73	1.206 Level 2		
12,100.0	6,690.6	12,097.2	6,771.3	154.6	153.1	-103.13	63.9	5,380.0	355.4	55.2	300.19	1.184 Level 2		
12,200.0	6,689.9	12,197.2	6,770.5	157.4	155.9	-103.13	63.9	5,480.0	355.4	49.7	305.64	1.163 Level 2		
12,300.0	6,689.1	12,297.2	6,769.8	160.2	158.7	-103.12	63.9	5,580.0	355.4	44.3	311.10	1.142 Level 2		
12,400.0	6,688.3	12,397.2	6,769.0	163.0	161.5	-103.12	63.9	5,680.0	355.4	38.8	316.56	1.123 Level 2		
12,500.0	6,687.5	12,497.2	6,768.2	165.8	164.3	-103.12	63.9	5,779.9	355.4	33.3	322.01	1.104 Level 2		
12,600.0	6,686.8	12,597.2	6,767.4	168.6	167.1	-103.11	63.9	5,879.9	355.4	27.9	327.47	1.085 Level 2		
12,700.0	6,686.0	12,697.2	6,766.6	171.4	169.9	-103.11	63.9	5,979.9	355.4	22.4	332.93	1.067 Level 2		
12,800.0	6,685.2	12,797.2	6,765.8	174.2	172.7	-103.11	63.9	6,079.9	355.3	17.0	338.40	1.050 Level 2		
12,900.0	6,684.5	12,897.2	6,765.1	177.0	175.5	-103.11	63.9	6,179.9	355.3	11.5	343.86	1.033 Level 2		
13,000.0	6,683.7	12,997.2	6,764.3	179.8	178.3	-103.10	63.9	6,279.9	355.3	6.0	349.32	1.017 Level 2		
13,100.0	6,682.9	13,097.2	6,763.5	182.6	181.1	-103.10	63.9	6,379.9	355.3	0.6	354.78	1.002 Level 2		
13,200.0	6,682.2	13,197.2	6,762.7	185.4	183.9	-103.10	63.9	6,479.9	355.3	-4.9	360.25	0.986 Level 1		
13,300.0	6,681.4	13,297.2	6,761.9	188.2	186.6	-103.10	63.9	6,579.9	355.3	-10.4	365.71	0.972 Level 1		
13,400.0	6,680.6	13,397.2	6,761.1	191.0	189.4	-103.09	63.9	6,679.9	355.3	-15.9	371.18	0.957 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 Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Schneider 19Q-HZ Pad Sec.19-T5N-R64W - Schneider 19Q-312 - Wellbore #1 - Plan #2 (7-20-15)													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
13,500.0	6,679.9	13,497.2	6,760.3	193.8	192.2	-103.09	63.9	6,779.9	355.3	-21.3	376.65	0.943	Level 1	
13,600.0	6,679.1	13,597.2	6,759.6	196.6	195.0	-103.09	63.9	6,879.9	355.3	-26.8	382.11	0.930	Level 1	
13,700.0	6,678.3	13,697.2	6,758.8	199.4	197.9	-103.08	63.9	6,979.9	355.3	-32.3	387.58	0.917	Level 1	
13,800.0	6,677.6	13,797.2	6,758.0	202.2	200.7	-103.08	63.9	7,079.9	355.3	-37.7	393.05	0.904	Level 1	
13,900.0	6,676.8	13,897.2	6,757.2	205.0	203.5	-103.08	63.9	7,179.9	355.3	-43.2	398.52	0.892	Level 1	
14,000.0	6,676.0	13,997.2	6,756.4	207.8	206.3	-103.08	63.9	7,279.9	355.3	-48.7	403.99	0.879	Level 1	
14,100.0	6,675.3	14,097.2	6,755.6	210.6	209.1	-103.07	63.9	7,379.9	355.3	-54.2	409.46	0.868	Level 1	
14,200.0	6,674.5	14,197.2	6,754.8	213.4	211.9	-103.07	63.9	7,479.9	355.3	-59.6	414.93	0.856	Level 1	
14,300.0	6,673.7	14,297.2	6,754.1	216.2	214.7	-103.07	63.9	7,579.9	355.3	-65.1	420.40	0.845	Level 1	
14,400.0	6,673.0	14,397.2	6,753.3	219.0	217.5	-103.07	63.9	7,679.9	355.3	-70.6	425.87	0.834	Level 1	
14,500.0	6,672.2	14,497.2	6,752.5	221.8	220.3	-103.06	63.9	7,779.9	355.3	-76.1	431.34	0.824	Level 1	
14,600.0	6,671.4	14,597.2	6,751.7	224.6	223.1	-103.06	63.9	7,879.9	355.3	-81.5	436.81	0.813	Level 1	
14,700.0	6,670.7	14,697.2	6,750.9	227.4	225.9	-103.06	63.9	7,979.9	355.3	-87.0	442.29	0.803	Level 1	
14,800.0	6,669.9	14,797.2	6,750.1	230.2	228.7	-103.05	63.9	8,079.9	355.3	-92.5	447.76	0.793	Level 1	
14,900.0	6,669.1	14,897.2	6,749.3	233.0	231.5	-103.05	63.9	8,179.9	355.3	-98.0	453.23	0.784	Level 1	
15,000.0	6,668.3	14,997.2	6,748.6	235.8	234.3	-103.05	63.9	8,279.9	355.3	-103.4	458.71	0.774	Level 1	
15,100.0	6,667.6	15,097.2	6,747.8	238.6	237.1	-103.05	63.9	8,379.9	355.3	-108.9	464.18	0.765	Level 1	
15,200.0	6,666.8	15,197.2	6,747.0	241.5	239.9	-103.04	63.9	8,479.9	355.3	-114.4	469.66	0.756	Level 1	
15,300.0	6,666.0	15,297.2	6,746.2	244.3	242.7	-103.04	63.9	8,579.9	355.3	-119.9	475.13	0.748	Level 1	
15,400.0	6,665.3	15,397.2	6,745.4	247.1	245.5	-103.04	63.9	8,679.9	355.2	-125.4	480.61	0.739	Level 1	
15,500.0	6,664.5	15,497.2	6,744.6	249.9	248.3	-103.03	63.9	8,779.9	355.2	-130.8	486.08	0.731	Level 1	
15,600.0	6,663.7	15,597.2	6,743.8	252.7	251.1	-103.03	63.9	8,879.9	355.2	-136.3	491.56	0.723	Level 1	
15,700.0	6,663.0	15,697.2	6,743.1	255.5	253.9	-103.03	63.9	8,979.8	355.2	-141.8	497.04	0.715	Level 1	
15,800.0	6,662.2	15,797.2	6,742.3	258.3	256.7	-103.03	63.9	9,079.8	355.2	-147.3	502.51	0.707	Level 1	
15,900.0	6,661.4	15,897.2	6,741.5	261.1	259.5	-103.02	63.9	9,179.8	355.2	-152.8	507.99	0.699	Level 1	
16,000.0	6,660.7	15,997.2	6,740.7	263.9	262.3	-103.02	63.9	9,279.8	355.2	-158.2	513.47	0.692	Level 1	
16,100.0	6,659.9	16,097.2	6,739.9	266.7	265.1	-103.02	63.9	9,379.8	355.2	-163.7	518.95	0.685	Level 1	
16,200.0	6,659.1	16,197.2	6,739.1	269.5	267.9	-103.02	63.9	9,479.8	355.2	-169.2	524.43	0.677	Level 1	
16,300.0	6,658.4	16,297.2	6,738.3	272.3	270.7	-103.01	63.9	9,579.8	355.2	-174.7	529.90	0.670	Level 1	
16,400.0	6,657.6	16,397.2	6,737.6	275.1	273.5	-103.01	63.9	9,679.8	355.2	-180.2	535.38	0.663	Level 1	
16,455.1	6,657.2	16,452.4	6,737.1	276.1	275.1	-103.01	63.9	9,735.0	355.2	-182.7	537.87	0.660	Level 1	
16,477.9	6,657.0	16,469.7	6,737.0	276.5	275.6	-103.01	63.9	9,752.3	355.2	-183.5	538.73	0.659	Level 1, ES, SF	

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<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4668.0ft (RKB - 15')

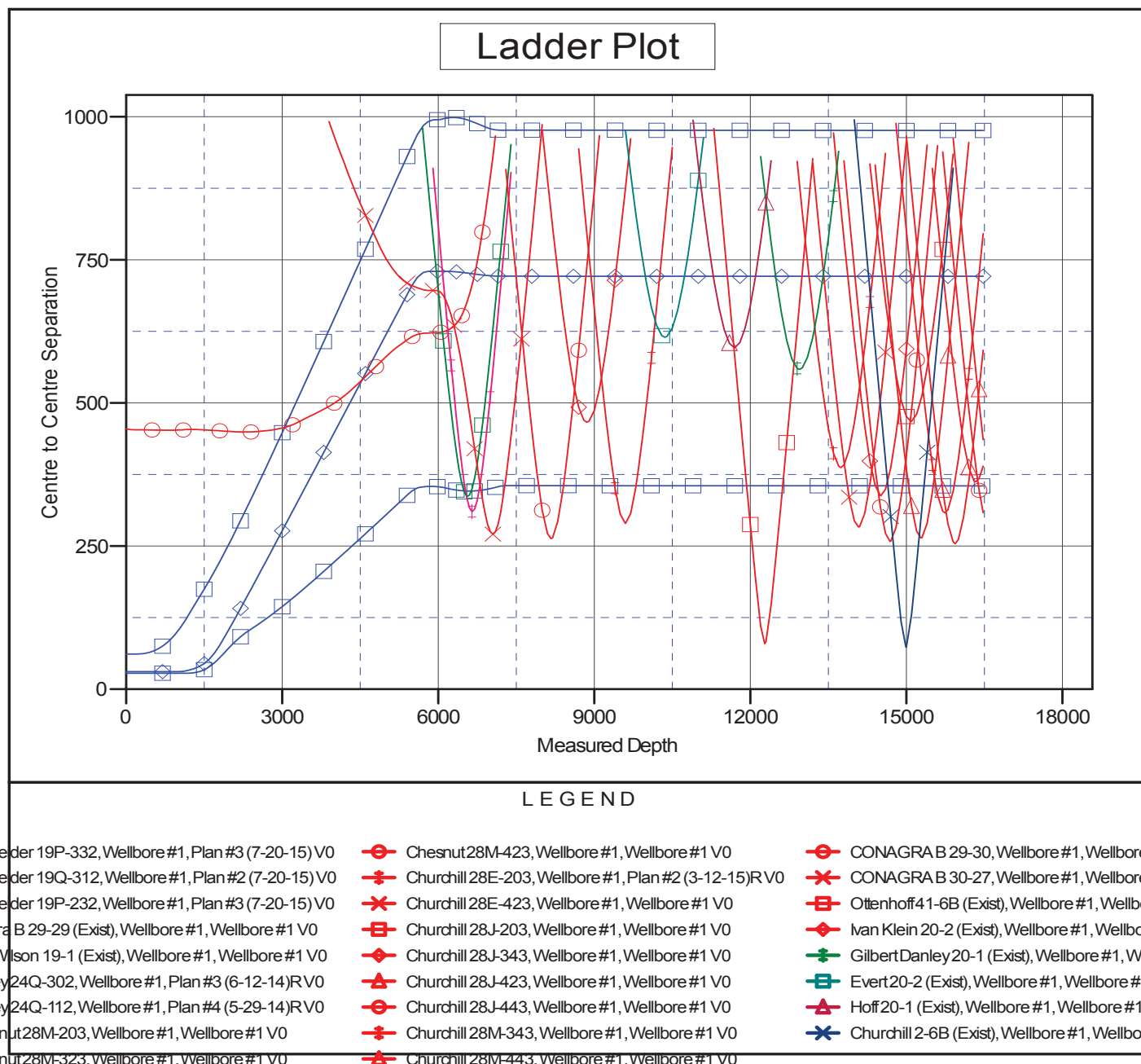
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000

Coordinates are relative to: Schneider 19Q-202

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.59°

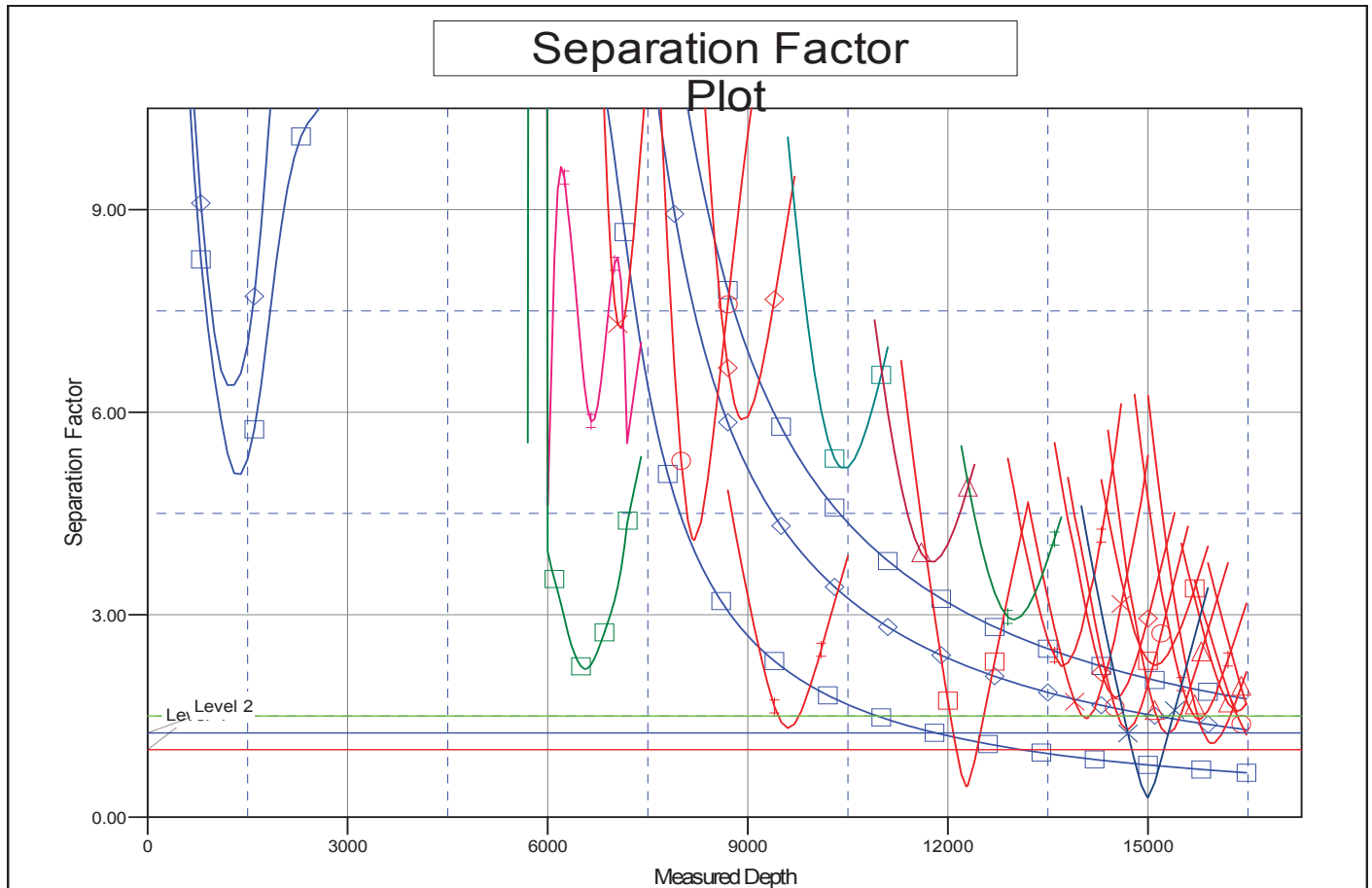




<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schneider 19Q-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Reference Site:</b>	Schneider 19Q-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4668.0ft (RKB - 15')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Schneider 19Q-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #3 (7-20-15)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4668.0ft (RKB - 15')  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000

Coordinates are relative to: Schneider 19Q-202  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.59°



### LEGEND

Schneider 19P-332, Wellbore #1, Plan #3 (7-20-15) V0	Chesnut 28M-423, Wellbore #1, Wellbore #1 V0	CONAGRA B 29-30, Wellbore #1, Wellbore #1 V0
Schneider 19Q-312, Wellbore #1, Plan #2 (7-20-15) V0	Churchill 28E-203, Wellbore #1, Plan #2 (3-12-15) RV0	CONAGRA B 30-27, Wellbore #1, Wellbore #1 V0
Schneider 19P-232, Wellbore #1, Plan #3 (7-20-15) V0	Churchill 28E-423, Wellbore #1, Wellbore #1 V0	Ottenhoff 41-6B (Exist), Wellbore #1, Wellbore #1 V0
Irish B 29-29 (Exist), Wellbore #1, Wellbore #1 V0	Churchill 28J-203, Wellbore #1, Wellbore #1 V0	Ivan Klein 20-2 (Exist), Wellbore #1, Wellbore #1 V0
Wilson 19-1 (Exist), Wellbore #1, Wellbore #1 V0	Churchill 28J-343, Wellbore #1, Wellbore #1 V0	Gilbert Danley 20-1 (Exist), Wellbore #1, Wellbore #1 V0
Ey 24Q-302, Wellbore #1, Plan #3 (6-12-14) RV0	Churchill 28J-423, Wellbore #1, Wellbore #1 V0	Evert 20-2 (Exist), Wellbore #1, Wellbore #1 V0
Ey 24Q-112, Wellbore #1, Plan #4 (5-29-14) RV0	Churchill 28J-443, Wellbore #1, Wellbore #1 V0	Hoff 20-1 (Exist), Wellbore #1, Wellbore #1 V0
Schneider 28M-203, Wellbore #1, Wellbore #1 V0	Churchill 28M-343, Wellbore #1, Wellbore #1 V0	Churchill 2-6B (Exist), Wellbore #1, Wellbore #1 V0
Schneider 28M-323, Wellbore #1, Wellbore #1 V0	Churchill 28M-443, Wellbore #1, Wellbore #1 V0	