

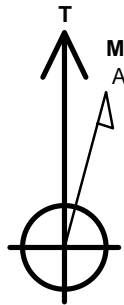
# PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Klein 19P-202**

Surface Location: Klein 19O-HZ Pad Sec.19-T5N-R64W  
 North American Datum 1983 , US State Plane 1983, Colorado Northern Zone  
 Ground Elevation: 4626.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1384450.98 3253111.05 40.385160 -104.591380  
 RKB - 13 WELL @ 4639.0ft (RKB - 13)

## DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
50'N/S Hardline (19P-202)	1.0	-1425.9	5026.7	Rectangle (Sides: L10813.6 W100.0)
SHL 2449'FNL & 2250'FEL, Sec.19	1.0	0.0	0.0	Point
BHL 1314'FSL & 2396'FEL, Sec.21	6630.0	-1425.9	10433.5	Point

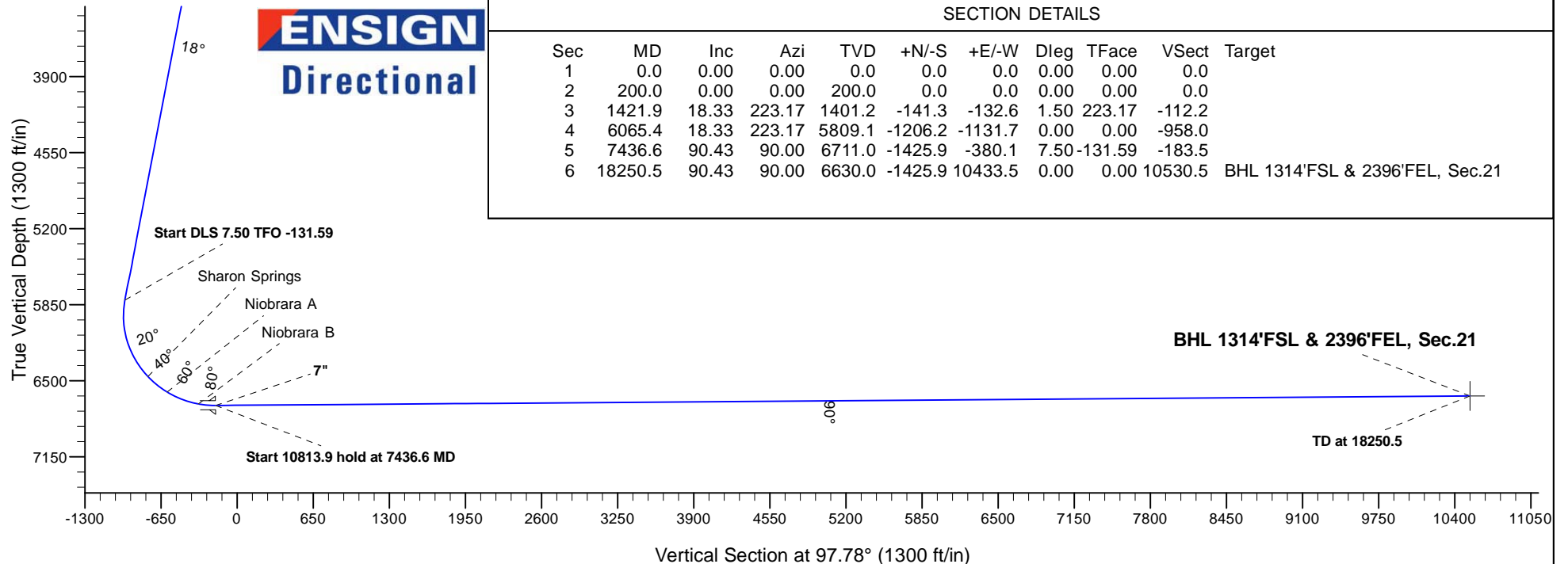
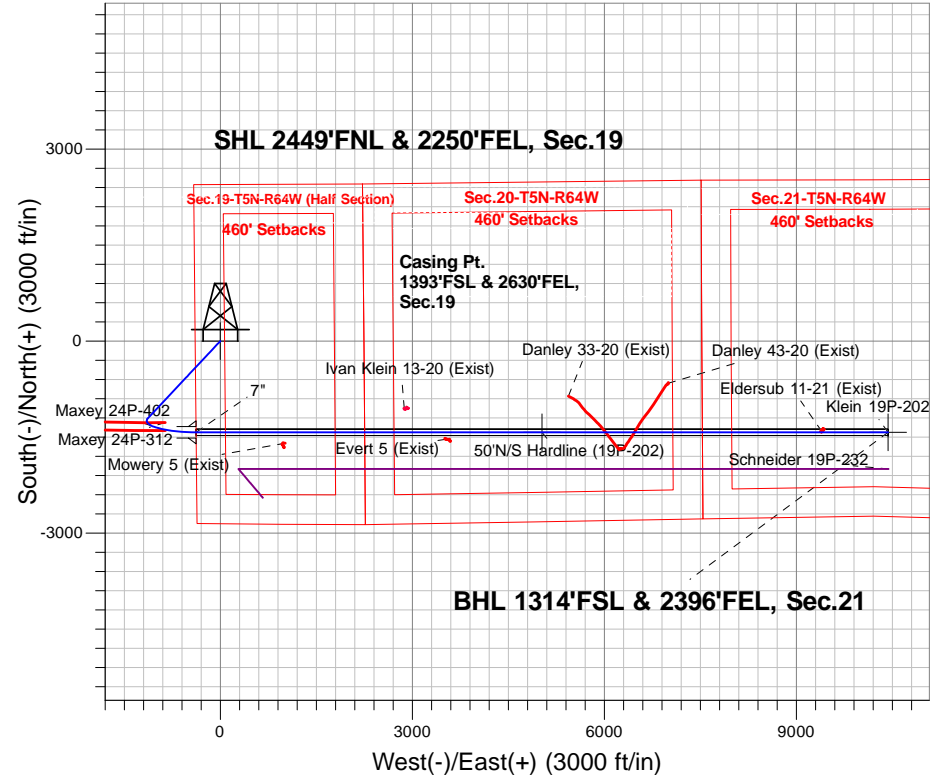


Azimuths to True North  
 Magnetic North: 8.22°  
 Magnetic Field  
 Strength: 52713.0snT  
 Dip Angle: 66.92°  
 Date: 7/15/2015  
 Model: IGRF2010

## ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	KOP -Start Build 1.50
5809.1	6065.4	Start DLS 7.50 TFO -131.59
6711.0	7436.6	Start 10813.9 hold at 7436.6 MD
6630.0	18250.5	TD at 18250.5

Klein 19O-HZ Pad Sec.19-T5N-R64W  
 Klein 19P-202  
 Plan #3 (7-15-15)



## 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	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	1421.9	18.33	223.17	1401.2	-141.3	-132.6	1.50	223.17	-112.2	
4	6065.4	18.33	223.17	5809.1	-1206.2	-1131.7	0.00	0.00	-958.0	
5	7436.6	90.43	90.00	6711.0	-1425.9	-380.1	7.50	-131.59	-183.5	
6	18250.5	90.43	90.00	6630.0	-1425.9	10433.5	0.00	0.00	10530.5	BHL 1314'FSL & 2396'FEL, Sec.21



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.19-T5N-R64W**

**Klein 19O-HZ Pad Sec.19-T5N-R64W**

**Klein 19P-202**

**Wellbore #1**

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

## **Standard Planning Report**

**29 July, 2015**

<b>Database:</b>	US_EDM	<b>Local Co-ordinate Reference:</b>	Well Klein 19P-202
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Project:</b>	SEC.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Klein 19P-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #3 (7-15-15)		

<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

<b>Site</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W		
<b>Site Position:</b>		<b>Northing:</b>	1,384,542.09 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,253,110.12 usft
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	40.385410
		<b>Longitude:</b>	-104.591380
		<b>Grid Convergence:</b>	0.59 °

<b>Well</b>	Klein 19P-202		
<b>Well Position</b>	<b>+N/-S</b>	-91.1 ft	<b>Northing:</b>
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b>
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>
			<b>Latitude:</b>
			<b>Longitude:</b>
			<b>Ground Level:</b>

<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	7/15/2015	8.22	66.92	52,713

<b>Design</b>	Plan #3 (7-15-15)			
<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	97.78

<b>Plan Sections</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	<b>TFO (°)</b>	<b>Target</b>
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,421.9	18.33	223.17	1,401.2	-141.3	-132.6	1.50	1.50	0.00	223.17	
6,065.4	18.33	223.17	5,809.1	-1,206.2	-1,131.7	0.00	0.00	0.00	0.00	
7,436.6	90.43	90.00	6,711.0	-1,425.9	-380.1	7.50	5.26	-9.71	-131.59	
18,250.5	90.43	90.00	6,630.0	-1,425.9	10,433.5	0.00	0.00	0.00	0.00	BHL 1314'FSL & 2396'

Database:	US_EDM	Local Co-ordinate Reference:	Well Klein 19P-202
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4639.0ft (RKB - 13)
Project:	SEC.19-T5N-R64W	MD Reference:	WELL @ 4639.0ft (RKB - 13)
Site:	Klein 19O-HZ Pad Sec.19-T5N-R64W	North Reference:	True
Well:	Klein 19P-202	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3 (7-15-15)		

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
KOP -Start Build 1.50									
300.0	1.50	223.17	300.0	-1.0	-0.9	-0.8	1.50	1.50	0.00
400.0	3.00	223.17	399.9	-3.8	-3.6	-3.0	1.50	1.50	0.00
500.0	4.50	223.17	499.7	-8.6	-8.1	-6.8	1.50	1.50	0.00
600.0	6.00	223.17	599.3	-15.3	-14.3	-12.1	1.50	1.50	0.00
700.0	7.50	223.17	698.6	-23.8	-22.4	-18.9	1.50	1.50	0.00
800.0	9.00	223.17	797.5	-34.3	-32.2	-27.2	1.50	1.50	0.00
900.0	10.50	223.17	896.1	-46.6	-43.8	-37.0	1.50	1.50	0.00
1,000.0	12.00	223.17	994.2	-60.9	-57.1	-48.3	1.50	1.50	0.00
1,100.0	13.50	223.17	1,091.7	-77.0	-72.2	-61.1	1.50	1.50	0.00
1,200.0	15.00	223.17	1,188.6	-94.9	-89.1	-75.4	1.50	1.50	0.00
1,300.0	16.50	223.17	1,284.9	-114.7	-107.6	-91.1	1.50	1.50	0.00
1,400.0	18.00	223.17	1,380.4	-136.3	-127.9	-108.3	1.50	1.50	0.00
1,421.9	18.33	223.17	1,401.2	-141.3	-132.6	-112.2	1.50	1.50	0.00
1,500.0	18.33	223.17	1,475.3	-159.2	-149.4	-126.5	0.00	0.00	0.00
1,600.0	18.33	223.17	1,570.2	-182.2	-170.9	-144.7	0.00	0.00	0.00
1,700.0	18.33	223.17	1,665.2	-205.1	-192.4	-162.9	0.00	0.00	0.00
1,800.0	18.33	223.17	1,760.1	-228.0	-213.9	-181.1	0.00	0.00	0.00
1,900.0	18.33	223.17	1,855.0	-251.0	-235.5	-199.3	0.00	0.00	0.00
2,000.0	18.33	223.17	1,949.9	-273.9	-257.0	-217.5	0.00	0.00	0.00
2,100.0	18.33	223.17	2,044.9	-296.8	-278.5	-235.7	0.00	0.00	0.00
2,200.0	18.33	223.17	2,139.8	-319.8	-300.0	-253.9	0.00	0.00	0.00
2,300.0	18.33	223.17	2,234.7	-342.7	-321.5	-272.2	0.00	0.00	0.00
2,400.0	18.33	223.17	2,329.6	-365.6	-343.0	-290.4	0.00	0.00	0.00
2,500.0	18.33	223.17	2,424.6	-388.6	-364.6	-308.6	0.00	0.00	0.00
2,600.0	18.33	223.17	2,519.5	-411.5	-386.1	-326.8	0.00	0.00	0.00
2,700.0	18.33	223.17	2,614.4	-434.4	-407.6	-345.0	0.00	0.00	0.00
2,800.0	18.33	223.17	2,709.4	-457.4	-429.1	-363.2	0.00	0.00	0.00
2,900.0	18.33	223.17	2,804.3	-480.3	-450.6	-381.4	0.00	0.00	0.00
3,000.0	18.33	223.17	2,899.2	-503.2	-472.1	-399.7	0.00	0.00	0.00
3,100.0	18.33	223.17	2,994.1	-526.2	-493.7	-417.9	0.00	0.00	0.00
3,200.0	18.33	223.17	3,089.1	-549.1	-515.2	-436.1	0.00	0.00	0.00
3,300.0	18.33	223.17	3,184.0	-572.0	-536.7	-454.3	0.00	0.00	0.00
3,400.0	18.33	223.17	3,278.9	-595.0	-558.2	-472.5	0.00	0.00	0.00
3,500.0	18.33	223.17	3,373.8	-617.9	-579.7	-490.7	0.00	0.00	0.00
3,600.0	18.33	223.17	3,468.8	-640.8	-601.2	-508.9	0.00	0.00	0.00
3,700.0	18.33	223.17	3,563.7	-663.8	-622.8	-527.2	0.00	0.00	0.00
3,800.0	18.33	223.17	3,658.6	-686.7	-644.3	-545.4	0.00	0.00	0.00
3,900.0	18.33	223.17	3,753.5	-709.6	-665.8	-563.6	0.00	0.00	0.00
4,000.0	18.33	223.17	3,848.5	-732.6	-687.3	-581.8	0.00	0.00	0.00
4,100.0	18.33	223.17	3,943.4	-755.5	-708.8	-600.0	0.00	0.00	0.00
4,200.0	18.33	223.17	4,038.3	-778.4	-730.3	-618.2	0.00	0.00	0.00
4,300.0	18.33	223.17	4,133.3	-801.4	-751.9	-636.4	0.00	0.00	0.00
4,400.0	18.33	223.17	4,228.2	-824.3	-773.4	-654.6	0.00	0.00	0.00
4,500.0	18.33	223.17	4,323.1	-847.2	-794.9	-672.9	0.00	0.00	0.00
4,600.0	18.33	223.17	4,418.0	-870.2	-816.4	-691.1	0.00	0.00	0.00
4,700.0	18.33	223.17	4,513.0	-893.1	-837.9	-709.3	0.00	0.00	0.00
4,800.0	18.33	223.17	4,607.9	-916.0	-859.4	-727.5	0.00	0.00	0.00
4,900.0	18.33	223.17	4,702.8	-939.0	-881.0	-745.7	0.00	0.00	0.00
5,000.0	18.33	223.17	4,797.7	-961.9	-902.5	-763.9	0.00	0.00	0.00

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Well:	Klein 19P-202	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3 (7-15-15)		

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	18.33	223.17	4,892.7	-984.8	-924.0	-782.1	0.00	0.00	0.00
5,200.0	18.33	223.17	4,987.6	-1,007.8	-945.5	-800.4	0.00	0.00	0.00
5,300.0	18.33	223.17	5,082.5	-1,030.7	-967.0	-818.6	0.00	0.00	0.00
5,400.0	18.33	223.17	5,177.4	-1,053.6	-988.5	-836.8	0.00	0.00	0.00
5,500.0	18.33	223.17	5,272.4	-1,076.6	-1,010.1	-855.0	0.00	0.00	0.00
5,600.0	18.33	223.17	5,367.3	-1,099.5	-1,031.6	-873.2	0.00	0.00	0.00
5,700.0	18.33	223.17	5,462.2	-1,122.4	-1,053.1	-891.4	0.00	0.00	0.00
5,800.0	18.33	223.17	5,557.2	-1,145.4	-1,074.6	-909.6	0.00	0.00	0.00
5,900.0	18.33	223.17	5,652.1	-1,168.3	-1,096.1	-927.8	0.00	0.00	0.00
6,000.0	18.33	223.17	5,747.0	-1,191.2	-1,117.6	-946.1	0.00	0.00	0.00
6,065.4	18.33	223.17	5,809.1	-1,206.2	-1,131.7	-958.0	0.00	0.00	0.00
Start DLS 7.50 TFO -131.59									
6,100.0	16.71	216.41	5,842.1	-1,214.2	-1,138.4	-963.5	7.51	-4.67	-19.57
6,200.0	13.79	189.81	5,938.7	-1,237.6	-1,149.0	-970.8	7.50	-2.92	-26.60
6,300.0	14.55	158.96	6,035.8	-1,261.1	-1,146.5	-965.2	7.50	0.75	-30.84
6,400.0	18.53	136.34	6,131.7	-1,284.3	-1,131.0	-946.7	7.50	3.98	-22.63
6,500.0	24.19	122.70	6,224.9	-1,306.9	-1,102.7	-915.6	7.50	5.66	-13.64
6,600.0	30.62	114.24	6,313.6	-1,328.5	-1,062.2	-872.6	7.50	6.43	-8.46
6,700.0	37.42	108.55	6,396.5	-1,348.6	-1,010.1	-818.2	7.50	6.80	-5.69
6,800.0	44.41	104.41	6,472.0	-1,367.0	-947.3	-753.5	7.50	7.00	-4.14
6,900.0	51.52	101.19	6,538.9	-1,383.3	-875.0	-679.6	7.50	7.11	-3.21
7,000.0	58.71	98.56	6,596.1	-1,397.3	-794.2	-597.7	7.50	7.18	-2.63
7,100.0	65.94	96.31	6,642.5	-1,408.7	-706.4	-509.2	7.50	7.23	-2.26
7,200.0	73.20	94.29	6,677.4	-1,417.3	-613.2	-415.6	7.50	7.26	-2.01
7,300.0	80.47	92.43	6,700.2	-1,423.0	-516.1	-318.6	7.50	7.28	-1.86
7,400.0	87.76	90.65	6,710.4	-1,425.7	-416.7	-219.8	7.50	7.29	-1.79
7,436.6	90.43	90.00	6,711.0	-1,425.9	-380.1	-183.5	7.50	7.29	-1.76
Start 10813.9 hold at 7436.6 MD - 7"									
7,500.0	90.43	90.00	6,710.5	-1,425.9	-316.7	-120.7	0.00	0.00	0.00
7,600.0	90.43	90.00	6,709.8	-1,425.9	-216.7	-21.6	0.00	0.00	0.00
7,700.0	90.43	90.00	6,709.0	-1,425.9	-116.7	77.4	0.00	0.00	0.00
7,800.0	90.43	90.00	6,708.3	-1,425.9	-16.7	176.5	0.00	0.00	0.00
7,900.0	90.43	90.00	6,707.5	-1,425.9	83.3	275.6	0.00	0.00	0.00
8,000.0	90.43	90.00	6,706.8	-1,425.9	183.3	374.7	0.00	0.00	0.00
8,100.0	90.43	90.00	6,706.0	-1,425.9	283.3	473.7	0.00	0.00	0.00
8,200.0	90.43	90.00	6,705.3	-1,425.9	383.3	572.8	0.00	0.00	0.00
8,300.0	90.43	90.00	6,704.5	-1,425.9	483.3	671.9	0.00	0.00	0.00
8,400.0	90.43	90.00	6,703.8	-1,425.9	583.3	771.0	0.00	0.00	0.00
8,500.0	90.43	90.00	6,703.0	-1,425.9	683.3	870.0	0.00	0.00	0.00
8,600.0	90.43	90.00	6,702.3	-1,425.9	783.3	969.1	0.00	0.00	0.00
8,700.0	90.43	90.00	6,701.5	-1,425.9	883.3	1,068.2	0.00	0.00	0.00
8,800.0	90.43	90.00	6,700.8	-1,425.9	983.3	1,167.3	0.00	0.00	0.00
8,900.0	90.43	90.00	6,700.0	-1,425.9	1,083.3	1,266.3	0.00	0.00	0.00
9,000.0	90.43	90.00	6,699.3	-1,425.9	1,183.3	1,365.4	0.00	0.00	0.00
9,100.0	90.43	90.00	6,698.5	-1,425.9	1,283.3	1,464.5	0.00	0.00	0.00
9,200.0	90.43	90.00	6,697.8	-1,425.9	1,383.3	1,563.6	0.00	0.00	0.00
9,300.0	90.43	90.00	6,697.0	-1,425.9	1,483.2	1,662.7	0.00	0.00	0.00
9,400.0	90.43	90.00	6,696.3	-1,425.9	1,583.2	1,761.7	0.00	0.00	0.00
9,500.0	90.43	90.00	6,695.5	-1,425.9	1,683.2	1,860.8	0.00	0.00	0.00
9,600.0	90.43	90.00	6,694.8	-1,425.9	1,783.2	1,959.9	0.00	0.00	0.00
9,700.0	90.43	90.00	6,694.0	-1,425.9	1,883.2	2,059.0	0.00	0.00	0.00
9,800.0	90.43	90.00	6,693.3	-1,425.9	1,983.2	2,158.0	0.00	0.00	0.00
9,900.0	90.43	90.00	6,692.5	-1,425.9	2,083.2	2,257.1	0.00	0.00	0.00

<b>Database:</b>	US_EDM	<b>Local Co-ordinate Reference:</b>	Well Klein 19P-202
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Project:</b>	SEC.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Klein 19P-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #3 (7-15-15)		

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)
10,000.0	90.43	90.00	6,691.8	-1,425.9	2,183.2	2,356.2	0.00	0.00	0.00
10,100.0	90.43	90.00	6,691.1	-1,425.9	2,283.2	2,455.3	0.00	0.00	0.00
10,200.0	90.43	90.00	6,690.3	-1,425.9	2,383.2	2,554.3	0.00	0.00	0.00
10,300.0	90.43	90.00	6,689.6	-1,425.9	2,483.2	2,653.4	0.00	0.00	0.00
10,400.0	90.43	90.00	6,688.8	-1,425.9	2,583.2	2,752.5	0.00	0.00	0.00
10,500.0	90.43	90.00	6,688.1	-1,425.9	2,683.2	2,851.6	0.00	0.00	0.00
10,600.0	90.43	90.00	6,687.3	-1,425.9	2,783.2	2,950.6	0.00	0.00	0.00
10,700.0	90.43	90.00	6,686.6	-1,425.9	2,883.2	3,049.7	0.00	0.00	0.00
10,800.0	90.43	90.00	6,685.8	-1,425.9	2,983.2	3,148.8	0.00	0.00	0.00
10,900.0	90.43	90.00	6,685.1	-1,425.9	3,083.2	3,247.9	0.00	0.00	0.00
11,000.0	90.43	90.00	6,684.3	-1,425.9	3,183.2	3,347.0	0.00	0.00	0.00
11,100.0	90.43	90.00	6,683.6	-1,425.9	3,283.2	3,446.0	0.00	0.00	0.00
11,200.0	90.43	90.00	6,682.8	-1,425.9	3,383.2	3,545.1	0.00	0.00	0.00
11,300.0	90.43	90.00	6,682.1	-1,425.9	3,483.2	3,644.2	0.00	0.00	0.00
11,400.0	90.43	90.00	6,681.3	-1,425.9	3,583.2	3,743.3	0.00	0.00	0.00
11,500.0	90.43	90.00	6,680.6	-1,425.9	3,683.2	3,842.3	0.00	0.00	0.00
11,600.0	90.43	90.00	6,679.8	-1,425.9	3,783.2	3,941.4	0.00	0.00	0.00
11,700.0	90.43	90.00	6,679.1	-1,425.9	3,883.2	4,040.5	0.00	0.00	0.00
11,800.0	90.43	90.00	6,678.3	-1,425.9	3,983.2	4,139.6	0.00	0.00	0.00
11,900.0	90.43	90.00	6,677.6	-1,425.9	4,083.2	4,238.6	0.00	0.00	0.00
12,000.0	90.43	90.00	6,676.8	-1,425.9	4,183.2	4,337.7	0.00	0.00	0.00
12,100.0	90.43	90.00	6,676.1	-1,425.9	4,283.2	4,436.8	0.00	0.00	0.00
12,200.0	90.43	90.00	6,675.3	-1,425.9	4,383.2	4,535.9	0.00	0.00	0.00
12,300.0	90.43	90.00	6,674.6	-1,425.9	4,483.2	4,634.9	0.00	0.00	0.00
12,400.0	90.43	90.00	6,673.8	-1,425.9	4,583.2	4,734.0	0.00	0.00	0.00
12,500.0	90.43	90.00	6,673.1	-1,425.9	4,683.2	4,833.1	0.00	0.00	0.00
12,600.0	90.43	90.00	6,672.3	-1,425.9	4,783.2	4,932.2	0.00	0.00	0.00
12,700.0	90.43	90.00	6,671.6	-1,425.9	4,883.2	5,031.2	0.00	0.00	0.00
12,800.0	90.43	90.00	6,670.8	-1,425.9	4,983.1	5,130.3	0.00	0.00	0.00
12,900.0	90.43	90.00	6,670.1	-1,425.9	5,083.1	5,229.4	0.00	0.00	0.00
13,000.0	90.43	90.00	6,669.3	-1,425.9	5,183.1	5,328.5	0.00	0.00	0.00
13,100.0	90.43	90.00	6,668.6	-1,425.9	5,283.1	5,427.6	0.00	0.00	0.00
13,200.0	90.43	90.00	6,667.8	-1,425.9	5,383.1	5,526.6	0.00	0.00	0.00
13,300.0	90.43	90.00	6,667.1	-1,425.9	5,483.1	5,625.7	0.00	0.00	0.00
13,400.0	90.43	90.00	6,666.3	-1,425.9	5,583.1	5,724.8	0.00	0.00	0.00
13,500.0	90.43	90.00	6,665.6	-1,425.9	5,683.1	5,823.9	0.00	0.00	0.00
13,600.0	90.43	90.00	6,664.8	-1,425.9	5,783.1	5,922.9	0.00	0.00	0.00
13,700.0	90.43	90.00	6,664.1	-1,425.9	5,883.1	6,022.0	0.00	0.00	0.00
13,800.0	90.43	90.00	6,663.3	-1,425.9	5,983.1	6,121.1	0.00	0.00	0.00
13,900.0	90.43	90.00	6,662.6	-1,425.9	6,083.1	6,220.2	0.00	0.00	0.00
14,000.0	90.43	90.00	6,661.8	-1,425.9	6,183.1	6,319.2	0.00	0.00	0.00
14,100.0	90.43	90.00	6,661.1	-1,425.9	6,283.1	6,418.3	0.00	0.00	0.00
14,200.0	90.43	90.00	6,660.3	-1,425.9	6,383.1	6,517.4	0.00	0.00	0.00
14,300.0	90.43	90.00	6,659.6	-1,425.9	6,483.1	6,616.5	0.00	0.00	0.00
14,400.0	90.43	90.00	6,658.8	-1,425.9	6,583.1	6,715.5	0.00	0.00	0.00
14,500.0	90.43	90.00	6,658.1	-1,425.9	6,683.1	6,814.6	0.00	0.00	0.00
14,600.0	90.43	90.00	6,657.3	-1,425.9	6,783.1	6,913.7	0.00	0.00	0.00
14,700.0	90.43	90.00	6,656.6	-1,425.9	6,883.1	7,012.8	0.00	0.00	0.00
14,800.0	90.43	90.00	6,655.8	-1,425.9	6,983.1	7,111.8	0.00	0.00	0.00
14,900.0	90.43	90.00	6,655.1	-1,425.9	7,083.1	7,210.9	0.00	0.00	0.00
15,000.0	90.43	90.00	6,654.3	-1,425.9	7,183.1	7,310.0	0.00	0.00	0.00
15,100.0	90.43	90.00	6,653.6	-1,425.9	7,283.1	7,409.1	0.00	0.00	0.00
15,200.0	90.43	90.00	6,652.8	-1,425.9	7,383.1	7,508.2	0.00	0.00	0.00

<b>Database:</b>	US_EDM	<b>Local Co-ordinate Reference:</b>	Well Klein 19P-202
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Project:</b>	SEC.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Klein 19P-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #3 (7-15-15)		

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)
15,300.0	90.43	90.00	6,652.1	-1,425.9	7,483.1	7,607.2	0.00	0.00	0.00
15,400.0	90.43	90.00	6,651.4	-1,425.9	7,583.1	7,706.3	0.00	0.00	0.00
15,500.0	90.43	90.00	6,650.6	-1,425.9	7,683.1	7,805.4	0.00	0.00	0.00
15,600.0	90.43	90.00	6,649.9	-1,425.9	7,783.1	7,904.5	0.00	0.00	0.00
15,700.0	90.43	90.00	6,649.1	-1,425.9	7,883.1	8,003.5	0.00	0.00	0.00
15,800.0	90.43	90.00	6,648.4	-1,425.9	7,983.1	8,102.6	0.00	0.00	0.00
15,900.0	90.43	90.00	6,647.6	-1,425.9	8,083.1	8,201.7	0.00	0.00	0.00
16,000.0	90.43	90.00	6,646.9	-1,425.9	8,183.1	8,300.8	0.00	0.00	0.00
16,100.0	90.43	90.00	6,646.1	-1,425.9	8,283.1	8,399.8	0.00	0.00	0.00
16,200.0	90.43	90.00	6,645.4	-1,425.9	8,383.1	8,498.9	0.00	0.00	0.00
16,300.0	90.43	90.00	6,644.6	-1,425.9	8,483.1	8,598.0	0.00	0.00	0.00
16,400.0	90.43	90.00	6,643.9	-1,425.9	8,583.0	8,697.1	0.00	0.00	0.00
16,500.0	90.43	90.00	6,643.1	-1,425.9	8,683.0	8,796.1	0.00	0.00	0.00
16,600.0	90.43	90.00	6,642.4	-1,425.9	8,783.0	8,895.2	0.00	0.00	0.00
16,700.0	90.43	90.00	6,641.6	-1,425.9	8,883.0	8,994.3	0.00	0.00	0.00
16,800.0	90.43	90.00	6,640.9	-1,425.9	8,983.0	9,093.4	0.00	0.00	0.00
16,900.0	90.43	90.00	6,640.1	-1,425.9	9,083.0	9,192.5	0.00	0.00	0.00
17,000.0	90.43	90.00	6,639.4	-1,425.9	9,183.0	9,291.5	0.00	0.00	0.00
17,100.0	90.43	90.00	6,638.6	-1,425.9	9,283.0	9,390.6	0.00	0.00	0.00
17,200.0	90.43	90.00	6,637.9	-1,425.9	9,383.0	9,489.7	0.00	0.00	0.00
17,300.0	90.43	90.00	6,637.1	-1,425.9	9,483.0	9,588.8	0.00	0.00	0.00
17,400.0	90.43	90.00	6,636.4	-1,425.9	9,583.0	9,687.8	0.00	0.00	0.00
17,500.0	90.43	90.00	6,635.6	-1,425.9	9,683.0	9,786.9	0.00	0.00	0.00
17,600.0	90.43	90.00	6,634.9	-1,425.9	9,783.0	9,886.0	0.00	0.00	0.00
17,700.0	90.43	90.00	6,634.1	-1,425.9	9,883.0	9,985.1	0.00	0.00	0.00
17,800.0	90.43	90.00	6,633.4	-1,425.9	9,983.0	10,084.1	0.00	0.00	0.00
17,900.0	90.43	90.00	6,632.6	-1,425.9	10,083.0	10,183.2	0.00	0.00	0.00
18,000.0	90.43	90.00	6,631.9	-1,425.9	10,183.0	10,282.3	0.00	0.00	0.00
18,100.0	90.43	90.00	6,631.1	-1,425.9	10,283.0	10,381.4	0.00	0.00	0.00
18,200.0	90.43	90.00	6,630.4	-1,425.9	10,383.0	10,480.4	0.00	0.00	0.00
18,250.5	90.43	90.00	6,630.0	-1,425.9	10,433.5	10,530.5	0.00	0.00	0.00
TD at 18250.5									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
SHL 2449'FNL & 2250'F	0.00	0.00	1.0	0.0	0.0	1,384,451.02	3,253,111.05	40.385160	-104.591380
- plan hits target center									
- Point									
50'N/S Hardline (19P-20	0.00	0.00	1.0	-1,425.9	5,026.7	1,383,076.72	3,258,151.88	40.381245	-104.573338
- plan misses target center by 5225.0ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E)									
- Rectangle (sides W100.0 H10,813.6 D0.0)									
BHL 1314'FSL & 2396'FI	0.00	0.00	6,630.0	-1,425.9	10,433.5	1,383,132.16	3,263,558.21	40.381240	-104.553930
- plan hits target center									
- Point									

<b>Database:</b>	US_EDM	<b>Local Co-ordinate Reference:</b>	Well Klein 19P-202
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Project:</b>	SEC.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Klein 19P-202	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #3 (7-15-15)		

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,436.6	6,711.0	7"	7	7-1/2

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,685.6	3,550.0	Parkman		0.00	
4,475.7	4,300.0	Sussex		0.00	
4,686.3	4,500.0	Shannon		0.00	
6,787.5	6,463.0	Sharon Springs		0.00	
6,999.8	6,596.0	Niobrara A		0.00	
7,287.4	6,698.0	Niobrara B		0.00	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
200.0	200.0	0.0	0.0	KOP -Start Build 1.50
6,065.4	5,809.1	-141.3	-132.6	Start DLS 7.50 TFO -131.59
7,436.6	6,711.0	-1,206.2	-1,131.7	Start 10813.9 hold at 7436.6 MD
18,250.5	6,630.0	-1,425.9	-380.1	TD at 18250.5





## **Directional**

# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.19-T5N-R64W**

**Klein 19O-HZ Pad Sec.19-T5N-R64W**

**Klein 19P-202**

**Wellbore #1**

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

## **Anticollision Report**

**29 July, 2015**



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #3 (7-15-15)		
<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>	7/29/2015		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	18,250.5	Plan #3 (7-15-15) (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>						
Existing Wells Sec.21-T5N-R64W						
Eldersub 11-21 (Exist) - Wellbore #1 - Wellbore #1	17,216.2	6,300.0	341.4	257.5	4.068	CC, ES, SF
Klein 19O-HZ Pad Sec.19-T5N-R64W						
Klein 19N-302 - Wellbore #1 - Plan #3 (7-15-15)	200.0	200.0	91.1	90.4	135.089	CC, ES
Klein 19N-302 - Wellbore #1 - Plan #3 (7-15-15)	900.0	893.3	145.4	141.5	37.242	SF
Klein 19N-432 - Wellbore #1 - Plan #3 (7-16-15)	200.0	200.0	58.3	57.6	86.469	CC, ES
Klein 19N-432 - Wellbore #1 - Plan #3 (7-16-15)	800.0	797.5	98.0	94.6	28.703	SF
Klein 19O-212 - Wellbore #1 - Plan #3 (7-15-15)	200.0	200.0	173.5	172.8	257.288	CC, ES
Klein 19O-212 - Wellbore #1 - Plan #3 (7-15-15)	3,800.0	3,730.7	982.8	963.2	50.040	SF
Klein 19O-232 - Wellbore #1 - Plan #4 (7-15-15)	200.0	200.0	150.4	149.8	223.099	CC, ES
Klein 19O-232 - Wellbore #1 - Plan #4 (7-15-15)	18,250.5	17,970.5	812.4	187.2	1.299	Level 3, SF
Klein 19O-302 - Wellbore #1 - Plan #4 (7-15-15)	200.0	200.0	162.7	162.0	241.270	CC, ES
Klein 19O-302 - Wellbore #1 - Plan #4 (7-15-15)	4,200.0	4,191.5	984.9	963.8	46.564	SF
Klein 19O-402 - Wellbore #1 - Plan #3 (7-15-15)	200.0	200.0	153.2	152.6	227.251	CC, ES
Klein 19O-402 - Wellbore #1 - Plan #3 (7-15-15)	5,600.0	5,600.0	863.4	829.1	25.153	SF
Klein 19P-312 - Wellbore #1 - Plan #3 (7-15-15)	200.0	200.0	29.2	28.5	43.253	CC
Klein 19P-312 - Wellbore #1 - Plan #3 (7-15-15)	18,250.5	18,129.2	263.9	-336.3	0.440	Level 1, ES, SF
Maxey 24O-HZ Pad Sec.24-T5N-R65W						
Maxey 24P-312 - Wellbore #1 - Wellbore #1	7,000.0	11,196.0	225.0	126.4	2.281	SF
Maxey 24P-312 - Wellbore #1 - Wellbore #1	7,013.4	11,196.0	224.6	126.2	2.284	CC, ES
Maxey 24P-402 - Wellbore #1 - Wellbore #1	7,050.0	11,303.0	266.6	219.1	5.611	SF
Maxey 24P-402 - Wellbore #1 - Wellbore #1	7,063.1	11,303.0	266.1	218.9	5.632	CC, ES
Schneider 19Q-HZ Pad (Existing) Sec.19-T5N-R64W						
Danley 33-20 (Exist) - Wellbore #1 - Wellbore #1	13,299.4	6,794.6	543.8	352.3	2.839	CC
Danley 33-20 (Exist) - Wellbore #1 - Wellbore #1	13,300.0	6,794.5	543.8	352.2	2.839	ES, SF
Danley 43-20 (Exist) - Wellbore #1 - Wellbore #1	14,815.5	6,871.4	775.2	539.9	3.295	CC, ES
Danley 43-20 (Exist) - Wellbore #1 - Wellbore #1	14,900.0	6,869.4	779.8	542.1	3.281	SF
Evert 5 (Exist) - Wellbore #1 - Wellbore #1	11,327.0	6,679.6	98.5	-37.1	0.726	Level 1, CC, ES, SF
Ivan Klein 13-20 (Exist) - Wellbore #1 - Wellbore #1	10,686.0	6,662.5	371.6	255.2	3.193	CC
Ivan Klein 13-20 (Exist) - Wellbore #1 - Wellbore #1	10,700.0	6,662.2	371.9	255.1	3.185	ES, SF
Mowery 5 (Exist) - Wellbore #1 - Wellbore #1	8,825.1	6,689.6	170.0	101.2	2.472	CC, ES, SF
Schneider 19Q-HZ Pad Sec.19-T5N-R64W						
Schneider 19P-232 - Wellbore #1 - Plan #3 (7-20-15)	18,250.5	16,585.6	571.9	-22.4	0.962	Level 1, CC, ES, SF

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 Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.21-T5N-R64W - Eldersub 11-21 (Exist) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
16,300.0	6,644.6	6,300.0	6,298.6	260.6	11.0	-2.08	-1,413.5	9,396.6	977.7	900.6	77.16	12.672		
16,400.0	6,643.9	6,300.0	6,298.6	263.4	11.0	-2.08	-1,413.5	9,396.6	884.7	806.8	77.90	11.358		
16,500.0	6,643.1	6,300.0	6,298.6	266.2	11.0	-2.08	-1,413.5	9,396.6	793.4	714.8	78.63	10.090		
16,600.0	6,642.4	6,300.0	6,298.6	269.0	11.0	-2.08	-1,413.5	9,396.6	704.4	625.1	79.37	8.875		
16,700.0	6,641.6	6,300.0	6,298.6	271.8	11.0	-2.08	-1,413.5	9,396.6	618.9	538.7	80.11	7.725		
16,800.0	6,640.9	6,300.0	6,298.6	274.6	11.0	-2.08	-1,413.5	9,396.6	538.3	457.4	80.85	6.658		
16,900.0	6,640.1	6,300.0	6,298.6	277.4	11.0	-2.08	-1,413.5	9,396.6	465.3	383.7	81.59	5.703		
17,000.0	6,639.4	6,300.0	6,298.6	280.1	11.0	-2.08	-1,413.5	9,396.6	404.1	321.8	82.33	4.908		
17,100.0	6,638.6	6,300.0	6,298.6	282.9	11.0	-2.08	-1,413.5	9,396.6	360.6	277.6	83.07	4.341		
17,200.0	6,637.9	6,300.0	6,298.6	285.7	11.0	-2.08	-1,413.5	9,396.6	341.8	258.0	83.81	4.078		
17,216.2	6,637.7	6,300.0	6,298.6	286.2	11.0	-2.08	-1,413.5	9,396.6	341.4	257.5	83.93	4.068	CC, ES, SF	
17,300.0	6,637.1	6,300.0	6,298.6	288.5	11.0	-2.08	-1,413.5	9,396.6	351.5	267.0	84.55	4.158		
17,400.0	6,636.4	6,300.0	6,298.6	291.3	11.0	-2.08	-1,413.5	9,396.6	387.7	302.4	85.29	4.546		
17,500.0	6,635.6	6,300.0	6,298.6	294.1	11.0	-2.08	-1,413.5	9,396.6	444.0	357.9	86.03	5.161		
17,600.0	6,634.9	6,300.0	6,298.6	296.9	11.0	-2.08	-1,413.5	9,396.6	513.7	426.9	86.77	5.920		
17,700.0	6,634.1	6,300.0	6,298.6	299.7	11.0	-2.08	-1,413.5	9,396.6	592.1	504.6	87.51	6.767		
17,800.0	6,633.4	6,300.0	6,298.6	302.5	11.0	-2.08	-1,413.5	9,396.6	676.3	588.1	88.25	7.664		
17,900.0	6,632.6	6,300.0	6,298.6	305.3	11.0	-2.08	-1,413.5	9,396.6	764.3	675.3	88.99	8.589		
18,000.0	6,631.9	6,300.0	6,298.6	308.1	11.0	-2.08	-1,413.5	9,396.6	854.9	765.2	89.73	9.528		
18,100.0	6,631.1	6,300.0	6,298.6	310.9	11.0	-2.08	-1,413.5	9,396.6	947.5	857.0	90.47	10.473		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Klein 19O-HZ Pad Sec.19-T5N-R64W - Klein 19N-302 - Wellbore #1 - Plan #3 (7-15-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	0.00	91.1	0.0	91.1					
100.0	100.0	100.0	100.0	0.1	0.1	0.00	91.1	0.0	91.1	90.9	0.22	405.266		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	91.1	0.0	91.1	90.4	0.67	135.089 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.6	137.37	91.1	0.0	92.0	90.9	1.11	83.006		
400.0	399.9	399.9	399.9	0.8	0.8	138.95	91.1	0.0	95.0	93.4	1.55	61.387		
500.0	499.7	499.7	499.7	1.0	1.0	141.36	91.1	0.0	100.0	98.0	2.00	49.934		
600.0	599.3	599.3	599.3	1.2	1.2	144.34	91.1	0.0	107.3	104.8	2.47	43.445		
700.0	698.6	698.6	698.6	1.5	1.5	147.61	91.1	0.0	117.1	114.1	2.95	39.749		
800.0	797.5	797.5	797.5	1.9	1.7	150.92	91.1	0.0	129.4	126.0	3.43	37.793		
900.0	896.1	893.3	893.3	2.2	1.9	153.70	92.2	-0.4	145.4	141.5	3.91	37.242 SF		
1,000.0	994.2	988.0	988.0	2.6	2.1	155.71	95.4	-1.7	165.9	161.6	4.39	37.775		
1,100.0	1,091.7	1,081.5	1,081.3	3.1	2.3	157.04	100.8	-3.7	190.8	185.9	4.89	39.037		
1,200.0	1,188.6	1,173.5	1,172.9	3.6	2.5	157.85	108.1	-6.5	219.7	214.3	5.39	40.768		
1,300.0	1,284.9	1,263.8	1,262.7	4.1	2.8	158.28	117.3	-10.1	252.7	246.8	5.90	42.796		
1,400.0	1,380.4	1,352.2	1,350.3	4.7	3.0	158.42	128.3	-14.3	289.6	283.1	6.43	44.999		
1,421.9	1,401.2	1,371.4	1,369.2	4.8	3.1	158.42	130.9	-15.3	298.2	291.6	6.55	45.498		
1,500.0	1,475.3	1,438.9	1,435.9	5.3	3.2	158.50	140.9	-19.1	329.5	322.5	6.98	47.190		
1,600.0	1,570.2	1,524.2	1,519.9	5.9	3.5	158.38	155.0	-24.5	371.0	363.4	7.55	49.142		
1,700.0	1,665.2	1,608.3	1,602.3	6.6	3.8	158.08	170.6	-30.5	413.9	405.8	8.14	50.878		
1,800.0	1,760.1	1,696.2	1,688.1	7.2	4.1	157.69	188.3	-37.3	457.9	449.2	8.75	52.333		
1,900.0	1,855.0	1,785.9	1,775.7	7.9	4.5	157.36	206.4	-44.2	502.0	492.6	9.38	53.529		
2,000.0	1,949.9	1,875.7	1,863.4	8.5	4.8	157.08	224.5	-51.2	546.1	536.1	10.01	54.548		
2,100.0	2,044.9	1,965.4	1,951.0	9.2	5.2	156.84	242.6	-58.1	590.2	579.5	10.65	55.399		
2,200.0	2,139.8	2,055.1	2,038.6	9.8	5.6	156.63	260.6	-65.1	634.3	623.0	11.30	56.122		
2,300.0	2,234.7	2,144.9	2,126.2	10.5	6.0	156.45	278.7	-72.0	678.4	666.4	11.96	56.740		
2,400.0	2,329.6	2,234.6	2,213.8	11.1	6.3	156.30	296.8	-79.0	722.5	709.9	12.61	57.274		
2,500.0	2,424.6	2,324.3	2,301.4	11.8	6.7	156.16	314.9	-85.9	766.6	753.3	13.28	57.738		
2,600.0	2,519.5	2,414.1	2,389.0	12.4	7.1	156.03	333.0	-92.8	810.7	796.8	13.94	58.145		
2,700.0	2,614.4	2,503.8	2,476.7	13.1	7.5	155.92	351.1	-99.8	854.8	840.2	14.61	58.503		
2,800.0	2,709.4	2,593.5	2,564.3	13.7	7.9	155.82	369.2	-106.7	899.0	883.7	15.28	58.819		
2,900.0	2,804.3	2,683.2	2,651.9	14.4	8.3	155.73	387.2	-113.7	943.1	927.1	15.96	59.101		
3,000.0	2,899.2	2,773.0	2,739.5	15.0	8.7	155.65	405.3	-120.6	987.2	970.6	16.63	59.353		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Klein 19O-HZ Pad Sec.19-T5N-R64W - Klein 19N-432 - Wellbore #1 - Plan #3 (7-16-15)													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)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	0.00	58.3	0.0	58.3					
100.0	100.0	100.0	100.0	0.1	0.1	0.00	58.3	0.0	58.3	58.1	0.22	259.408		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	58.3	0.0	58.3	57.6	0.67	86.469 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.6	137.68	58.3	0.0	59.3	58.2	1.11	53.443		
400.0	399.9	399.9	399.9	0.8	0.8	140.09	58.3	0.0	62.2	60.7	1.55	40.210		
500.0	499.7	499.7	499.7	1.0	1.0	143.61	58.3	0.0	67.4	65.4	2.00	33.633		
600.0	599.3	599.3	599.3	1.2	1.2	147.70	58.3	0.0	74.9	72.5	2.47	30.348		
700.0	698.6	698.6	698.6	1.5	1.5	151.85	58.3	0.0	85.1	82.2	2.94	28.940		
800.0	797.5	797.5	797.5	1.9	1.7	155.72	58.3	0.0	98.0	94.6	3.42	28.703 SF		
900.0	896.1	896.1	896.1	2.2	1.9	159.14	58.3	0.0	113.7	109.8	3.89	29.237		
1,000.0	994.2	994.2	994.2	2.6	2.1	162.06	58.3	0.0	132.2	127.8	4.36	30.296		
1,100.0	1,091.7	1,090.4	1,090.4	3.1	2.3	164.25	58.9	-0.3	153.7	148.9	4.83	31.807		
1,200.0	1,188.6	1,185.6	1,185.5	3.6	2.5	165.63	60.9	-1.4	178.8	173.5	5.31	33.687		
1,300.0	1,284.9	1,279.7	1,279.6	4.1	2.8	166.43	64.3	-3.3	207.3	201.5	5.79	35.810		
1,400.0	1,380.4	1,372.7	1,372.4	4.7	3.0	166.82	69.0	-5.8	239.0	232.7	6.28	38.087		
1,421.9	1,401.2	1,392.9	1,392.6	4.8	3.0	166.86	70.1	-6.4	246.4	240.0	6.38	38.602		
1,500.0	1,475.3	1,464.5	1,464.0	5.3	3.2	166.98	74.8	-9.0	273.2	266.4	6.78	40.319		
1,600.0	1,570.2	1,555.8	1,555.0	5.9	3.4	166.87	82.0	-12.8	308.2	300.9	7.29	42.271		
1,700.0	1,665.2	1,646.6	1,645.2	6.6	3.6	166.57	90.3	-17.4	344.0	336.2	7.82	43.983		
1,800.0	1,760.1	1,736.6	1,734.6	7.2	3.9	166.13	99.9	-22.5	380.5	372.2	8.37	45.487		
1,900.0	1,855.0	1,826.1	1,823.2	7.9	4.1	165.59	110.6	-28.3	417.9	408.9	8.93	46.812		
2,000.0	1,949.9	1,914.8	1,910.9	8.5	4.4	164.98	122.4	-34.7	456.0	446.5	9.50	47.981		
2,100.0	2,044.9	2,003.8	1,998.7	9.2	4.6	164.32	135.4	-41.8	494.9	484.8	10.10	48.988		
2,200.0	2,139.8	2,095.7	2,089.2	9.8	4.9	163.69	149.1	-49.3	534.1	523.4	10.72	49.836		
2,300.0	2,234.7	2,187.5	2,179.7	10.5	5.2	163.16	162.9	-56.7	573.4	562.0	11.34	50.560		
2,400.0	2,329.6	2,279.4	2,270.2	11.1	5.5	162.69	176.6	-64.2	612.6	600.7	11.97	51.184		
2,500.0	2,424.6	2,371.2	2,360.7	11.8	5.9	162.27	190.4	-71.6	652.0	639.3	12.60	51.726		
2,600.0	2,519.5	2,463.1	2,451.3	12.4	6.2	161.91	204.1	-79.1	691.3	678.0	13.24	52.199		
2,700.0	2,614.4	2,554.9	2,541.8	13.1	6.5	161.58	217.9	-86.6	730.6	716.8	13.89	52.615		
2,800.0	2,709.4	2,646.8	2,632.3	13.7	6.8	161.29	231.6	-94.0	770.0	755.5	14.53	52.983		
2,900.0	2,804.3	2,738.7	2,722.8	14.4	7.2	161.02	245.4	-101.5	809.4	794.2	15.18	53.311		
3,000.0	2,899.2	2,830.5	2,813.3	15.0	7.5	160.78	259.1	-108.9	848.8	833.0	15.84	53.603		
3,100.0	2,994.1	2,922.4	2,903.8	15.7	7.8	160.57	272.9	-116.4	888.2	871.7	16.49	53.866		
3,200.0	3,089.1	3,014.2	2,994.3	16.3	8.2	160.37	286.6	-123.9	927.7	910.5	17.15	54.102		
3,300.0	3,184.0	3,106.1	3,084.8	17.0	8.5	160.18	300.4	-131.3	967.1	949.3	17.80	54.317		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Klein 19O-HZ Pad Sec.19-T5N-R64W - Klein 19O-212 - Wellbore #1 - Plan #3 (7-15-15)												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)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	58.33	91.1	147.6	173.5				
100.0	100.0	100.0	100.0	0.1	0.1	58.33	91.1	147.6	173.5	173.3	0.22	771.863	
200.0	200.0	200.0	200.0	0.3	0.3	58.33	91.1	147.6	173.5	172.8	0.67	257.288 CC, ES	
300.0	300.0	300.0	300.0	0.5	0.6	-164.96	91.1	147.6	174.8	173.6	1.11	157.126	
400.0	399.9	399.9	399.9	0.8	0.8	-165.27	91.1	147.6	178.5	177.0	1.55	114.934	
500.0	499.7	499.7	499.7	1.0	1.0	-165.76	91.1	147.6	184.9	182.9	2.01	92.100	
600.0	599.3	599.3	599.3	1.2	1.2	-166.39	91.1	147.6	193.8	191.3	2.47	78.518	
700.0	698.6	698.6	698.6	1.5	1.5	-167.13	91.1	147.6	205.2	202.3	2.93	69.983	
800.0	797.5	797.5	797.5	1.9	1.7	-167.92	91.1	147.6	219.2	215.8	3.40	64.484	
900.0	896.1	896.1	896.1	2.2	1.9	-168.73	91.1	147.6	235.8	232.0	3.87	60.945	
1,000.0	994.2	994.2	994.2	2.6	2.1	-169.53	91.1	147.6	255.0	250.7	4.34	58.743	
1,100.0	1,091.7	1,091.7	1,091.7	3.1	2.3	-170.31	91.1	147.6	276.7	271.9	4.81	57.491	
1,200.0	1,188.6	1,188.6	1,188.6	3.6	2.6	-171.04	91.1	147.6	301.0	295.8	5.29	56.936	
1,300.0	1,284.9	1,284.9	1,284.9	4.1	2.8	-171.71	91.1	147.6	327.9	322.1	5.76	56.905	
1,400.0	1,380.4	1,380.4	1,380.4	4.7	3.0	-172.34	91.1	147.6	357.3	351.1	6.24	57.278	
1,421.9	1,401.2	1,401.2	1,401.2	4.8	3.0	-172.47	91.1	147.6	364.1	357.7	6.34	57.405	
1,500.0	1,475.3	1,475.3	1,475.3	5.3	3.2	-172.94	91.1	147.6	388.5	381.7	6.72	57.790	
1,600.0	1,570.2	1,573.8	1,573.8	5.9	3.4	-173.54	91.2	147.2	419.4	412.2	7.21	58.178	
1,700.0	1,665.2	1,674.1	1,674.1	6.6	3.6	-174.23	91.5	145.0	449.3	441.6	7.69	58.436	
1,800.0	1,760.1	1,775.0	1,774.9	7.2	3.8	-175.00	92.0	141.1	478.2	470.1	8.17	58.516	
1,900.0	1,855.0	1,876.3	1,876.1	7.9	4.1	-175.85	92.8	135.4	506.1	497.5	8.66	58.423	
2,000.0	1,949.9	1,978.1	1,977.6	8.5	4.3	-176.76	93.8	127.9	533.0	523.9	9.16	58.182	
2,100.0	2,044.9	2,080.3	2,079.3	9.2	4.5	-177.73	95.1	118.6	559.0	549.3	9.67	57.806	
2,200.0	2,139.8	2,182.9	2,181.2	9.8	4.8	-178.77	96.7	107.4	584.1	573.9	10.19	57.307	
2,300.0	2,234.7	2,283.4	2,281.0	10.5	5.0	-179.83	98.4	94.8	608.3	597.6	10.72	56.728	
2,400.0	2,329.6	2,379.9	2,376.6	11.1	5.3	179.20	100.2	82.3	632.5	621.3	11.26	56.171	
2,500.0	2,424.6	2,476.4	2,472.3	11.8	5.5	178.31	101.9	69.8	656.9	645.1	11.81	55.618	
2,600.0	2,519.5	2,572.9	2,568.0	12.4	5.8	177.48	103.6	57.4	681.4	669.1	12.37	55.083	
2,700.0	2,614.4	2,669.3	2,663.6	13.1	6.1	176.70	105.4	44.9	706.1	693.2	12.94	54.566	
2,800.0	2,709.4	2,765.8	2,759.3	13.7	6.4	175.98	107.1	32.4	730.9	717.3	13.52	54.066	
2,900.0	2,804.3	2,862.3	2,854.9	14.4	6.6	175.30	108.9	20.0	755.7	741.6	14.10	53.585	
3,000.0	2,899.2	2,958.8	2,950.6	15.0	6.9	174.67	110.6	7.5	780.7	766.0	14.70	53.121	
3,100.0	2,994.1	3,055.3	3,046.3	15.7	7.2	174.08	112.3	-5.0	805.7	790.4	15.30	52.676	
3,200.0	3,089.1	3,151.8	3,141.9	16.3	7.5	173.52	114.1	-17.4	830.8	814.9	15.90	52.249	
3,300.0	3,184.0	3,248.2	3,237.6	17.0	7.8	172.99	115.8	-29.9	856.0	839.5	16.51	51.840	
3,400.0	3,278.9	3,344.7	3,333.2	17.7	8.1	172.50	117.5	-42.4	881.3	864.2	17.13	51.448	
3,500.0	3,373.8	3,441.2	3,428.9	18.3	8.4	172.03	119.3	-54.8	906.6	888.8	17.75	51.073	
3,600.0	3,468.8	3,537.7	3,524.6	19.0	8.7	171.59	121.0	-67.3	932.0	913.6	18.38	50.713	
3,700.0	3,563.7	3,634.2	3,620.2	19.6	9.0	171.17	122.7	-79.8	957.4	938.4	19.01	50.369	
3,800.0	3,658.6	3,730.7	3,715.9	20.3	9.3	170.77	124.5	-92.3	982.8	963.2	19.64	50.040 SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Klein 19O-HZ Pad Sec.19-T5N-R64W - Klein 19O-232 - Wellbore #1 - Plan #4 (7-15-15)													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	89.99	0.0	150.4	150.4					
100.0	100.0	100.0	100.0	0.1	0.1	89.99	0.0	150.4	150.4	150.2	0.22	669.296		
200.0	200.0	200.0	200.0	0.3	0.3	89.99	0.0	150.4	150.4	149.8	0.67	223.099 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.6	-133.53	0.0	150.4	151.3	150.2	1.11	136.622		
400.0	399.9	399.9	399.9	0.8	0.8	-134.56	0.0	150.4	154.1	152.5	1.54	99.751		
500.0	499.7	499.7	499.7	1.0	1.0	-136.19	0.0	150.4	158.7	156.7	2.00	79.348		
600.0	599.3	599.3	599.3	1.2	1.2	-138.32	0.0	150.4	165.5	163.0	2.47	66.955		
700.0	698.6	698.6	698.6	1.5	1.5	-140.79	0.0	150.4	174.4	171.5	2.95	59.037		
800.0	797.5	797.5	797.5	1.9	1.7	-143.48	0.0	150.4	185.8	182.4	3.45	53.891		
900.0	896.1	896.1	896.1	2.2	1.9	-146.24	0.0	150.4	199.7	195.8	3.95	50.594		
1,000.0	994.2	994.2	994.2	2.6	2.1	-148.97	0.0	150.4	216.3	211.8	4.45	48.599		
1,100.0	1,091.7	1,097.6	1,097.6	3.1	2.3	-151.69	-0.6	149.3	234.4	229.5	4.94	47.441		
1,200.0	1,188.6	1,201.9	1,201.8	3.6	2.5	-154.21	-2.6	145.8	252.7	247.3	5.41	46.677		
1,300.0	1,284.9	1,306.8	1,306.5	4.1	2.7	-156.56	-6.0	139.7	271.0	265.1	5.89	45.995		
1,400.0	1,380.4	1,412.3	1,411.5	4.7	3.0	-158.78	-10.8	131.0	289.4	283.1	6.38	45.386		
1,421.9	1,401.2	1,435.5	1,434.5	4.8	3.0	-159.25	-12.1	128.8	293.5	287.0	6.48	45.257		
1,500.0	1,475.3	1,518.5	1,516.9	5.3	3.2	-160.92	-17.1	119.8	307.2	300.3	6.87	44.691		
1,600.0	1,570.2	1,625.6	1,622.8	5.9	3.5	-162.85	-24.9	105.8	322.6	315.2	7.38	43.715		
1,700.0	1,665.2	1,733.7	1,729.2	6.6	3.9	-164.62	-34.2	89.1	335.5	327.6	7.89	42.502		
1,800.0	1,760.1	1,842.4	1,835.6	7.2	4.2	-166.29	-45.0	69.6	345.8	337.4	8.42	41.087		
1,900.0	1,855.0	1,951.7	1,941.9	7.9	4.7	-167.91	-57.4	47.4	353.6	344.6	8.95	39.514		
2,000.0	1,949.9	2,061.3	2,047.7	8.5	5.2	-169.52	-71.3	22.5	358.7	349.2	9.49	37.787		
2,100.0	2,044.9	2,171.1	2,152.8	9.2	5.7	-171.14	-86.7	-5.1	361.3	351.2	10.06	35.928		
2,200.0	2,139.8	2,276.6	2,253.0	9.8	6.3	-172.75	-102.8	-33.9	361.5	350.9	10.62	34.023		
2,251.4	2,188.5	2,327.7	2,301.5	10.1	6.6	-173.54	-110.7	-48.1	361.5	350.5	10.92	33.107		
2,300.0	2,234.7	2,376.1	2,347.4	10.5	6.9	-174.28	-118.2	-61.6	361.5	350.3	11.20	32.279		
2,400.0	2,329.6	2,475.6	2,441.8	11.1	7.5	-175.81	-133.6	-89.2	361.7	349.9	11.79	30.678		
2,500.0	2,424.6	2,575.2	2,536.1	11.8	8.1	-177.34	-149.0	-116.8	362.3	349.8	12.41	29.198		
2,600.0	2,519.5	2,674.7	2,630.5	12.4	8.7	-178.86	-164.4	-144.4	363.0	350.0	13.05	27.822		
2,700.0	2,614.4	2,774.2	2,724.9	13.1	9.4	-179.62	-179.8	-172.0	364.1	350.3	13.72	26.539		
2,800.0	2,709.4	2,873.7	2,819.3	13.7	10.0	-178.12	-195.2	-199.6	365.4	350.9	14.42	25.337		
2,900.0	2,804.3	2,973.3	2,913.6	14.4	10.6	-176.63	-210.6	-227.2	366.9	351.7	15.15	24.210		
3,000.0	2,899.2	3,072.8	3,008.0	15.0	11.3	-175.15	-226.0	-254.8	368.7	352.8	15.93	23.150		
3,100.0	2,994.1	3,172.3	3,102.4	15.7	11.9	-173.68	-241.4	-282.4	370.7	354.0	16.73	22.154		
3,200.0	3,089.1	3,271.9	3,196.8	16.3	12.6	-172.23	-256.8	-310.0	373.0	355.4	17.58	21.218		
3,300.0	3,184.0	3,371.4	3,291.1	17.0	13.2	-170.81	-272.2	-337.6	375.5	357.0	18.46	20.338		
3,400.0	3,278.9	3,470.9	3,385.5	17.7	13.9	-169.40	-287.6	-365.2	378.3	358.9	19.39	19.512		
3,500.0	3,373.8	3,570.4	3,479.9	18.3	14.5	-168.01	-303.0	-392.8	381.2	360.9	20.35	18.736		
3,600.0	3,468.8	3,670.0	3,574.3	19.0	15.2	-166.64	-318.4	-420.5	384.4	363.1	21.34	18.010		
3,700.0	3,563.7	3,769.5	3,668.6	19.6	15.9	-165.30	-333.8	-448.1	387.8	365.5	22.38	17.330		
3,800.0	3,658.6	3,869.0	3,763.0	20.3	16.5	-163.98	-349.2	-475.7	391.5	368.0	23.45	16.694		
3,900.0	3,753.5	3,968.6	3,857.4	20.9	17.2	-162.68	-364.6	-503.3	395.3	370.7	24.55	16.100		
4,000.0	3,848.5	4,068.1	3,951.8	21.6	17.8	-161.41	-380.0	-530.9	399.3	373.6	25.69	15.546		
4,100.0	3,943.4	4,167.6	4,046.1	22.2	18.5	-160.17	-395.4	-558.5	403.5	376.7	26.85	15.029		
4,200.0	4,038.3	4,267.1	4,140.5	22.9	19.2	-158.95	-410.8	-586.1	407.9	379.9	28.04	14.546		
4,300.0	4,133.3	4,366.7	4,234.9	23.6	19.8	-157.76	-426.2	-613.7	412.5	383.3	29.26	14.097		
4,400.0	4,228.2	4,466.2	4,329.3	24.2	20.5	-156.60	-441.6	-641.3	417.3	386.8	30.51	13.678		
4,500.0	4,323.1	4,565.7	4,423.6	24.9	21.2	-155.46	-457.0	-668.9	422.2	390.4	31.77	13.288		
4,600.0	4,418.0	4,665.2	4,518.0	25.5	21.8	-154.35	-472.4	-696.5	427.3	394.3	33.06	12.925		
4,700.0	4,513.0	4,764.8	4,612.4	26.2	22.5	-153.26	-487.8	-724.1	432.6	398.2	34.37	12.586		
4,800.0	4,607.9	4,864.3	4,706.8	26.8	23.2	-152.20	-503.2	-751.7	438.0	402.3	35.69	12.270		

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 Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Klein 19O-HZ Pad Sec.19-T5N-R64W - Klein 19O-232 - Wellbore #1 - Plan #4 (7-15-15)											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	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)				
4,900.0	4,702.8	4,963.8	4,801.1	27.5	23.8	151.17	-518.6	-779.4	443.5	406.5	37.04	11.976			
5,000.0	4,797.7	5,063.4	4,895.5	28.2	24.5	150.16	-534.0	-807.0	449.2	410.8	38.39	11.702			
5,100.0	4,892.7	5,157.8	4,985.2	28.8	25.1	149.27	-548.4	-832.8	455.3	415.7	39.66	11.481			
5,200.0	4,987.6	5,247.7	5,071.3	29.5	25.5	148.67	-561.0	-855.4	463.4	422.7	40.72	11.380			
5,300.0	5,082.5	5,337.4	5,158.0	30.1	25.9	148.35	-572.2	-875.5	473.6	432.0	41.62	11.380			
5,400.0	5,177.4	5,426.8	5,245.1	30.8	26.2	148.29	-582.0	-893.1	485.9	443.5	42.37	11.466			
5,500.0	5,272.4	5,515.7	5,332.2	31.4	26.5	148.48	-590.5	-908.4	500.2	457.2	42.99	11.635			
5,600.0	5,367.3	5,600.0	5,415.4	32.1	26.8	148.87	-597.3	-920.6	516.5	473.0	43.47	11.883			
5,700.0	5,462.2	5,691.2	5,505.7	32.8	27.0	149.49	-603.4	-931.4	534.9	491.1	43.82	12.208			
5,800.0	5,557.2	5,777.5	5,591.6	33.4	27.2	150.24	-607.8	-939.4	555.4	511.3	44.05	12.607			
5,900.0	5,652.1	5,862.8	5,676.6	34.1	27.4	151.13	-610.9	-945.0	578.0	533.8	44.19	13.080			
6,000.0	5,747.0	5,946.8	5,760.4	34.7	27.5	152.12	-612.8	-948.3	602.8	558.6	44.24	13.625			
6,065.4	5,809.1	6,000.0	5,813.7	35.2	27.5	152.79	-613.4	-949.4	620.3	576.0	44.25	14.017			
6,100.0	5,842.1	6,029.5	5,843.2	35.4	27.6	160.28	-613.5	-949.6	629.7	585.8	43.93	14.332			
6,150.0	5,890.2	6,076.5	5,890.2	35.6	27.6	173.13	-613.5	-949.6	642.9	599.3	43.58	14.751			
6,200.0	5,938.7	6,125.0	5,938.7	35.7	27.7	-171.85	-613.5	-949.6	655.1	611.7	43.40	15.095			
6,250.0	5,987.3	6,168.9	5,982.5	35.9	27.7	-155.86	-613.5	-949.3	666.6	623.2	43.34	15.379			
6,300.0	6,035.8	6,207.4	6,021.0	36.0	27.7	-140.77	-613.5	-947.5	677.6	634.3	43.29	15.653			
6,350.0	6,084.0	6,250.0	6,063.4	36.1	27.7	-128.13	-613.5	-943.1	688.4	645.2	43.26	15.914			
6,400.0	6,131.7	6,284.6	6,097.6	36.2	27.7	-118.17	-613.5	-937.9	698.9	655.7	43.20	16.179			
6,450.0	6,178.7	6,323.3	6,135.5	36.2	27.6	-110.60	-613.5	-930.2	709.0	665.9	43.16	16.426			
6,500.0	6,224.9	6,362.1	6,173.1	36.2	27.6	-104.84	-613.5	-920.5	718.8	675.7	43.14	16.661			
6,550.0	6,269.9	6,400.0	6,209.3	36.2	27.5	-100.39	-613.5	-909.3	728.2	685.1	43.14	16.881			
6,600.0	6,313.6	6,440.4	6,247.2	36.1	27.4	-96.95	-613.5	-895.4	737.2	694.0	43.16	17.081			
6,650.0	6,355.9	6,479.8	6,283.4	36.1	27.3	-94.24	-613.5	-879.8	745.7	702.5	43.21	17.260			
6,700.0	6,396.5	6,519.5	6,319.0	36.0	27.2	-92.11	-613.5	-862.3	753.8	710.5	43.29	17.412			
6,750.0	6,435.3	6,559.5	6,354.0	35.9	27.1	-90.42	-613.5	-842.8	761.4	718.0	43.42	17.535			
6,800.0	6,472.0	6,600.0	6,388.2	35.8	27.0	-89.10	-613.5	-821.3	768.5	724.9	43.61	17.624			
6,850.0	6,506.6	6,640.5	6,421.3	35.7	26.9	-88.08	-613.5	-797.9	775.2	731.3	43.86	17.675			
6,900.0	6,538.9	6,681.6	6,453.6	35.6	26.8	-87.31	-613.5	-772.5	781.3	737.1	44.18	17.684			
6,950.0	6,568.8	6,723.1	6,484.7	35.4	26.7	-86.77	-613.5	-745.1	786.9	742.3	44.58	17.650			
7,000.0	6,596.1	6,765.0	6,514.6	35.3	26.6	-86.41	-613.5	-715.7	791.9	746.9	45.07	17.572			
7,050.0	6,620.7	6,807.5	6,543.2	35.1	26.5	-86.23	-613.5	-684.3	796.4	750.8	45.64	17.450			
7,100.0	6,642.5	6,850.0	6,570.1	35.0	26.4	-86.20	-613.5	-651.4	800.4	754.1	46.30	17.286			
7,150.0	6,661.5	6,894.0	6,595.9	34.8	26.3	-86.33	-613.5	-615.7	803.8	756.7	47.06	17.079			
7,200.0	6,677.4	6,938.1	6,619.7	34.7	26.3	-86.59	-613.5	-578.6	806.6	758.7	47.91	16.836			
7,250.0	6,690.3	6,982.9	6,641.6	34.5	26.3	-86.98	-613.5	-539.5	808.9	760.1	48.84	16.563			
7,300.0	6,700.2	7,028.3	6,661.4	34.4	26.3	-87.49	-613.5	-498.6	810.6	760.8	49.84	16.263			
7,350.0	6,706.9	7,074.5	6,679.0	34.2	26.4	-88.12	-613.5	-456.0	811.8	760.8	50.92	15.942			
7,400.0	6,710.4	7,121.4	6,694.3	34.1	26.5	-88.87	-613.5	-411.7	812.3	760.3	52.05	15.606			
7,436.6	6,711.0	7,156.2	6,703.8	34.0	26.6	-89.49	-613.5	-378.2	812.4	759.5	52.91	15.354			
7,467.4	6,710.8	7,185.9	6,710.7	33.9	26.7	-90.00	-613.5	-349.3	812.4	758.8	53.52	15.179			
7,500.0	6,710.5	7,218.0	6,717.0	33.9	26.9	-90.45	-613.5	-317.8	812.4	758.2	54.18	14.995			
7,600.0	6,709.8	7,319.0	6,727.8	33.7	27.6	-91.27	-613.5	-217.5	812.6	756.1	56.51	14.380			
7,700.0	6,709.0	7,419.9	6,727.9	33.8	28.5	-91.33	-613.5	-116.5	812.6	753.4	59.20	13.726			
7,800.0	6,708.3	7,519.9	6,726.9	34.3	29.6	-91.32	-613.5	-16.5	812.6	750.3	62.25	13.052			
7,900.0	6,707.5	7,619.9	6,726.0	35.3	31.1	-91.30	-613.5	83.5	812.6	746.9	65.65	12.377			
8,000.0	6,706.8	7,719.9	6,725.1	36.9	32.7	-91.29	-613.5	183.4	812.6	743.2	69.34	11.719			
8,100.0	6,706.0	7,819.9	6,724.2	38.8	34.5	-91.28	-613.5	283.4	812.6	739.3	73.27	11.090			
8,200.0	6,705.3	7,919.9	6,723.2	40.9	36.5	-91.27	-613.5	383.4	812.6	735.1	77.42	10.496			
8,300.0	6,704.5	8,019.9	6,722.3	43.1	38.6	-91.25	-613.5	483.4	812.6	730.8	81.74	9.941			

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 Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Klein 19O-HZ Pad Sec.19-T5N-R64W - Klein 19O-232 - Wellbore #1 - Plan #4 (7-15-15)											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	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	Centres (ft)	Ellipses (ft)	Separation (ft)	Factor			
8,400.0	6,703.8	8,119.9	6,721.4	45.5	40.8	-91.24	-613.5	583.4	812.6	726.3	86.21	9.425			
8,500.0	6,703.0	8,219.9	6,720.5	47.8	43.0	-91.23	-613.5	683.4	812.6	721.7	90.81	8.948			
8,600.0	6,702.3	8,319.9	6,719.5	50.2	45.4	-91.22	-613.5	783.4	812.6	717.0	95.52	8.507			
8,700.0	6,701.5	8,419.9	6,718.6	52.7	47.8	-91.21	-613.5	883.4	812.5	712.2	100.32	8.100			
8,800.0	6,700.8	8,519.9	6,717.7	55.2	50.2	-91.19	-613.5	983.4	812.5	707.3	105.20	7.723			
8,900.0	6,700.0	8,619.9	6,716.8	57.7	52.7	-91.18	-613.5	1,083.4	812.5	702.4	110.16	7.376			
9,000.0	6,699.3	8,719.9	6,715.8	60.2	55.2	-91.17	-613.5	1,183.4	812.5	697.4	115.17	7.055			
9,100.0	6,698.5	8,819.9	6,714.9	62.8	57.7	-91.16	-613.5	1,283.4	812.5	692.3	120.24	6.757			
9,200.0	6,697.8	8,919.9	6,714.0	65.4	60.3	-91.14	-613.5	1,383.4	812.5	687.2	125.36	6.482			
9,300.0	6,697.0	9,019.9	6,713.1	68.0	62.8	-91.13	-613.5	1,483.4	812.5	682.0	130.52	6.226			
9,400.0	6,696.3	9,119.9	6,712.1	70.6	65.4	-91.12	-613.5	1,583.4	812.5	676.8	135.71	5.987			
9,500.0	6,695.5	9,219.9	6,711.2	73.2	68.1	-91.11	-613.5	1,683.4	812.5	671.6	140.94	5.765			
9,600.0	6,694.8	9,319.9	6,710.3	75.9	70.7	-91.09	-613.5	1,783.4	812.5	666.3	146.19	5.558			
9,700.0	6,694.0	9,419.9	6,709.4	78.5	73.3	-91.08	-613.5	1,883.4	812.5	661.0	151.47	5.364			
9,800.0	6,693.3	9,519.9	6,708.4	81.2	76.0	-91.07	-613.5	1,983.4	812.5	655.7	156.78	5.183			
9,900.0	6,692.5	9,619.9	6,707.5	83.8	78.7	-91.06	-613.5	2,083.4	812.5	650.4	162.10	5.012			
10,000.0	6,691.8	9,719.9	6,706.6	86.5	81.3	-91.04	-613.5	2,183.4	812.5	645.1	167.45	4.852			
10,100.0	6,691.1	9,819.9	6,705.7	89.2	84.0	-91.03	-613.5	2,283.4	812.5	639.7	172.81	4.702			
10,200.0	6,690.3	9,919.9	6,704.7	91.9	86.7	-91.02	-613.5	2,383.4	812.5	634.3	178.19	4.560			
10,300.0	6,689.6	10,019.9	6,703.8	94.6	89.4	-91.01	-613.5	2,483.3	812.5	628.9	183.58	4.426			
10,400.0	6,688.8	10,119.9	6,702.9	97.3	92.1	-90.99	-613.5	2,583.3	812.5	623.5	188.99	4.299			
10,500.0	6,688.1	10,219.9	6,702.0	100.0	94.8	-90.98	-613.5	2,683.3	812.5	618.1	194.41	4.179			
10,600.0	6,687.3	10,319.9	6,701.0	102.7	97.5	-90.97	-613.5	2,783.3	812.5	612.7	199.83	4.066			
10,700.0	6,686.6	10,419.9	6,700.1	105.4	100.3	-90.96	-613.5	2,883.3	812.5	607.2	205.27	3.958			
10,800.0	6,685.8	10,519.9	6,699.2	108.1	103.0	-90.94	-613.5	2,983.3	812.5	601.8	210.72	3.856			
10,900.0	6,685.1	10,619.9	6,698.3	110.9	105.7	-90.93	-613.5	3,083.3	812.5	596.3	216.18	3.758			
11,000.0	6,684.3	10,719.9	6,697.3	113.6	108.5	-90.92	-613.5	3,183.3	812.5	590.8	221.65	3.666			
11,100.0	6,683.6	10,819.9	6,696.4	116.3	111.2	-90.91	-613.5	3,283.3	812.5	585.4	227.12	3.577			
11,200.0	6,682.8	10,919.9	6,695.5	119.1	113.9	-90.89	-613.5	3,383.3	812.5	579.9	232.60	3.493			
11,300.0	6,682.1	11,019.9	6,694.6	121.8	116.7	-90.88	-613.5	3,483.3	812.5	574.4	238.08	3.413			
11,400.0	6,681.3	11,119.9	6,693.6	124.5	119.4	-90.87	-613.5	3,583.3	812.5	568.9	243.58	3.336			
11,500.0	6,680.6	11,219.9	6,692.7	127.3	122.2	-90.86	-613.5	3,683.3	812.5	563.4	249.08	3.262			
11,600.0	6,679.8	11,319.9	6,691.8	130.0	124.9	-90.85	-613.5	3,783.3	812.5	557.9	254.58	3.191			
11,700.0	6,679.1	11,419.9	6,690.9	132.8	127.7	-90.83	-613.5	3,883.3	812.5	552.4	260.09	3.124			
11,800.0	6,678.3	11,519.9	6,689.9	135.5	130.5	-90.82	-613.5	3,983.3	812.5	546.9	265.60	3.059			
11,900.0	6,677.6	11,619.9	6,689.0	138.3	133.2	-90.81	-613.5	4,083.3	812.5	541.4	271.12	2.997			
12,000.0	6,676.8	11,719.9	6,688.1	141.0	136.0	-90.80	-613.5	4,183.3	812.5	535.8	276.64	2.937			
12,100.0	6,676.1	11,819.9	6,687.2	143.8	138.8	-90.78	-613.5	4,283.3	812.5	530.3	282.16	2.879			
12,200.0	6,675.3	11,919.9	6,686.2	146.6	141.5	-90.77	-613.5	4,383.3	812.5	524.8	287.69	2.824			
12,300.0	6,674.6	12,019.9	6,685.3	149.3	144.3	-90.76	-613.5	4,483.3	812.5	519.2	293.22	2.771			
12,400.0	6,673.8	12,119.9	6,684.4	152.1	147.1	-90.75	-613.5	4,583.3	812.5	513.7	298.76	2.719			
12,500.0	6,673.1	12,219.9	6,683.5	154.8	149.8	-90.73	-613.5	4,683.2	812.5	508.2	304.30	2.670			
12,600.0	6,672.3	12,319.9	6,682.5	157.6	152.6	-90.72	-613.5	4,783.2	812.5	502.6	309.84	2.622			
12,700.0	6,671.6	12,419.9	6,681.6	160.4	155.4	-90.71	-613.5	4,883.2	812.5	497.1	315.38	2.576			
12,800.0	6,670.8	12,519.9	6,680.7	163.2	158.2	-90.70	-613.5	4,983.2	812.5	491.5	320.93	2.532			
12,900.0	6,670.1	12,619.9	6,679.8	165.9	160.9	-90.68	-613.5	5,083.2	812.5	486.0	326.48	2.489			
13,000.0	6,669.3	12,719.9	6,678.8	168.7	163.7	-90.67	-613.5	5,183.2	812.4	480.4	332.03	2.447			
13,100.0	6,668.6	12,819.9	6,677.9	171.5	166.5	-90.66	-613.5	5,283.2	812.4	474.9	337.59	2.407			
13,200.0	6,667.8	12,919.9	6,677.0	174.2	169.3	-90.65	-613.5	5,383.2	812.4	469.3	343.14	2.368			
13,300.0	6,667.1	13,019.9	6,676.1	177.0	172.0	-90.63	-613.5	5,483.2	812.4	463.7	348.70	2.330			
13,400.0	6,666.3	13,119.9	6,675.1	179.8	174.8	-90.62	-613.5	5,583.2	812.4	458.2	354.26	2.293			

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 Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Klein 19O-HZ Pad Sec.19-T5N-R64W - Klein 19O-232 - Wellbore #1 - Plan #4 (7-15-15)													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		
13,500.0	6,665.6	13,219.9	6,674.2	182.6	177.6	-90.61	-613.5	5,683.2	812.4	452.6	359.82	2.258		
13,600.0	6,664.8	13,319.9	6,673.3	185.3	180.4	-90.60	-613.5	5,783.2	812.4	447.1	365.39	2.224		
13,700.0	6,664.1	13,419.9	6,672.4	188.1	183.2	-90.58	-613.5	5,883.2	812.4	441.5	370.95	2.190		
13,800.0	6,663.3	13,519.9	6,671.4	190.9	186.0	-90.57	-613.5	5,983.2	812.4	435.9	376.52	2.158		
13,900.0	6,662.6	13,619.9	6,670.5	193.7	188.7	-90.56	-613.5	6,083.2	812.4	430.4	382.09	2.126		
14,000.0	6,661.8	13,719.9	6,669.6	196.5	191.5	-90.55	-613.5	6,183.2	812.4	424.8	387.66	2.096		
14,100.0	6,661.1	13,819.9	6,668.7	199.2	194.3	-90.53	-613.5	6,283.2	812.4	419.2	393.23	2.066		
14,200.0	6,660.3	13,919.9	6,667.7	202.0	197.1	-90.52	-613.5	6,383.2	812.4	413.6	398.80	2.037		
14,300.0	6,659.6	14,019.9	6,666.8	204.8	199.9	-90.51	-613.5	6,483.2	812.4	408.1	404.37	2.009		
14,400.0	6,658.8	14,119.9	6,665.9	207.6	202.7	-90.50	-613.5	6,583.2	812.4	402.5	409.95	1.982		
14,500.0	6,658.1	14,219.9	6,665.0	210.4	205.5	-90.49	-613.5	6,683.2	812.4	396.9	415.53	1.955		
14,600.0	6,657.3	14,319.9	6,664.0	213.2	208.3	-90.47	-613.5	6,783.2	812.4	391.3	421.10	1.929		
14,700.0	6,656.6	14,419.9	6,663.1	215.9	211.1	-90.46	-613.5	6,883.2	812.4	385.7	426.68	1.904		
14,800.0	6,655.8	14,519.9	6,662.2	218.7	213.8	-90.45	-613.5	6,983.1	812.4	380.2	432.26	1.879		
14,900.0	6,655.1	14,619.9	6,661.3	221.5	216.6	-90.44	-613.5	7,083.1	812.4	374.6	437.84	1.856		
15,000.0	6,654.3	14,719.9	6,660.3	224.3	219.4	-90.42	-613.5	7,183.1	812.4	369.0	443.42	1.832		
15,100.0	6,653.6	14,819.9	6,659.4	227.1	222.2	-90.41	-613.5	7,283.1	812.4	363.4	449.01	1.809		
15,200.0	6,652.8	14,919.9	6,658.5	229.9	225.0	-90.40	-613.5	7,383.1	812.4	357.8	454.59	1.787		
15,300.0	6,652.1	15,019.9	6,657.6	232.7	227.8	-90.39	-613.5	7,483.1	812.4	352.3	460.17	1.765		
15,400.0	6,651.4	15,119.9	6,656.6	235.5	230.6	-90.37	-613.5	7,583.1	812.4	346.7	465.76	1.744		
15,500.0	6,650.6	15,219.9	6,655.7	238.3	233.4	-90.36	-613.4	7,683.1	812.4	341.1	471.34	1.724		
15,600.0	6,649.9	15,319.9	6,654.8	241.0	236.2	-90.35	-613.4	7,783.1	812.4	335.5	476.93	1.703		
15,700.0	6,649.1	15,419.9	6,653.9	243.8	239.0	-90.34	-613.4	7,883.1	812.4	329.9	482.52	1.684		
15,800.0	6,648.4	15,519.9	6,652.9	246.6	241.8	-90.32	-613.4	7,983.1	812.4	324.3	488.11	1.664		
15,900.0	6,647.6	15,619.9	6,652.0	249.4	244.6	-90.31	-613.4	8,083.1	812.4	318.7	493.70	1.646		
16,000.0	6,646.9	15,719.9	6,651.1	252.2	247.4	-90.30	-613.4	8,183.1	812.4	313.1	499.29	1.627		
16,100.0	6,646.1	15,819.9	6,650.2	255.0	250.2	-90.29	-613.4	8,283.1	812.4	307.5	504.88	1.609		
16,200.0	6,645.4	15,919.9	6,649.2	257.8	253.0	-90.27	-613.4	8,383.1	812.4	302.0	510.47	1.592		
16,300.0	6,644.6	16,019.9	6,648.3	260.6	255.8	-90.26	-613.4	8,483.1	812.4	296.4	516.06	1.574		
16,400.0	6,643.9	16,119.9	6,647.4	263.4	258.5	-90.25	-613.4	8,583.1	812.4	290.8	521.65	1.557		
16,500.0	6,643.1	16,219.9	6,646.5	266.2	261.3	-90.24	-613.4	8,683.1	812.4	285.2	527.24	1.541		
16,600.0	6,642.4	16,319.9	6,645.5	269.0	264.1	-90.22	-613.4	8,783.1	812.4	279.6	532.84	1.525		
16,700.0	6,641.6	16,419.9	6,644.6	271.8	266.9	-90.21	-613.4	8,883.1	812.4	274.0	538.43	1.509		
16,800.0	6,640.9	16,519.9	6,643.7	274.6	269.7	-90.20	-613.4	8,983.1	812.4	268.4	544.02	1.493 Level 3		
16,812.5	6,640.8	16,532.4	6,643.6	274.9	270.1	-90.20	-613.4	8,995.5	812.4	267.7	544.72	1.491 Level 3		
16,900.0	6,640.1	16,619.9	6,642.8	277.4	272.5	-90.19	-613.4	9,083.1	812.4	262.8	549.62	1.478 Level 3		
17,000.0	6,639.4	16,719.9	6,641.8	280.1	275.3	-90.17	-613.4	9,183.0	812.4	257.2	555.21	1.463 Level 3		
17,100.0	6,638.6	16,819.9	6,640.9	282.9	278.1	-90.16	-613.4	9,283.0	812.4	251.6	560.81	1.449 Level 3		
17,200.0	6,637.9	16,919.9	6,640.0	285.7	280.9	-90.15	-613.4	9,383.0	812.4	246.0	566.40	1.434 Level 3		
17,300.0	6,637.1	17,019.9	6,639.1	288.5	283.7	-90.14	-613.4	9,483.0	812.4	240.4	572.00	1.420 Level 3		
17,400.0	6,636.4	17,119.9	6,638.1	291.3	286.5	-90.13	-613.4	9,583.0	812.4	234.8	577.60	1.407 Level 3		
17,500.0	6,635.6	17,219.9	6,637.2	294.1	289.3	-90.11	-613.4	9,683.0	812.4	229.2	583.20	1.393 Level 3		
17,600.0	6,634.9	17,319.9	6,636.3	296.9	292.1	-90.10	-613.4	9,783.0	812.4	223.6	588.79	1.380 Level 3		
17,700.0	6,634.1	17,419.9	6,635.4	299.7	294.9	-90.09	-613.4	9,883.0	812.4	218.0	594.39	1.367 Level 3		
17,800.0	6,633.4	17,519.9	6,634.4	302.5	297.7	-90.08	-613.4	9,983.0	812.4	212.4	599.99	1.354 Level 3		
17,900.0	6,632.6	17,619.9	6,633.5	305.3	300.5	-90.06	-613.4	10,083.0	812.4	206.8	605.59	1.342 Level 3		
18,000.0	6,631.9	17,719.9	6,632.6	308.1	303.3	-90.05	-613.4	10,183.0	812.4	201.2	611.19	1.329 Level 3		
18,100.0	6,631.1	17,819.9	6,631.7	310.9	306.1	-90.04	-613.4	10,283.0	812.4	195.6	616.79	1.317 Level 3		
18,200.0	6,630.4	17,919.9	6,630.7	313.7	308.9	-90.03	-613.4	10,383.0	812.4	190.0	622.39	1.305 Level 3		
18,250.5	6,630.0	17,970.5	6,630.3	315.1	310.3	-90.02	-613.4	10,433.5	812.4	187.2	625.22	1.299 Level 3, SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<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	67.62	61.9	150.4	162.7				
100.0	100.0	100.0	100.0	0.1	0.1	67.62	61.9	150.4	162.7	162.5	0.22	723.809	
200.0	200.0	200.0	200.0	0.3	0.3	67.62	61.9	150.4	162.7	162.0	0.67	241.270 CC, ES	
300.0	300.0	300.0	300.0	0.5	0.6	-155.74	61.9	150.4	163.9	162.8	1.11	147.488	
400.0	399.9	399.9	399.9	0.8	0.8	-156.27	61.9	150.4	167.5	165.9	1.55	107.944	
500.0	499.7	499.7	499.7	1.0	1.0	-157.10	61.9	150.4	173.5	171.5	2.01	86.487	
600.0	599.3	599.3	599.3	1.2	1.2	-158.17	61.9	150.4	181.9	179.5	2.47	73.705	
700.0	698.6	698.6	698.6	1.5	1.5	-159.41	61.9	150.4	192.9	190.0	2.94	65.678	
800.0	797.5	797.5	797.5	1.9	1.7	-160.74	61.9	150.4	206.4	203.0	3.41	60.529	
900.0	896.1	896.1	896.1	2.2	1.9	-162.11	61.9	150.4	222.5	218.6	3.89	57.249	
1,000.0	994.2	994.2	994.2	2.6	2.1	-163.45	61.9	150.4	241.2	236.8	4.36	55.253	
1,100.0	1,091.7	1,091.7	1,091.7	3.1	2.3	-164.73	61.9	150.4	262.4	257.6	4.84	54.173	
1,200.0	1,188.6	1,188.6	1,188.6	3.6	2.6	-165.94	61.9	150.4	286.3	281.0	5.32	53.768	
1,300.0	1,284.9	1,284.9	1,284.9	4.1	2.8	-167.05	61.9	150.4	312.7	306.9	5.81	53.873	
1,400.0	1,380.4	1,380.4	1,380.4	4.7	3.0	-168.07	61.9	150.4	341.8	335.5	6.29	54.370	
1,421.9	1,401.2	1,401.2	1,401.2	4.8	3.0	-168.28	61.9	150.4	348.5	342.1	6.39	54.522	
1,500.0	1,475.3	1,475.3	1,475.3	5.3	3.2	-169.05	61.9	150.4	372.6	365.8	6.77	55.009	
1,600.0	1,570.2	1,570.2	1,570.2	5.9	3.4	-169.89	61.9	150.4	403.5	396.3	7.26	55.546	
1,700.0	1,665.2	1,665.2	1,665.2	6.6	3.6	-170.62	61.9	150.4	434.6	426.8	7.76	56.004	
1,800.0	1,760.1	1,760.1	1,760.1	7.2	3.8	-171.25	61.9	150.4	465.7	457.4	8.26	56.396	
1,900.0	1,855.0	1,855.0	1,855.0	7.9	4.1	-171.80	61.9	150.4	496.8	488.1	8.76	56.736	
2,000.0	1,949.9	1,949.9	1,949.9	8.5	4.3	-172.29	61.9	150.4	528.0	518.7	9.26	57.031	
2,100.0	2,044.9	2,044.9	2,044.9	9.2	4.5	-172.75	61.9	150.2	559.0	549.3	9.76	57.276	
2,200.0	2,139.8	2,139.8	2,139.8	9.8	4.7	-173.25	61.3	148.4	588.7	578.4	10.25	57.418	
2,300.0	2,234.7	2,234.7	2,234.7	10.5	4.9	-173.77	60.2	144.8	616.8	606.1	10.74	57.421	
2,400.0	2,329.6	2,329.6	2,329.6	11.1	5.1	-174.33	58.5	139.2	643.3	632.1	11.24	57.250	
2,500.0	2,424.6	2,424.6	2,424.6	11.8	5.3	-174.92	56.2	131.6	668.2	656.5	11.74	56.926	
2,600.0	2,519.5	2,519.5	2,519.5	12.4	5.6	-175.54	53.3	122.0	691.5	679.3	12.25	56.465	
2,700.0	2,614.4	2,614.4	2,614.4	13.1	5.8	-176.19	49.8	110.3	713.2	700.5	12.76	55.880	
2,800.0	2,709.4	2,709.4	2,709.4	13.7	6.1	-176.88	45.7	96.6	733.3	720.0	13.29	55.181	
2,900.0	2,804.3	2,804.3	2,804.3	14.4	6.4	-177.61	40.9	80.8	751.8	738.0	13.83	54.376	
3,000.0	2,899.2	2,899.2	2,899.2	15.0	6.7	-178.27	36.2	65.2	769.3	755.0	14.35	53.599	
3,100.0	2,994.1	2,994.1	2,994.1	15.7	6.9	-178.90	31.6	50.0	786.9	772.0	14.88	52.867	
3,200.0	3,089.1	3,089.1	3,089.1	16.3	7.2	-179.50	27.0	34.8	804.6	789.1	15.42	52.167	
3,300.0	3,184.0	3,184.0	3,184.0	17.0	7.5	-179.93	22.4	19.6	822.3	806.3	15.97	51.497	
3,400.0	3,278.9	3,278.9	3,278.9	17.7	7.8	-179.38	17.8	4.4	840.1	823.6	16.52	50.854	
3,500.0	3,373.8	3,373.8	3,373.8	18.3	8.2	-178.85	13.2	-10.8	858.0	840.9	17.08	50.238	
3,600.0	3,468.8	3,468.8	3,468.8	19.0	8.5	-178.34	8.6	-26.1	876.0	858.3	17.64	49.647	
3,700.0	3,563.7	3,563.7	3,563.7	19.6	8.8	-177.86	4.0	-41.3	894.0	875.8	18.21	49.080	
3,800.0	3,658.6	3,658.6	3,658.6	20.3	9.1	-177.39	-0.6	-56.5	912.1	893.3	18.79	48.536	
3,900.0	3,753.5	3,753.5	3,753.5	20.9	9.5	-176.94	-5.2	-71.7	930.2	910.8	19.37	48.013	
4,000.0	3,848.5	3,848.5	3,848.5	21.6	9.8	-176.51	-9.8	-86.9	948.4	928.4	19.96	47.511	
4,100.0	3,943.4	3,943.4	3,943.4	22.2	10.1	-176.10	-14.4	-102.1	966.6	946.1	20.55	47.028	
4,200.0	4,038.3	4,038.3	4,038.3	22.9	10.5	-175.70	-19.0	-117.4	984.9	963.8	21.15	46.564 SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Klein 19O-HZ Pad Sec.19-T5N-R64W - Klein 19O-402 - Wellbore #1 - Plan #3 (7-15-15)												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)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	79.03	29.2	150.4	153.2				
100.0	100.0	100.0	100.0	0.1	0.1	79.03	29.2	150.4	153.2	153.0	0.22	681.754	
200.0	200.0	200.0	200.0	0.3	0.3	79.03	29.2	150.4	153.2	152.6	0.67	227.251 CC, ES	
300.0	300.0	300.0	300.0	0.5	0.6	-144.42	29.2	150.4	154.3	153.2	1.11	139.073	
400.0	399.9	399.9	399.9	0.8	0.8	-145.22	29.2	150.4	157.5	156.0	1.55	101.742	
500.0	499.7	499.7	499.7	1.0	1.0	-146.49	29.2	150.4	162.9	160.9	2.00	81.331	
600.0	599.3	599.3	599.3	1.2	1.2	-148.12	29.2	150.4	170.6	168.2	2.47	69.089	
700.0	698.6	698.6	698.6	1.5	1.5	-150.01	29.2	150.4	180.7	177.8	2.95	61.364	
800.0	797.5	797.5	797.5	1.9	1.7	-152.04	29.2	150.4	193.3	189.9	3.43	56.402	
900.0	896.1	896.1	896.1	2.2	1.9	-154.12	29.2	150.4	208.5	204.6	3.91	53.257	
1,000.0	994.2	994.2	994.2	2.6	2.1	-156.16	29.2	150.4	226.2	221.8	4.40	51.373	
1,100.0	1,091.7	1,091.7	1,091.7	3.1	2.3	-158.11	29.2	150.4	246.6	241.8	4.89	50.397	
1,200.0	1,188.6	1,188.6	1,188.6	3.6	2.6	-159.93	29.2	150.4	269.7	264.3	5.38	50.095	
1,300.0	1,284.9	1,284.9	1,284.9	4.1	2.8	-161.61	29.2	150.4	295.5	289.6	5.87	50.303	
1,400.0	1,380.4	1,380.4	1,380.4	4.7	3.0	-163.13	29.2	150.4	323.8	317.5	6.36	50.903	
1,421.9	1,401.2	1,401.2	1,401.2	4.8	3.0	-163.44	29.2	150.4	330.4	323.9	6.47	51.078	
1,500.0	1,475.3	1,475.3	1,475.3	5.3	3.2	-164.57	29.2	150.4	354.1	347.2	6.85	51.665	
1,600.0	1,570.2	1,578.0	1,578.0	5.9	3.4	-165.92	28.8	149.7	383.9	376.5	7.34	52.272	
1,700.0	1,665.2	1,684.8	1,684.8	6.6	3.6	-167.18	27.3	146.4	411.3	403.5	7.82	52.607	
1,800.0	1,760.1	1,793.2	1,792.9	7.2	3.8	-168.36	24.5	140.2	436.2	427.9	8.30	52.566	
1,900.0	1,855.0	1,903.0	1,902.3	7.9	4.1	-169.50	20.3	131.1	458.5	449.7	8.79	52.176	
2,000.0	1,949.9	2,014.0	2,012.5	8.5	4.3	-170.61	14.8	119.0	478.2	468.9	9.29	51.485	
2,100.0	2,044.9	2,126.1	2,123.3	9.2	4.6	-171.73	7.9	103.9	495.2	485.4	9.80	50.535	
2,200.0	2,139.8	2,239.1	2,234.5	9.8	4.9	-172.86	-0.5	85.6	509.5	499.2	10.32	49.359	
2,300.0	2,234.7	2,352.8	2,345.8	10.5	5.3	-174.04	-10.3	64.2	521.2	510.3	10.86	47.995	
2,400.0	2,329.6	2,463.6	2,453.4	11.1	5.7	-175.23	-21.1	40.5	530.3	518.8	11.41	46.480	
2,500.0	2,424.6	2,562.7	2,549.6	11.8	6.1	-176.28	-31.1	18.5	538.7	526.7	11.95	45.079	
2,600.0	2,519.5	2,661.9	2,645.7	12.4	6.5	-177.30	-41.2	-3.5	547.2	534.7	12.50	43.764	
2,700.0	2,614.4	2,761.1	2,741.9	13.1	7.0	-178.29	-51.2	-25.4	556.0	542.9	13.07	42.531	
2,800.0	2,709.4	2,860.2	2,838.1	13.7	7.4	-179.25	-61.3	-47.4	564.9	551.2	13.65	41.370	
2,900.0	2,804.3	2,959.4	2,934.2	14.4	7.9	-179.82	-71.4	-69.4	574.0	559.7	14.25	40.275	
3,000.0	2,899.2	3,058.5	3,030.4	15.0	8.3	178.92	-81.4	-91.4	583.2	568.3	14.86	39.241	
3,100.0	2,994.1	3,157.7	3,126.6	15.7	8.8	178.04	-91.5	-113.4	592.5	577.0	15.49	38.263	
3,200.0	3,089.1	3,256.9	3,222.7	16.3	9.3	177.20	-101.5	-135.4	602.0	585.9	16.12	37.337	
3,300.0	3,184.0	3,356.0	3,318.9	17.0	9.7	176.38	-111.6	-157.4	611.6	594.8	16.78	36.459	
3,400.0	3,278.9	3,455.2	3,415.1	17.7	10.2	175.58	-121.6	-179.4	621.3	603.9	17.44	35.626	
3,500.0	3,373.8	3,554.3	3,511.2	18.3	10.7	174.81	-131.7	-201.4	631.2	613.1	18.12	34.835	
3,600.0	3,468.8	3,653.5	3,607.4	19.0	11.2	174.07	-141.7	-223.4	641.1	622.3	18.81	34.083	
3,700.0	3,563.7	3,752.6	3,703.5	19.6	11.7	173.34	-151.8	-245.4	651.2	631.7	19.52	33.369	
3,800.0	3,658.6	3,851.8	3,799.7	20.3	12.2	172.64	-161.9	-267.4	661.4	641.1	20.23	32.689	
3,900.0	3,753.5	3,951.0	3,895.9	20.9	12.7	171.96	-171.9	-289.4	671.6	650.7	20.96	32.043	
4,000.0	3,848.5	4,050.1	3,992.0	21.6	13.2	171.30	-182.0	-311.4	682.0	660.3	21.70	31.427	
4,100.0	3,943.4	4,149.3	4,088.2	22.2	13.7	170.66	-192.0	-333.4	692.4	669.9	22.45	30.841	
4,200.0	4,038.3	4,248.4	4,184.4	22.9	14.2	170.04	-202.1	-355.4	702.9	679.7	23.21	30.283	
4,300.0	4,133.3	4,347.6	4,280.5	23.6	14.7	169.44	-212.1	-377.4	713.5	689.5	23.98	29.750	
4,400.0	4,228.2	4,446.8	4,376.7	24.2	15.3	168.85	-222.2	-399.4	724.2	699.4	24.77	29.243	
4,500.0	4,323.1	4,545.9	4,472.9	24.9	15.8	168.28	-232.2	-421.4	734.9	709.4	25.56	28.758	
4,600.0	4,418.0	4,645.1	4,569.0	25.5	16.3	167.73	-242.3	-443.4	745.8	719.4	26.36	28.296	
4,700.0	4,513.0	4,744.2	4,665.2	26.2	16.8	167.19	-252.4	-465.4	756.6	729.5	27.16	27.855	
4,800.0	4,607.9	4,843.4	4,761.3	26.8	17.3	166.67	-262.4	-487.4	767.6	739.6	27.98	27.433	
4,900.0	4,702.8	4,942.5	4,857.5	27.5	17.8	166.17	-272.5	-509.4	778.6	749.8	28.80	27.030	

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 Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Klein 19O-HZ Pad Sec.19-T5N-R64W - Klein 19O-402 - Wellbore #1 - Plan #3 (7-15-15)												<b>Offset Site Error:</b>	0.0 ft
<b>Survey Program:</b> 0-MWD												<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
5,000.0	4,797.7	5,041.7	4,953.7	28.2	18.3	165.67	-282.5	-531.4	789.7	760.0	29.64	26.645	
5,100.0	4,892.7	5,140.9	5,049.8	28.8	18.9	165.19	-292.6	-553.4	800.8	770.3	30.48	26.276	
5,200.0	4,987.6	5,240.0	5,146.0	29.5	19.4	164.73	-302.6	-575.4	812.0	780.7	31.32	25.924	
5,300.0	5,082.5	5,339.2	5,242.2	30.1	19.9	164.28	-312.7	-597.4	823.2	791.0	32.17	25.586	
5,400.0	5,177.4	5,431.2	5,331.4	30.8	20.3	163.87	-322.0	-617.6	834.7	801.7	32.98	25.308	
5,500.0	5,272.4	5,511.6	5,409.8	31.4	20.7	163.61	-329.3	-633.7	847.9	814.3	33.68	25.179	
5,600.0	5,367.3	5,600.0	5,496.6	32.1	21.0	163.43	-336.3	-649.0	863.4	829.1	34.33	25.153 SF	
5,700.0	5,462.2	5,671.0	5,566.7	32.8	21.2	163.38	-341.1	-659.6	881.0	846.1	34.88	25.261	
5,800.0	5,557.2	5,749.8	5,644.8	33.4	21.4	163.40	-345.6	-669.5	900.8	865.4	35.41	25.441	
5,900.0	5,652.1	5,827.9	5,722.3	34.1	21.6	163.51	-349.2	-677.3	922.6	886.7	35.89	25.706	
6,000.0	5,747.0	5,900.0	5,794.2	34.7	21.7	163.67	-351.8	-682.8	946.6	910.2	36.33	26.055	
6,065.4	5,809.1	5,955.0	5,849.1	35.2	21.8	163.85	-353.2	-685.9	963.3	926.7	36.60	26.323	
6,100.0	5,842.1	5,981.4	5,875.5	35.4	21.9	170.98	-353.7	-687.1	972.2	935.6	36.59	26.573	
6,150.0	5,890.2	6,019.6	5,913.7	35.6	21.9	-176.61	-354.3	-688.4	984.3	947.7	36.60	26.892	
6,200.0	5,938.7	6,057.8	5,951.9	35.7	22.0	-161.86	-354.7	-689.2	995.5	958.9	36.66	27.154	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Klein 19O-HZ Pad Sec.19-T5N-R64W - Klein 19P-312 - Wellbore #1 - Plan #3 (7-15-15)												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)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	0.00	29.2	0.0	29.2				
100.0	100.0	100.0	100.0	0.1	0.1	0.00	29.2	0.0	29.2	28.9	0.22	129.759	
200.0	200.0	200.0	200.0	0.3	0.3	0.00	29.2	0.0	29.2	28.5	0.67	43.253 CC	
300.0	300.0	300.0	300.0	0.5	0.6	138.52	29.2	0.0	30.1	29.0	1.11	27.168	
400.0	399.9	399.9	399.9	0.8	0.8	142.99	29.2	0.0	33.2	31.6	1.55	21.425	
500.0	499.7	500.5	500.5	1.0	1.0	147.77	28.2	-0.9	37.5	35.5	1.98	18.928	
600.0	599.3	601.3	601.2	1.2	1.2	151.48	25.4	-3.7	42.0	39.6	2.41	17.430	
700.0	698.6	702.2	701.9	1.5	1.4	154.39	20.6	-8.3	46.7	43.8	2.86	16.322	
800.0	797.5	803.2	802.5	1.9	1.6	156.70	13.9	-14.8	51.5	48.2	3.33	15.467	
900.0	896.1	904.4	902.9	2.2	1.9	158.57	5.3	-23.2	56.3	52.5	3.81	14.779	
1,000.0	994.2	1,005.7	1,003.2	2.6	2.2	160.09	-5.2	-33.4	61.2	56.9	4.31	14.204	
1,100.0	1,091.7	1,107.2	1,103.1	3.1	2.6	161.33	-17.6	-45.5	66.1	61.2	4.82	13.705	
1,200.0	1,188.6	1,208.8	1,202.7	3.6	3.0	162.35	-32.0	-59.5	71.0	65.6	5.35	13.261	
1,300.0	1,284.9	1,310.5	1,301.9	4.1	3.4	163.20	-48.3	-75.3	75.8	69.9	5.90	12.855	
1,400.0	1,380.4	1,412.4	1,400.6	4.7	3.9	163.91	-66.5	-93.0	80.7	74.2	6.47	12.479	
1,421.9	1,401.2	1,434.7	1,422.1	4.8	4.0	164.05	-70.7	-97.1	81.8	75.2	6.59	12.399	
1,500.0	1,475.3	1,513.3	1,497.7	5.3	4.4	164.42	-86.1	-112.1	85.1	78.0	7.06	12.054	
1,600.0	1,570.2	1,613.2	1,593.8	5.9	5.0	164.84	-105.8	-131.2	89.3	81.6	7.67	11.644	
1,700.0	1,665.2	1,713.1	1,689.8	6.6	5.5	165.22	-125.4	-150.3	93.4	85.1	8.28	11.288	
1,800.0	1,760.1	1,813.0	1,785.9	7.2	6.1	165.56	-145.1	-169.5	97.6	88.7	8.89	10.976	
1,900.0	1,855.0	1,913.0	1,882.0	7.9	6.6	165.88	-164.8	-188.6	101.7	92.2	9.51	10.703	
2,000.0	1,949.9	2,012.9	1,978.1	8.5	7.2	166.17	-184.4	-207.7	105.9	95.8	10.12	10.460	
2,100.0	2,044.9	2,112.8	2,074.1	9.2	7.8	166.44	-204.1	-226.9	110.1	99.3	10.74	10.245	
2,200.0	2,139.8	2,212.7	2,170.2	9.8	8.3	166.70	-223.8	-246.0	114.3	102.9	11.37	10.052	
2,300.0	2,234.7	2,312.6	2,266.3	10.5	8.9	166.93	-243.5	-265.1	118.4	106.4	11.99	9.879	
2,400.0	2,329.6	2,412.5	2,362.3	11.1	9.5	167.15	-263.1	-284.2	122.6	110.0	12.61	9.722	
2,500.0	2,424.6	2,512.4	2,458.4	11.8	10.1	167.35	-282.8	-303.4	126.8	113.5	13.23	9.580	
2,600.0	2,519.5	2,612.3	2,554.5	12.4	10.6	167.54	-302.5	-322.5	131.0	117.1	13.86	9.451	
2,700.0	2,614.4	2,712.2	2,650.5	13.1	11.2	167.72	-322.1	-341.6	135.1	120.7	14.48	9.332	
2,800.0	2,709.4	2,812.2	2,746.6	13.7	11.8	167.88	-341.8	-360.8	139.3	124.2	15.11	9.224	
2,900.0	2,804.3	2,912.1	2,842.7	14.4	12.4	168.04	-361.5	-379.9	143.5	127.8	15.73	9.123	
3,000.0	2,899.2	3,012.0	2,938.8	15.0	12.9	168.19	-381.2	-399.0	147.7	131.3	16.36	9.031	
3,100.0	2,994.1	3,111.9	3,034.8	15.7	13.5	168.33	-400.8	-418.1	151.9	134.9	16.98	8.945	
3,200.0	3,089.1	3,211.8	3,130.9	16.3	14.1	168.47	-420.5	-437.3	156.1	138.5	17.60	8.865	
3,300.0	3,184.0	3,311.7	3,227.0	17.0	14.7	168.59	-440.2	-456.4	160.3	142.0	18.23	8.791	
3,400.0	3,278.9	3,411.6	3,323.0	17.7	15.3	168.71	-459.8	-475.5	164.4	145.6	18.86	8.722	
3,500.0	3,373.8	3,511.5	3,419.1	18.3	15.8	168.83	-479.5	-494.7	168.6	149.2	19.48	8.657	
3,600.0	3,468.8	3,611.5	3,515.2	19.0	16.4	168.93	-499.2	-513.8	172.8	152.7	20.11	8.596	
3,700.0	3,563.7	3,711.4	3,611.3	19.6	17.0	169.04	-518.8	-532.9	177.0	156.3	20.73	8.539	
3,800.0	3,658.6	3,811.3	3,707.3	20.3	17.6	169.14	-538.5	-552.0	181.2	159.9	21.36	8.485	
3,900.0	3,753.5	3,911.2	3,803.4	20.9	18.2	169.23	-558.2	-571.2	185.4	163.4	21.98	8.434	
4,000.0	3,848.5	4,011.1	3,899.5	21.6	18.7	169.32	-577.9	-590.3	189.6	167.0	22.61	8.386	
4,100.0	3,943.4	4,111.0	3,995.5	22.2	19.3	169.40	-597.5	-609.4	193.8	170.5	23.23	8.341	
4,200.0	4,038.3	4,210.9	4,091.6	22.9	19.9	169.49	-617.2	-628.6	198.0	174.1	23.86	8.298	
4,300.0	4,133.3	4,310.8	4,187.7	23.6	20.5	169.57	-636.9	-647.7	202.2	177.7	24.48	8.257	
4,400.0	4,228.2	4,410.7	4,283.7	24.2	21.1	169.64	-656.5	-666.8	206.4	181.3	25.11	8.218	
4,500.0	4,323.1	4,510.7	4,379.8	24.9	21.6	169.71	-676.2	-685.9	210.6	184.8	25.74	8.182	
4,600.0	4,418.0	4,610.6	4,475.9	25.5	22.2	169.78	-695.9	-705.1	214.8	188.4	26.36	8.146	
4,700.0	4,513.0	4,710.5	4,572.0	26.2	22.8	169.85	-715.6	-724.2	218.9	192.0	26.99	8.113	
4,800.0	4,607.9	4,810.4	4,668.0	26.8	23.4	169.92	-735.2	-743.3	223.1	195.5	27.61	8.081	
4,900.0	4,702.8	4,910.3	4,764.1	27.5	24.0	169.98	-754.9	-762.5	227.3	199.1	28.24	8.051	

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 Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Klein 19O-HZ Pad Sec.19-T5N-R64W - Klein 19P-312 - Wellbore #1 - Plan #3 (7-15-15)													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		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
							+N/-S (ft)	+E/-W (ft)								
5,000.0	4,797.7	5,010.2	4,860.2	28.2	24.5	170.04	-774.6	-781.6	231.5	202.7	28.86	8.021				
5,100.0	4,892.7	5,110.1	4,956.2	28.8	25.1	170.10	-794.2	-800.7	235.7	206.2	29.49	7.993				
5,200.0	4,987.6	5,210.0	5,052.3	29.5	25.7	170.15	-813.9	-819.8	239.9	209.8	30.12	7.967				
5,300.0	5,082.5	5,310.0	5,148.4	30.1	26.3	170.21	-833.6	-839.0	244.1	213.4	30.74	7.941				
5,400.0	5,177.4	5,409.9	5,244.4	30.8	26.9	170.26	-853.2	-858.1	248.3	216.9	31.37	7.916				
5,500.0	5,272.4	5,509.8	5,340.5	31.4	27.5	170.31	-872.9	-877.2	252.5	220.5	31.99	7.893				
5,600.0	5,367.3	5,609.7	5,436.6	32.1	28.0	170.36	-892.6	-896.4	256.7	224.1	32.62	7.870				
5,700.0	5,462.2	5,709.6	5,532.7	32.8	28.6	170.40	-912.3	-915.5	260.9	227.7	33.24	7.848				
5,800.0	5,557.2	5,809.5	5,628.7	33.4	29.2	170.45	-931.9	-934.6	265.1	231.2	33.87	7.827				
5,900.0	5,652.1	5,909.4	5,724.8	34.1	29.8	170.49	-951.6	-953.7	269.3	234.8	34.50	7.807				
6,000.0	5,747.0	6,009.3	5,820.9	34.7	30.4	170.54	-971.3	-972.9	273.5	238.4	35.12	7.787				
6,065.4	5,809.1	6,074.6	5,883.7	35.2	30.7	170.56	-984.1	-985.4	276.2	240.7	35.53	7.775				
6,100.0	5,842.1	6,105.8	5,913.7	35.4	30.9	176.99	-990.3	-991.4	277.3	241.5	35.77	7.751				
6,150.0	5,890.2	6,150.0	5,956.3	35.6	31.1	-171.71	-999.0	-998.6	278.1	242.0	36.13	7.699				
6,200.0	5,938.7	6,192.4	5,997.7	35.7	31.3	-157.97	-1,007.5	-1,003.1	278.8	242.3	36.45	7.648				
6,250.0	5,987.3	6,234.4	6,038.7	35.9	31.4	-143.04	-1,015.9	-1,005.3	279.1	242.4	36.75	7.594				
6,300.0	6,035.8	6,276.4	6,079.9	36.0	31.5	-129.03	-1,024.3	-1,005.1	279.2	242.2	37.06	7.534				
6,350.0	6,084.0	6,318.6	6,121.1	36.1	31.6	-117.46	-1,032.8	-1,002.7	279.1	241.7	37.38	7.467				
6,400.0	6,131.7	6,360.9	6,162.3	36.2	31.7	-108.68	-1,041.3	-997.9	278.8	241.1	37.72	7.391				
6,450.0	6,178.7	6,400.0	6,200.1	36.2	31.7	-102.21	-1,049.0	-991.4	278.3	240.2	38.08	7.310				
6,500.0	6,224.9	6,446.0	6,244.0	36.2	31.7	-97.70	-1,058.0	-981.2	277.6	239.1	38.53	7.205				
6,550.0	6,269.9	6,488.8	6,284.3	36.2	31.8	-94.49	-1,066.3	-969.4	276.8	237.7	39.02	7.094				
6,600.0	6,313.6	6,531.9	6,324.1	36.1	31.7	-92.29	-1,074.5	-955.1	275.8	236.2	39.57	6.969				
6,650.0	6,355.9	6,575.2	6,363.3	36.1	31.7	-90.87	-1,082.6	-938.5	274.7	234.5	40.20	6.834				
6,700.0	6,396.5	6,618.8	6,401.7	36.0	31.7	-90.04	-1,090.5	-919.6	273.6	232.7	40.91	6.688				
6,750.0	6,435.3	6,662.6	6,439.2	35.9	31.6	-89.69	-1,098.2	-898.3	272.4	230.7	41.68	6.535				
6,800.0	6,472.0	6,706.8	6,475.8	35.8	31.6	-89.73	-1,105.8	-874.6	271.2	228.7	42.52	6.379				
6,850.0	6,506.6	6,750.0	6,510.1	35.7	31.5	-90.05	-1,112.9	-849.4	270.0	226.6	43.38	6.224				
6,900.0	6,538.9	6,796.2	6,545.3	35.6	31.4	-90.73	-1,120.1	-820.3	268.9	224.5	44.32	6.066				
6,950.0	6,568.8	6,841.5	6,578.0	35.4	31.3	-91.61	-1,126.9	-789.8	267.8	222.5	45.27	5.916				
7,000.0	6,596.1	6,887.2	6,609.2	35.3	31.2	-92.68	-1,133.4	-757.0	266.9	220.7	46.21	5.775				
7,050.0	6,620.7	6,933.4	6,638.7	35.1	31.0	-93.94	-1,139.5	-722.0	266.1	218.9	47.14	5.644				
7,100.0	6,642.5	6,980.1	6,666.3	35.0	30.9	-95.35	-1,145.2	-684.8	265.4	217.4	48.04	5.526				
7,150.0	6,661.5	7,027.2	6,691.9	34.8	30.8	-96.90	-1,150.5	-645.6	265.0	216.1	48.89	5.421				
7,200.0	6,677.4	7,074.9	6,715.4	34.7	30.6	-98.57	-1,155.4	-604.4	264.8	215.1	49.68	5.329				
7,224.6	6,684.2	7,098.6	6,726.0	34.6	30.6	-99.43	-1,157.6	-583.4	264.8	214.7	50.06	5.289				
7,250.0	6,690.3	7,123.2	6,736.5	34.5	30.5	-100.34	-1,159.8	-561.2	264.8	214.4	50.42	5.251				
7,300.0	6,700.2	7,172.0	6,755.1	34.4	30.4	-102.20	-1,163.7	-516.2	265.0	213.9	51.10	5.186				
7,350.0	6,706.9	7,221.5	6,771.0	34.2	30.2	-104.13	-1,167.1	-469.5	265.5	213.8	51.73	5.132				
7,400.0	6,710.4	7,271.6	6,784.1	34.1	30.1	-106.12	-1,169.8	-421.2	266.2	213.9	52.33	5.088				
7,436.6	6,711.0	7,308.7	6,791.8	34.0	30.0	-107.61	-1,171.5	-385.0	266.9	214.2	52.74	5.061				
7,500.0	6,710.5	7,374.2	6,801.1	33.9	29.8	-109.74	-1,173.5	-320.2	268.1	214.4	53.68	4.995				
7,600.0	6,709.8	7,478.7	6,804.8	33.7	29.7	-110.71	-1,174.5	-215.9	268.8	212.9	55.84	4.813				
7,700.0	6,709.0	7,578.7	6,803.9	33.8	29.7	-110.69	-1,174.5	-115.9	268.7	210.2	58.53	4.591				
7,800.0	6,708.3	7,678.7	6,803.1	34.3	30.2	-110.66	-1,174.5	-15.9	268.7	207.1	61.54	4.366				
7,900.0	6,707.5	7,778.7	6,802.2	35.3	31.3	-110.63	-1,174.5	84.1	268.6	203.8	64.85	4.142				
8,000.0	6,706.8	7,878.7	6,801.3	36.9	32.9	-110.60	-1,174.5	184.1	268.6	200.2	68.41	3.926				
8,100.0	6,706.0	7,978.7	6,800.4	38.8	34.9	-110.58	-1,174.5	284.1	268.5	196.3	72.18	3.720				
8,200.0	6,705.3	8,078.7	6,799.5	40.9	37.0	-110.55	-1,174.5	384.1	268.5	192.3	76.13	3.526				
8,300.0	6,704.5	8,178.7	6,798.6	43.1	39.2	-110.52	-1,174.5	484.1	268.4	188.2	80.24	3.345				
8,400.0	6,703.8	8,278.7	6,797.7	45.5	41.5	-110.49	-1,174.5	584.1	268.4	183.9	84.49	3.176				

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 Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Klein 19O-HZ Pad Sec.19-T5N-R64W - Klein 19P-312 - Wellbore #1 - Plan #3 (7-15-15)												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)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
8,500.0	6,703.0	8,378.7	6,796.8	47.8	43.9	-110.46	-1,174.5	684.1	268.3	179.5	88.85	3.020	
8,600.0	6,702.3	8,478.7	6,796.0	50.2	46.3	-110.44	-1,174.5	784.1	268.3	175.0	93.30	2.875	
8,700.0	6,701.5	8,578.7	6,795.1	52.7	48.8	-110.41	-1,174.5	884.1	268.2	170.4	97.85	2.741	
8,800.0	6,700.8	8,678.7	6,794.2	55.2	51.3	-110.38	-1,174.5	984.1	268.2	165.7	102.46	2.617	
8,900.0	6,700.0	8,778.7	6,793.3	57.7	53.8	-110.35	-1,174.5	1,084.1	268.1	161.0	107.14	2.503	
9,000.0	6,699.3	8,878.7	6,792.4	60.2	56.3	-110.33	-1,174.5	1,184.1	268.1	156.2	111.88	2.396	
9,100.0	6,698.5	8,978.7	6,791.5	62.8	58.9	-110.30	-1,174.5	1,284.1	268.0	151.4	116.67	2.297	
9,200.0	6,697.8	9,078.7	6,790.6	65.4	61.5	-110.27	-1,174.5	1,384.1	268.0	146.5	121.50	2.206	
9,300.0	6,697.0	9,178.7	6,789.7	68.0	64.1	-110.24	-1,174.5	1,484.1	267.9	141.6	126.37	2.120	
9,400.0	6,696.3	9,278.7	6,788.9	70.6	66.7	-110.22	-1,174.5	1,584.1	267.9	136.6	131.28	2.041	
9,500.0	6,695.5	9,378.7	6,788.0	73.2	69.4	-110.19	-1,174.5	1,684.1	267.8	131.6	136.22	1.966	
9,600.0	6,694.8	9,478.7	6,787.1	75.9	72.0	-110.16	-1,174.5	1,784.1	267.8	126.6	141.19	1.897	
9,700.0	6,694.0	9,578.7	6,786.2	78.5	74.7	-110.13	-1,174.5	1,884.1	267.8	121.6	146.18	1.832	
9,800.0	6,693.3	9,678.7	6,785.3	81.2	77.3	-110.10	-1,174.5	1,984.1	267.7	116.5	151.20	1.771	
9,900.0	6,692.5	9,778.7	6,784.4	83.8	80.0	-110.08	-1,174.5	2,084.0	267.7	111.4	156.24	1.713	
10,000.0	6,691.8	9,878.7	6,783.5	86.5	82.7	-110.05	-1,174.5	2,184.0	267.6	106.3	161.30	1.659	
10,100.0	6,691.1	9,978.7	6,782.7	89.2	85.4	-110.02	-1,174.5	2,284.0	267.6	101.2	166.37	1.608	
10,200.0	6,690.3	10,078.7	6,781.8	91.9	88.1	-109.99	-1,174.5	2,384.0	267.5	96.0	171.47	1.560	
10,300.0	6,689.6	10,178.7	6,780.9	94.6	90.8	-109.97	-1,174.5	2,484.0	267.5	90.9	176.57	1.515	
10,400.0	6,688.8	10,278.7	6,780.0	97.3	93.5	-109.94	-1,174.5	2,584.0	267.4	85.7	181.70	1.472 Level 3	
10,500.0	6,688.1	10,378.7	6,779.1	100.0	96.2	-109.91	-1,174.5	2,684.0	267.4	80.5	186.83	1.431 Level 3	
10,600.0	6,687.3	10,478.7	6,778.2	102.7	98.9	-109.88	-1,174.5	2,784.0	267.3	75.3	191.98	1.392 Level 3	
10,700.0	6,686.6	10,578.7	6,777.3	105.4	101.7	-109.85	-1,174.5	2,884.0	267.3	70.1	197.14	1.356 Level 3	
10,800.0	6,685.8	10,678.7	6,776.4	108.1	104.4	-109.83	-1,174.5	2,984.0	267.2	64.9	202.31	1.321 Level 3	
10,900.0	6,685.1	10,778.7	6,775.6	110.9	107.1	-109.80	-1,174.5	3,084.0	267.2	59.7	207.49	1.288 Level 3	
11,000.0	6,684.3	10,878.7	6,774.7	113.6	109.9	-109.77	-1,174.5	3,184.0	267.1	54.5	212.67	1.256 Level 3	
11,100.0	6,683.6	10,978.7	6,773.8	116.3	112.6	-109.74	-1,174.5	3,284.0	267.1	49.2	217.87	1.226 Level 2	
11,200.0	6,682.8	11,078.7	6,772.9	119.1	115.3	-109.71	-1,174.5	3,384.0	267.0	44.0	223.08	1.197 Level 2	
11,300.0	6,682.1	11,178.7	6,772.0	121.8	118.1	-109.69	-1,174.5	3,484.0	267.0	38.7	228.29	1.170 Level 2	
11,400.0	6,681.3	11,278.7	6,771.1	124.5	120.8	-109.66	-1,174.5	3,584.0	267.0	33.4	233.51	1.143 Level 2	
11,500.0	6,680.6	11,378.7	6,770.2	127.3	123.6	-109.63	-1,174.5	3,684.0	266.9	28.2	238.74	1.118 Level 2	
11,600.0	6,679.8	11,478.7	6,769.3	130.0	126.4	-109.60	-1,174.5	3,784.0	266.9	22.9	243.97	1.094 Level 2	
11,700.0	6,679.1	11,578.7	6,768.5	132.8	129.1	-109.58	-1,174.5	3,884.0	266.8	17.6	249.22	1.071 Level 2	
11,800.0	6,678.3	11,678.7	6,767.6	135.5	131.9	-109.55	-1,174.5	3,984.0	266.8	12.3	254.46	1.048 Level 2	
11,900.0	6,677.6	11,778.7	6,766.7	138.3	134.6	-109.52	-1,174.5	4,084.0	266.7	7.0	259.72	1.027 Level 2	
12,000.0	6,676.8	11,878.7	6,765.8	141.0	137.4	-109.49	-1,174.5	4,184.0	266.7	1.7	264.97	1.006 Level 2	
12,100.0	6,676.1	11,978.7	6,764.9	143.8	140.2	-109.46	-1,174.5	4,284.0	266.6	-3.6	270.24	0.987 Level 1	
12,200.0	6,675.3	12,078.7	6,764.0	146.6	142.9	-109.44	-1,174.5	4,384.0	266.6	-8.9	275.51	0.968 Level 1	
12,300.0	6,674.6	12,178.7	6,763.1	149.3	145.7	-109.41	-1,174.5	4,483.9	266.5	-14.2	280.78	0.949 Level 1	
12,400.0	6,673.8	12,278.7	6,762.2	152.1	148.5	-109.38	-1,174.5	4,583.9	266.5	-19.6	286.06	0.932 Level 1	
12,500.0	6,673.1	12,378.7	6,761.4	154.8	151.2	-109.35	-1,174.5	4,683.9	266.4	-24.9	291.34	0.915 Level 1	
12,600.0	6,672.3	12,478.7	6,760.5	157.6	154.0	-109.32	-1,174.5	4,783.9	266.4	-30.2	296.63	0.898 Level 1	
12,700.0	6,671.6	12,578.7	6,759.6	160.4	156.8	-109.30	-1,174.5	4,883.9	266.4	-35.6	301.92	0.882 Level 1	
12,800.0	6,670.8	12,678.7	6,758.7	163.2	159.5	-109.27	-1,174.5	4,983.9	266.3	-40.9	307.22	0.867 Level 1	
12,900.0	6,670.1	12,778.7	6,757.8	165.9	162.3	-109.24	-1,174.5	5,083.9	266.3	-46.3	312.52	0.852 Level 1	
13,000.0	6,669.3	12,878.7	6,756.9	168.7	165.1	-109.21	-1,174.5	5,183.9	266.2	-51.6	317.83	0.838 Level 1	
13,100.0	6,668.6	12,978.7	6,756.0	171.5	167.9	-109.18	-1,174.5	5,283.9	266.2	-57.0	323.13	0.824 Level 1	
13,200.0	6,667.8	13,078.7	6,755.1	174.2	170.6	-109.15	-1,174.5	5,383.9	266.1	-62.3	328.45	0.810 Level 1	
13,300.0	6,667.1	13,178.7	6,754.3	177.0	173.4	-109.13	-1,174.5	5,483.9	266.1	-67.7	333.76	0.797 Level 1	
13,400.0	6,666.3	13,278.7	6,753.4	179.8	176.2	-109.10	-1,174.5	5,583.9	266.0	-73.0	339.08	0.785 Level 1	
13,500.0	6,665.6	13,378.7	6,752.5	182.6	179.0	-109.07	-1,174.5	5,683.9	266.0	-78.4	344.40	0.772 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 Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Klein 19O-HZ Pad Sec.19-T5N-R64W - Klein 19P-312 - Wellbore #1 - Plan #3 (7-15-15)													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 Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
13,600.0	6,664.8	13,478.7	6,751.6	185.3	181.8	-109.04	-1,174.5	5,783.9	265.9	-83.8	349.73	0.760	Level 1	
13,700.0	6,664.1	13,578.7	6,750.7	188.1	184.6	-109.01	-1,174.5	5,883.9	265.9	-89.2	355.06	0.749	Level 1	
13,800.0	6,663.3	13,678.7	6,749.8	190.9	187.3	-108.99	-1,174.5	5,983.9	265.9	-94.5	360.39	0.738	Level 1	
13,900.0	6,662.6	13,778.7	6,748.9	193.7	190.1	-108.96	-1,174.5	6,083.9	265.8	-99.9	365.72	0.727	Level 1	
14,000.0	6,661.8	13,878.7	6,748.0	196.5	192.9	-108.93	-1,174.5	6,183.9	265.8	-105.3	371.06	0.716	Level 1	
14,100.0	6,661.1	13,978.7	6,747.2	199.2	195.7	-108.90	-1,174.5	6,283.9	265.7	-110.7	376.40	0.706	Level 1	
14,200.0	6,660.3	14,078.7	6,746.3	202.0	198.5	-108.87	-1,174.5	6,383.9	265.7	-116.1	381.75	0.696	Level 1	
14,300.0	6,659.6	14,178.7	6,745.4	204.8	201.3	-108.84	-1,174.5	6,483.9	265.6	-121.5	387.10	0.686	Level 1	
14,400.0	6,658.8	14,278.7	6,744.5	207.6	204.1	-108.82	-1,174.5	6,583.9	265.6	-126.9	392.44	0.677	Level 1	
14,500.0	6,658.1	14,378.7	6,743.6	210.4	206.8	-108.79	-1,174.5	6,683.9	265.5	-132.3	397.80	0.668	Level 1	
14,600.0	6,657.3	14,478.7	6,742.7	213.2	209.6	-108.76	-1,174.5	6,783.9	265.5	-137.7	403.15	0.659	Level 1	
14,700.0	6,656.6	14,578.7	6,741.8	215.9	212.4	-108.73	-1,174.5	6,883.9	265.5	-143.1	408.51	0.650	Level 1	
14,800.0	6,655.8	14,678.7	6,741.0	218.7	215.2	-108.70	-1,174.5	6,983.8	265.4	-148.5	413.87	0.641	Level 1	
14,900.0	6,655.1	14,778.7	6,740.1	221.5	218.0	-108.68	-1,174.5	7,083.8	265.4	-153.9	419.23	0.633	Level 1	
15,000.0	6,654.3	14,878.7	6,739.2	224.3	220.8	-108.65	-1,174.5	7,183.8	265.3	-159.3	424.60	0.625	Level 1	
15,100.0	6,653.6	14,978.7	6,738.3	227.1	223.6	-108.62	-1,174.5	7,283.8	265.3	-164.7	429.97	0.617	Level 1	
15,200.0	6,652.8	15,078.7	6,737.4	229.9	226.4	-108.59	-1,174.5	7,383.8	265.2	-170.1	435.34	0.609	Level 1	
15,300.0	6,652.1	15,178.7	6,736.5	232.7	229.2	-108.56	-1,174.5	7,483.8	265.2	-175.5	440.71	0.602	Level 1	
15,400.0	6,651.4	15,278.7	6,735.6	235.5	232.0	-108.53	-1,174.5	7,583.8	265.1	-180.9	446.09	0.594	Level 1	
15,500.0	6,650.6	15,378.7	6,734.7	238.3	234.7	-108.51	-1,174.5	7,683.8	265.1	-186.4	451.46	0.587	Level 1	
15,600.0	6,649.9	15,478.7	6,733.9	241.0	237.5	-108.48	-1,174.5	7,783.8	265.1	-191.8	456.84	0.580	Level 1	
15,700.0	6,649.1	15,578.7	6,733.0	243.8	240.3	-108.45	-1,174.5	7,883.8	265.0	-197.2	462.23	0.573	Level 1	
15,800.0	6,648.4	15,678.7	6,732.1	246.6	243.1	-108.42	-1,174.5	7,983.8	265.0	-202.6	467.61	0.567	Level 1	
15,900.0	6,647.6	15,778.7	6,731.2	249.4	245.9	-108.39	-1,174.5	8,083.8	264.9	-208.1	473.00	0.560	Level 1	
16,000.0	6,646.9	15,878.7	6,730.3	252.2	248.7	-108.36	-1,174.5	8,183.8	264.9	-213.5	478.39	0.554	Level 1	
16,100.0	6,646.1	15,978.7	6,729.4	255.0	251.5	-108.34	-1,174.5	8,283.8	264.8	-218.9	483.78	0.547	Level 1	
16,200.0	6,645.4	16,078.7	6,728.5	257.8	254.3	-108.31	-1,174.5	8,383.8	264.8	-224.4	489.17	0.541	Level 1	
16,300.0	6,644.6	16,178.7	6,727.6	260.6	257.1	-108.28	-1,174.5	8,483.8	264.8	-229.8	494.57	0.535	Level 1	
16,400.0	6,643.9	16,278.7	6,726.8	263.4	259.9	-108.25	-1,174.5	8,583.8	264.7	-235.3	499.96	0.529	Level 1	
16,500.0	6,643.1	16,378.7	6,725.9	266.2	262.7	-108.22	-1,174.5	8,683.8	264.7	-240.7	505.36	0.524	Level 1	
16,600.0	6,642.4	16,478.7	6,725.0	269.0	265.5	-108.19	-1,174.5	8,783.8	264.6	-246.1	510.77	0.518	Level 1	
16,700.0	6,641.6	16,578.7	6,724.1	271.8	268.3	-108.17	-1,174.5	8,883.8	264.6	-251.6	516.17	0.513	Level 1	
16,800.0	6,640.9	16,678.7	6,723.2	274.6	271.1	-108.14	-1,174.5	8,983.8	264.5	-257.0	521.58	0.507	Level 1	
16,900.0	6,640.1	16,778.7	6,722.3	277.4	273.9	-108.11	-1,174.5	9,083.8	264.5	-262.5	526.98	0.502	Level 1	
17,000.0	6,639.4	16,878.7	6,721.4	280.1	276.7	-108.08	-1,174.5	9,183.8	264.4	-267.9	532.39	0.497	Level 1	
17,100.0	6,638.6	16,978.7	6,720.5	282.9	279.5	-108.05	-1,174.5	9,283.8	264.4	-273.4	537.81	0.492	Level 1	
17,200.0	6,637.9	17,078.7	6,719.7	285.7	282.3	-108.02	-1,174.5	9,383.8	264.4	-278.9	543.22	0.487	Level 1	
17,300.0	6,637.1	17,178.7	6,718.8	288.5	285.1	-107.99	-1,174.5	9,483.7	264.3	-284.3	548.64	0.482	Level 1	
17,400.0	6,636.4	17,278.7	6,717.9	291.3	287.9	-107.97	-1,174.5	9,583.7	264.3	-289.8	554.05	0.477	Level 1	
17,500.0	6,635.6	17,378.7	6,717.0	294.1	290.7	-107.94	-1,174.5	9,683.7	264.2	-295.2	559.47	0.472	Level 1	
17,600.0	6,634.9	17,478.7	6,716.1	296.9	293.5	-107.91	-1,174.5	9,783.7	264.2	-300.7	564.90	0.468	Level 1	
17,700.0	6,634.1	17,578.7	6,715.2	299.7	296.3	-107.88	-1,174.5	9,883.7	264.1	-306.2	570.32	0.463	Level 1	
17,800.0	6,633.4	17,678.7	6,714.3	302.5	299.1	-107.85	-1,174.5	9,983.7	264.1	-311.6	575.75	0.459	Level 1	
17,900.0	6,632.6	17,778.7	6,713.4	305.3	301.9	-107.82	-1,174.5	10,083.7	264.1	-317.1	581.17	0.454	Level 1	
18,000.0	6,631.9	17,878.7	6,712.6	308.1	304.7	-107.79	-1,174.5	10,183.7	264.0	-322.6	586.60	0.450	Level 1	
18,100.0	6,631.1	17,978.7	6,711.7	310.9	307.5	-107.77	-1,174.5	10,283.7	264.0	-328.1	592.03	0.446	Level 1	
18,200.0	6,630.4	18,078.7	6,710.8	313.7	310.3	-107.74	-1,174.5	10,383.7	263.9	-333.5	597.47	0.442	Level 1	
18,250.5	6,630.0	18,129.2	6,710.3	315.1	311.7	-107.72	-1,174.5	10,434.3	263.9	-336.3	600.21	0.440	Level 1, ES, SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:		0.0 ft
Survey Program: 146-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)				
6,065.4	5,809.1	10,933.8	6,776.6	35.2	121.2	-168.60	-1,275.4	-1,125.8	957.1	863.0	94.10	10.171			
6,100.0	5,842.1	10,926.1	6,776.6	35.4	121.0	-169.66	-1,275.4	-1,133.5	923.6	818.7	104.93	8.802			
6,150.0	5,890.2	10,918.1	6,776.7	35.6	120.8	-172.50	-1,275.3	-1,141.4	874.9	751.7	123.20	7.102			
6,200.0	5,938.7	10,913.9	6,776.7	35.7	120.6	-176.55	-1,275.3	-1,145.6	825.9	686.3	139.58	5.917			
6,250.0	5,987.3	10,913.3	6,776.7	35.9	120.6	-179.85	-1,275.3	-1,146.2	776.9	632.2	144.72	5.368			
6,300.0	6,035.8	10,916.3	6,776.7	36.0	120.7	179.29	-1,275.3	-1,143.3	728.1	589.9	138.20	5.269			
6,350.0	6,084.0	10,922.7	6,776.7	36.1	120.9	-179.54	-1,275.3	-1,136.8	679.7	552.4	127.26	5.341			
6,400.0	6,131.7	10,932.5	6,776.6	36.2	121.2	-177.47	-1,275.4	-1,127.1	632.0	515.1	116.83	5.409			
6,450.0	6,178.7	10,945.4	6,776.5	36.2	121.5	-175.19	-1,275.4	-1,114.2	585.2	476.8	108.38	5.399			
6,500.0	6,224.9	10,961.3	6,776.4	36.2	122.0	-172.91	-1,275.4	-1,098.2	539.5	437.5	102.01	5.289			
6,550.0	6,269.9	10,978.2	6,776.3	36.2	122.4	-170.95	-1,275.5	-1,081.4	495.2	398.3	96.93	5.109			
6,600.0	6,313.6	10,994.8	6,776.3	36.1	122.9	-169.30	-1,275.6	-1,064.7	452.8	360.0	92.76	4.881			
6,650.0	6,355.9	11,015.4	6,776.5	36.1	123.5	-167.33	-1,275.5	-1,044.1	412.5	322.2	90.35	4.566			
6,700.0	6,396.5	11,039.5	6,777.0	36.0	124.1	-165.10	-1,275.3	-1,020.1	374.9	285.5	89.36	4.195			
6,750.0	6,435.3	11,067.0	6,777.9	35.9	124.9	-162.56	-1,274.9	-992.6	340.2	250.5	89.73	3.791			
6,800.0	6,472.0	11,096.7	6,779.2	35.8	125.7	-159.79	-1,274.4	-962.9	308.8	217.7	91.15	3.388			
6,850.0	6,506.6	11,135.0	6,780.9	35.7	126.8	-156.06	-1,273.8	-924.7	280.7	185.7	94.96	2.956			
6,900.0	6,538.9	11,173.9	6,782.6	35.6	127.9	-152.22	-1,273.5	-885.8	255.7	156.3	99.41	2.572			
6,950.0	6,568.8	11,196.0	6,783.6	35.4	128.5	-150.14	-1,273.4	-863.7	235.1	134.3	100.82	2.332			
7,000.0	6,596.1	11,196.0	6,783.6	35.3	128.5	-150.01	-1,273.4	-863.7	225.0	126.4	98.66	2.281 SF			
7,013.4	6,603.0	11,196.0	6,783.6	35.2	128.5	-149.87	-1,273.4	-863.7	224.6	126.2	98.33	2.284 CC, ES			
7,050.0	6,620.7	11,196.0	6,783.6	35.1	128.5	-149.27	-1,273.4	-863.7	228.1	130.2	97.94	2.329			
7,100.0	6,642.5	11,196.0	6,783.6	35.0	128.5	-147.88	-1,273.4	-863.7	243.8	145.1	98.73	2.470			
7,150.0	6,661.5	11,196.0	6,783.6	34.8	128.5	-145.78	-1,273.4	-863.7	269.9	168.7	101.17	2.668			
7,200.0	6,677.4	11,196.0	6,783.6	34.7	128.5	-142.83	-1,273.4	-863.7	303.6	198.1	105.45	2.879			
7,250.0	6,690.3	11,196.0	6,783.6	34.5	128.5	-138.83	-1,273.4	-863.7	342.5	230.7	111.78	3.064			
7,300.0	6,700.2	11,196.0	6,783.6	34.4	128.5	-133.53	-1,273.4	-863.7	385.0	264.7	120.27	3.201			
7,350.0	6,706.9	11,196.0	6,783.6	34.2	128.5	-126.61	-1,273.4	-863.7	429.8	299.1	130.63	3.290			
7,400.0	6,710.4	11,196.0	6,783.6	34.1	128.5	-117.81	-1,273.4	-863.7	476.1	334.3	141.81	3.357			
7,436.6	6,711.0	11,196.0	6,783.6	34.0	128.5	-110.16	-1,273.4	-863.7	510.6	361.3	149.24	3.421			
7,500.0	6,710.5	11,196.0	6,783.6	33.9	128.5	-110.16	-1,273.4	-863.7	571.0	421.1	149.91	3.809			
7,600.0	6,709.8	11,196.0	6,783.6	33.7	128.5	-110.16	-1,273.4	-863.7	667.5	516.4	151.14	4.417			
7,700.0	6,709.0	11,196.0	6,783.6	33.8	128.5	-110.16	-1,273.4	-863.7	764.9	612.4	152.54	5.014			
7,800.0	6,708.3	11,196.0	6,783.6	34.3	128.5	-110.16	-1,273.4	-863.7	862.9	708.8	154.09	5.600			
7,900.0	6,707.5	11,196.0	6,783.6	35.3	128.5	-110.16	-1,273.4	-863.7	961.3	805.5	155.78	6.171			

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 146-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		
6,150.0	5,890.2	11,029.9	6,875.3	35.6	121.4	-141.11	-1,398.3	-1,132.4	987.3	902.6	84.74	11.651		
6,200.0	5,938.7	11,026.0	6,875.3	35.7	121.3	-149.86	-1,398.2	-1,136.3	937.6	821.9	115.69	8.105		
6,250.0	5,987.3	11,026.0	6,875.3	35.9	121.3	177.53	-1,398.2	-1,136.3	887.8	742.9	144.88	6.127		
6,300.0	6,035.8	11,026.0	6,875.3	36.0	121.3	153.62	-1,398.2	-1,136.3	837.9	729.5	108.42	7.728		
6,350.0	6,084.0	11,032.2	6,875.3	36.1	121.5	151.34	-1,398.3	-1,130.2	788.4	706.3	82.15	9.598		
6,400.0	6,131.7	11,040.1	6,875.1	36.2	121.7	153.95	-1,398.4	-1,122.2	739.3	671.1	68.26	10.832		
6,450.0	6,178.7	11,051.0	6,875.0	36.2	122.0	157.43	-1,398.4	-1,111.3	691.0	630.2	60.83	11.359		
6,500.0	6,224.9	11,064.8	6,874.9	36.2	122.4	160.67	-1,398.5	-1,097.6	643.6	586.9	56.71	11.349		
6,550.0	6,269.9	11,081.3	6,874.7	36.2	122.9	163.48	-1,398.6	-1,081.1	597.4	543.0	54.39	10.983		
6,600.0	6,313.6	11,098.9	6,874.7	36.1	123.4	165.82	-1,398.7	-1,063.5	552.6	499.6	52.99	10.427		
6,650.0	6,355.9	11,117.6	6,874.9	36.1	123.9	167.81	-1,398.6	-1,044.7	509.6	457.4	52.13	9.775		
6,700.0	6,396.5	11,142.3	6,875.3	36.0	124.6	169.71	-1,398.5	-1,020.1	468.6	417.0	51.62	9.078		
6,750.0	6,435.3	11,175.6	6,876.0	35.9	125.5	171.64	-1,398.4	-986.8	429.7	378.4	51.32	8.374		
6,800.0	6,472.0	11,207.3	6,876.5	35.8	126.4	173.30	-1,398.2	-955.1	392.8	341.9	50.96	7.709		
6,850.0	6,506.6	11,249.0	6,877.2	35.7	127.5	175.14	-1,398.1	-913.3	358.3	307.5	50.74	7.060		
6,900.0	6,538.9	11,286.6	6,877.2	35.6	128.6	176.52	-1,398.9	-875.8	325.7	275.3	50.34	6.469		
6,950.0	6,568.8	11,303.0	6,877.3	35.4	129.0	177.19	-1,399.2	-859.4	296.5	247.0	49.53	5.987		
7,000.0	6,596.1	11,303.0	6,877.3	35.3	129.0	177.48	-1,399.2	-859.4	276.0	227.5	48.50	5.691		
7,050.0	6,620.7	11,303.0	6,877.3	35.1	129.0	177.89	-1,399.2	-859.4	266.6	219.1	47.51	5.611 SF		
7,063.1	6,626.7	11,303.0	6,877.3	35.1	129.0	178.01	-1,399.2	-859.4	266.1	218.9	47.26	5.632 CC, ES		
7,100.0	6,642.5	11,303.0	6,877.3	35.0	129.0	178.41	-1,399.2	-859.4	269.5	223.0	46.56	5.789		
7,150.0	6,661.5	11,303.0	6,877.3	34.8	129.0	179.08	-1,399.2	-859.4	284.5	238.8	45.70	6.225		
7,200.0	6,677.4	11,303.0	6,877.3	34.7	129.0	179.92	-1,399.2	-859.4	309.6	264.6	45.04	6.874		
7,250.0	6,690.3	11,303.0	6,877.3	34.5	129.0	-179.00	-1,399.2	-859.4	342.6	297.8	44.75	7.654		
7,300.0	6,700.2	11,303.0	6,877.3	34.4	129.0	-177.58	-1,399.2	-859.4	381.3	336.1	45.13	8.447		
7,350.0	6,706.9	11,303.0	6,877.3	34.2	129.0	-175.64	-1,399.2	-859.4	424.0	377.4	46.60	9.097		
7,400.0	6,710.4	11,303.0	6,877.3	34.1	129.0	-172.84	-1,399.2	-859.4	469.4	419.5	49.94	9.399		
7,436.6	6,711.0	11,303.0	6,877.3	34.0	129.0	-169.89	-1,399.2	-859.4	503.9	449.4	54.46	9.253		
7,500.0	6,710.5	11,303.0	6,877.3	33.9	129.0	-169.89	-1,399.2	-859.4	564.7	509.8	54.88	10.290		
7,600.0	6,709.8	11,303.0	6,877.3	33.7	129.0	-169.89	-1,399.2	-859.4	661.5	606.0	55.56	11.906		
7,700.0	6,709.0	11,303.0	6,877.3	33.8	129.0	-169.89	-1,399.2	-859.4	759.2	702.9	56.27	13.493		
7,800.0	6,708.3	11,303.0	6,877.3	34.3	129.0	-169.89	-1,399.2	-859.4	857.4	800.4	56.99	15.045		
7,900.0	6,707.5	11,303.0	6,877.3	35.3	129.0	-169.89	-1,399.2	-859.4	956.0	898.3	57.73	16.560		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Schneider 19Q-HZ Pad (Existing) Sec.19-T5N-R64W - Danley 33-20 (Exist) - Wellbore #1 - Wellbore #1										Offset Site Error:		0.0 ft	
Survey Program:		100-NS-GYRO-MS										Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis				Distance						Warning	
Measured Depth	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)				
12,500.0	6,673.1	6,901.8	6,762.1	154.8	16.8	-97.77	-876.9	5,468.7	960.9	792.1	168.74	5.694			
12,600.0	6,672.3	6,888.4	6,748.8	157.6	16.8	-96.41	-877.6	5,470.4	881.0	709.1	171.88	5.125			
12,700.0	6,671.6	6,875.0	6,735.5	160.4	16.8	-95.05	-878.4	5,472.1	805.3	630.4	174.95	4.603			
12,800.0	6,670.8	6,861.6	6,722.2	163.2	16.7	-93.67	-879.2	5,473.8	735.3	557.3	177.95	4.132			
12,900.0	6,670.1	6,848.2	6,709.0	165.9	16.7	-92.29	-879.9	5,475.5	672.6	491.7	180.86	3.719			
13,000.0	6,669.3	6,834.7	6,695.7	168.7	16.7	-90.90	-880.7	5,477.2	619.5	435.8	183.68	3.373			
13,100.0	6,668.6	6,821.3	6,682.4	171.5	16.6	-89.50	-881.4	5,478.9	578.6	392.2	186.41	3.104			
13,200.0	6,667.8	6,807.9	6,669.1	174.2	16.6	-88.11	-882.2	5,480.6	552.6	363.6	189.04	2.923			
13,299.4	6,667.1	6,794.6	6,655.9	177.0	16.5	-86.71	-883.0	5,482.3	543.8	352.3	191.54	2.839 CC			
13,300.0	6,667.1	6,794.5	6,655.8	177.0	16.5	-86.71	-883.0	5,482.3	543.8	352.2	191.56	2.839 ES, SF			
13,400.0	6,666.3	6,781.1	6,642.6	179.8	16.5	-85.31	-883.7	5,484.0	552.9	358.9	193.97	2.850			
13,500.0	6,665.6	6,767.7	6,629.3	182.6	16.5	-83.91	-884.5	5,485.7	579.0	382.7	196.26	2.950			
13,600.0	6,664.8	6,754.3	6,616.0	185.3	16.4	-82.51	-885.2	5,487.4	620.0	421.6	198.44	3.124			
13,700.0	6,664.1	6,740.9	6,602.7	188.1	16.4	-81.12	-886.0	5,489.1	673.3	472.8	200.50	3.358			
13,800.0	6,663.3	6,727.5	6,589.4	190.9	16.4	-79.74	-886.8	5,490.8	736.1	533.6	202.44	3.636			
13,900.0	6,662.6	6,714.1	6,576.2	193.7	16.3	-78.37	-887.5	5,492.5	806.2	601.9	204.26	3.947			
14,000.0	6,661.8	6,700.7	6,562.9	196.5	16.3	-77.00	-888.3	5,494.2	881.9	675.9	205.95	4.282			
14,100.0	6,661.1	6,687.2	6,549.6	199.2	16.3	-75.65	-889.1	5,495.9	961.8	754.3	207.52	4.635			

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Schneider 19Q-HZ Pad (Existing) Sec.19-T5N-R64W - Danley 43-20 (Exist) - Wellbore #1 - Wellbore #1										Offset Site Error:		0.0 ft
Survey Program:		453-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)			
14,200.0	6,660.3	6,886.5	6,705.0	202.0	18.5	-92.17	-651.1	6,998.4	989.7	771.7	218.02	4.540		
14,300.0	6,659.6	6,884.0	6,702.5	204.8	18.5	-91.98	-651.0	6,998.5	930.9	710.0	220.83	4.215		
14,400.0	6,658.8	6,881.5	6,700.1	207.6	18.5	-91.80	-651.0	6,998.5	879.5	655.8	223.63	3.933		
14,500.0	6,658.1	6,879.1	6,697.6	210.4	18.5	-91.62	-650.9	6,998.6	836.9	610.5	226.44	3.696		
14,600.0	6,657.3	6,876.6	6,695.2	213.2	18.5	-91.44	-650.9	6,998.6	804.6	575.3	229.24	3.510		
14,700.0	6,656.6	6,874.2	6,692.8	215.9	18.5	-91.26	-650.9	6,998.6	783.7	551.7	232.04	3.378		
14,800.0	6,655.8	6,871.8	6,690.3	218.7	18.5	-91.08	-650.8	6,998.7	775.3	540.5	234.85	3.302		
14,815.5	6,655.7	6,871.4	6,690.0	219.2	18.5	-91.05	-650.8	6,998.7	775.2	539.9	235.28	3.295 CC, ES		
14,900.0	6,655.1	6,869.4	6,687.9	221.5	18.5	-90.90	-650.8	6,998.7	779.8	542.1	237.65	3.281 SF		
15,000.0	6,654.3	6,867.0	6,685.6	224.3	18.5	-90.73	-650.7	6,998.8	796.8	556.4	240.45	3.314		
15,100.0	6,653.6	6,864.6	6,683.2	227.1	18.5	-90.55	-650.7	6,998.8	825.7	582.5	243.24	3.395		
15,200.0	6,652.8	6,862.3	6,680.8	229.9	18.5	-90.38	-650.6	6,998.8	865.3	619.2	246.04	3.517		
15,300.0	6,652.1	6,859.9	6,678.5	232.7	18.5	-90.20	-650.6	6,998.9	914.1	665.2	248.83	3.673		
15,400.0	6,651.4	6,857.6	6,676.2	235.5	18.5	-90.03	-650.5	6,998.9	970.8	719.1	251.63	3.858		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Schneider 19Q-HZ Pad (Existing) Sec.19-T5N-R64W - Evert 5 (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	
10,400.0	6,688.8	6,676.5	6,674.4	97.3	13.5	86.25	-1,524.2	3,510.2	932.2	821.9	110.37	8.446	
10,500.0	6,688.1	6,676.9	6,674.7	100.0	13.5	86.44	-1,524.3	3,510.2	832.9	719.8	113.09	7.365	
10,600.0	6,687.3	6,677.2	6,675.1	102.7	13.5	86.63	-1,524.3	3,510.2	733.7	617.9	115.80	6.335	
10,700.0	6,686.6	6,677.5	6,675.4	105.4	13.5	86.83	-1,524.3	3,510.2	634.7	516.2	118.53	5.355	
10,800.0	6,685.8	6,677.8	6,675.7	108.1	13.5	87.02	-1,524.3	3,510.2	536.2	414.9	121.26	4.422	
10,900.0	6,685.1	6,678.2	6,676.1	110.9	13.5	87.21	-1,524.3	3,510.2	438.3	314.3	123.99	3.535	
11,000.0	6,684.3	6,678.5	6,676.4	113.6	13.5	87.41	-1,524.3	3,510.2	341.6	214.8	126.72	2.695	
11,100.0	6,683.6	6,678.8	6,676.7	116.3	13.5	87.60	-1,524.3	3,510.2	247.5	118.0	129.46	1.912	
11,200.0	6,682.8	6,679.2	6,677.1	119.1	13.5	87.79	-1,524.3	3,510.2	160.8	28.6	132.20	1.216	Level 2
11,300.0	6,682.1	6,679.5	6,677.4	121.8	13.5	87.98	-1,524.3	3,510.2	102.2	-32.8	134.95	0.757	Level 1
11,327.0	6,681.9	6,679.6	6,677.5	122.5	13.5	88.04	-1,524.3	3,510.2	98.5	-37.1	135.69	0.726	Level 1, CC, ES, SF
11,400.0	6,681.3	6,679.8	6,677.7	124.5	13.5	88.17	-1,524.4	3,510.2	122.6	-15.1	137.70	0.891	Level 1
11,500.0	6,680.6	6,680.2	6,678.0	127.3	13.5	88.37	-1,524.4	3,510.2	199.1	58.6	140.45	1.417	Level 3
11,600.0	6,679.8	6,680.5	6,678.4	130.0	13.5	88.56	-1,524.4	3,510.2	290.2	147.0	143.20	2.027	
11,700.0	6,679.1	6,680.8	6,678.7	132.8	13.5	88.75	-1,524.4	3,510.2	385.8	239.8	145.95	2.643	
11,800.0	6,678.3	6,681.1	6,679.0	135.5	13.5	88.94	-1,524.4	3,510.2	483.1	334.4	148.70	3.249	
11,900.0	6,677.6	6,681.5	6,679.4	138.3	13.6	89.13	-1,524.4	3,510.2	581.4	429.9	151.46	3.839	
12,000.0	6,676.8	6,681.8	6,679.7	141.0	13.6	89.32	-1,524.4	3,510.2	680.1	525.9	154.22	4.410	
12,100.0	6,676.1	6,682.1	6,680.0	143.8	13.6	89.51	-1,524.4	3,510.2	779.2	622.3	156.97	4.964	
12,200.0	6,675.3	6,682.5	6,680.3	146.6	13.6	89.70	-1,524.4	3,510.2	878.5	718.8	159.73	5.500	
12,300.0	6,674.6	6,682.8	6,680.7	149.3	13.6	89.88	-1,524.5	3,510.2	977.9	815.5	162.49	6.019	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Schneider 19Q-HZ Pad (Existing) Sec.19-T5N-R64W - Ivan Klein 13-20 (Exist) - Wellbore #1 - Wellbore												<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	
9,800.0	6,693.3	6,675.3	6,673.6	81.2	12.0	-90.30	-1,054.0	2,869.1	960.7	868.0	92.72	10.362	
9,900.0	6,692.5	6,674.1	6,672.4	83.8	12.0	-90.11	-1,054.0	2,869.1	869.4	774.0	95.37	9.116	
10,000.0	6,691.8	6,672.8	6,671.1	86.5	12.0	-89.91	-1,054.1	2,869.1	780.2	682.1	98.03	7.959	
10,100.0	6,691.1	6,671.5	6,669.8	89.2	12.0	-89.71	-1,054.1	2,869.1	693.9	593.2	100.69	6.891	
10,200.0	6,690.3	6,670.1	6,668.4	91.9	12.0	-89.50	-1,054.2	2,869.1	611.8	508.4	103.36	5.919	
10,300.0	6,689.6	6,668.6	6,667.0	94.6	12.0	-89.27	-1,054.2	2,869.1	535.8	429.8	106.04	5.053	
10,400.0	6,688.8	6,667.1	6,665.4	97.3	11.9	-89.04	-1,054.2	2,869.1	468.9	360.2	108.72	4.313	
10,500.0	6,688.1	6,665.6	6,663.9	100.0	11.9	-88.80	-1,054.3	2,869.1	415.6	304.2	111.41	3.730	
10,600.0	6,687.3	6,663.9	6,662.2	102.7	11.9	-88.55	-1,054.3	2,869.1	381.5	267.4	114.09	3.344	
10,686.0	6,686.7	6,662.5	6,660.8	105.0	11.9	-88.32	-1,054.4	2,869.2	371.6	255.2	116.40	3.193 CC	
10,700.0	6,686.6	6,662.2	6,660.5	105.4	11.9	-88.28	-1,054.4	2,869.2	371.9	255.1	116.78	3.185 ES, SF	
10,800.0	6,685.8	6,660.4	6,658.7	108.1	11.9	-88.00	-1,054.4	2,869.2	388.7	269.3	119.47	3.254	
10,900.0	6,685.1	6,658.5	6,656.8	110.9	11.9	-87.71	-1,054.5	2,869.2	428.8	306.7	122.15	3.510	
11,000.0	6,684.3	6,656.5	6,654.9	113.6	11.9	-87.41	-1,054.6	2,869.2	486.5	361.6	124.84	3.897	
11,100.0	6,683.6	6,654.5	6,652.8	116.3	11.9	-87.09	-1,054.6	2,869.2	556.3	428.7	127.52	4.362	
11,200.0	6,682.8	6,652.3	6,650.6	119.1	11.9	-86.75	-1,054.7	2,869.3	634.2	504.0	130.20	4.871	
11,300.0	6,682.1	6,650.0	6,648.3	121.8	11.9	-86.40	-1,054.8	2,869.3	717.6	584.7	132.87	5.401	
11,400.0	6,681.3	6,647.5	6,645.9	124.5	11.9	-86.02	-1,054.8	2,869.3	804.8	669.3	135.53	5.938	
11,500.0	6,680.6	6,645.0	6,643.3	127.3	11.9	-85.63	-1,054.9	2,869.4	894.7	756.5	138.19	6.474	
11,600.0	6,679.8	6,642.2	6,640.6	130.0	11.9	-85.21	-1,055.0	2,869.4	986.5	845.6	140.83	7.005	

Schneider 19Q-HZ Pad (Existing) Sec.19-T5N-R64W - Mowery 5 (Exist) - Wellbore #1 - Wellbore #1											Offset Site Error:		0.0 ft
Survey Program: 100-NS-GYRO-MS											Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance				Warning		
Measured Depth	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)	
7,900.0	6,707.5	6,686.4	6,684.4	35.3	13.2	88.92	-1,595.9	1,008.4	940.6	892.5	48.15	19.536	
8,000.0	6,706.8	6,686.7	6,684.8	36.9	13.2	89.04	-1,595.9	1,008.4	842.5	792.4	50.06	16.830	
8,100.0	6,706.0	6,687.1	6,685.1	38.8	13.2	89.16	-1,595.9	1,008.4	744.8	692.7	52.07	14.303	
8,200.0	6,705.3	6,687.4	6,685.5	40.9	13.2	89.28	-1,595.9	1,008.4	647.8	593.6	54.18	11.957	
8,300.0	6,704.5	6,687.8	6,685.8	43.1	13.2	89.40	-1,595.9	1,008.4	552.0	495.6	56.37	9.792	
8,400.0	6,703.8	6,688.1	6,686.2	45.5	13.2	89.51	-1,595.9	1,008.4	457.9	399.2	58.62	7.810	
8,500.0	6,703.0	6,688.5	6,686.5	47.8	13.2	89.63	-1,595.9	1,008.4	366.9	305.9	60.94	6.021	
8,600.0	6,702.3	6,688.8	6,686.9	50.2	13.2	89.75	-1,595.9	1,008.4	282.1	218.8	63.30	4.456	
8,700.0	6,701.5	6,689.2	6,687.2	52.7	13.2	89.87	-1,595.9	1,008.4	211.1	145.4	65.71	3.212	
8,800.0	6,700.8	6,689.5	6,687.6	55.2	13.2	89.99	-1,595.9	1,008.4	171.8	103.7	68.16	2.521	
8,825.1	6,700.6	6,689.6	6,687.6	55.8	13.2	90.02	-1,595.9	1,008.4	170.0	101.2	68.78	2.472 CC, ES, SF	
8,900.0	6,700.0	6,689.9	6,687.9	57.7	13.2	90.10	-1,595.9	1,008.4	185.8	115.1	70.63	2.630	
9,000.0	6,699.3	6,690.2	6,688.3	60.2	13.2	90.22	-1,595.9	1,008.4	243.9	170.7	73.14	3.334	
9,100.0	6,698.5	6,690.6	6,688.6	62.8	13.2	90.34	-1,595.9	1,008.4	323.2	247.5	75.67	4.271	
9,200.0	6,697.8	6,690.9	6,689.0	65.4	13.2	90.46	-1,595.9	1,008.4	411.6	333.4	78.23	5.262	
9,300.0	6,697.0	6,691.3	6,689.3	68.0	13.2	90.58	-1,595.9	1,008.4	504.4	423.6	80.80	6.242	
9,400.0	6,696.3	6,691.6	6,689.7	70.6	13.2	90.69	-1,595.9	1,008.4	599.5	516.1	83.39	7.189	
9,500.0	6,695.5	6,692.0	6,690.0	73.2	13.2	90.81	-1,595.9	1,008.4	695.9	610.0	86.00	8.093	
9,600.0	6,694.8	6,692.3	6,690.4	75.9	13.2	90.93	-1,595.9	1,008.4	793.3	704.7	88.62	8.952	
9,700.0	6,694.0	6,692.7	6,690.7	78.5	13.2	91.05	-1,595.9	1,008.4	891.2	800.0	91.25	9.767	
9,800.0	6,693.3	6,693.0	6,691.1	81.2	13.2	91.17	-1,595.9	1,008.4	989.6	895.7	93.89	10.540	



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<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
7,500.0	6,710.5	6,400.0	6,342.4	33.9	17.1	55.67	-1,998.0	385.5	988.6	949.8	38.79	25.484	
7,600.0	6,709.8	6,420.2	6,359.8	33.7	17.1	56.87	-1,998.0	395.9	919.5	879.2	40.35	22.790	
7,700.0	6,709.0	6,450.0	6,384.8	33.8	17.0	58.67	-1,998.0	412.0	855.0	812.7	42.26	20.232	
7,800.0	6,708.3	6,480.5	6,409.8	34.3	17.0	60.54	-1,998.0	429.5	795.7	751.3	44.34	17.944	
7,900.0	6,707.5	6,516.6	6,438.4	35.3	17.0	62.78	-1,998.0	451.5	742.5	695.8	46.68	15.907	
8,000.0	6,706.8	6,550.0	6,463.9	36.9	17.0	64.85	-1,998.0	473.1	696.2	647.1	49.07	14.187	
8,100.0	6,706.0	6,600.0	6,500.3	38.8	16.9	67.93	-1,998.0	507.3	657.4	605.5	51.90	12.667	
8,200.0	6,705.3	6,657.2	6,539.1	40.9	16.9	71.37	-1,998.0	549.4	626.6	571.7	54.93	11.408	
8,300.0	6,704.5	6,717.6	6,576.5	43.1	16.9	74.83	-1,998.0	596.7	603.8	545.8	58.04	10.403	
8,400.0	6,703.8	6,785.9	6,614.1	45.5	16.9	78.43	-1,998.0	653.7	588.4	527.1	61.30	9.598	
8,500.0	6,703.0	6,862.5	6,650.1	47.8	17.3	81.98	-1,998.0	721.3	579.1	514.4	64.70	8.951	
8,600.0	6,702.3	6,947.2	6,681.8	50.2	18.2	85.17	-1,998.0	799.8	574.5	506.2	68.26	8.415	
8,700.0	6,701.5	7,038.9	6,706.1	52.7	19.6	87.66	-1,998.0	888.2	572.7	500.6	72.07	7.946	
8,800.0	6,700.8	7,135.8	6,720.1	55.2	21.2	89.13	-1,998.0	984.0	572.2	496.1	76.15	7.514	
8,900.0	6,700.0	7,235.1	6,722.3	57.7	23.2	89.43	-1,998.0	1,083.2	572.2	491.7	80.52	7.107	
9,000.0	6,699.3	7,335.1	6,721.6	60.2	25.2	89.43	-1,998.0	1,183.2	572.2	487.1	85.08	6.725	
9,100.0	6,698.5	7,435.1	6,720.9	62.8	27.4	89.44	-1,998.0	1,283.2	572.2	482.4	89.80	6.372	
9,200.0	6,697.8	7,535.1	6,720.2	65.4	29.7	89.44	-1,998.0	1,383.2	572.2	477.5	94.65	6.045	
9,300.0	6,697.0	7,635.1	6,719.5	68.0	32.1	89.45	-1,998.0	1,483.2	572.2	472.6	99.60	5.745	
9,400.0	6,696.3	7,735.1	6,718.8	70.6	34.5	89.45	-1,998.0	1,583.2	572.2	467.5	104.64	5.468	
9,500.0	6,695.5	7,835.1	6,718.1	73.2	37.0	89.46	-1,998.0	1,683.2	572.2	462.4	109.74	5.214	
9,600.0	6,694.8	7,935.1	6,717.5	75.9	39.6	89.46	-1,998.0	1,783.2	572.2	457.3	114.91	4.979	
9,700.0	6,694.0	8,035.1	6,716.8	78.5	42.1	89.47	-1,998.0	1,883.2	572.2	452.1	120.12	4.763	
9,800.0	6,693.3	8,135.1	6,716.1	81.2	44.7	89.48	-1,998.0	1,983.2	572.2	446.8	125.37	4.564	
9,900.0	6,692.5	8,235.1	6,715.4	83.8	47.4	89.48	-1,998.0	2,083.2	572.2	441.5	130.65	4.379	
10,000.0	6,691.8	8,335.1	6,714.7	86.5	50.0	89.49	-1,998.0	2,183.2	572.2	436.2	135.96	4.208	
10,100.0	6,691.1	8,435.1	6,714.0	89.2	52.6	89.49	-1,998.0	2,283.2	572.2	430.9	141.31	4.049	
10,200.0	6,690.3	8,535.1	6,713.3	91.9	55.3	89.50	-1,998.0	2,383.2	572.2	425.5	146.67	3.901	
10,300.0	6,689.6	8,635.1	6,712.6	94.6	58.0	89.50	-1,998.0	2,483.2	572.1	420.1	152.05	3.763	
10,400.0	6,688.8	8,735.1	6,711.9	97.3	60.7	89.51	-1,998.0	2,583.2	572.1	414.7	157.45	3.634	
10,500.0	6,688.1	8,835.1	6,711.2	100.0	63.4	89.51	-1,998.0	2,683.2	572.1	409.3	162.87	3.513	
10,600.0	6,687.3	8,935.1	6,710.5	102.7	66.1	89.52	-1,998.0	2,783.2	572.1	403.8	168.30	3.400	
10,700.0	6,686.6	9,035.1	6,709.8	105.4	68.8	89.52	-1,998.0	2,883.2	572.1	398.4	173.74	3.293	
10,800.0	6,685.8	9,135.1	6,709.1	108.1	71.6	89.53	-1,998.0	2,983.2	572.1	392.9	179.19	3.193	
10,900.0	6,685.1	9,235.1	6,708.4	110.9	74.3	89.53	-1,998.0	3,083.2	572.1	387.5	184.66	3.098	
11,000.0	6,684.3	9,335.1	6,707.7	113.6	77.0	89.54	-1,998.0	3,183.2	572.1	382.0	190.13	3.009	
11,100.0	6,683.6	9,435.1	6,707.0	116.3	79.8	89.54	-1,998.0	3,283.2	572.1	376.5	195.61	2.925	
11,200.0	6,682.8	9,535.1	6,706.3	119.1	82.5	89.55	-1,998.0	3,383.2	572.1	371.0	201.10	2.845	
11,300.0	6,682.1	9,635.1	6,705.6	121.8	85.3	89.55	-1,998.0	3,483.2	572.1	365.5	206.60	2.769	
11,400.0	6,681.3	9,735.1	6,704.9	124.5	88.1	89.56	-1,998.0	3,583.2	572.1	360.0	212.10	2.697	
11,500.0	6,680.6	9,835.1	6,704.2	127.3	90.8	89.56	-1,998.0	3,683.2	572.1	354.5	217.61	2.629	
11,600.0	6,679.8	9,935.1	6,703.5	130.0	93.6	89.57	-1,998.0	3,783.2	572.1	349.0	223.12	2.564	
11,700.0	6,679.1	10,035.1	6,702.8	132.8	96.3	89.57	-1,997.9	3,883.2	572.1	343.5	228.64	2.502	
11,800.0	6,678.3	10,135.1	6,702.1	135.5	99.1	89.58	-1,997.9	3,983.2	572.1	337.9	234.17	2.443	
11,900.0	6,677.6	10,235.1	6,701.4	138.3	101.9	89.58	-1,997.9	4,083.2	572.1	332.4	239.70	2.387	
12,000.0	6,676.8	10,335.1	6,700.7	141.0	104.6	89.59	-1,997.9	4,183.2	572.1	326.9	245.23	2.333	
12,100.0	6,676.1	10,435.1	6,700.0	143.8	107.4	89.59	-1,997.9	4,283.2	572.1	321.3	250.77	2.281	
12,200.0	6,675.3	10,535.1	6,699.3	146.6	110.2	89.60	-1,997.9	4,383.2	572.1	315.8	256.31	2.232	
12,300.0	6,674.6	10,635.1	6,698.6	149.3	113.0	89.60	-1,997.9	4,483.2	572.1	310.2	261.85	2.185	
12,400.0	6,673.8	10,735.1	6,697.9	152.1	115.8	89.61	-1,997.9	4,583.1	572.1	304.7	267.40	2.139	
12,500.0	6,673.1	10,835.1	6,697.2	154.8	118.5	89.61	-1,997.9	4,683.1	572.1	299.1	272.95	2.096	

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 Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Schneider 19Q-HZ Pad Sec.19-T5N-R64W - Schneider 19P-232 - 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			
12,600.0	6,672.3	10,935.1	6,696.5	157.6	121.3	89.62	-1,997.9	4,783.1	572.1	293.6	278.50	2.054			
12,700.0	6,671.6	11,035.1	6,695.8	160.4	124.1	89.62	-1,997.9	4,883.1	572.1	288.0	284.05	2.014			
12,800.0	6,670.8	11,135.1	6,695.1	163.2	126.9	89.63	-1,997.9	4,983.1	572.1	282.5	289.61	1.975			
12,900.0	6,670.1	11,235.1	6,694.4	165.9	129.7	89.63	-1,997.9	5,083.1	572.1	276.9	295.17	1.938			
13,000.0	6,669.3	11,335.1	6,693.7	168.7	132.5	89.64	-1,997.9	5,183.1	572.1	271.3	300.73	1.902			
13,100.0	6,668.6	11,435.1	6,693.0	171.5	135.2	89.64	-1,997.9	5,283.1	572.1	265.8	306.30	1.868			
13,200.0	6,667.8	11,535.1	6,692.3	174.2	138.0	89.65	-1,997.9	5,383.1	572.1	260.2	311.86	1.834			
13,300.0	6,667.1	11,635.1	6,691.6	177.0	140.8	89.65	-1,997.9	5,483.1	572.1	254.6	317.43	1.802			
13,400.0	6,666.3	11,735.1	6,690.9	179.8	143.6	89.66	-1,997.9	5,583.1	572.1	249.1	323.00	1.771			
13,500.0	6,665.6	11,835.1	6,690.2	182.6	146.4	89.66	-1,997.9	5,683.1	572.1	243.5	328.57	1.741			
13,600.0	6,664.8	11,935.1	6,689.5	185.3	149.2	89.67	-1,997.9	5,783.1	572.0	237.9	334.14	1.712			
13,700.0	6,664.1	12,035.1	6,688.8	188.1	152.0	89.67	-1,997.9	5,883.1	572.0	232.3	339.72	1.684			
13,800.0	6,663.3	12,135.1	6,688.1	190.9	154.8	89.68	-1,997.9	5,983.1	572.0	226.7	345.29	1.657			
13,900.0	6,662.6	12,235.1	6,687.4	193.7	157.6	89.68	-1,997.9	6,083.1	572.0	221.2	350.87	1.630			
14,000.0	6,661.8	12,335.1	6,686.7	196.5	160.4	89.69	-1,997.9	6,183.1	572.0	215.6	356.45	1.605			
14,100.0	6,661.1	12,435.1	6,686.0	199.2	163.2	89.69	-1,997.9	6,283.1	572.0	210.0	362.03	1.580			
14,200.0	6,660.3	12,535.1	6,685.3	202.0	166.0	89.70	-1,997.9	6,383.1	572.0	204.4	367.61	1.556			
14,300.0	6,659.6	12,635.1	6,684.6	204.8	168.7	89.70	-1,997.9	6,483.1	572.0	198.8	373.19	1.533			
14,400.0	6,658.8	12,735.1	6,683.9	207.6	171.5	89.71	-1,997.9	6,583.1	572.0	193.2	378.78	1.510			
14,500.0	6,658.1	12,835.1	6,683.2	210.4	174.3	89.71	-1,997.9	6,683.1	572.0	187.7	384.36	1.488 Level 3			
14,600.0	6,657.3	12,935.1	6,682.5	213.2	177.1	89.72	-1,997.9	6,783.1	572.0	182.1	389.94	1.467 Level 3			
14,700.0	6,656.6	13,035.1	6,681.8	215.9	179.9	89.72	-1,997.9	6,883.1	572.0	176.5	395.53	1.446 Level 3			
14,800.0	6,655.8	13,135.1	6,681.1	218.7	182.7	89.73	-1,997.9	6,983.1	572.0	170.9	401.12	1.426 Level 3			
14,900.0	6,655.1	13,235.1	6,680.5	221.5	185.5	89.74	-1,997.9	7,083.1	572.0	165.3	406.71	1.406 Level 3			
15,000.0	6,654.3	13,335.1	6,679.8	224.3	188.3	89.74	-1,997.9	7,183.1	572.0	159.7	412.29	1.387 Level 3			
15,100.0	6,653.6	13,435.1	6,679.1	227.1	191.1	89.75	-1,997.9	7,283.1	572.0	154.1	417.88	1.369 Level 3			
15,200.0	6,652.8	13,535.1	6,678.4	229.9	193.9	89.75	-1,997.9	7,383.1	572.0	148.5	423.47	1.351 Level 3			
15,300.0	6,652.1	13,635.1	6,677.7	232.7	196.7	89.76	-1,997.9	7,483.1	572.0	142.9	429.06	1.333 Level 3			
15,400.0	6,651.4	13,735.1	6,677.0	235.5	199.5	89.76	-1,997.9	7,583.1	572.0	137.3	434.66	1.316 Level 3			
15,500.0	6,650.6	13,835.1	6,676.3	238.3	202.3	89.77	-1,997.8	7,683.1	572.0	131.7	440.25	1.299 Level 3			
15,600.0	6,649.9	13,935.1	6,675.6	241.0	205.1	89.77	-1,997.8	7,783.1	572.0	126.1	445.84	1.283 Level 3			
15,700.0	6,649.1	14,035.1	6,674.9	243.8	207.9	89.78	-1,997.8	7,883.1	572.0	120.6	451.44	1.267 Level 3			
15,800.0	6,648.4	14,135.1	6,674.2	246.6	210.7	89.78	-1,997.8	7,983.1	572.0	115.0	457.03	1.252 Level 3			
15,900.0	6,647.6	14,235.1	6,673.5	249.4	213.5	89.79	-1,997.8	8,083.1	572.0	109.4	462.62	1.236 Level 2			
16,000.0	6,646.9	14,335.1	6,672.8	252.2	216.3	89.79	-1,997.8	8,183.1	572.0	103.8	468.22	1.222 Level 2			
16,100.0	6,646.1	14,435.1	6,672.1	255.0	219.1	89.80	-1,997.8	8,283.1	572.0	98.2	473.82	1.207 Level 2			
16,200.0	6,645.4	14,535.1	6,671.4	257.8	221.9	89.80	-1,997.8	8,383.1	572.0	92.6	479.41	1.193 Level 2			
16,300.0	6,644.6	14,635.1	6,670.7	260.6	224.7	89.81	-1,997.8	8,483.1	572.0	87.0	485.01	1.179 Level 2			
16,400.0	6,643.9	14,735.1	6,670.0	263.4	227.5	89.81	-1,997.8	8,583.1	572.0	81.4	490.61	1.166 Level 2			
16,500.0	6,643.1	14,835.1	6,669.3	266.2	230.3	89.82	-1,997.8	8,683.0	572.0	75.8	496.21	1.153 Level 2			
16,600.0	6,642.4	14,935.1	6,668.6	269.0	233.1	89.82	-1,997.8	8,783.0	572.0	70.2	501.80	1.140 Level 2			
16,700.0	6,641.6	15,035.1	6,667.9	271.8	235.9	89.83	-1,997.8	8,883.0	572.0	64.6	507.40	1.127 Level 2			
16,800.0	6,640.9	15,135.1	6,667.2	274.6	238.7	89.83	-1,997.8	8,983.0	572.0	59.0	513.00	1.115 Level 2			
16,900.0	6,640.1	15,235.1	6,666.5	277.4	241.5	89.84	-1,997.8	9,083.0	572.0	53.4	518.60	1.103 Level 2			
17,000.0	6,639.4	15,335.1	6,665.8	280.1	244.3	89.84	-1,997.8	9,183.0	572.0	47.7	524.20	1.091 Level 2			
17,100.0	6,638.6	15,435.1	6,665.1	282.9	247.1	89.85	-1,997.8	9,283.0	571.9	42.1	529.80	1.080 Level 2			
17,200.0	6,637.9	15,535.1	6,664.4	285.7	249.9	89.85	-1,997.8	9,383.0	571.9	36.5	535.40	1.068 Level 2			
17,300.0	6,637.1	15,635.1	6,663.7	288.5	252.8	89.86	-1,997.8	9,483.0	571.9	30.9	541.01	1.057 Level 2			
17,400.0	6,636.4	15,735.1	6,663.0	291.3	255.6	89.86	-1,997.8	9,583.0	571.9	25.3	546.61	1.046 Level 2			
17,500.0	6,635.6	15,835.1	6,662.3	294.1	258.4	89.87	-1,997.8	9,683.0	571.9	19.7	552.21	1.036 Level 2			
17,600.0	6,634.9	15,935.1	6,661.6	296.9	261.2	89.87	-1,997.8	9,783.0	571.9	14.1	557.81	1.025 Level 2			

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b>												<b>Offset Site Error:</b>	0.0 ft
Schneider 19Q-HZ Pad Sec.19-T5N-R64W - Schneider 19P-232 - Wellbore #1 - Plan #3 (7-20-15)												<b>Offset Well Error:</b>	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
17,700.0	6,634.1	16,035.1	6,660.9	299.7	264.0	89.88	-1,997.8	9,883.0	571.9	8.5	563.41	1.015	Level 2
17,800.0	6,633.4	16,135.1	6,660.2	302.5	266.8	89.88	-1,997.8	9,983.0	571.9	2.9	569.02	1.005	Level 2
17,900.0	6,632.6	16,235.1	6,659.5	305.3	269.6	89.89	-1,997.8	10,083.0	571.9	-2.7	574.62	0.995	Level 1
18,000.0	6,631.9	16,335.1	6,658.8	308.1	272.4	89.89	-1,997.8	10,183.0	571.9	-8.3	580.22	0.986	Level 1
18,100.0	6,631.1	16,435.1	6,658.1	310.9	275.2	89.90	-1,997.8	10,283.0	571.9	-13.9	585.83	0.976	Level 1
18,200.0	6,630.4	16,535.1	6,657.4	313.7	278.0	89.90	-1,997.8	10,383.0	571.9	-19.5	591.43	0.967	Level 1
18,250.5	6,630.0	16,585.6	6,657.1	315.1	279.4	89.91	-1,997.8	10,433.5	571.9	-22.4	594.27	0.962	Level 1, CC, ES, SF

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4639.0ft (RKB - 13)

Offset Depths are relative to Offset Datum

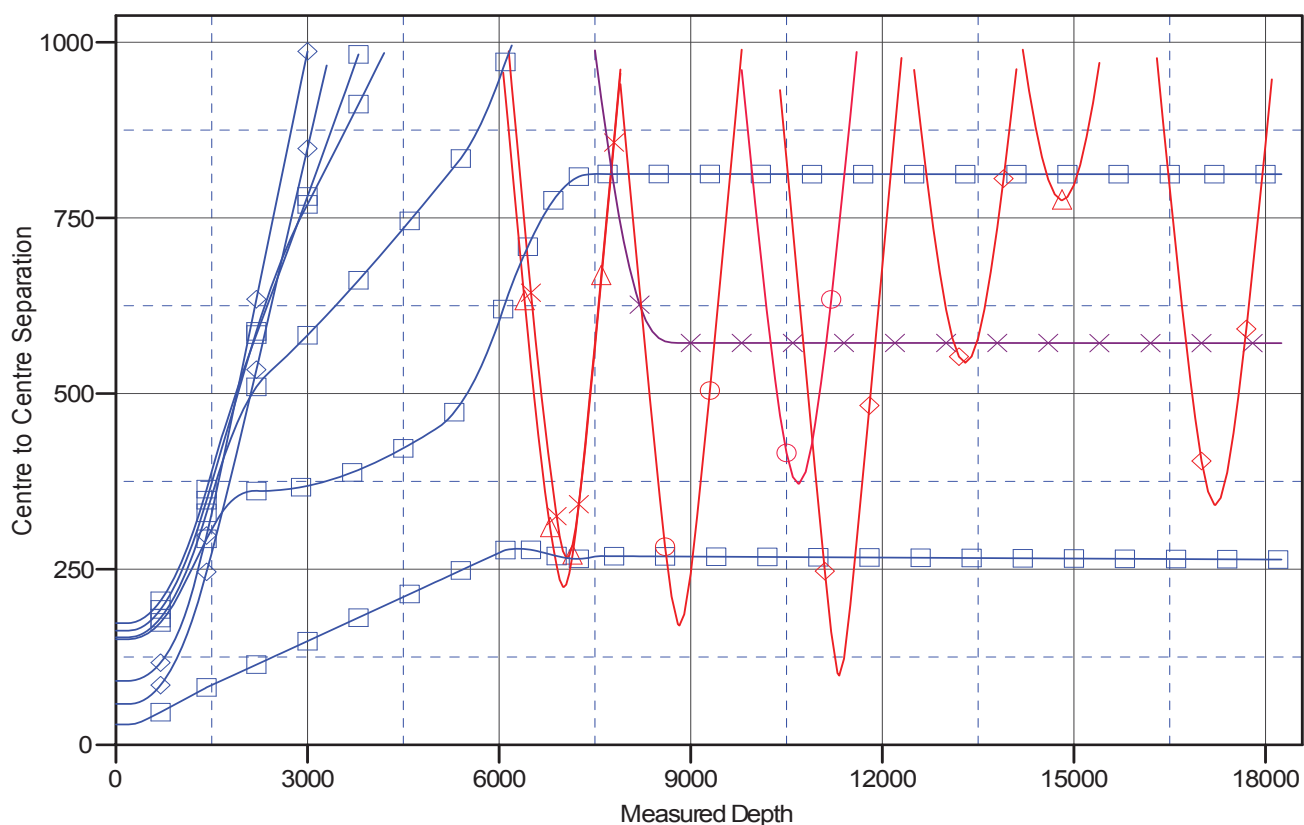
Central Meridian is -105.500000

Coordinates are relative to: Klein 19P-202

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.59°

## Ladder Plot



## LEGEND

laxey24P-402, Wellbore #1, Wellbore #1 V0	◆ Klein 19N-432, Wellbore #1, Plan #3 (7-16-15) V0	⊖ Mowery5 (Exist), Wellbore #1, Wellbore #1 V0
laxey24P-312, Wellbore #1, Wellbore #1 V0	⊠ Klein 19O-232, Wellbore #1, Plan #4 (7-15-15) V0	⊖ Ivan Klein 13-20 (Exist), Wellbore #1, Wellbore #1 V0
lein 19O-402, Wellbore #1, Plan #3 (7-15-15) V0	⊠ Klein 19O-302, Wellbore #1, Plan #4 (7-15-15) V0	⊖ Danley33-20 (Exist), Wellbore #1, Wellbore #1 V0
lein 19N-302, Wellbore #1, Plan #3 (7-15-15) V0	✕ Schneider 19P-232, Wellbore #1, Plan #3 (7-20-15) V0	⊖ Eldersub 11-21 (Exist), Wellbore #1, Wellbore #1 V0
lein 19O-212, Wellbore #1, Plan #3 (7-15-15) V0	⊠ Danley43-20 (Exist), Wellbore #1, Wellbore #1 V0	
lein 19P-312, Wellbore #1, Plan #3 (7-15-15) V0	⊖ Evert5 (Exist), Wellbore #1, Wellbore #1 V0	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Klein 19P-202
<b>Project:</b>	SEC.19-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Reference Site:</b>	Klein 19O-HZ Pad Sec.19-T5N-R64W	<b>MD Reference:</b>	WELL @ 4639.0ft (RKB - 13)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Klein 19P-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 (7-15-15)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4639.0ft (RKB - 13)  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000

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

