

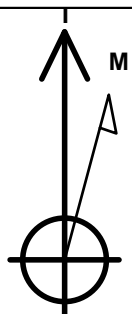
PETROLEUM DEVELOPMENT CORP DJ Basin

Well Name: **Klein 7Y-241**

Surface Location: Klein 5N64W7 Pad Sec.7-T5N-R64W
 North American Datum 1983 , US State Plane 1983, Colorado Northern Zone
 Ground Elevation: 4624.0
 +N/-S+E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1392729.703253394.10 40.407876 -104.590059
 Original Well Elev WELL @ 4637.0ft (Original Well Elev)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 536'FSL & 1818'FEI, Sec.7	1.0	0.0	0.0	Point
BHL 200'FNL & 500'FEL, Sec.6	6698.0	9741.1	1340.4	Point



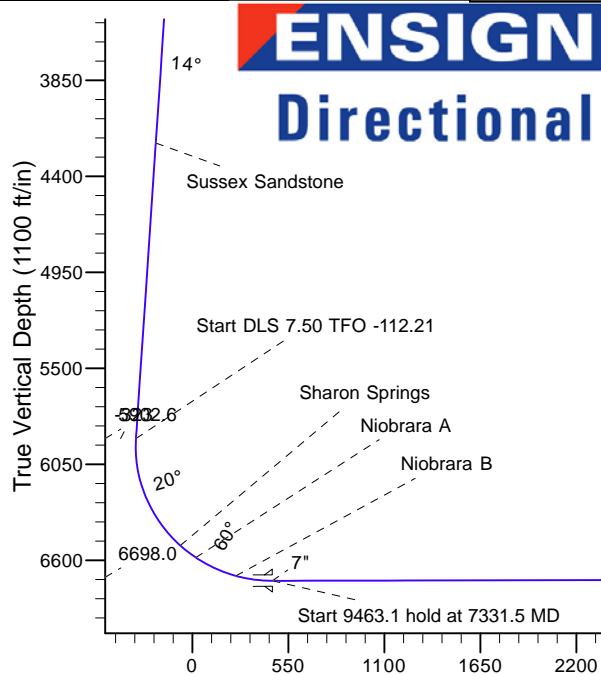
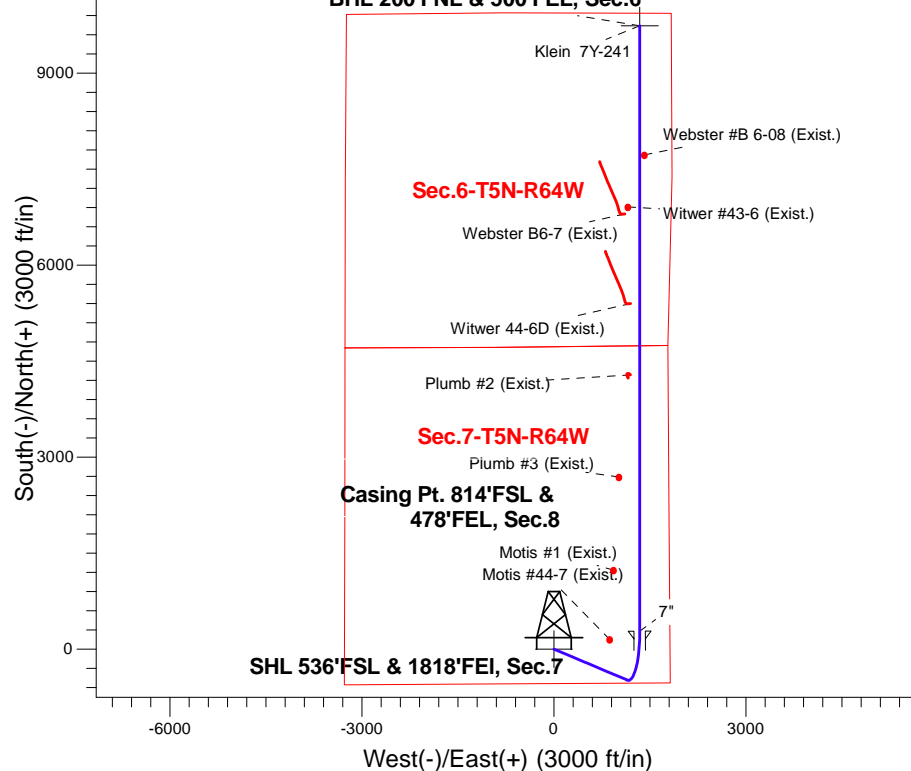
Azimuths to True North
 Magnetic North: 8.19°

Magnetic Field
 Strength: 52698.7nT
 Dip Angle: 66.93°
 Date: 10/14/2015
 Model: IGRF2010

Klein 5N64W7 Pad Sec.7-T5N-R64W
 Klein 7Y-241
 Plan #1 (10-14-15)
 15:53, October 28 2015

ANNOTATIONS

TVD	MD	Annotation
600.0	600.0	KOP - Start Build 1.50
1555.0	1565.3	Start 4490.2 hold at 1565.3 MD
5902.6	6055.5	Start DLS 7.50 TFO -112.21
6718.0	7331.5	Start 9463.1 hold at 7331.5 MD
6698.0	16794.5	TD at 16794.5



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	600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.0	
3	1565.3	14.48	112.89	1555.0	-47.2	111.8	1.50	112.89	-31.5	
4	6055.5	14.48	112.89	5902.6	-483.9	1146.0	0.00	0.00	-323.2	
5	7331.5	90.12	360.00	6718.0	278.0	1340.4	7.50	-112.21	458.1	
6	16794.5	90.12	360.00	6698.0	9741.1	1340.4	0.00	0.00	9832.9	BHL 200'FNL & 500'FEL, Sec.6

BHL 200'FNL & 500'FEL, Sec.6

Vertical Section at 7.83° (1100 ft/in)



Directional

PETROLEUM DEVELOPMENT CORP DJ Basin

SEC.7-T5N-R64W

Klein 5N64W7 Pad Sec.7-T5N-R64W

Klein 7Y-241

Wellbore #1

Plan: Plan #1 (10-14-15)

Standard Planning Report

28 October, 2015

Database:	US_EDM	Local Co-ordinate Reference:	Well Klein 7Y-241
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Project:	SEC.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	North Reference:	True
Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (10-14-15)		

Project	SEC.7-T5N-R64W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Klein 5N64W7 Pad Sec.7-T5N-R64W		
Site Position:		Northing:	1,392,729.68 usft
From:	Lat/Long	Easting:	3,253,319.19 usft
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "
		Latitude:	40.407878
		Longitude:	-104.590328
		Grid Convergence:	0.59 °

Well	Klein 7Y-241		
Well Position	+N/-S	-0.7 ft	Northing:
	+E/-W	74.9 ft	Easting:
Position Uncertainty		0.0 ft	Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	10/14/2015	8.19
			Dip Angle (°)
			66.93
			Field Strength (nT)
			52,699

Design	Plan #1 (10-14-15)		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
			0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.0	0.0	0.0
			Direction (°)
			7.83

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100usft)	(°/100usft)	(°/100usft)	(°)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,565.3	14.48	112.89	1,555.0	-47.2	111.8	1.50	1.50	0.00	112.89	
6,055.5	14.48	112.89	5,902.6	-483.9	1,146.0	0.00	0.00	0.00	0.00	
7,331.5	90.12	360.00	6,718.0	278.0	1,340.4	7.50	5.93	-8.85	-112.21	
16,794.5	90.12	360.00	6,698.0	9,741.1	1,340.4	0.00	0.00	0.00	0.00	BHL 200'FNL & 500'F

Database:	US_EDM	Local Co-ordinate Reference:	Well Klein 7Y-241
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Project:	SEC.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	North Reference:	True
Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (10-14-15)		

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
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00
SHL 536'FSL & 1818'FEI, Sec.7									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 1.50									
700.0	1.50	112.89	700.0	-0.5	1.2	-0.3	1.50	1.50	0.00
800.0	3.00	112.89	799.9	-2.0	4.8	-1.4	1.50	1.50	0.00
900.0	4.50	112.89	899.7	-4.6	10.8	-3.1	1.50	1.50	0.00
1,000.0	6.00	112.89	999.3	-8.1	19.3	-5.4	1.50	1.50	0.00
1,100.0	7.50	112.89	1,098.6	-12.7	30.1	-8.5	1.50	1.50	0.00
1,200.0	9.00	112.89	1,197.5	-18.3	43.3	-12.2	1.50	1.50	0.00
1,300.0	10.50	112.89	1,296.1	-24.9	58.9	-16.6	1.50	1.50	0.00
1,400.0	12.00	112.89	1,394.2	-32.5	76.9	-21.7	1.50	1.50	0.00
1,500.0	13.50	112.89	1,491.7	-41.1	97.2	-27.4	1.50	1.50	0.00
1,565.3	14.48	112.89	1,555.0	-47.2	111.8	-31.5	1.50	1.50	0.00
Start 4490.2 hold at 1565.3 MD									
1,600.0	14.48	112.89	1,588.7	-50.6	119.8	-33.8	0.00	0.00	0.00
1,700.0	14.48	112.89	1,685.5	-60.3	142.8	-40.3	0.00	0.00	0.00
1,800.0	14.48	112.89	1,782.3	-70.0	165.8	-46.8	0.00	0.00	0.00
1,900.0	14.48	112.89	1,879.1	-79.7	188.9	-53.3	0.00	0.00	0.00
2,000.0	14.48	112.89	1,976.0	-89.5	211.9	-59.8	0.00	0.00	0.00
2,100.0	14.48	112.89	2,072.8	-99.2	234.9	-66.2	0.00	0.00	0.00
2,200.0	14.48	112.89	2,169.6	-108.9	258.0	-72.7	0.00	0.00	0.00
2,300.0	14.48	112.89	2,266.4	-118.6	281.0	-79.2	0.00	0.00	0.00
2,400.0	14.48	112.89	2,363.2	-128.4	304.0	-85.7	0.00	0.00	0.00
2,500.0	14.48	112.89	2,460.1	-138.1	327.1	-92.2	0.00	0.00	0.00
2,600.0	14.48	112.89	2,556.9	-147.8	350.1	-98.7	0.00	0.00	0.00
2,700.0	14.48	112.89	2,653.7	-157.6	373.1	-105.2	0.00	0.00	0.00
2,800.0	14.48	112.89	2,750.5	-167.3	396.2	-111.7	0.00	0.00	0.00
2,900.0	14.48	112.89	2,847.4	-177.0	419.2	-118.2	0.00	0.00	0.00
3,000.0	14.48	112.89	2,944.2	-186.7	442.2	-124.7	0.00	0.00	0.00
3,100.0	14.48	112.89	3,041.0	-196.5	465.3	-131.2	0.00	0.00	0.00
3,200.0	14.48	112.89	3,137.8	-206.2	488.3	-137.7	0.00	0.00	0.00
3,300.0	14.48	112.89	3,234.7	-215.9	511.3	-144.2	0.00	0.00	0.00
3,400.0	14.48	112.89	3,331.5	-225.6	534.4	-150.7	0.00	0.00	0.00
3,500.0	14.48	112.89	3,428.3	-235.4	557.4	-157.2	0.00	0.00	0.00
3,563.7	14.48	112.89	3,490.0	-241.6	572.1	-161.3	0.00	0.00	0.00
Parkman Sandstone									
3,600.0	14.48	112.89	3,525.1	-245.1	580.4	-163.7	0.00	0.00	0.00
3,700.0	14.48	112.89	3,622.0	-254.8	603.5	-170.2	0.00	0.00	0.00
3,800.0	14.48	112.89	3,718.8	-264.5	626.5	-176.7	0.00	0.00	0.00
3,900.0	14.48	112.89	3,815.6	-274.3	649.5	-183.2	0.00	0.00	0.00
4,000.0	14.48	112.89	3,912.4	-284.0	672.6	-189.7	0.00	0.00	0.00
4,100.0	14.48	112.89	4,009.3	-293.7	695.6	-196.1	0.00	0.00	0.00
4,200.0	14.48	112.89	4,106.1	-303.4	718.6	-202.6	0.00	0.00	0.00
4,300.0	14.48	112.89	4,202.9	-313.2	741.7	-209.1	0.00	0.00	0.00
4,307.3	14.48	112.89	4,210.0	-313.9	743.4	-209.6	0.00	0.00	0.00
Sussex Sandstone									

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Project:	SEC.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	North Reference:	True
Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (10-14-15)		

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)
4,400.0	14.48	112.89	4,299.7	-322.9	764.7	-215.6	0.00	0.00	0.00
4,500.0	14.48	112.89	4,396.6	-332.6	787.7	-222.1	0.00	0.00	0.00
4,600.0	14.48	112.89	4,493.4	-342.3	810.8	-228.6	0.00	0.00	0.00
4,700.0	14.48	112.89	4,590.2	-352.1	833.8	-235.1	0.00	0.00	0.00
4,800.0	14.48	112.89	4,687.0	-361.8	856.8	-241.6	0.00	0.00	0.00
4,900.0	14.48	112.89	4,783.8	-371.5	879.9	-248.1	0.00	0.00	0.00
5,000.0	14.48	112.89	4,880.7	-381.2	902.9	-254.6	0.00	0.00	0.00
5,100.0	14.48	112.89	4,977.5	-391.0	925.9	-261.1	0.00	0.00	0.00
5,200.0	14.48	112.89	5,074.3	-400.7	949.0	-267.6	0.00	0.00	0.00
5,300.0	14.48	112.89	5,171.1	-410.4	972.0	-274.1	0.00	0.00	0.00
5,400.0	14.48	112.89	5,268.0	-420.1	995.0	-280.6	0.00	0.00	0.00
5,500.0	14.48	112.89	5,364.8	-429.9	1,018.1	-287.1	0.00	0.00	0.00
5,600.0	14.48	112.89	5,461.6	-439.6	1,041.1	-293.6	0.00	0.00	0.00
5,700.0	14.48	112.89	5,558.4	-449.3	1,064.1	-300.1	0.00	0.00	0.00
5,800.0	14.48	112.89	5,655.3	-459.0	1,087.2	-306.6	0.00	0.00	0.00
5,900.0	14.48	112.89	5,752.1	-468.8	1,110.2	-313.1	0.00	0.00	0.00
6,000.0	14.48	112.89	5,848.9	-478.5	1,133.2	-319.6	0.00	0.00	0.00
6,055.5	14.48	112.89	5,902.6	-483.9	1,146.0	-323.2	0.00	0.00	0.00
Start DLS 7.50 TFO -112.21									
6,100.0	13.57	99.60	5,945.8	-486.9	1,156.3	-324.8	7.50	-2.05	-29.85
6,200.0	14.37	68.32	6,043.0	-484.3	1,179.4	-319.0	7.50	0.80	-31.28
6,300.0	18.41	45.64	6,139.0	-468.7	1,202.3	-300.4	7.50	4.05	-22.68
6,400.0	24.13	32.11	6,232.2	-440.3	1,224.5	-269.2	7.50	5.72	-13.53
6,500.0	30.59	23.76	6,321.0	-399.6	1,245.6	-226.1	7.50	6.46	-8.35
6,600.0	37.41	18.15	6,403.9	-347.4	1,265.3	-171.6	7.50	6.82	-5.61
6,700.0	44.42	14.08	6,479.4	-284.5	1,283.4	-106.9	7.50	7.01	-4.07
6,752.9	48.18	12.32	6,516.0	-247.2	1,292.1	-68.8	7.50	7.10	-3.33
Sharon Springs									
6,800.0	51.55	10.92	6,546.3	-212.0	1,299.3	-32.9	7.50	7.15	-2.97
6,865.6	56.26	9.17	6,585.0	-159.8	1,308.5	20.1	7.50	7.19	-2.66
Niobrara A									
6,900.0	58.74	8.33	6,603.5	-131.1	1,312.9	49.1	7.50	7.21	-2.44
7,000.0	65.98	6.12	6,649.8	-43.3	1,324.0	137.6	7.50	7.24	-2.22
7,100.0	73.25	4.14	6,684.6	50.0	1,332.3	231.2	7.50	7.27	-1.98
7,119.4	74.66	3.77	6,690.0	68.6	1,333.6	249.8	7.50	7.28	-1.88
Niobrara B									
7,200.0	80.53	2.30	6,707.3	147.2	1,337.8	328.2	7.50	7.29	-1.82
7,300.0	87.83	0.55	6,717.4	246.6	1,340.3	427.0	7.50	7.29	-1.76
7,331.5	90.12	360.00	6,718.0	278.0	1,340.4	458.2	7.49	7.29	-1.73
Start 9463.1 hold at 7331.5 MD - 7"									
7,400.0	90.12	360.00	6,717.9	346.5	1,340.4	526.0	0.00	0.00	0.00
7,500.0	90.12	360.00	6,717.6	446.5	1,340.4	625.1	0.00	0.00	0.00
7,600.0	90.12	360.00	6,717.4	546.5	1,340.4	724.2	0.00	0.00	0.00
7,700.0	90.12	360.00	6,717.2	646.5	1,340.4	823.2	0.00	0.00	0.00
7,800.0	90.12	360.00	6,717.0	746.5	1,340.4	922.3	0.00	0.00	0.00
7,900.0	90.12	360.00	6,716.8	846.5	1,340.4	1,021.4	0.00	0.00	0.00
8,000.0	90.12	360.00	6,716.6	946.5	1,340.4	1,120.4	0.00	0.00	0.00
8,100.0	90.12	360.00	6,716.4	1,046.5	1,340.4	1,219.5	0.00	0.00	0.00
8,200.0	90.12	360.00	6,716.2	1,146.5	1,340.4	1,318.6	0.00	0.00	0.00
8,300.0	90.12	360.00	6,716.0	1,246.5	1,340.4	1,417.6	0.00	0.00	0.00
8,400.0	90.12	360.00	6,715.7	1,346.5	1,340.4	1,516.7	0.00	0.00	0.00
8,500.0	90.12	360.00	6,715.5	1,446.5	1,340.4	1,615.8	0.00	0.00	0.00

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Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	North Reference:	True
Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (10-14-15)		

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)
8,600.0	90.12	360.00	6,715.3	1,546.5	1,340.4	1,714.8	0.00	0.00	0.00
8,700.0	90.12	360.00	6,715.1	1,646.5	1,340.4	1,813.9	0.00	0.00	0.00
8,800.0	90.12	360.00	6,714.9	1,746.5	1,340.4	1,913.0	0.00	0.00	0.00
8,900.0	90.12	360.00	6,714.7	1,846.5	1,340.4	2,012.0	0.00	0.00	0.00
9,000.0	90.12	360.00	6,714.5	1,946.5	1,340.4	2,111.1	0.00	0.00	0.00
9,100.0	90.12	360.00	6,714.3	2,046.5	1,340.4	2,210.2	0.00	0.00	0.00
9,200.0	90.12	360.00	6,714.1	2,146.5	1,340.4	2,309.2	0.00	0.00	0.00
9,300.0	90.12	360.00	6,713.8	2,246.5	1,340.4	2,408.3	0.00	0.00	0.00
9,400.0	90.12	360.00	6,713.6	2,346.5	1,340.4	2,507.4	0.00	0.00	0.00
9,500.0	90.12	360.00	6,713.4	2,446.5	1,340.4	2,606.4	0.00	0.00	0.00
9,600.0	90.12	360.00	6,713.2	2,546.5	1,340.4	2,705.5	0.00	0.00	0.00
9,700.0	90.12	360.00	6,713.0	2,646.5	1,340.4	2,804.6	0.00	0.00	0.00
9,800.0	90.12	360.00	6,712.8	2,746.5	1,340.4	2,903.6	0.00	0.00	0.00
9,900.0	90.12	360.00	6,712.6	2,846.5	1,340.4	3,002.7	0.00	0.00	0.00
10,000.0	90.12	360.00	6,712.4	2,946.5	1,340.4	3,101.8	0.00	0.00	0.00
10,100.0	90.12	360.00	6,712.1	3,046.5	1,340.4	3,200.8	0.00	0.00	0.00
10,200.0	90.12	360.00	6,711.9	3,146.5	1,340.4	3,299.9	0.00	0.00	0.00
10,300.0	90.12	360.00	6,711.7	3,246.5	1,340.4	3,399.0	0.00	0.00	0.00
10,400.0	90.12	360.00	6,711.5	3,346.5	1,340.4	3,498.0	0.00	0.00	0.00
10,500.0	90.12	360.00	6,711.3	3,446.5	1,340.4	3,597.1	0.00	0.00	0.00
10,600.0	90.12	360.00	6,711.1	3,546.5	1,340.4	3,696.2	0.00	0.00	0.00
10,700.0	90.12	360.00	6,710.9	3,646.5	1,340.4	3,795.2	0.00	0.00	0.00
10,800.0	90.12	360.00	6,710.7	3,746.5	1,340.4	3,894.3	0.00	0.00	0.00
10,900.0	90.12	360.00	6,710.5	3,846.5	1,340.4	3,993.4	0.00	0.00	0.00
11,000.0	90.12	360.00	6,710.2	3,946.5	1,340.4	4,092.4	0.00	0.00	0.00
11,100.0	90.12	360.00	6,710.0	4,046.5	1,340.4	4,191.5	0.00	0.00	0.00
11,200.0	90.12	360.00	6,709.8	4,146.5	1,340.4	4,290.6	0.00	0.00	0.00
11,300.0	90.12	360.00	6,709.6	4,246.5	1,340.4	4,389.6	0.00	0.00	0.00
11,400.0	90.12	360.00	6,709.4	4,346.5	1,340.4	4,488.7	0.00	0.00	0.00
11,500.0	90.12	360.00	6,709.2	4,446.5	1,340.4	4,587.8	0.00	0.00	0.00
11,600.0	90.12	360.00	6,709.0	4,546.5	1,340.4	4,686.8	0.00	0.00	0.00
11,700.0	90.12	360.00	6,708.8	4,646.5	1,340.4	4,785.9	0.00	0.00	0.00
11,800.0	90.12	360.00	6,708.6	4,746.5	1,340.4	4,885.0	0.00	0.00	0.00
11,900.0	90.12	360.00	6,708.3	4,846.5	1,340.4	4,984.0	0.00	0.00	0.00
12,000.0	90.12	360.00	6,708.1	4,946.5	1,340.4	5,083.1	0.00	0.00	0.00
12,100.0	90.12	360.00	6,707.9	5,046.5	1,340.4	5,182.1	0.00	0.00	0.00
12,200.0	90.12	360.00	6,707.7	5,146.5	1,340.4	5,281.2	0.00	0.00	0.00
12,300.0	90.12	360.00	6,707.5	5,246.5	1,340.4	5,380.3	0.00	0.00	0.00
12,400.0	90.12	360.00	6,707.3	5,346.5	1,340.4	5,479.3	0.00	0.00	0.00
12,500.0	90.12	360.00	6,707.1	5,446.5	1,340.4	5,578.4	0.00	0.00	0.00
12,600.0	90.12	360.00	6,706.9	5,546.5	1,340.4	5,677.5	0.00	0.00	0.00
12,700.0	90.12	360.00	6,706.7	5,646.5	1,340.4	5,776.5	0.00	0.00	0.00
12,800.0	90.12	360.00	6,706.4	5,746.5	1,340.4	5,875.6	0.00	0.00	0.00
12,900.0	90.12	360.00	6,706.2	5,846.5	1,340.4	5,974.7	0.00	0.00	0.00
13,000.0	90.12	360.00	6,706.0	5,946.5	1,340.4	6,073.7	0.00	0.00	0.00
13,100.0	90.12	360.00	6,705.8	6,046.5	1,340.4	6,172.8	0.00	0.00	0.00
13,200.0	90.12	360.00	6,705.6	6,146.5	1,340.4	6,271.9	0.00	0.00	0.00
13,300.0	90.12	360.00	6,705.4	6,246.5	1,340.4	6,370.9	0.00	0.00	0.00
13,400.0	90.12	360.00	6,705.2	6,346.5	1,340.4	6,470.0	0.00	0.00	0.00
13,500.0	90.12	360.00	6,705.0	6,446.5	1,340.4	6,569.1	0.00	0.00	0.00
13,600.0	90.12	360.00	6,704.8	6,546.5	1,340.4	6,668.1	0.00	0.00	0.00
13,700.0	90.12	360.00	6,704.5	6,646.5	1,340.4	6,767.2	0.00	0.00	0.00
13,800.0	90.12	360.00	6,704.3	6,746.5	1,340.4	6,866.3	0.00	0.00	0.00

Database:	US_EDM	Local Co-ordinate Reference:	Well Klein 7Y-241
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Project:	SEC.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	North Reference:	True
Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (10-14-15)		

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)
13,900.0	90.12	360.00	6,704.1	6,846.5	1,340.4	6,965.3	0.00	0.00	0.00
14,000.0	90.12	360.00	6,703.9	6,946.5	1,340.4	7,064.4	0.00	0.00	0.00
14,100.0	90.12	360.00	6,703.7	7,046.5	1,340.4	7,163.5	0.00	0.00	0.00
14,200.0	90.12	360.00	6,703.5	7,146.5	1,340.4	7,262.5	0.00	0.00	0.00
14,300.0	90.12	360.00	6,703.3	7,246.5	1,340.4	7,361.6	0.00	0.00	0.00
14,400.0	90.12	360.00	6,703.1	7,346.5	1,340.4	7,460.7	0.00	0.00	0.00
14,500.0	90.12	360.00	6,702.8	7,446.5	1,340.4	7,559.7	0.00	0.00	0.00
14,600.0	90.12	360.00	6,702.6	7,546.5	1,340.4	7,658.8	0.00	0.00	0.00
14,700.0	90.12	360.00	6,702.4	7,646.5	1,340.4	7,757.9	0.00	0.00	0.00
14,800.0	90.12	360.00	6,702.2	7,746.5	1,340.4	7,856.9	0.00	0.00	0.00
14,900.0	90.12	360.00	6,702.0	7,846.5	1,340.4	7,956.0	0.00	0.00	0.00
15,000.0	90.12	360.00	6,701.8	7,946.5	1,340.4	8,055.1	0.00	0.00	0.00
15,100.0	90.12	360.00	6,701.6	8,046.5	1,340.4	8,154.1	0.00	0.00	0.00
15,200.0	90.12	360.00	6,701.4	8,146.5	1,340.4	8,253.2	0.00	0.00	0.00
15,300.0	90.12	360.00	6,701.2	8,246.5	1,340.4	8,352.3	0.00	0.00	0.00
15,400.0	90.12	360.00	6,700.9	8,346.5	1,340.4	8,451.3	0.00	0.00	0.00
15,500.0	90.12	360.00	6,700.7	8,446.5	1,340.4	8,550.4	0.00	0.00	0.00
15,600.0	90.12	360.00	6,700.5	8,546.5	1,340.4	8,649.5	0.00	0.00	0.00
15,700.0	90.12	360.00	6,700.3	8,646.5	1,340.4	8,748.5	0.00	0.00	0.00
15,800.0	90.12	360.00	6,700.1	8,746.5	1,340.4	8,847.6	0.00	0.00	0.00
15,900.0	90.12	360.00	6,699.9	8,846.5	1,340.4	8,946.7	0.00	0.00	0.00
16,000.0	90.12	360.00	6,699.7	8,946.5	1,340.4	9,045.7	0.00	0.00	0.00
16,100.0	90.12	360.00	6,699.5	9,046.5	1,340.4	9,144.8	0.00	0.00	0.00
16,200.0	90.12	360.00	6,699.3	9,146.5	1,340.4	9,243.9	0.00	0.00	0.00
16,300.0	90.12	360.00	6,699.0	9,246.5	1,340.4	9,342.9	0.00	0.00	0.00
16,400.0	90.12	360.00	6,698.8	9,346.5	1,340.4	9,442.0	0.00	0.00	0.00
16,500.0	90.12	360.00	6,698.6	9,446.5	1,340.4	9,541.1	0.00	0.00	0.00
16,600.0	90.12	360.00	6,698.4	9,546.5	1,340.4	9,640.1	0.00	0.00	0.00
16,700.0	90.12	360.00	6,698.2	9,646.5	1,340.4	9,739.2	0.00	0.00	0.00
16,794.5	90.12	360.00	6,698.0	9,741.1	1,340.4	9,832.9	0.00	0.00	0.00
TD at 16794.5 - BHL 200°FNL & 500°FEL, Sec.6									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL 536°FSL & 1818°FE - hit/miss target - Shape - Point	0.00	0.00	1.0	0.0	0.0	1,392,729.72	3,253,394.11	40.407876	-104.590059
BHL 200°FNL & 500°FEL - plan hits target center - Point	0.00	0.00	6,698.0	9,741.1	1,340.4	1,402,483.61	3,254,634.43	40.434614	-104.585244

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,331.5	6,718.0	7"	7	8-3/4

Database:	US_EDM	Local Co-ordinate Reference:	Well Klein 7Y-241
Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Project:	SEC.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	North Reference:	True
Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (10-14-15)		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,563.7	3,490.0	Parkman Sandstone		0.00	
4,307.3	4,210.0	Sussex Sandstone		0.00	
6,752.9	6,516.0	Sharon Springs		0.00	
6,865.6	6,585.0	Niobrara A		0.00	
7,119.4	6,690.0	Niobrara B		0.00	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
600.0	600.0	0.0	0.0	KOP - Start Build 1.50	
1,565.3	1,555.0	-47.2	111.8	Start 4490.2 hold at 1565.3 MD	
6,055.5	5,902.6	-483.9	1,146.0	Start DLS 7.50 TFO -112.21	
7,331.5	6,718.0	278.0	1,340.4	Start 9463.1 hold at 7331.5 MD	
16,794.5	6,698.0	9,741.1	1,340.4	TD at 16794.5	



Directional

PETROLEUM DEVELOPMENT CORP DJ Basin

SEC.7-T5N-R64W

Klein 5N64W7 Pad Sec.7-T5N-R64W

Klein 7Y-241

Wellbore #1

Plan #1 (10-14-15)

Anticollision Report

28 October, 2015



Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (10-14-15)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,000.0 ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	10/28/2015		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	16,794.5	Plan #1 (10-14-15) (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
Offset Well - Wellbore - Design						
Existing Wells - Sec.7-T5N-R64W						
Motis #1 (Exist.) - Wellbore #1 - Wellbore #1	8,291.0	6,676.0	412.0	246.8	2.494	CC
Motis #1 (Exist.) - Wellbore #1 - Wellbore #1	8,300.0	6,676.0	412.1	246.7	2.493	ES, SF
Motis #44-7 (Exist.) - Wellbore #1 - Wellbore #1	7,184.6	6,669.6	467.6	315.2	3.068	CC, ES
Motis #44-7 (Exist.) - Wellbore #1 - Wellbore #1	7,200.0	6,672.3	467.8	315.3	3.066	SF
Plumb #2 (Exist.) - Wellbore #1 - Wellbore #1	11,341.5	6,670.1	149.6	50.5	1.510	CC, ES, SF
Plumb #3 (Exist.) - Wellbore #1 - Wellbore #1	9,746.1	6,671.9	329.3	139.2	1.732	CC, ES, SF
Webster #B 6-08 (Exist.) - Wellbore #1 - Wellbore #1	14,774.4	6,683.3	70.3	-214.6	0.247	Level 1, CC, ES, SF
Webster B6-7 (Exist.) - Wellbore #1 - Wellbore #1	13,854.1	6,822.4	242.6	92.1	1.612	CC, ES, SF
Witwer #43-6 (Exist.) - Wellbore #1 - Wellbore #1	13,963.8	6,680.0	187.8	-81.6	0.697	Level 1, CC, ES, SF
Witwer 44-6D (Exist.) - Wellbore #1 - Wellbore #1	12,453.0	6,815.5	153.3	29.4	1.238	Level 2, CC, ES, SF
Klein 5N64W7 Pad Sec.7-T5N-R64W						
Klein 7T-121 - Wellbore #1 - Plan #1 (10-14-15)	600.0	600.0	15.0	12.6	6.082	CC
Klein 7T-121 - Wellbore #1 - Plan #1 (10-14-15)	16,794.5	16,615.8	351.7	-9.7	0.973	Level 1, ES, SF
Klein 7T-201 - Wellbore #1 - Plan #1 (10-14-15)	600.0	600.0	30.1	27.6	12.166	CC, ES
Klein 7T-201 - Wellbore #1 - Plan #1 (10-14-15)	16,794.5	16,722.6	615.0	235.2	1.619	SF
Klein 7Y-201 - Wellbore #1 - Plan #1 (10-14-15)	200.0	200.0	30.1	29.4	44.608	CC, ES
Klein 7Y-201 - Wellbore #1 - Plan #1 (10-14-15)	16,794.5	16,897.3	495.0	115.3	1.304	Level 3, SF
Klein 7Y-341 - Wellbore #1 - Plan #1 (10-14-15)	400.0	400.0	15.0	13.5	9.561	CC
Klein 7Y-341 - Wellbore #1 - Plan #1 (10-14-15)	16,794.5	16,912.4	250.6	-111.9	0.691	Level 1, ES, SF

Offset Design	Existing Wells - Sec.7-T5N-R64W - Motis #1 (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program:	7005-UNKNOWN												Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis			Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
7,400.0	6,717.9	6,677.9	6,677.9	29.7	133.6	-90.26	1,237.6	928.4	981.7	827.6	154.07	6.372		
7,500.0	6,717.6	6,677.6	6,677.6	30.0	133.6	-90.23	1,237.6	928.4	891.9	737.0	154.93	5.757		
7,600.0	6,717.4	6,677.4	6,677.4	30.4	133.5	-90.20	1,237.6	928.4	804.5	648.6	155.92	5.160		
7,700.0	6,717.2	6,677.2	6,677.2	30.9	133.5	-90.17	1,237.6	928.4	720.5	563.4	157.02	4.588		
7,800.0	6,717.0	6,677.0	6,677.0	31.6	133.5	-90.14	1,237.6	928.4	641.0	482.7	158.23	4.051		
7,900.0	6,716.8	6,676.8	6,676.8	32.4	133.5	-90.11	1,237.6	928.4	568.0	408.5	159.52	3.561		
8,000.0	6,716.6	6,676.6	6,676.6	33.4	133.5	-90.09	1,237.6	928.4	504.4	343.5	160.88	3.135		

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells - Sec.7-T5N-R64W - Motis #1 (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 7005-UNKNOWN												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
8,100.0	6,716.4	6,676.4	6,676.4	34.5	133.5	-90.06	1,237.6	928.4	454.1	291.8	162.31	2.798	
8,200.0	6,716.2	6,676.2	6,676.2	35.6	133.5	-90.03	1,237.6	928.4	421.9	258.1	163.79	2.576	
8,291.0	6,716.0	6,676.0	6,676.0	36.8	133.5	-90.00	1,237.6	928.4	412.0	246.8	165.18	2.494 CC	
8,300.0	6,716.0	6,676.0	6,676.0	36.9	133.5	-90.00	1,237.6	928.4	412.1	246.7	165.31	2.493 ES, SF	
8,400.0	6,715.7	6,675.7	6,675.7	38.2	133.5	-89.97	1,237.6	928.4	426.1	259.2	166.88	2.553	
8,500.0	6,715.5	6,675.5	6,675.5	39.6	133.5	-89.94	1,237.6	928.4	461.9	293.4	168.48	2.742	
8,600.0	6,715.3	6,675.3	6,675.3	41.0	133.5	-89.91	1,237.6	928.4	514.9	344.8	170.11	3.027	
8,700.0	6,715.1	6,675.1	6,675.1	42.5	133.5	-89.88	1,237.6	928.4	580.5	408.7	171.77	3.379	
8,800.0	6,714.9	6,674.9	6,674.9	44.0	133.5	-89.85	1,237.6	928.4	654.8	481.3	173.45	3.775	
8,900.0	6,714.7	6,674.7	6,674.7	45.6	133.5	-89.82	1,237.6	928.4	735.2	560.1	175.15	4.198	
9,000.0	6,714.5	6,674.5	6,674.5	47.2	133.5	-89.79	1,237.6	928.4	820.0	643.1	176.87	4.636	
9,100.0	6,714.3	6,674.3	6,674.3	48.8	133.5	-89.76	1,237.6	928.4	907.8	729.2	178.61	5.083	
9,200.0	6,714.1	6,674.1	6,674.1	50.4	133.5	-89.73	1,237.6	928.4	997.9	817.6	180.35	5.533	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Existing Wells - Sec.7-T5N-R64W - Motis #44-7 (Exist.) - Wellbore #1 - Wellbore #1												Offset Well Error:	0.0 ft
Survey Program: 7031-UNKNOWN													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	80.02	153.0	870.0	884.0				
100.0	100.0	65.0	65.0	0.1	1.3	80.02	153.0	870.0	883.4	881.9	1.41	625.347	
200.0	200.0	165.0	165.0	0.3	3.3	80.02	153.0	870.0	883.4	879.7	3.64	242.857	
300.0	300.0	265.0	265.0	0.6	5.3	80.02	153.0	870.0	883.4	877.5	5.86	150.689	
400.0	400.0	365.0	365.0	0.8	7.3	80.02	153.0	870.0	883.4	875.3	8.09	109.233	
500.0	500.0	465.0	465.0	1.0	9.3	80.02	153.0	870.0	883.4	873.0	10.31	85.666	
600.0	600.0	565.0	565.0	1.2	11.3	80.02	153.0	870.0	883.4	870.8	12.54	70.463	
700.0	700.0	665.0	665.0	1.4	13.3	-32.92	153.0	870.0	882.3	867.5	14.74	59.857	
800.0	799.9	764.9	764.9	1.6	15.3	-33.09	153.0	870.0	879.0	862.0	16.92	51.940	
900.0	899.7	864.7	864.7	1.9	17.3	-33.37	153.0	870.0	873.5	854.4	19.10	45.727	
1,000.0	999.3	964.3	964.3	2.1	19.3	-33.76	153.0	870.0	865.9	844.6	21.28	40.698	
1,100.0	1,098.6	1,063.6	1,063.6	2.3	21.3	-34.28	153.0	870.0	856.1	832.6	23.44	36.522	
1,200.0	1,197.5	1,162.5	1,162.5	2.6	23.3	-34.93	153.0	870.0	844.2	818.6	25.60	32.982	
1,300.0	1,296.1	1,261.1	1,261.1	3.0	25.2	-35.72	153.0	870.0	830.4	802.6	27.75	29.926	
1,400.0	1,394.2	1,359.2	1,359.2	3.3	27.2	-36.66	153.0	870.0	814.5	784.6	29.89	27.246	
1,500.0	1,491.7	1,456.7	1,456.7	3.7	29.1	-37.76	153.0	870.0	796.8	764.7	32.04	24.865	
1,565.3	1,555.0	1,520.0	1,520.0	4.0	30.4	-38.58	153.0	870.0	784.2	750.8	33.45	23.444	
1,600.0	1,588.7	1,553.7	1,553.7	4.2	31.1	-38.98	153.0	870.0	777.4	743.1	34.24	22.701	
1,700.0	1,685.5	1,650.5	1,650.5	4.7	33.0	-40.15	153.0	870.0	757.8	721.3	36.54	20.738	
1,800.0	1,782.3	1,747.3	1,747.3	5.2	34.9	-41.38	153.0	870.0	738.7	699.8	38.87	19.004	
1,900.0	1,879.1	1,844.1	1,844.1	5.7	36.9	-42.68	153.0	870.0	719.8	678.6	41.22	17.464	
2,000.0	1,976.0	1,941.0	1,941.0	6.2	38.8	-44.04	153.0	870.0	701.4	657.8	43.59	16.091	
2,100.0	2,072.8	2,037.8	2,037.8	6.7	40.8	-45.48	153.0	870.0	683.3	637.3	45.98	14.861	
2,200.0	2,169.6	2,134.6	2,134.6	7.2	42.7	-46.99	153.0	870.0	665.7	617.3	48.40	13.756	
2,300.0	2,266.4	2,231.4	2,231.4	7.7	44.6	-48.57	153.0	870.0	648.6	597.8	50.84	12.759	
2,400.0	2,363.2	2,328.2	2,328.2	8.3	46.6	-50.24	153.0	870.0	632.1	578.8	53.30	11.859	
2,500.0	2,460.1	2,425.1	2,425.1	8.8	48.5	-51.99	153.0	870.0	616.1	560.3	55.78	11.044	
2,600.0	2,556.9	2,521.9	2,521.9	9.3	50.4	-53.83	153.0	870.0	600.7	542.4	58.29	10.305	
2,700.0	2,653.7	2,618.7	2,618.7	9.9	52.4	-55.77	153.0	870.0	586.0	525.1	60.82	9.634	
2,800.0	2,750.5	2,715.5	2,715.5	10.4	54.3	-57.79	153.0	870.0	571.9	508.6	63.37	9.026	
2,900.0	2,847.4	2,812.4	2,812.4	10.9	56.2	-59.91	153.0	870.0	558.7	492.8	65.94	8.473	
3,000.0	2,944.2	2,909.2	2,909.2	11.5	58.2	-62.12	153.0	870.0	546.3	477.8	68.52	7.972	
3,100.0	3,041.0	3,006.0	3,006.0	12.0	60.1	-64.43	153.0	870.0	534.7	463.6	71.12	7.518	
3,200.0	3,137.8	3,102.8	3,102.8	12.5	62.1	-66.83	153.0	870.0	524.1	450.4	73.74	7.108	
3,300.0	3,234.7	3,199.7	3,199.7	13.1	64.0	-69.32	153.0	870.0	514.5	438.2	76.35	6.739	
3,400.0	3,331.5	3,296.5	3,296.5	13.6	65.9	-71.89	153.0	870.0	506.0	427.0	78.97	6.407	
3,500.0	3,428.3	3,393.3	3,393.3	14.1	67.9	-74.54	153.0	870.0	498.6	417.0	81.59	6.111	
3,600.0	3,525.1	3,490.1	3,490.1	14.7	69.8	-77.27	153.0	870.0	492.3	408.1	84.19	5.847	
3,700.0	3,622.0	3,587.0	3,587.0	15.2	71.7	-80.05	153.0	870.0	487.2	400.4	86.78	5.614	
3,800.0	3,718.8	3,683.8	3,683.8	15.8	73.7	-82.87	153.0	870.0	483.4	394.0	89.35	5.410	
3,900.0	3,815.6	3,780.6	3,780.6	16.3	75.6	-85.74	153.0	870.0	480.8	388.9	91.89	5.233	
4,000.0	3,912.4	3,877.4	3,877.4	16.8	77.5	-88.62	153.0	870.0	479.5	385.2	94.39	5.080	
4,047.5	3,958.5	3,923.5	3,923.5	17.1	78.5	-90.00	153.0	870.0	479.4	383.8	95.57	5.016	
4,100.0	4,009.3	3,974.3	3,974.3	17.4	79.5	-91.52	153.0	870.0	479.6	382.7	96.85	4.952	
4,200.0	4,106.1	4,071.1	4,071.1	17.9	81.4	-94.40	153.0	870.0	480.9	381.6	99.28	4.844	
4,300.0	4,202.9	4,167.9	4,167.9	18.5	83.4	-97.26	153.0	870.0	483.5	381.9	101.65	4.757	
4,400.0	4,299.7	4,264.7	4,264.7	19.0	85.3	-100.09	153.0	870.0	487.4	383.5	103.98	4.688	
4,500.0	4,396.6	4,361.6	4,361.6	19.5	87.2	-102.87	153.0	870.0	492.6	386.3	106.26	4.635	
4,600.0	4,493.4	4,458.4	4,458.4	20.1	89.2	-105.59	153.0	870.0	498.9	390.4	108.50	4.598	
4,700.0	4,590.2	4,555.2	4,555.2	20.6	91.1	-108.24	153.0	870.0	506.4	395.7	110.69	4.575	
4,800.0	4,687.0	4,652.0	4,652.0	21.2	93.0	-110.81	153.0	870.0	515.0	402.2	112.84	4.564	

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

Company:	PETROLEUM DEVELOPMENT CORP DJ	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells - Sec.7-T5N-R64W - Motis #44-7 (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 7031-UNKNOWN												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
4,900.0	4,783.8	4,748.8	4,748.8	21.7	95.0	-113.29	153.0	870.0	524.6	409.7	114.95	4.564	
5,000.0	4,880.7	4,845.7	4,845.7	22.3	96.9	-115.69	153.0	870.0	535.3	418.3	117.03	4.574	
5,100.0	4,977.5	4,942.5	4,942.5	22.8	98.8	-117.99	153.0	870.0	546.9	427.8	119.08	4.592	
5,200.0	5,074.3	5,039.3	5,039.3	23.3	100.8	-120.20	153.0	870.0	559.3	438.2	121.10	4.619	
5,300.0	5,171.1	5,136.1	5,136.1	23.9	102.7	-122.31	153.0	870.0	572.6	449.5	123.11	4.651	
5,400.0	5,268.0	5,233.0	5,233.0	24.4	104.7	-124.33	153.0	870.0	586.7	461.6	125.09	4.690	
5,500.0	5,364.8	5,329.8	5,329.8	25.0	106.6	-126.26	153.0	870.0	601.4	474.4	127.07	4.733	
5,600.0	5,461.6	5,426.6	5,426.6	25.5	108.5	-128.09	153.0	870.0	616.8	487.8	129.03	4.781	
5,700.0	5,558.4	5,523.4	5,523.4	26.1	110.5	-129.84	153.0	870.0	632.9	501.9	130.98	4.832	
5,800.0	5,655.3	5,620.3	5,620.3	26.6	112.4	-131.51	153.0	870.0	649.5	516.5	132.93	4.886	
5,900.0	5,752.1	5,717.1	5,717.1	27.1	114.3	-133.09	153.0	870.0	666.6	531.7	134.88	4.942	
6,000.0	5,848.9	5,813.9	5,813.9	27.7	116.3	-134.59	153.0	870.0	684.2	547.4	136.82	5.001	
6,055.5	5,902.6	5,867.6	5,867.6	28.0	117.4	-135.40	153.0	870.0	694.2	556.3	137.90	5.034	
6,100.0	5,945.8	5,910.8	5,910.8	28.2	118.2	-122.95	153.0	870.0	701.1	561.4	139.73	5.017	
6,150.0	5,994.5	5,959.5	5,959.5	28.4	119.2	-107.98	153.0	870.0	706.2	564.9	141.30	4.998	
6,200.0	6,043.0	6,008.0	6,008.0	28.6	120.2	-94.08	153.0	870.0	708.5	566.1	142.37	4.976	
6,250.0	6,091.3	6,056.3	6,056.3	28.7	121.1	-82.84	153.0	870.0	708.0	565.1	142.97	4.952	
6,300.0	6,139.0	6,104.0	6,104.0	28.9	122.1	-74.56	153.0	870.0	704.9	561.8	143.15	4.924	
6,350.0	6,186.1	6,151.1	6,151.1	29.0	123.0	-68.81	153.0	870.0	699.2	556.3	142.95	4.892	
6,400.0	6,232.2	6,197.2	6,197.2	29.1	123.9	-65.03	153.0	870.0	691.1	548.7	142.45	4.852	
6,450.0	6,277.3	6,242.3	6,242.3	29.2	124.8	-62.77	153.0	870.0	680.7	539.0	141.74	4.802	
6,500.0	6,321.0	6,286.0	6,286.0	29.3	125.7	-61.69	153.0	870.0	668.2	527.2	140.96	4.740	
6,550.0	6,363.3	6,328.3	6,328.3	29.3	126.6	-61.57	153.0	870.0	653.8	513.6	140.23	4.662	
6,600.0	6,403.9	6,368.9	6,368.9	29.4	127.4	-62.24	153.0	870.0	637.7	498.0	139.70	4.565	
6,650.0	6,442.7	6,407.7	6,407.7	29.4	128.2	-63.58	153.0	870.0	620.3	480.8	139.51	4.446	
6,700.0	6,479.4	6,444.4	6,444.4	29.4	128.9	-65.50	153.0	870.0	601.9	462.1	139.79	4.306	
6,750.0	6,514.0	6,479.0	6,479.0	29.4	129.6	-67.89	153.0	870.0	582.8	442.2	140.59	4.145	
6,800.0	6,546.3	6,511.3	6,511.3	29.5	130.2	-70.65	153.0	870.0	563.5	421.6	141.88	3.972	
6,850.0	6,576.2	6,541.2	6,541.2	29.5	130.8	-73.66	153.0	870.0	544.5	400.9	143.54	3.793	
6,900.0	6,603.5	6,568.5	6,568.5	29.5	131.4	-76.79	153.0	870.0	526.3	380.9	145.39	3.620	
6,950.0	6,628.0	6,593.0	6,593.0	29.5	131.9	-79.88	153.0	870.0	509.4	362.2	147.22	3.460	
7,000.0	6,649.8	6,614.8	6,614.8	29.4	132.3	-82.79	153.0	870.0	494.7	345.8	148.85	3.323	
7,050.0	6,668.7	6,633.7	6,633.7	29.4	132.7	-85.39	153.0	870.0	482.5	332.3	150.19	3.213	
7,100.0	6,684.6	6,649.6	6,649.6	29.5	133.0	-87.55	153.0	870.0	473.7	322.5	151.22	3.132	
7,150.0	6,697.5	6,662.5	6,662.5	29.5	133.3	-89.20	153.0	870.0	468.7	316.7	151.99	3.084	
7,184.6	6,704.6	6,669.6	6,669.6	29.5	133.4	-90.00	153.0	870.0	467.6	315.2	152.42	3.068 CC, ES	
7,200.0	6,707.3	6,672.3	6,672.3	29.5	133.4	-90.26	153.0	870.0	467.8	315.3	152.57	3.066 SF	
7,250.0	6,714.0	6,679.0	6,679.0	29.5	133.6	-90.69	153.0	870.0	471.4	318.4	153.04	3.080	
7,300.0	6,717.4	6,682.4	6,682.4	29.6	133.6	-90.45	153.0	870.0	479.5	326.0	153.43	3.125	
7,331.5	6,718.0	6,683.0	6,683.0	29.6	133.7	-89.97	153.0	870.0	486.7	333.1	153.61	3.168	
7,400.0	6,717.9	6,682.9	6,682.9	29.7	133.7	-89.95	153.0	870.0	508.7	354.5	154.14	3.300	
7,500.0	6,717.6	6,682.6	6,682.6	30.0	133.7	-89.92	153.0	870.0	554.5	399.5	155.00	3.577	
7,600.0	6,717.4	6,682.4	6,682.4	30.4	133.6	-89.90	153.0	870.0	613.3	457.3	155.99	3.932	
7,700.0	6,717.2	6,682.2	6,682.2	30.9	133.6	-89.87	153.0	870.0	681.8	524.7	157.09	4.340	
7,800.0	6,717.0	6,682.0	6,682.0	31.6	133.6	-89.85	153.0	870.0	757.3	599.0	158.30	4.784	
7,900.0	6,716.8	6,681.8	6,681.8	32.4	133.6	-89.82	153.0	870.0	838.0	678.4	159.59	5.251	
8,000.0	6,716.6	6,681.6	6,681.6	33.4	133.6	-89.80	153.0	870.0	922.5	761.5	160.95	5.731	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells - Sec.7-T5N-R64W - Plumb #2 (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
10,400.0	6,711.5	6,682.9	6,681.0	71.2	12.9	-95.14	4,287.9	1,190.8	953.3	871.6	81.71	11.667	
10,500.0	6,711.3	6,681.6	6,679.6	73.0	12.9	-94.62	4,287.9	1,190.8	854.7	771.1	83.56	10.228	
10,600.0	6,711.1	6,680.2	6,678.2	74.8	12.9	-94.10	4,288.0	1,190.8	756.4	671.0	85.41	8.856	
10,700.0	6,710.9	6,678.8	6,676.9	76.6	12.9	-93.58	4,288.0	1,190.8	658.7	571.4	87.26	7.548	
10,800.0	6,710.7	6,677.5	6,675.5	78.4	12.9	-93.06	4,288.0	1,190.8	561.8	472.7	89.11	6.304	
10,900.0	6,710.5	6,676.1	6,674.2	80.2	12.9	-92.54	4,288.0	1,190.8	466.2	375.2	90.96	5.125	
11,000.0	6,710.2	6,674.7	6,672.8	82.0	12.9	-92.02	4,288.0	1,190.8	372.8	280.0	92.81	4.017	
11,100.0	6,710.0	6,673.4	6,671.4	83.8	12.9	-91.49	4,288.0	1,190.8	284.1	189.4	94.65	3.001	
11,200.0	6,709.8	6,672.0	6,670.1	85.7	12.9	-90.97	4,288.1	1,190.8	205.9	109.4	96.50	2.134	
11,300.0	6,709.6	6,670.7	6,668.7	87.5	12.9	-90.45	4,288.1	1,190.8	155.3	56.9	98.33	1.579	
11,341.5	6,709.5	6,670.1	6,668.1	88.3	12.9	-90.23	4,288.1	1,190.8	149.6	50.5	99.10	1.510 CC, ES, SF	
11,400.0	6,709.4	6,669.3	6,667.3	89.3	12.9	-89.93	4,288.1	1,190.8	160.6	60.5	100.17	1.604	
11,500.0	6,709.2	6,667.9	6,666.0	91.2	12.9	-89.41	4,288.1	1,190.8	217.9	115.9	102.00	2.136	
11,600.0	6,709.0	6,666.6	6,664.6	93.0	12.9	-88.89	4,288.1	1,190.8	298.6	194.8	103.82	2.876	
11,700.0	6,708.8	6,665.2	6,663.3	94.8	12.9	-88.36	4,288.1	1,190.8	388.4	282.8	105.64	3.677	
11,800.0	6,708.6	6,663.8	6,661.9	96.7	12.9	-87.84	4,288.2	1,190.8	482.2	374.8	107.45	4.488	
11,900.0	6,708.3	6,662.5	6,660.5	98.5	12.9	-87.32	4,288.2	1,190.8	578.1	468.8	109.25	5.291	
12,000.0	6,708.1	6,661.1	6,659.2	100.4	12.9	-86.80	4,288.2	1,190.8	675.2	564.1	111.05	6.080	
12,100.0	6,707.9	6,659.8	6,657.8	102.3	12.9	-86.28	4,288.2	1,190.8	773.0	660.2	112.84	6.851	
12,200.0	6,707.7	6,658.4	6,656.4	104.1	12.9	-85.76	4,288.2	1,190.7	871.3	756.7	114.62	7.602	
12,300.0	6,707.5	6,657.0	6,655.1	106.0	12.9	-85.25	4,288.2	1,190.7	970.0	853.6	116.39	8.334	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells - Sec.7-T5N-R64W - Plumb #3 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 6971-UNKNOWN													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
8,900.0	6,714.7	6,673.7	6,673.7	45.6	133.5	-90.31	2,692.7	1,011.1	907.9	732.8	175.18	5.183		
9,000.0	6,714.5	6,673.5	6,673.5	47.2	133.5	-90.27	2,692.7	1,011.1	815.6	638.7	176.89	4.610		
9,100.0	6,714.3	6,673.3	6,673.3	48.8	133.5	-90.24	2,692.7	1,011.1	725.2	546.6	178.63	4.060		
9,200.0	6,714.1	6,673.1	6,673.1	50.4	133.5	-90.20	2,692.7	1,011.1	637.7	457.4	180.38	3.536		
9,300.0	6,713.8	6,672.8	6,672.8	52.1	133.5	-90.16	2,692.7	1,011.1	554.5	372.4	182.14	3.044		
9,400.0	6,713.6	6,672.6	6,672.6	53.7	133.5	-90.13	2,692.7	1,011.1	477.8	293.8	183.91	2.598		
9,500.0	6,713.4	6,672.4	6,672.4	55.4	133.4	-90.09	2,692.7	1,011.1	411.1	225.4	185.69	2.214		
9,600.0	6,713.2	6,672.2	6,672.2	57.1	133.4	-90.05	2,692.7	1,011.1	360.3	172.8	187.48	1.922		
9,700.0	6,713.0	6,672.0	6,672.0	58.9	133.4	-90.02	2,692.7	1,011.1	332.5	143.2	189.28	1.757		
9,746.1	6,712.9	6,671.9	6,671.9	59.7	133.4	-90.00	2,692.7	1,011.1	329.3	139.2	190.11	1.732 CC, ES, SF		
9,800.0	6,712.8	6,671.8	6,671.8	60.6	133.4	-89.98	2,692.7	1,011.1	333.7	142.6	191.09	1.746		
9,900.0	6,712.6	6,671.6	6,671.6	62.3	133.4	-89.94	2,692.7	1,011.1	363.5	170.6	192.90	1.884		
10,000.0	6,712.4	6,671.4	6,671.4	64.1	133.4	-89.91	2,692.7	1,011.1	415.8	221.1	194.72	2.135		
10,100.0	6,712.1	6,671.1	6,671.1	65.8	133.4	-89.87	2,692.7	1,011.1	483.4	286.9	196.54	2.460		
10,200.0	6,711.9	6,670.9	6,670.9	67.6	133.4	-89.83	2,692.7	1,011.1	560.8	362.4	198.37	2.827		
10,300.0	6,711.7	6,670.7	6,670.7	69.4	133.4	-89.80	2,692.7	1,011.1	644.4	444.2	200.21	3.219		
10,400.0	6,711.5	6,670.5	6,670.5	71.2	133.4	-89.76	2,692.7	1,011.1	732.1	530.1	202.05	3.624		
10,500.0	6,711.3	6,670.3	6,670.3	73.0	133.4	-89.72	2,692.7	1,011.1	822.7	618.8	203.89	4.035		
10,600.0	6,711.1	6,670.1	6,670.1	74.8	133.4	-89.69	2,692.7	1,011.1	915.2	709.4	205.73	4.448		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells - Sec.7-T5N-R64W - Webster #B 6-08 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7086-UNKNOWN													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
13,800.0	6,704.3	6,685.3	6,685.3	134.1	133.7	91.68	7,720.9	1,410.7	976.9	710.8	266.17	3.670		
13,900.0	6,704.1	6,685.1	6,685.1	136.0	133.7	91.51	7,720.9	1,410.7	877.2	609.1	268.10	3.272		
14,000.0	6,703.9	6,684.9	6,684.9	137.8	133.7	91.33	7,720.9	1,410.7	777.6	507.6	270.03	2.880		
14,100.0	6,703.7	6,684.7	6,684.7	139.7	133.7	91.16	7,720.9	1,410.7	678.1	406.1	271.95	2.493		
14,200.0	6,703.5	6,684.5	6,684.5	141.6	133.7	90.99	7,720.9	1,410.7	578.7	304.8	273.88	2.113		
14,300.0	6,703.3	6,684.3	6,684.3	143.5	133.7	90.82	7,720.9	1,410.7	479.6	203.8	275.80	1.739		
14,400.0	6,703.1	6,684.1	6,684.1	145.4	133.7	90.65	7,720.9	1,410.7	380.9	103.2	277.73	1.372 Level 3		
14,500.0	6,702.8	6,683.8	6,683.8	147.3	133.7	90.47	7,720.9	1,410.7	283.3	3.6	279.65	1.013 Level 2		
14,600.0	6,702.6	6,683.6	6,683.6	149.2	133.7	90.30	7,720.9	1,410.7	188.0	-93.5	281.57	0.668 Level 1		
14,700.0	6,702.4	6,683.4	6,683.4	151.1	133.7	90.13	7,720.9	1,410.7	102.3	-181.1	283.48	0.361 Level 1		
14,774.4	6,702.3	6,683.3	6,683.3	152.5	133.7	90.00	7,720.9	1,410.7	70.3	-214.6	284.91	0.247 Level 1, CC, ES, SF		
14,800.0	6,702.2	6,683.2	6,683.2	152.9	133.7	89.96	7,720.9	1,410.7	74.8	-210.6	285.40	0.262 Level 1		
14,900.0	6,702.0	6,683.0	6,683.0	154.8	133.7	89.78	7,720.9	1,410.7	143.9	-143.4	287.31	0.501 Level 1		
15,000.0	6,701.8	6,682.8	6,682.8	156.7	133.7	89.61	7,720.9	1,410.7	236.3	-52.9	289.22	0.817 Level 1		
15,100.0	6,701.6	6,682.6	6,682.6	158.6	133.7	89.44	7,720.9	1,410.7	333.1	42.0	291.13	1.144 Level 2		
15,200.0	6,701.4	6,682.4	6,682.4	160.5	133.6	89.27	7,720.9	1,410.7	431.4	138.3	293.03	1.472 Level 3		
15,300.0	6,701.2	6,682.2	6,682.2	162.4	133.6	89.09	7,720.9	1,410.7	530.3	235.3	294.94	1.798		
15,400.0	6,700.9	6,681.9	6,681.9	164.3	133.6	88.92	7,720.9	1,410.7	629.5	332.7	296.84	2.121		
15,500.0	6,700.7	6,681.7	6,681.7	166.2	133.6	88.75	7,720.9	1,410.7	729.0	430.2	298.74	2.440		
15,600.0	6,700.5	6,681.5	6,681.5	168.1	133.6	88.58	7,720.9	1,410.7	828.6	527.9	300.64	2.756		
15,700.0	6,700.3	6,681.3	6,681.3	170.0	133.6	88.41	7,720.9	1,410.7	928.3	625.7	302.53	3.068		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells - Sec.7-T5N-R64W - Webster B6-7 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 474-NS-GYRO-MS													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
12,900.0	6,706.2	6,822.2	6,690.1	117.2	17.0	-91.15	6,800.7	1,097.9	984.5	852.2	132.32	7.440		
13,000.0	6,706.0	6,822.2	6,690.1	119.0	17.0	-91.16	6,800.7	1,097.9	887.9	753.7	134.21	6.616		
13,100.0	6,705.8	6,822.2	6,690.1	120.9	17.0	-91.16	6,800.7	1,097.9	792.2	656.1	136.11	5.820		
13,200.0	6,705.6	6,822.2	6,690.1	122.8	17.0	-91.16	6,800.7	1,097.9	697.7	559.6	138.01	5.055		
13,300.0	6,705.4	6,822.3	6,690.2	124.7	17.0	-91.17	6,800.7	1,097.9	604.9	465.0	139.90	4.324		
13,400.0	6,705.2	6,822.3	6,690.2	126.5	17.0	-91.17	6,800.7	1,097.9	514.8	373.0	141.80	3.631		
13,500.0	6,705.0	6,822.3	6,690.2	128.4	17.0	-91.18	6,800.7	1,097.9	429.2	285.5	143.70	2.987		
13,600.0	6,704.8	6,822.3	6,690.2	130.3	17.0	-91.18	6,800.7	1,097.9	351.3	205.7	145.60	2.413		
13,700.0	6,704.5	6,822.3	6,690.2	132.2	17.0	-91.19	6,800.7	1,097.9	287.4	139.9	147.50	1.948		
13,800.0	6,704.3	6,822.4	6,690.3	134.1	17.0	-91.19	6,800.7	1,097.9	248.5	99.1	149.40	1.663		
13,854.1	6,704.2	6,822.4	6,690.3	135.1	17.0	-91.19	6,800.7	1,097.9	242.6	92.1	150.43	1.612 CC, ES, SF		
13,900.0	6,704.1	6,822.4	6,690.3	136.0	17.0	-91.19	6,800.7	1,097.9	246.9	95.6	151.30	1.632		
14,000.0	6,703.9	6,822.4	6,690.3	137.8	17.0	-91.20	6,800.7	1,097.9	283.0	129.8	153.21	1.847		
14,100.0	6,703.7	6,822.4	6,690.3	139.7	17.0	-91.20	6,800.7	1,097.9	345.4	190.3	155.11	2.227		
14,200.0	6,703.5	6,822.4	6,690.3	141.6	17.0	-91.21	6,800.7	1,097.9	422.4	265.4	157.01	2.691		
14,300.0	6,703.3	6,822.5	6,690.3	143.5	17.0	-91.21	6,800.7	1,097.9	507.6	348.7	158.92	3.194		
14,400.0	6,703.1	6,822.5	6,690.4	145.4	17.0	-91.22	6,800.7	1,097.9	597.3	436.5	160.82	3.714		
14,500.0	6,702.8	6,822.5	6,690.4	147.3	17.0	-91.22	6,800.7	1,097.9	689.9	527.2	162.72	4.240		
14,600.0	6,702.6	6,822.5	6,690.4	149.2	17.0	-91.23	6,800.7	1,097.9	784.3	619.7	164.63	4.764		
14,700.0	6,702.4	6,822.5	6,690.4	151.1	17.0	-91.23	6,800.7	1,097.9	880.0	713.4	166.53	5.284		
14,800.0	6,702.2	6,822.5	6,690.4	152.9	17.0	-91.23	6,800.7	1,097.9	976.5	808.0	168.44	5.797		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells - Sec.7-T5N-R64W - Witwer #43-6 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7080-UNKNOWN													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
13,000.0	6,706.0	6,682.0	6,682.0	119.0	133.6	-90.62	6,910.3	1,152.6	981.9	730.7	251.17	3.909		
13,100.0	6,705.8	6,681.8	6,681.8	120.9	133.6	-90.56	6,910.3	1,152.6	884.0	630.9	253.06	3.493		
13,200.0	6,705.6	6,681.6	6,681.6	122.8	133.6	-90.49	6,910.3	1,152.6	786.5	531.6	254.95	3.085		
13,300.0	6,705.4	6,681.4	6,681.4	124.7	133.6	-90.43	6,910.3	1,152.6	689.8	433.0	256.84	2.686		
13,400.0	6,705.2	6,681.2	6,681.2	126.5	133.6	-90.36	6,910.3	1,152.6	594.2	335.5	258.73	2.297		
13,500.0	6,705.0	6,681.0	6,681.0	128.4	133.6	-90.30	6,910.3	1,152.6	500.4	239.7	260.63	1.920		
13,600.0	6,704.8	6,680.8	6,680.8	130.3	133.6	-90.23	6,910.3	1,152.6	409.4	146.9	262.52	1.560		
13,700.0	6,704.5	6,680.5	6,680.5	132.2	133.6	-90.17	6,910.3	1,152.6	323.8	59.4	264.41	1.225 Level 2		
13,800.0	6,704.3	6,680.3	6,680.3	134.1	133.6	-90.11	6,910.3	1,152.6	249.2	-17.1	266.30	0.936 Level 1		
13,900.0	6,704.1	6,680.1	6,680.1	136.0	133.6	-90.04	6,910.3	1,152.6	198.3	-69.9	268.20	0.739 Level 1		
13,963.8	6,704.0	6,680.0	6,680.0	137.2	133.6	-90.00	6,910.3	1,152.6	187.8	-81.6	269.41	0.697 Level 1, CC, ES, SF		
14,000.0	6,703.9	6,679.9	6,679.9	137.8	133.6	-89.98	6,910.3	1,152.6	191.2	-78.9	270.09	0.708 Level 1		
14,100.0	6,703.7	6,679.7	6,679.7	139.7	133.6	-89.91	6,910.3	1,152.6	232.0	-40.0	271.98	0.853 Level 1		
14,200.0	6,703.5	6,679.5	6,679.5	141.6	133.6	-89.85	6,910.3	1,152.6	301.7	27.9	273.88	1.102 Level 2		
14,300.0	6,703.3	6,679.3	6,679.3	143.5	133.6	-89.78	6,910.3	1,152.6	385.1	109.3	275.77	1.396 Level 3		
14,400.0	6,703.1	6,679.1	6,679.1	145.4	133.6	-89.72	6,910.3	1,152.6	474.9	197.2	277.67	1.710		
14,500.0	6,702.8	6,678.8	6,678.8	147.3	133.6	-89.65	6,910.3	1,152.6	568.1	288.6	279.56	2.032		
14,600.0	6,702.6	6,678.6	6,678.6	149.2	133.6	-89.59	6,910.3	1,152.6	663.3	381.9	281.45	2.357		
14,700.0	6,702.4	6,678.4	6,678.4	151.1	133.6	-89.53	6,910.3	1,152.6	759.8	476.4	283.35	2.681		
14,800.0	6,702.2	6,678.2	6,678.2	152.9	133.6	-89.46	6,910.3	1,152.6	857.0	571.8	285.24	3.005		
14,900.0	6,702.0	6,678.0	6,678.0	154.8	133.6	-89.40	6,910.3	1,152.6	954.8	667.7	287.14	3.325		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells - Sec.7-T5N-R64W - Witwer 44-6D (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 474-NS-GYRO-MS													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
11,500.0	6,709.2	6,815.3	6,683.2	91.2	16.9	-91.13	5,399.5	1,187.2	965.2	859.3	105.88	9.116		
11,600.0	6,709.0	6,815.3	6,683.2	93.0	16.9	-91.13	5,399.5	1,187.2	866.6	758.9	107.76	8.042		
11,700.0	6,708.8	6,815.3	6,683.2	94.8	16.9	-91.14	5,399.5	1,187.2	768.4	658.8	109.64	7.009		
11,800.0	6,708.6	6,815.3	6,683.2	96.7	16.9	-91.15	5,399.5	1,187.2	670.7	559.2	111.52	6.014		
11,900.0	6,708.3	6,815.4	6,683.3	98.5	16.9	-91.15	5,399.5	1,187.2	573.8	460.4	113.40	5.060		
12,000.0	6,708.1	6,815.4	6,683.3	100.4	16.9	-91.16	5,399.5	1,187.2	478.2	362.9	115.29	4.148		
12,100.0	6,707.9	6,815.4	6,683.3	102.3	16.9	-91.17	5,399.5	1,187.2	384.8	267.6	117.18	3.284		
12,200.0	6,707.7	6,815.4	6,683.3	104.1	16.9	-91.18	5,399.5	1,187.2	295.8	176.7	119.06	2.484		
12,300.0	6,707.5	6,815.4	6,683.3	106.0	16.9	-91.18	5,399.5	1,187.2	216.5	95.6	120.95	1.790		
12,400.0	6,707.3	6,815.5	6,683.4	107.8	16.9	-91.19	5,399.5	1,187.2	162.2	39.3	122.84	1.320 Level 3		
12,453.0	6,707.2	6,815.5	6,683.4	108.8	16.9	-91.19	5,399.5	1,187.2	153.3	29.4	123.84	1.238 Level 2, CC, ES, SF		
12,500.0	6,707.1	6,815.5	6,683.4	109.7	16.9	-91.20	5,399.5	1,187.2	160.3	35.6	124.73	1.285 Level 3		
12,600.0	6,706.9	6,815.5	6,683.4	111.6	16.9	-91.20	5,399.5	1,187.2	212.4	85.8	126.63	1.677		
12,700.0	6,706.7	6,815.5	6,683.4	113.4	16.9	-91.21	5,399.5	1,187.2	290.7	162.2	128.52	2.262		
12,800.0	6,706.4	6,815.5	6,683.4	115.3	16.9	-91.22	5,399.5	1,187.2	379.4	249.0	130.41	2.909		
12,900.0	6,706.2	6,815.6	6,683.4	117.2	16.9	-91.22	5,399.5	1,187.2	472.6	340.3	132.31	3.572		
13,000.0	6,706.0	6,815.6	6,683.5	119.0	16.9	-91.23	5,399.5	1,187.2	568.1	433.9	134.20	4.233		
13,100.0	6,705.8	6,815.6	6,683.5	120.9	16.9	-91.24	5,399.5	1,187.2	664.9	528.8	136.10	4.886		
13,200.0	6,705.6	6,815.6	6,683.5	122.8	16.9	-91.24	5,399.5	1,187.2	762.6	624.6	138.00	5.526		
13,300.0	6,705.4	6,815.6	6,683.5	124.7	16.9	-91.25	5,399.5	1,187.2	860.8	720.9	139.89	6.153		
13,400.0	6,705.2	6,815.6	6,683.5	126.5	16.9	-91.26	5,399.5	1,187.2	959.4	817.6	141.79	6.766		

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design Klein 5N64W7 Pad Sec.7-T5N-R64W - Klein 7T-121 - Wellbore #1 - Plan #1 (10-14-15)													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	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre		Between	Between	Minimum	Separation			
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	Toolface (°)	+N/-S (ft)	+E/-W (ft)	Centres (ft)	Ellipses (ft)	Separation (ft)	Factor			
0.0	0.0	0.0	0.0	0.0	0.0	-89.97	0.0	-15.0	15.0	15.0	0.00	N/A			
100.0	100.0	100.0	100.0	0.1	0.1	-89.97	0.0	-15.0	15.0	14.8	0.22	66.907			
200.0	200.0	200.0	200.0	0.3	0.3	-89.97	0.0	-15.0	15.0	14.4	0.67	22.302			
300.0	300.0	300.0	300.0	0.6	0.6	-89.97	0.0	-15.0	15.0	13.9	1.12	13.381			
400.0	400.0	400.0	400.0	0.8	0.8	-89.97	0.0	-15.0	15.0	13.5	1.57	9.558			
500.0	500.0	500.0	500.0	1.0	1.0	-89.97	0.0	-15.0	15.0	13.0	2.02	7.434			
600.0	600.0	600.0	600.0	1.2	1.2	-89.97	0.0	-15.0	15.0	12.6	2.47	6.082 CC			
700.0	700.0	700.0	700.0	1.4	1.5	158.93	0.0	-15.0	16.3	13.3	2.91	5.594			
800.0	799.9	799.9	799.9	1.6	1.7	162.96	0.0	-15.0	20.0	16.6	3.33	5.998			
900.0	899.7	900.3	900.3	1.9	1.9	166.16	-0.6	-13.9	25.1	21.3	3.74	6.702			
1,000.0	999.3	1,000.9	1,000.8	2.1	2.1	167.73	-2.6	-10.4	30.3	26.1	4.14	7.313			
1,100.0	1,098.6	1,101.6	1,101.2	2.3	2.3	168.38	-5.8	-4.7	35.5	31.0	4.55	7.810			
1,200.0	1,197.5	1,202.4	1,201.6	2.6	2.5	168.46	-10.3	3.4	40.9	35.9	4.98	8.214			
1,300.0	1,296.1	1,303.3	1,301.9	3.0	2.8	168.17	-16.1	13.9	46.3	40.8	5.42	8.541			
1,400.0	1,394.2	1,404.4	1,401.9	3.3	3.1	167.62	-23.3	26.6	51.7	45.8	5.87	8.802			
1,500.0	1,491.7	1,505.6	1,501.6	3.7	3.4	166.88	-31.7	41.7	57.2	50.8	6.35	9.004			
1,565.3	1,555.0	1,571.7	1,566.5	4.0	3.6	166.32	-37.9	52.8	60.8	54.1	6.68	9.104			
1,600.0	1,588.7	1,607.0	1,601.0	4.2	3.7	165.98	-41.4	59.1	62.6	55.7	6.86	9.121			
1,700.0	1,685.5	1,707.0	1,698.7	4.7	4.1	164.88	-51.7	77.6	67.1	59.6	7.41	9.050			
1,800.0	1,782.3	1,806.9	1,796.4	5.2	4.5	163.93	-62.1	96.1	71.5	63.6	7.98	8.969			
1,900.0	1,879.1	1,906.8	1,894.0	5.7	4.9	163.08	-72.4	114.6	76.1	67.5	8.56	8.880			
2,000.0	1,976.0	2,006.7	1,991.6	6.2	5.4	162.33	-82.7	133.1	80.6	71.4	9.17	8.790			
2,100.0	2,072.8	2,106.6	2,089.2	6.7	5.8	161.66	-93.1	151.6	85.1	75.3	9.78	8.700			
2,200.0	2,169.6	2,206.5	2,186.8	7.2	6.2	161.06	-103.4	170.1	89.7	79.3	10.41	8.612			
2,300.0	2,266.4	2,306.4	2,284.4	7.7	6.7	160.52	-113.7	188.6	94.2	83.2	11.05	8.528			
2,400.0	2,363.2	2,406.2	2,382.1	8.3	7.1	160.02	-124.1	207.1	98.8	87.1	11.70	8.446			
2,500.0	2,460.1	2,506.1	2,479.7	8.8	7.6	159.57	-134.4	225.6	103.4	91.0	12.35	8.369			
2,600.0	2,556.9	2,606.0	2,577.3	9.3	8.0	159.16	-144.7	244.1	107.9	94.9	13.01	8.295			
2,700.0	2,653.7	2,705.9	2,674.9	9.9	8.5	158.78	-155.1	262.6	112.5	98.8	13.68	8.226			
2,800.0	2,750.5	2,805.8	2,772.5	10.4	8.9	158.43	-165.4	281.1	117.1	102.8	14.35	8.160			
2,900.0	2,847.4	2,905.7	2,870.2	10.9	9.4	158.11	-175.7	299.6	121.7	106.7	15.03	8.098			
3,000.0	2,944.2	3,005.6	2,967.8	11.5	9.8	157.81	-186.1	318.2	126.3	110.6	15.71	8.039			
3,100.0	3,041.0	3,105.5	3,065.4	12.0	10.3	157.53	-196.4	336.7	130.9	114.5	16.40	7.983			
3,200.0	3,137.8	3,205.4	3,163.0	12.5	10.8	157.27	-206.7	355.2	135.5	118.4	17.09	7.931			
3,300.0	3,234.7	3,305.3	3,260.6	13.1	11.2	157.03	-217.1	373.7	140.1	122.3	17.78	7.881			
3,400.0	3,331.5	3,405.2	3,358.3	13.6	11.7	156.81	-227.4	392.2	144.7	126.2	18.47	7.834			
3,500.0	3,428.3	3,505.1	3,455.9	14.1	12.2	156.59	-237.7	410.7	149.3	130.2	19.17	7.790			
3,600.0	3,525.1	3,605.0	3,553.5	14.7	12.6	156.39	-248.1	429.2	153.9	134.1	19.87	7.748			
3,700.0	3,622.0	3,704.8	3,651.1	15.2	13.1	156.21	-258.4	447.7	158.5	138.0	20.57	7.708			
3,800.0	3,718.8	3,804.7	3,748.7	15.8	13.6	156.03	-268.7	466.2	163.2	141.9	21.27	7.670			
3,900.0	3,815.6	3,904.6	3,846.3	16.3	14.0	155.86	-279.0	484.7	167.8	145.8	21.98	7.634			
4,000.0	3,912.4	4,004.5	3,944.0	16.8	14.5	155.70	-289.4	503.2	172.4	149.7	22.68	7.600			
4,100.0	4,009.3	4,104.4	4,041.6	17.4	15.0	155.55	-299.7	521.7	177.0	153.6	23.39	7.567			
4,200.0	4,106.1	4,204.3	4,139.2	17.9	15.4	155.41	-310.0	540.2	181.6	157.5	24.10	7.536			
4,300.0	4,202.9	4,304.2	4,236.8	18.5	15.9	155.27	-320.4	558.7	186.2	161.4	24.81	7.507			
4,400.0	4,299.7	4,404.1	4,334.4	19.0	16.4	155.14	-330.7	577.2	190.9	165.3	25.52	7.479			
4,500.0	4,396.6	4,504.0	4,432.1	19.5	16.8	155.02	-341.0	595.7	195.5	169.3	26.23	7.452			
4,600.0	4,493.4	4,603.9	4,529.7	20.1	17.3	154.90	-351.4	614.2	200.1	173.2	26.95	7.426			
4,700.0	4,590.2	4,703.8	4,627.3	20.6	17.8	154.79	-361.7	632.7	204.7	177.1	27.66	7.401			
4,800.0	4,687.0	4,803.7	4,724.9	21.2	18.2	154.68	-372.0	651.2	209.4	181.0	28.38	7.378			
4,900.0	4,783.8	4,903.6	4,822.5	21.7	18.7	154.58	-382.4	669.7	214.0	184.9	29.09	7.355			

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design Klein 5N64W7 Pad Sec.7-T5N-R64W - Klein 7T-121 - Wellbore #1 - Plan #1 (10-14-15)													Offset Site Error: 0.0 ft	
Survey Program: 0-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.0	4,880.7	5,003.4	4,920.2	22.3	19.2	154.48	-392.7	688.2	218.6	188.8	29.81	7.334		
5,100.0	4,977.5	5,103.3	5,017.8	22.8	19.7	154.39	-403.0	706.7	223.2	192.7	30.53	7.313		
5,200.0	5,074.3	5,203.2	5,115.4	23.3	20.1	154.30	-413.4	725.2	227.9	196.6	31.24	7.293		
5,300.0	5,171.1	5,303.1	5,213.0	23.9	20.6	154.21	-423.7	743.7	232.5	200.5	31.96	7.274		
5,400.0	5,268.0	5,403.0	5,310.6	24.4	21.1	154.13	-434.0	762.2	237.1	204.4	32.68	7.255		
5,500.0	5,364.8	5,502.9	5,408.2	25.0	21.5	154.05	-444.4	780.7	241.7	208.3	33.40	7.237		
5,600.0	5,461.6	5,602.8	5,505.9	25.5	22.0	153.97	-454.7	799.2	246.4	212.3	34.12	7.220		
5,700.0	5,558.4	5,702.7	5,603.5	26.1	22.5	153.90	-465.0	817.7	251.0	216.2	34.84	7.204		
5,800.0	5,655.3	5,802.6	5,701.1	26.6	22.9	153.82	-475.4	836.2	255.6	220.1	35.56	7.188		
5,900.0	5,752.1	5,903.1	5,799.4	27.1	23.4	153.89	-485.2	854.8	260.2	224.0	36.23	7.183		
6,000.0	5,848.9	6,004.1	5,898.6	27.7	23.7	156.12	-485.0	873.6	264.4	228.4	36.01	7.343		
6,055.5	5,902.6	6,058.5	5,951.7	28.0	23.9	158.47	-479.3	883.7	266.9	231.4	35.47	7.524		
6,100.0	5,945.8	6,101.2	5,993.1	28.2	23.9	173.67	-472.2	891.5	269.3	234.4	34.90	7.716		
6,150.0	5,994.5	6,148.5	6,038.4	28.4	24.0	-168.17	-461.6	900.1	272.5	238.2	34.31	7.943		
6,200.0	6,043.0	6,195.2	6,082.3	28.6	24.1	-151.00	-448.4	908.5	276.1	242.3	33.79	8.172		
6,250.0	6,091.3	6,241.3	6,124.9	28.7	24.1	-136.40	-432.6	916.5	280.1	246.8	33.36	8.396		
6,300.0	6,139.0	6,286.8	6,165.9	28.9	24.2	-124.67	-414.5	924.3	284.4	251.4	33.04	8.609		
6,350.0	6,186.1	6,331.8	6,205.4	29.0	24.2	-115.38	-394.3	931.8	289.0	256.2	32.80	8.810		
6,400.0	6,232.2	6,376.3	6,243.2	29.1	24.2	-107.96	-371.9	939.0	293.7	261.1	32.65	8.998		
6,450.0	6,277.3	6,420.4	6,279.3	29.2	24.2	-101.92	-347.6	945.8	298.6	266.1	32.55	9.174		
6,500.0	6,321.0	6,464.0	6,313.7	29.3	24.2	-96.93	-321.5	952.3	303.6	271.1	32.50	9.341		
6,550.0	6,363.3	6,507.3	6,346.2	29.3	24.2	-92.73	-293.7	958.5	308.5	276.1	32.47	9.503		
6,600.0	6,403.9	6,550.0	6,376.7	29.4	24.1	-89.16	-264.4	964.3	313.4	281.0	32.45	9.660		
6,650.0	6,442.7	6,592.7	6,405.7	29.4	24.1	-86.08	-233.5	969.8	318.2	285.8	32.43	9.814		
6,700.0	6,479.4	6,635.0	6,432.6	29.4	24.1	-83.42	-201.3	974.9	322.9	290.5	32.39	9.967		
6,750.0	6,514.0	6,677.0	6,457.5	29.4	24.1	-81.11	-167.8	979.6	327.4	295.0	32.35	10.119		
6,800.0	6,546.3	6,718.7	6,480.5	29.5	24.0	-79.10	-133.3	984.0	331.6	299.3	32.30	10.268		
6,850.0	6,576.2	6,760.2	6,501.4	29.5	24.0	-77.35	-97.7	988.0	335.6	303.3	32.23	10.411		
6,900.0	6,603.5	6,800.0	6,519.7	29.5	24.0	-75.86	-62.5	991.5	339.2	307.1	32.16	10.547		
6,950.0	6,628.0	6,842.6	6,537.3	29.5	23.9	-74.54	-23.8	994.8	342.6	310.4	32.13	10.663		
7,000.0	6,649.8	6,883.6	6,552.1	29.4	23.9	-73.44	14.2	997.6	345.5	313.4	32.11	10.760		
7,050.0	6,668.7	6,924.4	6,564.9	29.4	23.9	-72.51	52.9	1,000.0	348.1	316.0	32.14	10.833		
7,100.0	6,684.6	6,965.1	6,575.7	29.5	23.9	-71.75	92.2	1,002.1	350.3	318.1	32.21	10.875		
7,150.0	6,697.5	7,005.8	6,584.3	29.5	23.9	-71.15	131.8	1,003.7	352.1	319.7	32.36	10.882		
7,200.0	6,707.3	7,050.0	6,591.3	29.5	23.9	-70.69	175.5	1,005.1	353.5	320.9	32.59	10.848		
7,250.0	6,714.0	7,086.8	6,595.3	29.5	23.9	-70.41	212.1	1,005.8	354.4	321.5	32.87	10.780		
7,300.0	6,717.4	7,127.3	6,597.6	29.6	24.0	-70.26	252.5	1,006.3	354.9	321.6	33.27	10.665		
7,331.5	6,718.0	7,152.9	6,598.0	29.6	24.0	-70.24	278.0	1,006.4	354.9	321.4	33.57	10.574		
7,400.0	6,717.9	7,221.3	6,597.9	29.7	24.2	-70.25	346.4	1,006.4	354.9	320.3	34.59	10.261		
7,500.0	6,717.6	7,321.3	6,597.8	30.0	24.7	-70.27	446.4	1,006.4	354.9	318.6	36.27	9.785		
7,600.0	6,717.4	7,421.3	6,597.7	30.4	25.3	-70.28	546.4	1,006.4	354.8	316.6	38.22	9.284		
7,700.0	6,717.2	7,521.3	6,597.6	30.9	26.2	-70.30	646.4	1,006.4	354.8	314.4	40.41	8.780		
7,800.0	6,717.0	7,621.3	6,597.5	31.6	27.2	-70.32	746.4	1,006.4	354.8	312.0	42.80	8.288		
7,900.0	6,716.8	7,721.3	6,597.4	32.4	28.4	-70.33	846.4	1,006.4	354.7	309.4	45.36	7.820		
8,000.0	6,716.6	7,821.3	6,597.3	33.4	29.6	-70.35	946.4	1,006.4	354.7	306.6	48.07	7.380		
8,100.0	6,716.4	7,921.3	6,597.2	34.5	31.0	-70.36	1,046.4	1,006.4	354.7	303.8	50.89	6.970		
8,200.0	6,716.2	8,021.3	6,597.1	35.6	32.4	-70.38	1,146.4	1,006.4	354.6	300.8	53.81	6.590		
8,300.0	6,716.0	8,121.3	6,597.0	36.9	33.8	-70.40	1,246.4	1,006.4	354.6	297.8	56.82	6.241		
8,400.0	6,715.7	8,221.3	6,596.9	38.2	35.4	-70.41	1,346.4	1,006.4	354.6	294.7	59.90	5.919		
8,500.0	6,715.5	8,321.3	6,596.8	39.6	36.9	-70.43	1,446.4	1,006.4	354.5	291.5	63.04	5.624		
8,600.0	6,715.3	8,421.3	6,596.7	41.0	38.5	-70.44	1,546.4	1,006.4	354.5	288.3	66.24	5.352		

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design Klein 5N64W7 Pad Sec.7-T5N-R64W - Klein 7T-121 - Wellbore #1 - Plan #1 (10-14-15)													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)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
8,700.0	6,715.1	8,521.3	6,596.6	42.5	40.1	-70.46	1,646.4	1,006.4	354.5	285.0	69.48	5.102				
8,800.0	6,714.9	8,621.3	6,596.4	44.0	41.7	-70.48	1,746.4	1,006.4	354.4	281.7	72.76	4.871				
8,900.0	6,714.7	8,721.3	6,596.3	45.6	43.4	-70.49	1,846.4	1,006.4	354.4	278.3	76.08	4.658				
9,000.0	6,714.5	8,821.3	6,596.2	47.2	45.1	-70.51	1,946.4	1,006.4	354.3	274.9	79.43	4.461				
9,100.0	6,714.3	8,921.3	6,596.1	48.8	46.8	-70.52	2,046.4	1,006.4	354.3	271.5	82.80	4.279				
9,200.0	6,714.1	9,021.3	6,596.0	50.4	48.5	-70.54	2,146.4	1,006.4	354.3	268.1	86.20	4.110				
9,300.0	6,713.8	9,121.3	6,595.9	52.1	50.2	-70.56	2,246.4	1,006.4	354.2	264.6	89.62	3.953				
9,400.0	6,713.6	9,221.3	6,595.8	53.7	52.0	-70.57	2,346.4	1,006.4	354.2	261.1	93.06	3.806				
9,500.0	6,713.4	9,321.3	6,595.7	55.4	53.7	-70.59	2,446.4	1,006.4	354.2	257.7	96.52	3.670				
9,600.0	6,713.2	9,421.3	6,595.6	57.1	55.5	-70.60	2,546.4	1,006.4	354.1	254.2	99.99	3.542				
9,700.0	6,713.0	9,521.3	6,595.5	58.9	57.3	-70.62	2,646.4	1,006.4	354.1	250.6	103.47	3.422				
9,800.0	6,712.8	9,621.3	6,595.4	60.6	59.0	-70.64	2,746.4	1,006.4	354.1	247.1	106.97	3.310				
9,900.0	6,712.6	9,721.3	6,595.3	62.3	60.8	-70.65	2,846.4	1,006.4	354.0	243.6	110.48	3.205				
10,000.0	6,712.4	9,821.3	6,595.2	64.1	62.6	-70.67	2,946.4	1,006.4	354.0	240.0	114.00	3.105				
10,100.0	6,712.1	9,921.3	6,595.1	65.8	64.4	-70.69	3,046.4	1,006.4	354.0	236.4	117.53	3.012				
10,200.0	6,711.9	10,021.3	6,595.0	67.6	66.2	-70.70	3,146.4	1,006.4	353.9	232.9	121.07	2.923				
10,300.0	6,711.7	10,121.3	6,594.9	69.4	68.1	-70.72	3,246.4	1,006.4	353.9	229.3	124.61	2.840				
10,400.0	6,711.5	10,221.3	6,594.8	71.2	69.9	-70.73	3,346.4	1,006.4	353.9	225.7	128.17	2.761				
10,500.0	6,711.3	10,321.3	6,594.7	73.0	71.7	-70.75	3,446.4	1,006.4	353.8	222.1	131.73	2.686				
10,600.0	6,711.1	10,421.3	6,594.5	74.8	73.5	-70.77	3,546.4	1,006.4	353.8	218.5	135.29	2.615				
10,700.0	6,710.9	10,521.3	6,594.4	76.6	75.4	-70.78	3,646.4	1,006.4	353.8	214.9	138.87	2.547				
10,800.0	6,710.7	10,621.3	6,594.3	78.4	77.2	-70.80	3,746.4	1,006.4	353.7	211.3	142.44	2.483				
10,900.0	6,710.5	10,721.3	6,594.2	80.2	79.1	-70.82	3,846.4	1,006.4	353.7	207.7	146.03	2.422				
11,000.0	6,710.2	10,821.3	6,594.1	82.0	80.9	-70.83	3,946.4	1,006.4	353.7	204.0	149.62	2.364				
11,100.0	6,710.0	10,921.3	6,594.0	83.8	82.8	-70.85	4,046.4	1,006.4	353.6	200.4	153.21	2.308				
11,200.0	6,709.8	11,021.3	6,593.9	85.7	84.6	-70.86	4,146.4	1,006.4	353.6	196.8	156.81	2.255				
11,300.0	6,709.6	11,121.3	6,593.8	87.5	86.5	-70.88	4,246.4	1,006.4	353.5	193.1	160.41	2.204				
11,400.0	6,709.4	11,221.3	6,593.7	89.3	88.3	-70.90	4,346.4	1,006.4	353.5	189.5	164.01	2.155				
11,500.0	6,709.2	11,321.3	6,593.6	91.2	90.2	-70.91	4,446.4	1,006.4	353.5	185.9	167.62	2.109				
11,600.0	6,709.0	11,421.3	6,593.5	93.0	92.0	-70.93	4,546.4	1,006.4	353.4	182.2	171.23	2.064				
11,700.0	6,708.8	11,521.3	6,593.4	94.8	93.9	-70.94	4,646.4	1,006.4	353.4	178.6	174.85	2.021				
11,800.0	6,708.6	11,621.3	6,593.3	96.7	95.8	-70.96	4,746.4	1,006.4	353.4	174.9	178.47	1.980				
11,900.0	6,708.3	11,721.3	6,593.2	98.5	97.6	-70.98	4,846.4	1,006.4	353.3	171.3	182.09	1.941				
12,000.0	6,708.1	11,821.3	6,593.1	100.4	99.5	-70.99	4,946.4	1,006.4	353.3	167.6	185.71	1.902				
12,100.0	6,707.9	11,921.3	6,593.0	102.3	101.4	-71.01	5,046.4	1,006.4	353.3	163.9	189.34	1.866				
12,200.0	6,707.7	12,021.3	6,592.9	104.1	103.3	-71.03	5,146.4	1,006.4	353.2	160.3	192.97	1.831				
12,300.0	6,707.5	12,121.3	6,592.8	106.0	105.1	-71.04	5,246.4	1,006.4	353.2	156.6	196.60	1.797				
12,400.0	6,707.3	12,221.3	6,592.6	107.8	107.0	-71.06	5,346.4	1,006.4	353.2	152.9	200.23	1.764				
12,500.0	6,707.1	12,321.3	6,592.5	109.7	108.9	-71.07	5,446.4	1,006.4	353.1	149.3	203.87	1.732				
12,600.0	6,706.9	12,421.3	6,592.4	111.6	110.8	-71.09	5,546.4	1,006.4	353.1	145.6	207.51	1.702				
12,700.0	6,706.7	12,521.3	6,592.3	113.4	112.7	-71.11	5,646.4	1,006.4	353.1	141.9	211.15	1.672				
12,800.0	6,706.4	12,621.3	6,592.2	115.3	114.6	-71.12	5,746.4	1,006.4	353.0	138.2	214.79	1.644				
12,900.0	6,706.2	12,721.3	6,592.1	117.2	116.4	-71.14	5,846.4	1,006.4	353.0	134.6	218.44	1.616				
13,000.0	6,706.0	12,821.3	6,592.0	119.0	118.3	-71.16	5,946.4	1,006.4	353.0	130.9	222.08	1.589				
13,100.0	6,705.8	12,921.3	6,591.9	120.9	120.2	-71.17	6,046.4	1,006.3	352.9	127.2	225.73	1.564				
13,200.0	6,705.6	13,021.3	6,591.8	122.8	122.1	-71.19	6,146.4	1,006.3	352.9	123.5	229.38	1.538				
13,300.0	6,705.4	13,121.3	6,591.7	124.7	124.0	-71.20	6,246.4	1,006.3	352.9	119.8	233.03	1.514				
13,400.0	6,705.2	13,221.3	6,591.6	126.5	125.9	-71.22	6,346.4	1,006.3	352.8	116.1	236.69	1.491 Level 3				
13,500.0	6,705.0	13,321.3	6,591.5	128.4	127.8	-71.24	6,446.4	1,006.3	352.8	112.5	240.34	1.468 Level 3				
13,600.0	6,704.8	13,421.3	6,591.4	130.3	129.7	-71.25	6,546.4	1,006.3	352.8	108.8	244.00	1.446 Level 3				
13,700.0	6,704.5	13,521.3	6,591.3	132.2	131.5	-71.27	6,646.4	1,006.3	352.7	105.1	247.66	1.424 Level 3				

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design Klein 5N64W7 Pad Sec.7-T5N-R64W - Klein 7T-121 - Wellbore #1 - Plan #1 (10-14-15)												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
13,800.0	6,704.3	13,621.3	6,591.2	134.1	133.4	-71.29	6,746.4	1,006.3	352.7	101.4	251.32	1.403	Level 3
13,900.0	6,704.1	13,721.3	6,591.1	136.0	135.3	-71.30	6,846.4	1,006.3	352.7	97.7	254.98	1.383	Level 3
14,000.0	6,703.9	13,821.3	6,591.0	137.8	137.2	-71.32	6,946.4	1,006.3	352.6	94.0	258.64	1.363	Level 3
14,100.0	6,703.7	13,921.3	6,590.8	139.7	139.1	-71.33	7,046.4	1,006.3	352.6	90.3	262.30	1.344	Level 3
14,200.0	6,703.5	14,021.3	6,590.7	141.6	141.0	-71.35	7,146.4	1,006.3	352.6	86.6	265.97	1.326	Level 3
14,300.0	6,703.3	14,121.3	6,590.6	143.5	142.9	-71.37	7,246.4	1,006.3	352.5	82.9	269.63	1.307	Level 3
14,400.0	6,703.1	14,221.3	6,590.5	145.4	144.8	-71.38	7,346.4	1,006.3	352.5	79.2	273.30	1.290	Level 3
14,500.0	6,702.8	14,321.3	6,590.4	147.3	146.7	-71.40	7,446.4	1,006.3	352.5	75.5	276.97	1.273	Level 3
14,600.0	6,702.6	14,421.3	6,590.3	149.2	148.6	-71.42	7,546.4	1,006.3	352.4	71.8	280.64	1.256	Level 3
14,700.0	6,702.4	14,521.3	6,590.2	151.1	150.5	-71.43	7,646.4	1,006.3	352.4	68.1	284.31	1.239	Level 2
14,800.0	6,702.2	14,621.3	6,590.1	152.9	152.4	-71.45	7,746.4	1,006.3	352.4	64.4	287.98	1.224	Level 2
14,900.0	6,702.0	14,721.3	6,590.0	154.8	154.3	-71.46	7,846.4	1,006.3	352.3	60.7	291.66	1.208	Level 2
15,000.0	6,701.8	14,821.3	6,589.9	156.7	156.2	-71.48	7,946.4	1,006.3	352.3	57.0	295.33	1.193	Level 2
15,100.0	6,701.6	14,921.3	6,589.8	158.6	158.1	-71.50	8,046.4	1,006.3	352.3	53.3	299.01	1.178	Level 2
15,200.0	6,701.4	15,021.3	6,589.7	160.5	160.0	-71.51	8,146.4	1,006.3	352.2	49.5	302.68	1.164	Level 2
15,300.0	6,701.2	15,121.3	6,589.6	162.4	161.9	-71.53	8,246.4	1,006.3	352.2	45.8	306.36	1.150	Level 2
15,400.0	6,700.9	15,221.3	6,589.5	164.3	163.8	-71.55	8,346.4	1,006.3	352.2	42.1	310.04	1.136	Level 2
15,500.0	6,700.7	15,321.3	6,589.4	166.2	165.7	-71.56	8,446.4	1,006.3	352.1	38.4	313.72	1.122	Level 2
15,600.0	6,700.5	15,421.3	6,589.3	168.1	167.6	-71.58	8,546.4	1,006.3	352.1	34.7	317.40	1.109	Level 2
15,700.0	6,700.3	15,521.3	6,589.2	170.0	169.5	-71.60	8,646.4	1,006.3	352.1	31.0	321.08	1.096	Level 2
15,800.0	6,700.1	15,621.3	6,589.1	171.9	171.4	-71.61	8,746.4	1,006.3	352.0	27.3	324.76	1.084	Level 2
15,900.0	6,699.9	15,721.3	6,588.9	173.8	173.3	-71.63	8,846.4	1,006.3	352.0	23.5	328.45	1.072	Level 2
16,000.0	6,699.7	15,821.3	6,588.8	175.7	175.2	-71.64	8,946.4	1,006.3	352.0	19.8	332.13	1.060	Level 2
16,100.0	6,699.5	15,921.3	6,588.7	177.6	177.1	-71.66	9,046.4	1,006.3	351.9	16.1	335.82	1.048	Level 2
16,200.0	6,699.3	16,021.3	6,588.6	179.5	179.0	-71.68	9,146.4	1,006.3	351.9	12.4	339.51	1.036	Level 2
16,300.0	6,699.0	16,121.3	6,588.5	181.4	181.0	-71.69	9,246.4	1,006.3	351.9	8.7	343.19	1.025	Level 2
16,400.0	6,698.8	16,221.3	6,588.4	183.3	182.9	-71.71	9,346.4	1,006.3	351.8	4.9	346.88	1.014	Level 2
16,500.0	6,698.6	16,321.3	6,588.3	185.2	184.8	-71.73	9,446.4	1,006.3	351.8	1.2	350.57	1.003	Level 2
16,600.0	6,698.4	16,421.3	6,588.2	187.1	186.7	-71.74	9,546.4	1,006.3	351.8	-2.5	354.26	0.993	Level 1
16,700.0	6,698.2	16,521.3	6,588.1	189.0	188.6	-71.76	9,646.4	1,006.3	351.7	-6.2	357.95	0.983	Level 1
16,794.5	6,698.0	16,615.8	6,588.0	190.8	190.4	-71.77	9,741.0	1,006.3	351.7	-9.7	361.44	0.973	Level 1, ES, SF

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design Klein 5N64W7 Pad Sec.7-T5N-R64W - Klein 7T-201 - Wellbore #1 - Plan #1 (10-14-15)												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	-89.31	0.4	-30.1	30.1				
100.0	100.0	100.0	100.0	0.1	0.1	-89.31	0.4	-30.1	30.1	29.9	0.22	133.824	
200.0	200.0	200.0	200.0	0.3	0.3	-89.31	0.4	-30.1	30.1	29.4	0.67	44.608	
300.0	300.0	300.0	300.0	0.6	0.6	-89.31	0.4	-30.1	30.1	29.0	1.12	26.765	
400.0	400.0	400.0	400.0	0.8	0.8	-89.31	0.4	-30.1	30.1	28.5	1.57	19.118	
500.0	500.0	500.0	500.0	1.0	1.0	-89.31	0.4	-30.1	30.1	28.1	2.02	14.869	
600.0	600.0	600.0	600.0	1.2	1.2	-89.31	0.4	-30.1	30.1	27.6	2.47	12.166	CC, ES
700.0	700.0	700.0	700.0	1.4	1.5	158.70	0.4	-30.1	31.3	28.4	2.91	10.772	
800.0	799.9	799.9	799.9	1.6	1.7	161.02	0.4	-30.1	35.0	31.7	3.33	10.510	
900.0	899.7	899.7	899.7	1.9	1.9	163.95	0.4	-30.1	41.2	37.5	3.76	10.963	
1,000.0	999.3	999.3	999.3	2.1	2.1	166.81	0.4	-30.1	50.1	45.9	4.20	11.934	
1,100.0	1,098.6	1,098.6	1,098.6	2.3	2.4	169.28	0.4	-30.1	61.6	56.9	4.64	13.285	
1,200.0	1,197.5	1,197.5	1,197.5	2.6	2.6	171.26	0.4	-30.1	75.7	70.7	5.08	14.920	
1,300.0	1,296.1	1,296.3	1,298.3	3.0	2.8	172.62	-0.3	-29.0	91.3	85.8	5.50	16.611	
1,400.0	1,394.2	1,399.6	1,399.5	3.3	3.0	173.34	-2.5	-25.7	107.0	101.1	5.90	18.129	
1,500.0	1,491.7	1,501.3	1,501.0	3.7	3.2	173.66	-6.1	-20.1	122.8	116.5	6.32	19.429	
1,565.3	1,555.0	1,567.9	1,567.3	4.0	3.3	173.71	-9.2	-15.2	133.1	126.5	6.60	20.171	
1,600.0	1,588.7	1,603.4	1,602.7	4.2	3.4	173.70	-11.2	-12.2	138.4	131.7	6.75	20.498	
1,700.0	1,685.5	1,706.3	1,704.8	4.7	3.6	173.49	-17.8	-1.9	152.1	144.8	7.21	21.077	
1,800.0	1,782.3	1,809.7	1,807.1	5.2	3.9	173.04	-25.9	10.8	163.1	155.4	7.69	21.200	
1,900.0	1,879.1	1,913.7	1,909.6	5.7	4.2	172.36	-35.6	25.8	171.6	163.4	8.20	20.941	
2,000.0	1,976.0	2,018.0	2,011.8	6.2	4.5	171.47	-46.8	43.3	177.5	168.8	8.72	20.361	
2,100.0	2,072.8	2,120.1	2,111.3	6.7	4.9	170.41	-59.1	62.4	181.3	172.0	9.26	19.572	
2,200.0	2,169.6	2,220.0	2,208.6	7.2	5.3	169.38	-71.3	81.3	184.8	175.0	9.82	18.810	
2,300.0	2,266.4	2,319.9	2,306.0	7.7	5.7	168.39	-83.4	100.2	188.4	178.0	10.40	18.107	
2,400.0	2,363.2	2,419.8	2,403.3	8.3	6.1	167.44	-95.6	119.1	192.0	181.0	11.00	17.456	
2,500.0	2,460.1	2,519.6	2,500.6	8.8	6.6	166.52	-107.8	138.0	195.7	184.1	11.61	16.851	
2,600.0	2,556.9	2,619.5	2,597.9	9.3	7.0	165.63	-119.9	156.9	199.4	187.2	12.24	16.290	
2,700.0	2,653.7	2,719.4	2,695.2	9.9	7.5	164.78	-132.1	175.8	203.2	190.3	12.89	15.768	
2,800.0	2,750.5	2,819.3	2,792.6	10.4	7.9	163.96	-144.3	194.8	207.0	193.5	13.55	15.283	
2,900.0	2,847.4	2,919.2	2,889.9	10.9	8.4	163.17	-156.4	213.7	210.9	196.7	14.22	14.831	
3,000.0	2,944.2	3,019.1	2,987.2	11.5	8.8	162.41	-168.6	232.6	214.8	199.9	14.90	14.410	
3,100.0	3,041.0	3,118.9	3,084.5	12.0	9.3	161.68	-180.8	251.5	218.7	203.1	15.60	14.017	
3,200.0	3,137.8	3,218.8	3,181.8	12.5	9.8	160.97	-192.9	270.4	222.7	206.4	16.31	13.650	
3,300.0	3,234.7	3,318.7	3,279.2	13.1	10.2	160.29	-205.1	289.3	226.7	209.6	17.03	13.307	
3,400.0	3,331.5	3,418.6	3,376.5	13.6	10.7	159.63	-217.3	308.2	230.7	212.9	17.77	12.986	
3,500.0	3,428.3	3,518.5	3,473.8	14.1	11.2	158.99	-229.4	327.1	234.8	216.3	18.51	12.685	
3,600.0	3,525.1	3,618.4	3,571.1	14.7	11.7	158.38	-241.6	346.1	238.9	219.6	19.26	12.402	
3,700.0	3,622.0	3,718.3	3,668.4	15.2	12.2	157.78	-253.8	365.0	243.0	223.0	20.02	12.137	
3,800.0	3,718.8	3,818.1	3,765.8	15.8	12.6	157.21	-265.9	383.9	247.1	226.3	20.79	11.887	
3,900.0	3,815.6	3,918.0	3,863.1	16.3	13.1	156.65	-278.1	402.8	251.3	229.7	21.57	11.653	
4,000.0	3,912.4	4,017.9	3,960.4	16.8	13.6	156.11	-290.3	421.7	255.5	233.1	22.35	11.431	
4,100.0	4,009.3	4,117.8	4,057.7	17.4	14.1	155.59	-302.4	440.6	259.7	236.6	23.14	11.222	
4,200.0	4,106.1	4,217.7	4,155.0	17.9	14.6	155.09	-314.6	459.5	263.9	240.0	23.94	11.025	
4,300.0	4,202.9	4,317.6	4,252.4	18.5	15.1	154.60	-326.8	478.4	268.2	243.4	24.74	10.839	
4,400.0	4,299.7	4,417.4	4,349.7	19.0	15.5	154.13	-338.9	497.3	272.4	246.9	25.55	10.662	
4,500.0	4,396.6	4,517.3	4,447.0	19.5	16.0	153.67	-351.1	516.3	276.7	250.4	26.37	10.495	
4,600.0	4,493.4	4,617.2	4,544.3	20.1	16.5	153.23	-363.3	535.2	281.0	253.8	27.19	10.336	
4,700.0	4,590.2	4,717.1	4,641.6	20.6	17.0	152.80	-375.4	554.1	285.4	257.3	28.02	10.186	
4,800.0	4,687.0	4,817.0	4,739.0	21.2	17.5	152.38	-387.6	573.0	289.7	260.8	28.85	10.043	
4,900.0	4,783.8	4,916.9	4,836.3	21.7	18.0	151.98	-399.7	591.9	294.0	264.4	29.68	9.907	

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design Klein 5N64W7 Pad Sec.7-T5N-R64W - Klein 7T-201 - Wellbore #1 - Plan #1 (10-14-15)												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
5,000.0	4,880.7	5,016.7	4,933.6	22.3	18.5	151.58	-411.9	610.8	298.4	267.9	30.52	9.777	
5,100.0	4,977.5	5,116.6	5,030.9	22.8	19.0	151.20	-424.1	629.7	302.8	271.4	31.36	9.654	
5,200.0	5,074.3	5,216.5	5,128.2	23.3	19.5	150.83	-436.2	648.6	307.2	275.0	32.21	9.536	
5,300.0	5,171.1	5,314.8	5,224.0	23.9	19.9	150.48	-448.2	667.2	311.6	278.6	33.04	9.433	
5,400.0	5,268.0	5,406.7	5,314.0	24.4	20.2	150.40	-458.3	682.9	317.8	284.1	33.68	9.436	
5,500.0	5,364.8	5,500.0	5,405.9	25.0	20.5	150.66	-466.9	696.3	326.5	292.3	34.21	9.544	
5,600.0	5,461.6	5,589.4	5,494.5	25.5	20.8	151.20	-473.7	706.8	337.6	303.0	34.61	9.755	
5,700.0	5,558.4	5,679.8	5,584.3	26.1	21.0	152.00	-479.0	715.0	351.3	316.4	34.91	10.064	
5,800.0	5,655.3	5,769.3	5,673.5	26.6	21.1	153.00	-482.7	720.8	367.5	332.4	35.11	10.468	
5,900.0	5,752.1	5,857.7	5,761.8	27.1	21.3	154.16	-484.9	724.3	386.4	351.1	35.24	10.964	
6,000.0	5,848.9	5,945.9	5,850.0	27.7	21.4	155.43	-485.6	725.4	407.9	372.6	35.32	11.548	
6,055.5	5,902.6	5,998.5	5,902.6	28.0	21.5	156.20	-485.6	725.4	420.6	385.2	35.35	11.899	
6,100.0	5,945.8	6,041.7	5,945.8	28.2	21.5	170.31	-485.6	725.4	430.9	395.7	35.16	12.255	
6,150.0	5,994.5	6,090.3	5,994.4	28.4	21.6	-173.03	-485.0	725.4	442.4	407.4	35.02	12.633	
6,200.0	6,043.0	6,138.7	6,042.7	28.6	21.6	-157.33	-481.6	725.4	454.0	419.1	34.88	13.018	
6,250.0	6,091.3	6,187.2	6,090.8	28.7	21.6	-144.13	-475.0	725.4	465.5	430.8	34.71	13.409	
6,300.0	6,139.0	6,235.7	6,138.3	28.9	21.6	-133.73	-465.5	725.4	476.9	442.3	34.55	13.804	
6,350.0	6,186.1	6,284.2	6,185.1	29.0	21.6	-125.69	-452.9	725.4	488.1	453.7	34.38	14.198	
6,400.0	6,232.2	6,332.8	6,231.1	29.1	21.6	-119.44	-437.4	725.4	499.0	464.8	34.21	14.588	
6,450.0	6,277.3	6,381.4	6,276.1	29.2	21.5	-114.49	-418.9	725.4	509.8	475.7	34.06	14.968	
6,500.0	6,321.0	6,430.2	6,320.0	29.3	21.5	-110.50	-397.6	725.4	520.2	486.3	33.92	15.336	
6,550.0	6,363.3	6,479.0	6,362.4	29.3	21.4	-107.22	-373.4	725.4	530.3	496.5	33.80	15.686	
6,600.0	6,403.9	6,528.0	6,403.3	29.4	21.3	-104.49	-346.6	725.4	539.9	506.2	33.71	16.015	
6,650.0	6,442.7	6,577.1	6,442.6	29.4	21.2	-102.19	-317.1	725.4	549.2	515.5	33.66	16.316	
6,700.0	6,479.4	6,626.3	6,479.9	29.4	21.1	-100.23	-285.0	725.4	557.9	524.3	33.64	16.587	
6,750.0	6,514.0	6,675.7	6,515.2	29.4	21.0	-98.55	-250.5	725.4	566.2	532.5	33.66	16.821	
6,800.0	6,546.3	6,725.2	6,548.3	29.5	20.9	-97.10	-213.7	725.4	573.9	540.2	33.73	17.016	
6,850.0	6,576.2	6,774.9	6,579.1	29.5	20.8	-95.86	-174.6	725.4	581.0	547.2	33.84	17.167	
6,900.0	6,603.5	6,824.7	6,607.3	29.5	20.7	-94.79	-133.6	725.4	587.5	553.5	34.02	17.271	
6,950.0	6,628.0	6,874.7	6,632.8	29.5	20.6	-93.88	-90.6	725.4	593.4	559.2	34.25	17.325	
7,000.0	6,649.8	6,924.8	6,655.6	29.4	20.5	-93.11	-46.0	725.4	598.6	564.1	34.55	17.328	
7,050.0	6,668.7	6,975.1	6,675.4	29.4	20.4	-92.46	0.2	725.4	603.2	568.2	34.91	17.279	
7,100.0	6,684.6	7,025.4	6,692.2	29.5	20.4	-91.94	47.6	725.4	607.0	571.6	35.33	17.179	
7,150.0	6,697.5	7,075.9	6,705.8	29.5	20.3	-91.53	96.2	725.4	610.1	574.2	35.82	17.030	
7,200.0	6,707.3	7,126.4	6,716.2	29.5	20.3	-91.23	145.6	725.4	612.4	576.0	36.38	16.834	
7,250.0	6,714.0	7,177.0	6,723.3	29.5	20.3	-91.03	195.7	725.4	614.0	577.0	37.00	16.597	
7,300.0	6,717.4	7,227.6	6,727.1	29.6	20.3	-90.93	246.1	725.4	614.9	577.2	37.68	16.319	
7,331.5	6,718.0	7,259.4	6,727.8	29.6	20.4	-90.91	278.0	725.4	615.1	576.9	38.13	16.130	
7,400.0	6,717.9	7,328.0	6,727.7	29.7	20.6	-90.92	346.6	725.4	615.1	575.8	39.27	15.663	
7,500.0	6,717.6	7,428.0	6,727.5	30.0	21.3	-90.92	446.6	725.4	615.1	573.9	41.11	14.960	
7,600.0	6,717.4	7,528.0	6,727.3	30.4	22.3	-90.92	546.6	725.4	615.1	571.8	43.22	14.229	
7,700.0	6,717.2	7,628.0	6,727.1	30.9	23.4	-90.92	646.6	725.4	615.1	569.5	45.56	13.500	
7,800.0	6,717.0	7,728.0	6,726.8	31.6	24.7	-90.92	746.6	725.4	615.1	567.0	48.09	12.790	
7,900.0	6,716.8	7,828.0	6,726.6	32.4	26.0	-90.92	846.6	725.4	615.1	564.3	50.78	12.111	
8,000.0	6,716.6	7,928.0	6,726.4	33.4	27.5	-90.92	946.6	725.4	615.1	561.4	53.62	11.471	
8,100.0	6,716.4	8,028.0	6,726.2	34.5	29.0	-90.92	1,046.6	725.4	615.1	558.5	56.57	10.872	
8,200.0	6,716.2	8,128.0	6,726.0	35.6	30.5	-90.92	1,146.6	725.4	615.1	555.4	59.62	10.316	
8,300.0	6,716.0	8,228.0	6,725.8	36.9	32.1	-90.92	1,246.6	725.4	615.1	552.3	62.76	9.799	
8,400.0	6,715.7	8,328.0	6,725.6	38.2	33.7	-90.92	1,346.6	725.4	615.0	549.1	65.98	9.322	
8,500.0	6,715.5	8,428.0	6,725.4	39.6	35.3	-90.92	1,446.6	725.4	615.0	545.8	69.26	8.881	
8,600.0	6,715.3	8,528.0	6,725.2	41.0	37.0	-90.92	1,546.6	725.4	615.0	542.5	72.59	8.473	

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design Klein 5N64W7 Pad Sec.7-T5N-R64W - Klein 7T-201 - Wellbore #1 - Plan #1 (10-14-15)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
8,700.0	6,715.1	8,628.0	6,725.0	42.5	38.7	-90.92	1,646.6	725.4	615.0	539.1	75.97	8.096	
8,800.0	6,714.9	8,728.0	6,724.7	44.0	40.4	-90.92	1,746.6	725.4	615.0	535.7	79.39	7.747	
8,900.0	6,714.7	8,828.0	6,724.5	45.6	42.1	-90.92	1,846.6	725.4	615.0	532.2	82.85	7.424	
9,000.0	6,714.5	8,928.0	6,724.3	47.2	43.8	-90.92	1,946.6	725.4	615.0	528.7	86.34	7.123	
9,100.0	6,714.3	9,028.0	6,724.1	48.8	45.6	-90.92	2,046.6	725.4	615.0	525.2	89.86	6.844	
9,200.0	6,714.1	9,128.0	6,723.9	50.4	47.3	-90.92	2,146.6	725.4	615.0	521.6	93.41	6.585	
9,300.0	6,713.8	9,228.0	6,723.7	52.1	49.1	-90.92	2,246.6	725.4	615.0	518.1	96.98	6.342	
9,400.0	6,713.6	9,328.0	6,723.5	53.7	50.9	-90.92	2,346.6	725.4	615.0	514.5	100.56	6.116	
9,500.0	6,713.4	9,428.0	6,723.3	55.4	52.7	-90.92	2,446.6	725.4	615.0	510.9	104.17	5.904	
9,600.0	6,713.2	9,528.0	6,723.1	57.1	54.5	-90.92	2,546.6	725.4	615.0	507.3	107.79	5.706	
9,700.0	6,713.0	9,628.0	6,722.9	58.9	56.3	-90.92	2,646.6	725.4	615.0	503.6	111.43	5.520	
9,800.0	6,712.8	9,728.0	6,722.7	60.6	58.1	-90.92	2,746.6	725.4	615.0	500.0	115.08	5.345	
9,900.0	6,712.6	9,828.0	6,722.4	62.3	60.0	-90.92	2,846.6	725.4	615.0	496.3	118.74	5.180	
10,000.0	6,712.4	9,928.0	6,722.2	64.1	61.8	-90.92	2,946.6	725.4	615.0	492.6	122.41	5.024	
10,100.0	6,712.1	10,028.0	6,722.0	65.8	63.6	-90.92	3,046.6	725.4	615.0	488.9	126.10	4.878	
10,200.0	6,711.9	10,128.0	6,721.8	67.6	65.5	-90.92	3,146.6	725.4	615.0	485.3	129.79	4.739	
10,300.0	6,711.7	10,228.0	6,721.6	69.4	67.3	-90.92	3,246.6	725.4	615.0	481.6	133.49	4.607	
10,400.0	6,711.5	10,328.0	6,721.4	71.2	69.1	-90.92	3,346.6	725.4	615.0	477.8	137.20	4.483	
10,500.0	6,711.3	10,428.0	6,721.2	73.0	71.0	-90.92	3,446.6	725.4	615.0	474.1	140.91	4.365	
10,600.0	6,711.1	10,528.0	6,721.0	74.8	72.9	-90.92	3,546.6	725.4	615.0	470.4	144.63	4.252	
10,700.0	6,710.9	10,628.0	6,720.8	76.6	74.7	-90.92	3,646.6	725.4	615.0	466.7	148.36	4.146	
10,800.0	6,710.7	10,728.0	6,720.6	78.4	76.6	-90.92	3,746.6	725.4	615.0	462.9	152.10	4.044	
10,900.0	6,710.5	10,828.0	6,720.3	80.2	78.4	-90.92	3,846.6	725.4	615.0	459.2	155.83	3.947	
11,000.0	6,710.2	10,928.0	6,720.1	82.0	80.3	-90.92	3,946.6	725.4	615.0	455.5	159.58	3.854	
11,100.0	6,710.0	11,028.0	6,719.9	83.8	82.2	-90.92	4,046.6	725.4	615.0	451.7	163.33	3.766	
11,200.0	6,709.8	11,128.0	6,719.7	85.7	84.0	-90.92	4,146.6	725.4	615.0	448.0	167.08	3.681	
11,300.0	6,709.6	11,228.0	6,719.5	87.5	85.9	-90.92	4,246.6	725.4	615.0	444.2	170.83	3.600	
11,400.0	6,709.4	11,328.0	6,719.3	89.3	87.8	-90.92	4,346.6	725.4	615.0	440.4	174.59	3.523	
11,500.0	6,709.2	11,428.0	6,719.1	91.2	89.7	-90.92	4,446.6	725.4	615.0	436.7	178.36	3.448	
11,600.0	6,709.0	11,528.0	6,718.9	93.0	91.5	-90.92	4,546.6	725.4	615.0	432.9	182.12	3.377	
11,700.0	6,708.8	11,628.0	6,718.7	94.8	93.4	-90.92	4,646.6	725.4	615.0	429.1	185.89	3.309	
11,800.0	6,708.6	11,728.0	6,718.5	96.7	95.3	-90.92	4,746.6	725.4	615.0	425.4	189.67	3.243	
11,900.0	6,708.3	11,828.0	6,718.3	98.5	97.2	-90.92	4,846.6	725.4	615.0	421.6	193.44	3.179	
12,000.0	6,708.1	11,928.0	6,718.0	100.4	99.1	-90.92	4,946.6	725.4	615.0	417.8	197.22	3.119	
12,100.0	6,707.9	12,028.0	6,717.8	102.3	101.0	-90.92	5,046.6	725.4	615.0	414.0	201.00	3.060	
12,200.0	6,707.7	12,128.0	6,717.6	104.1	102.8	-90.92	5,146.6	725.4	615.0	410.3	204.78	3.003	
12,300.0	6,707.5	12,228.0	6,717.4	106.0	104.7	-90.92	5,246.6	725.4	615.0	406.5	208.57	2.949	
12,400.0	6,707.3	12,328.0	6,717.2	107.8	106.6	-90.92	5,346.6	725.4	615.0	402.7	212.35	2.896	
12,500.0	6,707.1	12,428.0	6,717.0	109.7	108.5	-90.92	5,446.6	725.4	615.0	398.9	216.14	2.846	
12,600.0	6,706.9	12,528.0	6,716.8	111.6	110.4	-90.92	5,546.6	725.4	615.0	395.1	219.93	2.796	
12,700.0	6,706.7	12,628.0	6,716.6	113.4	112.3	-90.92	5,646.6	725.4	615.0	391.3	223.72	2.749	
12,800.0	6,706.4	12,728.0	6,716.4	115.3	114.2	-90.92	5,746.6	725.4	615.0	387.5	227.52	2.703	
12,900.0	6,706.2	12,828.0	6,716.2	117.2	116.1	-90.92	5,846.6	725.4	615.0	383.7	231.31	2.659	
13,000.0	6,706.0	12,928.0	6,716.0	119.0	118.0	-90.93	5,946.6	725.4	615.0	379.9	235.11	2.616	
13,100.0	6,705.8	13,028.0	6,715.7	120.9	119.9	-90.93	6,046.6	725.4	615.0	376.1	238.91	2.574	
13,200.0	6,705.6	13,128.0	6,715.5	122.8	121.8	-90.93	6,146.6	725.4	615.0	372.3	242.71	2.534	
13,300.0	6,705.4	13,228.0	6,715.3	124.7	123.7	-90.93	6,246.6	725.4	615.0	368.5	246.51	2.495	
13,400.0	6,705.2	13,328.0	6,715.1	126.5	125.6	-90.93	6,346.6	725.4	615.0	364.7	250.31	2.457	
13,500.0	6,705.0	13,428.0	6,714.9	128.4	127.5	-90.93	6,446.6	725.4	615.0	360.9	254.11	2.420	
13,600.0	6,704.8	13,528.0	6,714.7	130.3	129.4	-90.93	6,546.6	725.4	615.0	357.1	257.92	2.385	
13,700.0	6,704.5	13,628.0	6,714.5	132.2	131.3	-90.93	6,646.6	725.4	615.0	353.3	261.72	2.350	

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design Klein 5N64W7 Pad Sec.7-T5N-R64W - Klein 7T-201 - Wellbore #1 - Plan #1 (10-14-15)												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	
13,800.0	6,704.3	13,728.0	6,714.3	134.1	133.2	-90.93	6,746.6	725.4	615.0	349.5	265.53	2.316	
13,900.0	6,704.1	13,828.0	6,714.1	136.0	135.1	-90.93	6,846.6	725.4	615.0	345.7	269.33	2.284	
14,000.0	6,703.9	13,928.0	6,713.9	137.8	137.0	-90.93	6,946.6	725.4	615.0	341.9	273.14	2.252	
14,100.0	6,703.7	14,028.0	6,713.6	139.7	138.9	-90.93	7,046.6	725.4	615.0	338.1	276.95	2.221	
14,200.0	6,703.5	14,128.0	6,713.4	141.6	140.8	-90.93	7,146.6	725.4	615.0	334.3	280.76	2.191	
14,300.0	6,703.3	14,228.0	6,713.2	143.5	142.7	-90.93	7,246.6	725.4	615.0	330.5	284.57	2.161	
14,400.0	6,703.1	14,328.0	6,713.0	145.4	144.6	-90.93	7,346.6	725.4	615.0	326.6	288.38	2.133	
14,500.0	6,702.8	14,428.0	6,712.8	147.3	146.5	-90.93	7,446.6	725.4	615.0	322.8	292.20	2.105	
14,600.0	6,702.6	14,528.0	6,712.6	149.2	148.4	-90.93	7,546.6	725.4	615.0	319.0	296.01	2.078	
14,700.0	6,702.4	14,628.0	6,712.4	151.1	150.3	-90.93	7,646.6	725.5	615.0	315.2	299.82	2.051	
14,800.0	6,702.2	14,728.0	6,712.2	152.9	152.2	-90.93	7,746.6	725.5	615.0	311.4	303.64	2.026	
14,900.0	6,702.0	14,828.0	6,712.0	154.8	154.1	-90.93	7,846.6	725.5	615.0	307.6	307.45	2.000	
15,000.0	6,701.8	14,928.0	6,711.8	156.7	156.0	-90.93	7,946.6	725.5	615.0	303.8	311.27	1.976	
15,100.0	6,701.6	15,028.0	6,711.6	158.6	157.9	-90.93	8,046.6	725.5	615.0	299.9	315.08	1.952	
15,200.0	6,701.4	15,128.0	6,711.3	160.5	159.8	-90.93	8,146.6	725.5	615.0	296.1	318.90	1.929	
15,300.0	6,701.2	15,228.0	6,711.1	162.4	161.7	-90.93	8,246.6	725.5	615.0	292.3	322.72	1.906	
15,400.0	6,700.9	15,328.0	6,710.9	164.3	163.6	-90.93	8,346.6	725.5	615.0	288.5	326.54	1.883	
15,500.0	6,700.7	15,428.0	6,710.7	166.2	165.5	-90.93	8,446.6	725.5	615.0	284.7	330.36	1.862	
15,600.0	6,700.5	15,528.0	6,710.5	168.1	167.4	-90.93	8,546.6	725.5	615.0	280.9	334.17	1.840	
15,700.0	6,700.3	15,628.0	6,710.3	170.0	169.3	-90.93	8,646.6	725.5	615.0	277.0	337.99	1.820	
15,800.0	6,700.1	15,728.0	6,710.1	171.9	171.3	-90.93	8,746.6	725.5	615.0	273.2	341.81	1.799	
15,900.0	6,699.9	15,828.0	6,709.9	173.8	173.2	-90.93	8,846.6	725.5	615.0	269.4	345.63	1.779	
16,000.0	6,699.7	15,928.0	6,709.7	175.7	175.1	-90.93	8,946.6	725.5	615.0	265.6	349.46	1.760	
16,100.0	6,699.5	16,028.0	6,709.5	177.6	177.0	-90.93	9,046.6	725.5	615.0	261.7	353.28	1.741	
16,200.0	6,699.3	16,128.0	6,709.2	179.5	178.9	-90.93	9,146.6	725.5	615.0	257.9	357.10	1.722	
16,300.0	6,699.0	16,228.0	6,709.0	181.4	180.8	-90.93	9,246.6	725.5	615.0	254.1	360.92	1.704	
16,400.0	6,698.8	16,328.0	6,708.8	183.3	182.7	-90.93	9,346.6	725.5	615.0	250.3	364.74	1.686	
16,500.0	6,698.6	16,428.0	6,708.6	185.2	184.6	-90.93	9,446.6	725.5	615.0	246.5	368.57	1.669	
16,600.0	6,698.4	16,528.0	6,708.4	187.1	186.5	-90.93	9,546.6	725.5	615.0	242.6	372.39	1.652	
16,700.0	6,698.2	16,628.0	6,708.2	189.0	188.4	-90.93	9,646.6	725.5	615.0	238.8	376.21	1.635	
16,794.5	6,698.0	16,722.6	6,708.0	190.8	190.2	-90.93	9,741.1	725.5	615.0	235.2	379.83	1.619 SF	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design Klein 5N64W7 Pad Sec.7-T5N-R64W - Klein 7Y-201 - Wellbore #1 - Plan #1 (10-14-15)												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	90.69	-0.4	30.1	30.1				
100.0	100.0	100.0	100.0	0.1	0.1	90.69	-0.4	30.1	30.1	29.9	0.22	133.824	
200.0	200.0	200.0	200.0	0.3	0.3	90.69	-0.4	30.1	30.1	29.4	0.67	44.608 CC, ES	
300.0	300.0	299.2	299.2	0.6	0.5	91.36	-0.7	31.3	31.3	30.2	1.11	28.270	
400.0	400.0	398.3	398.2	0.8	0.8	93.08	-1.9	35.0	35.1	33.5	1.54	22.719	
500.0	500.0	497.2	496.9	1.0	1.0	95.24	-3.8	41.1	41.4	39.4	2.00	20.736	
600.0	600.0	595.6	594.9	1.2	1.2	97.35	-6.4	49.6	50.3	47.8	2.47	20.392	
700.0	700.0	693.6	692.3	1.4	1.5	-13.98	-9.8	60.5	60.5	57.6	2.88	21.036	
800.0	799.9	791.4	789.1	1.6	1.8	-13.08	-13.8	73.7	70.8	67.5	3.31	21.408	
900.0	899.7	889.0	885.3	1.9	2.2	-12.58	-18.6	89.3	81.0	77.2	3.75	21.607	
1,000.0	999.3	986.3	980.8	2.1	2.6	-12.36	-24.2	107.1	91.2	87.0	4.21	21.688	
1,100.0	1,098.6	1,083.3	1,075.5	2.3	3.0	-12.32	-30.4	127.2	101.4	96.7	4.68	21.682	
1,200.0	1,197.5	1,180.1	1,169.4	2.6	3.5	-12.41	-37.3	149.6	111.5	106.4	5.16	21.606	
1,300.0	1,296.1	1,276.7	1,262.5	3.0	4.0	-12.61	-44.8	174.1	121.6	116.0	5.66	21.472	
1,400.0	1,394.2	1,373.0	1,354.7	3.3	4.5	-12.88	-53.1	200.8	131.7	125.5	6.18	21.298	
1,500.0	1,491.7	1,472.4	1,449.4	3.7	5.2	-13.29	-62.0	229.7	140.6	133.9	6.73	20.891	
1,565.3	1,555.0	1,537.5	1,511.4	4.0	5.6	-13.66	-67.8	248.6	145.1	138.0	7.10	20.432	
1,600.0	1,588.7	1,572.2	1,544.4	4.2	5.8	-13.88	-70.9	258.6	147.2	139.9	7.30	20.148	
1,700.0	1,685.5	1,672.0	1,639.5	4.7	6.4	-14.50	-79.9	287.6	153.2	145.3	7.90	19.387	
1,800.0	1,782.3	1,771.8	1,734.6	5.2	7.0	-15.06	-88.8	316.6	159.2	150.7	8.51	18.705	
1,900.0	1,879.1	1,871.6	1,829.7	5.7	7.7	-15.59	-97.8	345.5	165.3	156.1	9.14	18.092	
2,000.0	1,976.0	1,971.4	1,924.8	6.2	8.3	-16.08	-106.7	374.5	171.3	161.6	9.77	17.541	
2,100.0	2,072.8	2,071.2	2,019.9	6.7	9.0	-16.53	-115.7	403.5	177.4	167.0	10.41	17.042	
2,200.0	2,169.6	2,171.0	2,115.0	7.2	9.6	-16.95	-124.6	432.5	183.5	172.5	11.06	16.589	
2,300.0	2,266.4	2,270.8	2,210.0	7.7	10.2	-17.35	-133.6	461.4	189.6	177.9	11.72	16.178	
2,400.0	2,363.2	2,370.6	2,305.1	8.3	10.9	-17.72	-142.5	490.4	195.7	183.3	12.39	15.802	
2,500.0	2,460.1	2,470.4	2,400.2	8.8	11.5	-18.07	-151.5	519.4	201.8	188.8	13.06	15.458	
2,600.0	2,556.9	2,570.2	2,495.3	9.3	12.2	-18.40	-160.4	548.3	208.0	194.2	13.73	15.142	
2,700.0	2,653.7	2,670.1	2,590.4	9.9	12.8	-18.71	-169.3	577.3	214.1	199.7	14.42	14.850	
2,800.0	2,750.5	2,769.9	2,685.5	10.4	13.5	-19.00	-178.3	606.3	220.2	205.1	15.10	14.582	
2,900.0	2,847.4	2,869.7	2,780.6	10.9	14.1	-19.28	-187.2	635.2	226.4	210.6	15.79	14.333	
3,000.0	2,944.2	2,969.5	2,875.7	11.5	14.8	-19.54	-196.2	664.2	232.5	216.0	16.49	14.101	
3,100.0	3,041.0	3,069.3	2,970.8	12.0	15.4	-19.79	-205.1	693.2	238.7	221.5	17.19	13.886	
3,200.0	3,137.8	3,169.1	3,065.8	12.5	16.1	-20.03	-214.1	722.2	244.8	226.9	17.89	13.686	
3,300.0	3,234.7	3,268.9	3,160.9	13.1	16.7	-20.25	-223.0	751.1	251.0	232.4	18.59	13.499	
3,400.0	3,331.5	3,368.7	3,256.0	13.6	17.4	-20.47	-232.0	780.1	257.1	237.8	19.30	13.323	
3,500.0	3,428.3	3,468.5	3,351.1	14.1	18.0	-20.67	-240.9	809.1	263.3	243.3	20.01	13.158	
3,600.0	3,525.1	3,568.3	3,446.2	14.7	18.7	-20.87	-249.9	838.0	269.5	248.7	20.72	13.004	
3,700.0	3,622.0	3,668.1	3,541.3	15.2	19.3	-21.05	-258.8	867.0	275.6	254.2	21.44	12.858	
3,800.0	3,718.8	3,767.9	3,636.4	15.8	20.0	-21.23	-267.8	896.0	281.8	259.7	22.15	12.721	
3,900.0	3,815.6	3,867.7	3,731.5	16.3	20.6	-21.40	-276.7	924.9	288.0	265.1	22.87	12.591	
4,000.0	3,912.4	3,967.5	3,826.6	16.8	21.3	-21.56	-285.6	953.9	294.2	270.6	23.59	12.469	
4,100.0	4,009.3	4,067.3	3,921.6	17.4	21.9	-21.72	-294.6	982.9	300.4	276.0	24.32	12.352	
4,200.0	4,106.1	4,167.1	4,016.7	17.9	22.6	-21.87	-303.5	1,011.9	306.5	281.5	25.04	12.242	
4,300.0	4,202.9	4,266.9	4,111.8	18.5	23.2	-22.01	-312.5	1,040.8	312.7	287.0	25.76	12.138	
4,400.0	4,299.7	4,366.7	4,206.9	19.0	23.9	-22.15	-321.4	1,069.8	318.9	292.4	26.49	12.038	
4,500.0	4,396.6	4,466.6	4,302.0	19.5	24.5	-22.29	-330.4	1,098.8	325.1	297.9	27.22	11.944	
4,600.0	4,493.4	4,566.4	4,397.1	20.1	25.2	-22.41	-339.3	1,127.7	331.3	303.3	27.95	11.853	
4,700.0	4,590.2	4,666.2	4,492.2	20.6	25.8	-22.54	-348.3	1,156.7	337.5	308.8	28.68	11.767	
4,800.0	4,687.0	4,766.0	4,587.3	21.2	26.5	-22.66	-357.2	1,185.7	343.7	314.3	29.41	11.685	
4,900.0	4,783.8	4,865.8	4,682.4	21.7	27.1	-22.77	-366.2	1,214.6	349.9	319.7	30.14	11.607	

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design Klein 5N64W7 Pad Sec.7-T5N-R64W - Klein 7Y-201 - Wellbore #1 - Plan #1 (10-14-15)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.0	4,880.7	4,965.6	4,777.4	22.3	27.8	-22.88	-375.1	1,243.6	356.1	325.2	30.88	11.531	
5,100.0	4,977.5	5,065.4	4,872.5	22.8	28.4	-22.99	-384.1	1,272.6	362.3	330.7	31.61	11.459	
5,200.0	5,074.3	5,165.2	4,967.6	23.3	29.1	-23.09	-393.0	1,301.6	368.5	336.1	32.35	11.390	
5,300.0	5,171.1	5,265.0	5,062.7	23.9	29.7	-23.19	-401.9	1,330.5	374.7	341.6	33.09	11.324	
5,400.0	5,268.0	5,364.8	5,157.8	24.4	30.4	-23.29	-410.9	1,359.5	380.9	347.0	33.82	11.261	
5,500.0	5,364.8	5,464.6	5,252.9	25.0	31.0	-23.38	-419.8	1,388.5	387.1	352.5	34.56	11.200	
5,600.0	5,461.6	5,564.4	5,348.0	25.5	31.7	-23.47	-428.8	1,417.4	393.3	358.0	35.30	11.141	
5,700.0	5,558.4	5,664.2	5,443.1	26.1	32.3	-23.56	-437.7	1,446.4	399.5	363.4	36.04	11.085	
5,800.0	5,655.3	5,764.0	5,538.1	26.6	33.0	-23.65	-446.7	1,475.4	405.7	368.9	36.78	11.030	
5,900.0	5,752.1	5,863.8	5,633.2	27.1	33.6	-23.73	-455.6	1,504.3	411.9	374.4	37.52	10.978	
6,000.0	5,848.9	5,963.6	5,728.3	27.7	34.3	-23.81	-464.6	1,533.3	418.1	379.8	38.26	10.927	
6,055.5	5,902.6	6,019.0	5,781.1	28.0	34.6	-23.85	-469.5	1,549.4	421.5	382.9	38.67	10.900	
6,100.0	5,945.8	6,063.4	5,823.4	28.2	34.9	-11.01	-473.5	1,562.3	424.3	385.3	38.99	10.880	
6,150.0	5,994.5	6,113.1	5,870.8	28.4	35.3	4.98	-478.0	1,576.7	427.3	388.1	39.13	10.919	
6,200.0	6,043.0	6,162.5	5,917.8	28.6	35.6	20.49	-482.4	1,591.0	430.3	391.2	39.06	11.016	
6,250.0	6,091.3	6,211.7	5,964.7	28.7	35.9	33.75	-485.5	1,605.3	433.4	394.5	38.86	11.154	
6,300.0	6,139.0	6,261.5	6,012.4	28.9	36.1	44.23	-485.4	1,619.9	436.7	398.1	38.63	11.304	
6,350.0	6,186.1	6,311.9	6,060.5	29.0	36.4	52.38	-482.0	1,634.5	440.2	401.8	38.40	11.461	
6,400.0	6,232.2	6,363.0	6,108.9	29.1	36.6	58.76	-475.2	1,649.3	443.7	405.6	38.18	11.622	
6,450.0	6,277.3	6,414.7	6,157.4	29.2	36.8	63.86	-464.9	1,664.1	447.4	409.5	37.97	11.783	
6,500.0	6,321.0	6,467.2	6,205.7	29.3	37.0	68.01	-450.9	1,678.8	451.2	413.4	37.79	11.941	
6,550.0	6,363.3	6,520.3	6,253.7	29.3	37.1	71.45	-433.3	1,693.4	455.0	417.4	37.63	12.093	
6,600.0	6,403.9	6,574.2	6,301.0	29.4	37.3	74.36	-411.9	1,707.9	458.9	421.4	37.51	12.235	
6,650.0	6,442.7	6,628.8	6,347.3	29.4	37.5	76.85	-386.7	1,722.0	462.7	425.3	37.42	12.366	
6,700.0	6,479.4	6,684.2	6,392.4	29.4	37.6	79.00	-357.8	1,735.7	466.5	429.1	37.37	12.482	
6,750.0	6,514.0	6,740.2	6,435.9	29.4	37.7	80.87	-325.0	1,749.0	470.2	432.8	37.37	12.582	
6,800.0	6,546.3	6,797.0	6,477.5	29.5	37.8	82.50	-288.5	1,761.7	473.7	436.3	37.41	12.662	
6,850.0	6,576.2	6,854.5	6,516.9	29.5	37.9	83.93	-248.4	1,773.7	477.1	439.6	37.51	12.721	
6,900.0	6,603.5	6,912.7	6,553.6	29.5	37.9	85.18	-204.7	1,785.0	480.3	442.7	37.66	12.756	
6,950.0	6,628.0	6,971.5	6,587.4	29.5	38.0	86.26	-157.8	1,795.3	483.3	445.4	37.86	12.766	
7,000.0	6,649.8	7,030.8	6,618.0	29.4	38.1	87.19	-107.8	1,804.7	486.0	447.9	38.12	12.749	
7,050.0	6,668.7	7,090.8	6,645.0	29.4	38.1	87.98	-54.9	1,812.9	488.4	449.9	38.44	12.704	
7,100.0	6,684.6	7,151.2	6,668.1	29.5	38.1	88.63	0.4	1,820.0	490.4	451.6	38.83	12.631	
7,150.0	6,697.5	7,212.0	6,687.0	29.5	38.2	89.15	57.9	1,825.8	492.1	452.8	39.29	12.525	
7,200.0	6,707.3	7,273.1	6,701.6	29.5	38.2	89.55	117.1	1,830.3	493.4	453.6	39.82	12.391	
7,250.0	6,714.0	7,334.5	6,711.7	29.5	38.2	89.82	177.6	1,833.4	494.4	453.9	40.41	12.232	
7,300.0	6,717.4	7,396.1	6,717.0	29.6	38.3	89.97	238.9	1,835.1	494.9	453.8	41.08	12.045	
7,331.5	6,718.0	7,434.9	6,718.0	29.6	38.3	90.00	277.6	1,835.4	495.0	453.4	41.54	11.916	
7,400.0	6,717.9	7,503.8	6,717.9	29.7	38.4	90.00	346.5	1,835.4	495.0	452.4	42.57	11.628	
7,500.0	6,717.6	7,603.8	6,717.6	30.0	38.5	90.00	446.5	1,835.4	495.0	450.8	44.23	11.192	
7,600.0	6,717.4	7,703.8	6,717.4	30.4	38.8	90.00	546.5	1,835.4	495.0	448.8	46.14	10.727	
7,700.0	6,717.2	7,803.8	6,717.2	30.9	39.1	90.00	646.5	1,835.4	495.0	446.7	48.29	10.250	
7,800.0	6,717.0	7,903.8	6,717.0	31.6	39.5	90.00	746.5	1,835.4	495.0	444.3	50.64	9.774	
7,900.0	6,716.8	8,003.8	6,716.8	32.4	40.0	90.00	846.5	1,835.4	495.0	441.8	53.16	9.311	
8,000.0	6,716.6	8,103.8	6,716.6	33.4	40.6	90.00	946.5	1,835.4	495.0	439.1	55.83	8.865	
8,100.0	6,716.4	8,203.8	6,716.4	34.5	41.4	90.00	1,046.5	1,835.4	495.0	436.3	58.64	8.441	
8,200.0	6,716.2	8,303.8	6,716.2	35.6	42.2	90.00	1,146.5	1,835.4	495.0	433.4	61.55	8.042	
8,300.0	6,716.0	8,403.8	6,716.0	36.9	43.1	90.00	1,246.5	1,835.4	495.0	430.4	64.56	7.667	
8,400.0	6,715.7	8,503.8	6,715.7	38.2	44.0	90.00	1,346.5	1,835.4	495.0	427.3	67.66	7.316	
8,500.0	6,715.5	8,603.8	6,715.5	39.6	45.1	90.00	1,446.5	1,835.4	495.0	424.1	70.83	6.989	
8,600.0	6,715.3	8,703.8	6,715.3	41.0	46.3	90.00	1,546.5	1,835.4	495.0	420.9	74.06	6.684	

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design Klein 5N64W7 Pad Sec.7-T5N-R64W - Klein 7Y-201 - Wellbore #1 - Plan #1 (10-14-15)												Offset Site Error: 0.0 ft	
Survey Program: 0-MWD												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
8,700.0	6,715.1	8,803.8	6,715.1	42.5	47.5	90.00	1,646.5	1,835.4	495.0	417.6	77.35	6.399	
8,800.0	6,714.9	8,903.8	6,714.9	44.0	48.7	90.00	1,746.5	1,835.4	495.0	414.3	80.68	6.135	
8,900.0	6,714.7	9,003.8	6,714.7	45.6	50.1	90.00	1,846.5	1,835.4	495.0	410.9	84.06	5.888	
9,000.0	6,714.5	9,103.8	6,714.5	47.2	51.4	90.00	1,946.5	1,835.4	495.0	407.5	87.48	5.658	
9,100.0	6,714.3	9,203.8	6,714.3	48.8	52.9	90.00	2,046.5	1,835.4	495.0	404.0	90.93	5.443	
9,200.0	6,714.1	9,303.8	6,714.1	50.4	54.3	90.00	2,146.5	1,835.4	495.0	400.6	94.41	5.243	
9,300.0	6,713.8	9,403.8	6,713.8	52.1	55.8	90.00	2,246.5	1,835.4	495.0	397.1	97.92	5.055	
9,400.0	6,713.6	9,503.8	6,713.6	53.7	57.3	90.00	2,346.5	1,835.4	495.0	393.5	101.45	4.879	
9,500.0	6,713.4	9,603.8	6,713.4	55.4	58.9	90.00	2,446.5	1,835.4	495.0	390.0	105.01	4.714	
9,600.0	6,713.2	9,703.8	6,713.2	57.1	60.5	90.00	2,546.5	1,835.4	495.0	386.4	108.58	4.559	
9,700.0	6,713.0	9,803.8	6,713.0	58.9	62.1	90.00	2,646.5	1,835.4	495.0	382.8	112.17	4.413	
9,800.0	6,712.8	9,903.8	6,712.8	60.6	63.7	90.00	2,746.5	1,835.4	495.0	379.2	115.78	4.275	
9,900.0	6,712.6	10,003.8	6,712.6	62.3	65.3	90.00	2,846.5	1,835.4	495.0	375.6	119.40	4.145	
10,000.0	6,712.4	10,103.8	6,712.4	64.1	67.0	90.00	2,946.5	1,835.4	495.0	371.9	123.04	4.023	
10,100.0	6,712.1	10,203.8	6,712.2	65.8	68.6	90.00	3,046.5	1,835.4	495.0	368.3	126.69	3.907	
10,200.0	6,711.9	10,303.8	6,711.9	67.6	70.3	90.00	3,146.5	1,835.4	495.0	364.6	130.34	3.797	
10,300.0	6,711.7	10,403.8	6,711.7	69.4	72.0	90.00	3,246.5	1,835.4	495.0	361.0	134.01	3.693	
10,400.0	6,711.5	10,503.8	6,711.5	71.2	73.7	90.00	3,346.5	1,835.4	495.0	357.3	137.69	3.595	
10,500.0	6,711.3	10,603.8	6,711.3	73.0	75.4	90.00	3,446.5	1,835.4	495.0	353.6	141.38	3.501	
10,600.0	6,711.1	10,703.8	6,711.1	74.8	77.2	90.00	3,546.5	1,835.4	495.0	349.9	145.07	3.412	
10,700.0	6,710.9	10,803.8	6,710.9	76.6	78.9	90.00	3,646.5	1,835.4	495.0	346.2	148.77	3.327	
10,800.0	6,710.7	10,903.8	6,710.7	78.4	80.7	90.00	3,746.5	1,835.4	495.0	342.5	152.48	3.246	
10,900.0	6,710.5	11,003.8	6,710.5	80.2	82.4	90.00	3,846.5	1,835.4	495.0	338.8	156.20	3.169	
11,000.0	6,710.2	11,103.8	6,710.2	82.0	84.2	90.00	3,946.5	1,835.4	495.0	335.1	159.92	3.095	
11,100.0	6,710.0	11,203.8	6,710.0	83.8	86.0	90.00	4,046.5	1,835.4	495.0	331.3	163.65	3.025	
11,200.0	6,709.8	11,303.8	6,709.8	85.7	87.7	90.00	4,146.5	1,835.4	495.0	327.6	167.38	2.957	
11,300.0	6,709.6	11,403.8	6,709.6	87.5	89.5	90.00	4,246.5	1,835.4	495.0	323.9	171.12	2.893	
11,400.0	6,709.4	11,503.8	6,709.4	89.3	91.3	90.00	4,346.5	1,835.4	495.0	320.1	174.86	2.831	
11,500.0	6,709.2	11,603.8	6,709.2	91.2	93.1	90.00	4,446.5	1,835.4	495.0	316.4	178.60	2.771	
11,600.0	6,709.0	11,703.8	6,709.0	93.0	94.9	90.00	4,546.5	1,835.4	495.0	312.6	182.35	2.714	
11,700.0	6,708.8	11,803.8	6,708.8	94.8	96.7	90.00	4,646.5	1,835.4	495.0	308.9	186.11	2.660	
11,800.0	6,708.6	11,903.8	6,708.6	96.7	98.5	90.00	4,746.5	1,835.4	495.0	305.1	189.86	2.607	
11,900.0	6,708.3	12,003.8	6,708.3	98.5	100.3	90.00	4,846.5	1,835.4	495.0	301.3	193.62	2.556	
12,000.0	6,708.1	12,103.8	6,708.1	100.4	102.1	90.00	4,946.5	1,835.4	495.0	297.6	197.39	2.508	
12,100.0	6,707.9	12,203.8	6,707.9	102.3	104.0	90.00	5,046.5	1,835.4	495.0	293.8	201.15	2.461	
12,200.0	6,707.7	12,303.8	6,707.7	104.1	105.8	90.00	5,146.5	1,835.4	495.0	290.0	204.92	2.415	
12,300.0	6,707.5	12,403.8	6,707.5	106.0	107.6	90.00	5,246.5	1,835.4	495.0	286.3	208.69	2.372	
12,400.0	6,707.3	12,503.8	6,707.3	107.8	109.4	90.00	5,346.5	1,835.4	495.0	282.5	212.47	2.330	
12,500.0	6,707.1	12,603.8	6,707.1	109.7	111.3	90.00	5,446.5	1,835.4	495.0	278.7	216.25	2.289	
12,600.0	6,706.9	12,703.8	6,706.9	111.6	113.1	90.00	5,546.5	1,835.4	495.0	274.9	220.02	2.250	
12,700.0	6,706.7	12,803.8	6,706.7	113.4	115.0	90.00	5,646.5	1,835.4	495.0	271.2	223.80	2.212	
12,800.0	6,706.4	12,903.8	6,706.4	115.3	116.8	90.00	5,746.5	1,835.4	495.0	267.4	227.59	2.175	
12,900.0	6,706.2	13,003.8	6,706.2	117.2	118.6	90.00	5,846.5	1,835.4	495.0	263.6	231.37	2.139	
13,000.0	6,706.0	13,103.8	6,706.0	119.0	120.5	90.00	5,946.5	1,835.4	495.0	259.8	235.16	2.105	
13,100.0	6,705.8	13,203.8	6,705.8	120.9	122.3	90.00	6,046.5	1,835.4	495.0	256.0	238.95	2.071	
13,200.0	6,705.6	13,303.8	6,705.6	122.8	124.2	90.00	6,146.5	1,835.4	495.0	252.2	242.74	2.039	
13,300.0	6,705.4	13,403.8	6,705.4	124.7	126.0	90.00	6,246.5	1,835.4	495.0	248.4	246.53	2.008	
13,400.0	6,705.2	13,503.8	6,705.2	126.5	127.9	90.00	6,346.5	1,835.4	495.0	244.6	250.32	1.977	
13,500.0	6,705.0	13,603.8	6,705.0	128.4	129.8	90.00	6,446.5	1,835.4	495.0	240.9	254.12	1.948	
13,600.0	6,704.8	13,703.8	6,704.8	130.3	131.6	90.00	6,546.5	1,835.4	495.0	237.1	257.91	1.919	
13,700.0	6,704.5	13,803.8	6,704.5	132.2	133.5	90.00	6,646.5	1,835.4	495.0	233.3	261.71	1.891	

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design Klein 5N64W7 Pad Sec.7-T5N-R64W - Klein 7Y-201 - Wellbore #1 - Plan #1 (10-14-15)												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)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
13,800.0	6,704.3	13,903.8	6,704.3	134.1	135.3	90.00	6,746.5	1,835.4	495.0	229.5	265.51	1.864	
13,900.0	6,704.1	14,003.8	6,704.1	136.0	137.2	90.00	6,846.5	1,835.4	495.0	225.7	269.31	1.838	
14,000.0	6,703.9	14,103.8	6,703.9	137.8	139.1	90.00	6,946.5	1,835.4	495.0	221.9	273.11	1.812	
14,100.0	6,703.7	14,203.8	6,703.7	139.7	140.9	90.00	7,046.5	1,835.4	495.0	218.1	276.91	1.787	
14,200.0	6,703.5	14,303.8	6,703.5	141.6	142.8	90.00	7,146.5	1,835.4	495.0	214.3	280.71	1.763	
14,300.0	6,703.3	14,403.8	6,703.3	143.5	144.7	90.00	7,246.5	1,835.4	495.0	210.5	284.52	1.740	
14,400.0	6,703.1	14,503.8	6,703.1	145.4	146.6	90.00	7,346.5	1,835.4	495.0	206.6	288.32	1.717	
14,500.0	6,702.8	14,603.8	6,702.8	147.3	148.4	90.00	7,446.5	1,835.4	495.0	202.8	292.13	1.694	
14,600.0	6,702.6	14,703.8	6,702.6	149.2	150.3	90.00	7,546.5	1,835.4	495.0	199.0	295.94	1.673	
14,700.0	6,702.4	14,803.8	6,702.4	151.1	152.2	90.00	7,646.5	1,835.4	495.0	195.2	299.74	1.651	
14,800.0	6,702.2	14,903.8	6,702.2	152.9	154.1	90.00	7,746.5	1,835.4	495.0	191.4	303.55	1.631	
14,900.0	6,702.0	15,003.8	6,702.0	154.8	155.9	90.00	7,846.5	1,835.4	495.0	187.6	307.36	1.610	
15,000.0	6,701.8	15,103.8	6,701.8	156.7	157.8	90.00	7,946.5	1,835.4	495.0	183.8	311.17	1.591	
15,100.0	6,701.6	15,203.8	6,701.6	158.6	159.7	90.00	8,046.5	1,835.4	495.0	180.0	314.98	1.571	
15,200.0	6,701.4	15,303.8	6,701.4	160.5	161.6	90.00	8,146.5	1,835.4	495.0	176.2	318.80	1.553	
15,300.0	6,701.2	15,403.8	6,701.2	162.4	163.4	90.00	8,246.5	1,835.4	495.0	172.4	322.61	1.534	
15,400.0	6,700.9	15,503.8	6,700.9	164.3	165.3	90.00	8,346.5	1,835.4	495.0	168.5	326.42	1.516	
15,500.0	6,700.7	15,603.8	6,700.7	166.2	167.2	90.00	8,446.5	1,835.4	495.0	164.7	330.23	1.499 Level 3	
15,600.0	6,700.5	15,703.8	6,700.5	168.1	169.1	90.00	8,546.5	1,835.4	495.0	160.9	334.05	1.482 Level 3	
15,700.0	6,700.3	15,803.8	6,700.3	170.0	171.0	90.00	8,646.5	1,835.4	495.0	157.1	337.86	1.465 Level 3	
15,800.0	6,700.1	15,903.8	6,700.1	171.9	172.9	90.00	8,746.5	1,835.4	495.0	153.3	341.68	1.449 Level 3	
15,900.0	6,699.9	16,003.8	6,699.9	173.8	174.7	90.00	8,846.5	1,835.4	495.0	149.5	345.50	1.433 Level 3	
16,000.0	6,699.7	16,103.8	6,699.7	175.7	176.6	90.00	8,946.5	1,835.4	495.0	145.7	349.31	1.417 Level 3	
16,100.0	6,699.5	16,203.8	6,699.5	177.6	178.5	90.00	9,046.5	1,835.4	495.0	141.8	353.13	1.402 Level 3	
16,200.0	6,699.3	16,303.8	6,699.3	179.5	180.4	90.00	9,146.5	1,835.4	495.0	138.0	356.95	1.387 Level 3	
16,300.0	6,699.0	16,403.8	6,699.0	181.4	182.3	90.00	9,246.5	1,835.4	495.0	134.2	360.77	1.372 Level 3	
16,400.0	6,698.8	16,503.8	6,698.8	183.3	184.2	90.00	9,346.5	1,835.4	495.0	130.4	364.58	1.358 Level 3	
16,500.0	6,698.6	16,603.8	6,698.6	185.2	186.1	90.00	9,446.5	1,835.4	495.0	126.6	368.40	1.344 Level 3	
16,600.0	6,698.4	16,703.8	6,698.4	187.1	188.0	90.00	9,546.5	1,835.4	495.0	122.7	372.22	1.330 Level 3	
16,700.0	6,698.2	16,803.8	6,698.2	189.0	189.9	90.00	9,646.5	1,835.4	495.0	118.9	376.04	1.316 Level 3	
16,767.7	6,698.1	16,871.5	6,698.1	190.3	191.1	90.00	9,714.3	1,835.4	495.0	116.3	378.63	1.307 Level 3	
16,794.5	6,698.0	16,897.3	6,698.0	190.8	191.6	90.00	9,740.0	1,835.4	495.0	115.3	379.63	1.304 Level 3, SF	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design Klein 5N64W7 Pad Sec.7-T5N-R64W - Klein 7Y-341 - Wellbore #1 - Plan #1 (10-14-15)													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	91.36	-0.4	15.0	15.0	15.0	0.00	N/A		
100.0	100.0	100.0	100.0	0.1	0.1	91.36	-0.4	15.0	15.0	14.8	0.22	66.926		
200.0	200.0	200.0	200.0	0.3	0.3	91.36	-0.4	15.0	15.0	14.4	0.67	22.309		
300.0	300.0	300.0	300.0	0.6	0.6	91.36	-0.4	15.0	15.0	13.9	1.12	13.385		
400.0	400.0	400.0	400.0	0.8	0.8	91.36	-0.4	15.0	15.0	13.5	1.57	9.561 CC		
500.0	500.0	499.6	499.6	1.0	1.0	92.79	-0.8	16.3	16.3	14.3	2.01	8.121		
600.0	600.0	599.1	599.0	1.2	1.2	96.02	-2.1	19.9	20.1	17.6	2.43	8.245		
700.0	700.0	698.4	698.1	1.4	1.4	-14.23	-4.3	26.0	25.2	22.3	2.85	8.836		
800.0	799.9	797.5	796.8	1.6	1.7	-12.76	-7.3	34.5	30.3	27.0	3.26	9.297		
900.0	899.7	896.5	895.1	1.9	1.9	-11.95	-11.2	45.4	35.5	31.8	3.69	9.621		
1,000.0	999.3	995.4	993.0	2.1	2.2	-11.55	-15.9	58.7	40.6	36.5	4.12	9.848		
1,100.0	1,098.6	1,094.2	1,090.4	2.3	2.6	-11.42	-21.5	74.3	45.8	41.2	4.58	10.003		
1,200.0	1,197.5	1,192.8	1,187.2	2.6	2.9	-11.48	-28.0	92.2	50.9	45.9	5.04	10.101		
1,300.0	1,296.1	1,291.3	1,283.3	3.0	3.4	-11.68	-35.2	112.5	56.1	50.5	5.52	10.151		
1,400.0	1,394.2	1,389.7	1,378.7	3.3	3.8	-11.98	-43.3	135.1	61.2	55.2	6.02	10.162		
1,500.0	1,491.7	1,488.5	1,473.9	3.7	4.3	-12.38	-52.2	160.0	66.2	59.6	6.54	10.114		
1,565.3	1,555.0	1,553.8	1,536.7	4.0	4.7	-12.82	-58.2	176.7	68.4	61.5	6.89	9.923		
1,600.0	1,588.7	1,588.5	1,570.1	4.2	4.9	-13.10	-61.3	185.6	69.3	62.2	7.09	9.772		
1,700.0	1,685.5	1,688.4	1,666.2	4.7	5.4	-13.87	-70.5	211.3	71.9	64.2	7.67	9.373		
1,800.0	1,782.3	1,788.4	1,762.4	5.2	6.0	-14.59	-79.7	236.9	74.5	66.2	8.26	9.014		
1,900.0	1,879.1	1,888.4	1,858.6	5.7	6.5	-15.27	-88.9	262.6	77.1	68.2	8.87	8.692		
2,000.0	1,976.0	1,988.3	1,954.8	6.2	7.1	-15.89	-98.0	288.3	79.7	70.2	9.49	8.400		
2,100.0	2,072.8	2,088.3	2,050.9	6.7	7.7	-16.48	-107.2	313.9	82.3	72.2	10.12	8.136		
2,200.0	2,169.6	2,188.2	2,147.1	7.2	8.3	-17.03	-116.4	339.6	85.0	74.2	10.76	7.896		
2,300.0	2,266.4	2,288.2	2,243.3	7.7	8.8	-17.55	-125.5	365.2	87.6	76.2	11.41	7.677		
2,400.0	2,363.2	2,388.2	2,339.5	8.3	9.4	-18.03	-134.7	390.9	90.3	78.2	12.07	7.477		
2,500.0	2,460.1	2,488.1	2,435.6	8.8	10.0	-18.49	-143.9	416.6	92.9	80.2	12.74	7.294		
2,600.0	2,556.9	2,588.1	2,531.8	9.3	10.6	-18.93	-153.1	442.2	95.6	82.2	13.42	7.126		
2,700.0	2,653.7	2,688.1	2,628.0	9.9	11.2	-19.34	-162.2	467.9	98.3	84.2	14.10	6.971		
2,800.0	2,750.5	2,788.0	2,724.2	10.4	11.7	-19.73	-171.4	493.5	101.0	86.2	14.79	6.828		
2,900.0	2,847.4	2,888.0	2,820.3	10.9	12.3	-20.09	-180.6	519.2	103.6	88.2	15.48	6.695		
3,000.0	2,944.2	2,987.9	2,916.5	11.5	12.9	-20.44	-189.8	544.8	106.3	90.1	16.18	6.572		
3,100.0	3,041.0	3,087.9	3,012.7	12.0	13.5	-20.78	-198.9	570.5	109.0	92.1	16.88	6.458		
3,200.0	3,137.8	3,187.9	3,108.9	12.5	14.1	-21.09	-208.1	596.2	111.7	94.1	17.59	6.351		
3,300.0	3,234.7	3,287.8	3,205.1	13.1	14.6	-21.39	-217.3	621.8	114.4	96.1	18.30	6.252		
3,400.0	3,331.5	3,387.8	3,301.2	13.6	15.2	-21.68	-226.5	647.5	117.1	98.1	19.01	6.159		
3,500.0	3,428.3	3,487.8	3,397.4	14.1	15.8	-21.96	-235.6	673.1	119.8	100.1	19.73	6.071		
3,600.0	3,525.1	3,587.7	3,493.6	14.7	16.4	-22.22	-244.8	698.8	122.5	102.1	20.46	5.989		
3,700.0	3,622.0	3,687.7	3,589.8	15.2	17.0	-22.47	-254.0	724.5	125.2	104.0	21.18	5.912		
3,800.0	3,718.8	3,787.6	3,685.9	15.8	17.6	-22.71	-263.1	750.1	127.9	106.0	21.91	5.839		
3,900.0	3,815.6	3,887.6	3,782.1	16.3	18.2	-22.94	-272.3	775.8	130.6	108.0	22.64	5.770		
4,000.0	3,912.4	3,987.6	3,878.3	16.8	18.7	-23.16	-281.5	801.4	133.3	110.0	23.37	5.705		
4,100.0	4,009.3	4,087.5	3,974.5	17.4	19.3	-23.37	-290.7	827.1	136.1	112.0	24.11	5.644		
4,200.0	4,106.1	4,187.5	4,070.6	17.9	19.9	-23.58	-299.8	852.8	138.8	113.9	24.85	5.586		
4,300.0	4,202.9	4,287.4	4,166.8	18.5	20.5	-23.78	-309.0	878.4	141.5	115.9	25.59	5.530		
4,400.0	4,299.7	4,387.4	4,263.0	19.0	21.1	-23.96	-318.2	904.1	144.2	117.9	26.33	5.478		
4,500.0	4,396.6	4,487.4	4,359.2	19.5	21.7	-24.15	-327.4	929.7	146.9	119.9	27.07	5.428		
4,600.0	4,493.4	4,587.3	4,455.3	20.1	22.3	-24.32	-336.5	955.4	149.7	121.8	27.82	5.380		
4,700.0	4,590.2	4,687.3	4,551.5	20.6	22.9	-24.49	-345.7	981.1	152.4	123.8	28.56	5.335		
4,800.0	4,687.0	4,787.3	4,647.7	21.2	23.4	-24.65	-354.9	1,006.7	155.1	125.8	29.31	5.292		
4,900.0	4,783.8	4,887.2	4,743.9	21.7	24.0	-24.81	-364.0	1,032.4	157.8	127.8	30.06	5.251		

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design Klein 5N64W7 Pad Sec.7-T5N-R64W - Klein 7Y-341 - Wellbore #1 - Plan #1 (10-14-15)													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)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,000.0	4,880.7	4,987.2	4,840.0	22.3	24.6	-24.96	-373.2	1,058.0	160.6	129.8	30.81	5.211		
5,100.0	4,977.5	5,087.1	4,936.2	22.8	25.2	-25.11	-382.4	1,083.7	163.3	131.7	31.57	5.173		
5,200.0	5,074.3	5,187.1	5,032.4	23.3	25.8	-25.25	-391.6	1,109.3	166.0	133.7	32.32	5.137		
5,300.0	5,171.1	5,287.1	5,128.6	23.9	26.4	-25.39	-400.7	1,135.0	168.8	135.7	33.08	5.102		
5,400.0	5,268.0	5,387.0	5,224.8	24.4	27.0	-25.52	-409.9	1,160.7	171.5	137.7	33.83	5.069		
5,500.0	5,364.8	5,487.0	5,320.9	25.0	27.6	-25.65	-419.1	1,186.3	174.2	139.6	34.59	5.037		
5,600.0	5,461.6	5,587.0	5,417.1	25.5	28.1	-25.78	-428.3	1,212.0	177.0	141.6	35.35	5.006		
5,700.0	5,558.4	5,686.9	5,513.3	26.1	28.7	-25.90	-437.4	1,237.6	179.7	143.6	36.11	4.977		
5,800.0	5,655.3	5,786.9	5,609.5	26.6	29.3	-26.01	-446.6	1,263.3	182.4	145.6	36.87	4.948		
5,900.0	5,752.1	5,886.8	5,705.6	27.1	29.9	-26.13	-455.8	1,289.0	185.2	147.5	37.63	4.921		
6,000.0	5,848.9	5,986.8	5,801.8	27.7	30.5	-26.24	-464.9	1,314.6	187.9	149.5	38.39	4.894		
6,055.5	5,902.6	6,042.2	5,855.1	28.0	30.8	-26.30	-470.0	1,328.9	189.4	150.6	38.81	4.880		
6,100.0	5,945.8	6,086.7	5,898.0	28.2	31.1	-13.14	-474.1	1,340.3	190.5	151.6	39.00	4.886		
6,150.0	5,994.5	6,136.5	5,945.9	28.4	31.4	3.72	-478.7	1,353.1	191.7	152.9	38.77	4.944		
6,200.0	6,043.0	6,185.9	5,993.4	28.6	31.7	20.60	-483.2	1,365.7	192.8	154.7	38.15	5.054		
6,250.0	6,091.3	6,235.3	6,041.1	28.7	31.9	35.32	-485.7	1,378.5	194.3	156.9	37.43	5.192		
6,300.0	6,139.0	6,285.3	6,089.4	28.9	32.1	47.23	-485.0	1,391.3	196.2	159.4	36.77	5.336		
6,350.0	6,186.1	6,335.9	6,138.1	29.0	32.3	56.78	-481.0	1,404.3	198.4	162.2	36.20	5.481		
6,400.0	6,232.2	6,387.1	6,187.0	29.1	32.5	64.51	-473.5	1,417.4	201.0	165.2	35.73	5.624		
6,450.0	6,277.3	6,438.9	6,235.9	29.2	32.7	70.88	-462.6	1,430.5	203.8	168.4	35.36	5.763		
6,500.0	6,321.0	6,491.4	6,284.6	29.3	32.8	76.25	-448.0	1,443.5	206.9	171.8	35.09	5.897		
6,550.0	6,363.3	6,544.5	6,332.8	29.3	33.0	80.84	-429.7	1,456.3	210.2	175.4	34.88	6.027		
6,600.0	6,403.9	6,598.3	6,380.2	29.4	33.1	84.82	-407.7	1,469.0	213.7	179.0	34.74	6.153		
6,650.0	6,442.7	6,652.7	6,426.5	29.4	33.2	88.29	-382.0	1,481.4	217.3	182.7	34.62	6.276		
6,700.0	6,479.4	6,707.8	6,471.5	29.4	33.3	91.34	-352.6	1,493.4	221.0	186.4	34.53	6.398		
6,750.0	6,514.0	6,763.6	6,514.8	29.4	33.3	94.03	-319.5	1,505.0	224.6	190.1	34.45	6.520		
6,800.0	6,546.3	6,820.0	6,556.2	29.5	33.4	96.40	-282.8	1,516.0	228.2	193.8	34.36	6.640		
6,850.0	6,576.2	6,877.0	6,595.2	29.5	33.4	98.49	-242.5	1,526.5	231.7	197.4	34.28	6.759		
6,900.0	6,603.5	6,934.6	6,631.5	29.5	33.5	100.32	-198.9	1,536.2	235.0	200.8	34.19	6.872		
6,950.0	6,628.0	6,992.8	6,664.9	29.5	33.5	101.91	-152.1	1,545.1	238.1	204.0	34.12	6.978		
7,000.0	6,649.8	7,051.5	6,695.0	29.4	33.5	103.28	-102.4	1,553.2	240.9	206.9	34.07	7.072		
7,050.0	6,668.7	7,110.6	6,721.5	29.4	33.6	104.43	-50.0	1,560.3	243.5	209.4	34.07	7.147		
7,100.0	6,684.6	7,170.2	6,744.2	29.5	33.6	105.39	4.7	1,566.4	245.7	211.5	34.13	7.199		
7,150.0	6,697.5	7,230.1	6,762.7	29.5	33.6	106.16	61.5	1,571.3	247.5	213.2	34.26	7.224		
7,200.0	6,707.3	7,290.4	6,777.0	29.5	33.6	106.74	119.8	1,575.2	248.9	214.4	34.49	7.218		
7,250.0	6,714.0	7,350.8	6,786.8	29.5	33.7	107.14	179.4	1,577.8	249.9	215.1	34.82	7.179		
7,300.0	6,717.4	7,411.4	6,792.1	29.6	33.7	107.36	239.7	1,579.3	250.5	215.2	35.27	7.102		
7,331.5	6,718.0	7,449.5	6,793.0	29.6	33.7	107.41	277.8	1,579.5	250.6	215.0	35.62	7.037		
7,400.0	6,717.9	7,518.4	6,792.9	29.7	33.8	107.41	346.7	1,579.5	250.6	214.0	36.58	6.851		
7,500.0	6,717.6	7,618.4	6,792.6	30.0	34.0	107.41	446.7	1,579.5	250.6	212.5	38.17	6.567		
7,600.0	6,717.4	7,718.4	6,792.4	30.4	34.3	107.41	546.7	1,579.5	250.6	210.6	40.03	6.261		
7,700.0	6,717.2	7,818.4	6,792.2	30.9	34.7	107.41	646.7	1,579.5	250.6	208.5	42.13	5.949		
7,800.0	6,717.0	7,918.4	6,792.0	31.6	35.3	107.41	746.7	1,579.5	250.6	206.2	44.44	5.639		
7,900.0	6,716.8	8,018.4	6,791.8	32.4	35.9	107.41	846.7	1,579.5	250.6	203.7	46.93	5.340		
8,000.0	6,716.6	8,118.4	6,791.6	33.4	36.7	107.41	946.7	1,579.5	250.6	201.1	49.57	5.056		
8,100.0	6,716.4	8,218.4	6,791.4	34.5	37.6	107.41	1,046.7	1,579.5	250.6	198.3	52.34	4.789		
8,200.0	6,716.2	8,318.4	6,791.2	35.6	38.6	107.41	1,146.7	1,579.5	250.6	195.4	55.21	4.539		
8,300.0	6,716.0	8,418.4	6,791.0	36.9	39.7	107.41	1,246.7	1,579.5	250.6	192.4	58.18	4.308		
8,400.0	6,715.7	8,518.4	6,790.7	38.2	40.8	107.41	1,346.7	1,579.5	250.6	189.4	61.22	4.094		
8,500.0	6,715.5	8,618.4	6,790.5	39.6	42.1	107.41	1,446.7	1,579.5	250.6	186.3	64.33	3.896		
8,600.0	6,715.3	8,718.4	6,790.3	41.0	43.4	107.41	1,546.7	1,579.5	250.6	183.1	67.50	3.713		

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design		Klein 5N64W7 Pad Sec.7-T5N-R64W - Klein 7Y-341 - Wellbore #1 - Plan #1 (10-14-15)											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)				
8,700.0	6,715.1	8,818.4	6,790.1	42.5	44.7	107.41	1,646.7	1,579.5	250.6	179.9	70.73	3.544			
8,800.0	6,714.9	8,918.4	6,789.9	44.0	46.1	107.41	1,746.7	1,579.5	250.6	176.6	73.99	3.387			
8,900.0	6,714.7	9,018.4	6,789.7	45.6	47.6	107.41	1,846.7	1,579.5	250.6	173.3	77.29	3.242			
9,000.0	6,714.5	9,118.4	6,789.5	47.2	49.1	107.41	1,946.7	1,579.5	250.6	170.0	80.63	3.108			
9,100.0	6,714.3	9,218.4	6,789.3	48.8	50.6	107.41	2,046.7	1,579.5	250.6	166.6	84.00	2.984			
9,200.0	6,714.1	9,318.4	6,789.1	50.4	52.2	107.41	2,146.7	1,579.5	250.6	163.2	87.39	2.868			
9,300.0	6,713.8	9,418.4	6,788.8	52.1	53.7	107.41	2,246.7	1,579.5	250.6	159.8	90.81	2.760			
9,400.0	6,713.6	9,518.4	6,788.6	53.7	55.4	107.41	2,346.7	1,579.5	250.6	156.4	94.24	2.659			
9,500.0	6,713.4	9,618.4	6,788.4	55.4	57.0	107.41	2,446.7	1,579.5	250.6	152.9	97.70	2.565			
9,600.0	6,713.2	9,718.4	6,788.2	57.1	58.6	107.41	2,546.7	1,579.5	250.6	149.5	101.17	2.477			
9,700.0	6,713.0	9,818.4	6,788.0	58.9	60.3	107.41	2,646.7	1,579.5	250.6	146.0	104.66	2.395			
9,800.0	6,712.8	9,918.4	6,787.8	60.6	62.0	107.41	2,746.7	1,579.5	250.6	142.5	108.16	2.317			
9,900.0	6,712.6	10,018.4	6,787.6	62.3	63.7	107.41	2,846.7	1,579.5	250.6	139.0	111.67	2.244			
10,000.0	6,712.4	10,118.4	6,787.4	64.1	65.4	107.41	2,946.7	1,579.5	250.6	135.4	115.20	2.176			
10,100.0	6,712.1	10,218.4	6,787.2	65.8	67.1	107.41	3,046.7	1,579.5	250.6	131.9	118.73	2.111			
10,200.0	6,711.9	10,318.4	6,786.9	67.6	68.8	107.41	3,146.7	1,579.5	250.6	128.3	122.27	2.050			
10,300.0	6,711.7	10,418.4	6,786.7	69.4	70.6	107.41	3,246.7	1,579.5	250.6	124.8	125.82	1.992			
10,400.0	6,711.5	10,518.4	6,786.5	71.2	72.3	107.41	3,346.7	1,579.5	250.6	121.2	129.38	1.937			
10,500.0	6,711.3	10,618.4	6,786.3	73.0	74.1	107.41	3,446.7	1,579.5	250.6	117.7	132.95	1.885			
10,600.0	6,711.1	10,718.4	6,786.1	74.8	75.9	107.41	3,546.7	1,579.5	250.6	114.1	136.52	1.836			
10,700.0	6,710.9	10,818.4	6,785.9	76.6	77.6	107.41	3,646.7	1,579.5	250.6	110.5	140.10	1.789			
10,800.0	6,710.7	10,918.4	6,785.7	78.4	79.4	107.41	3,746.7	1,579.5	250.6	106.9	143.69	1.744			
10,900.0	6,710.5	11,018.4	6,785.5	80.2	81.2	107.41	3,846.7	1,579.5	250.6	103.3	147.28	1.702			
11,000.0	6,710.2	11,118.4	6,785.2	82.0	83.0	107.41	3,946.7	1,579.5	250.6	99.7	150.87	1.661			
11,100.0	6,710.0	11,218.4	6,785.0	83.8	84.8	107.41	4,046.7	1,579.5	250.6	96.1	154.47	1.622			
11,200.0	6,709.8	11,318.4	6,784.8	85.7	86.6	107.41	4,146.7	1,579.5	250.6	92.5	158.08	1.585			
11,300.0	6,709.6	11,418.4	6,784.6	87.5	88.4	107.41	4,246.7	1,579.5	250.6	88.9	161.68	1.550			
11,400.0	6,709.4	11,518.4	6,784.4	89.3	90.2	107.41	4,346.7	1,579.5	250.6	85.3	165.29	1.516			
11,500.0	6,709.2	11,618.4	6,784.2	91.2	92.0	107.41	4,446.7	1,579.5	250.6	81.7	168.91	1.484	Level 3		
11,600.0	6,709.0	11,718.4	6,784.0	93.0	93.9	107.41	4,546.7	1,579.5	250.6	78.1	172.53	1.453	Level 3		
11,700.0	6,708.8	11,818.4	6,783.8	94.8	95.7	107.41	4,646.7	1,579.5	250.6	74.5	176.15	1.423	Level 3		
11,800.0	6,708.6	11,918.4	6,783.6	96.7	97.5	107.41	4,746.7	1,579.5	250.6	70.8	179.77	1.394	Level 3		
11,900.0	6,708.3	12,018.4	6,783.3	98.5	99.4	107.41	4,846.7	1,579.5	250.6	67.2	183.40	1.367	Level 3		
12,000.0	6,708.1	12,118.4	6,783.1	100.4	101.2	107.41	4,946.7	1,579.5	250.6	63.6	187.03	1.340	Level 3		
12,100.0	6,707.9	12,218.4	6,782.9	102.3	103.0	107.41	5,046.7	1,579.5	250.6	60.0	190.66	1.314	Level 3		
12,200.0	6,707.7	12,318.4	6,782.7	104.1	104.9	107.41	5,146.7	1,579.5	250.6	56.3	194.29	1.290	Level 3		
12,300.0	6,707.5	12,418.4	6,782.5	106.0	106.7	107.41	5,246.7	1,579.5	250.6	52.7	197.93	1.266	Level 3		
12,400.0	6,707.3	12,518.4	6,782.3	107.8	108.6	107.41	5,346.7	1,579.5	250.6	49.1	201.57	1.243	Level 2		
12,500.0	6,707.1	12,618.4	6,782.1	109.7	110.4	107.41	5,446.7	1,579.5	250.6	45.4	205.21	1.221	Level 2		
12,600.0	6,706.9	12,718.4	6,781.9	111.6	112.3	107.41	5,546.7	1,579.5	250.6	41.8	208.85	1.200	Level 2		
12,700.0	6,706.7	12,818.4	6,781.7	113.4	114.1	107.41	5,646.7	1,579.5	250.6	38.1	212.49	1.179	Level 2		
12,800.0	6,706.4	12,918.4	6,781.4	115.3	116.0	107.41	5,746.7	1,579.5	250.6	34.5	216.13	1.160	Level 2		
12,900.0	6,706.2	13,018.4	6,781.2	117.2	117.8	107.41	5,846.7	1,579.5	250.6	30.8	219.78	1.140	Level 2		
13,000.0	6,706.0	13,118.4	6,781.0	119.0	119.7	107.41	5,946.7	1,579.5	250.6	27.2	223.43	1.122	Level 2		
13,100.0	6,705.8	13,218.4	6,780.8	120.9	121.6	107.41	6,046.7	1,579.5	250.6	23.5	227.08	1.104	Level 2		
13,200.0	6,705.6	13,318.4	6,780.6	122.8	123.4	107.41	6,146.7	1,579.5	250.6	19.9	230.73	1.086	Level 2		
13,300.0	6,705.4	13,418.4	6,780.4	124.7	125.3	107.41	6,246.7	1,579.5	250.6	16.2	234.38	1.069	Level 2		
13,400.0	6,705.2	13,518.4	6,780.2	126.5	127.2	107.41	6,346.7	1,579.5	250.6	12.6	238.03	1.053	Level 2		
13,500.0	6,705.0	13,618.4	6,780.0	128.4	129.0	107.41	6,446.7	1,579.5	250.6	8.9	241.69	1.037	Level 2		
13,600.0	6,704.8	13,718.4	6,779.8	130.3	130.9	107.41	6,546.7	1,579.5	250.6	5.3	245.34	1.022	Level 2		
13,700.0	6,704.5	13,818.4	6,779.5	132.2	132.8	107.41	6,646.7	1,579.5	250.6	1.6	249.00	1.007	Level 2		

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

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Offset Design Klein 5N64W7 Pad Sec.7-T5N-R64W - Klein 7Y-341 - Wellbore #1 - Plan #1 (10-14-15)												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)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
13,800.0	6,704.3	13,918.4	6,779.3	134.1	134.6	107.41	6,746.7	1,579.5	250.6	-2.0	252.65	0.992	Level 1
13,900.0	6,704.1	14,018.4	6,779.1	136.0	136.5	107.41	6,846.7	1,579.5	250.6	-5.7	256.31	0.978	Level 1
14,000.0	6,703.9	14,118.4	6,778.9	137.8	138.4	107.41	6,946.7	1,579.5	250.6	-9.4	259.97	0.964	Level 1
14,100.0	6,703.7	14,218.4	6,778.7	139.7	140.3	107.41	7,046.7	1,579.5	250.6	-13.0	263.63	0.951	Level 1
14,200.0	6,703.5	14,318.4	6,778.5	141.6	142.2	107.41	7,146.7	1,579.5	250.6	-16.7	267.29	0.938	Level 1
14,300.0	6,703.3	14,418.4	6,778.3	143.5	144.0	107.41	7,246.7	1,579.5	250.6	-20.3	270.95	0.925	Level 1
14,400.0	6,703.1	14,518.4	6,778.1	145.4	145.9	107.41	7,346.7	1,579.5	250.6	-24.0	274.62	0.913	Level 1
14,500.0	6,702.8	14,618.4	6,777.9	147.3	147.8	107.41	7,446.7	1,579.5	250.6	-27.7	278.28	0.901	Level 1
14,600.0	6,702.6	14,718.4	6,777.6	149.2	149.7	107.41	7,546.7	1,579.5	250.6	-31.3	281.94	0.889	Level 1
14,700.0	6,702.4	14,818.4	6,777.4	151.1	151.6	107.41	7,646.7	1,579.5	250.6	-35.0	285.61	0.877	Level 1
14,800.0	6,702.2	14,918.4	6,777.2	152.9	153.4	107.41	7,746.7	1,579.5	250.6	-38.7	289.27	0.866	Level 1
14,900.0	6,702.0	15,018.4	6,777.0	154.8	155.3	107.41	7,846.7	1,579.5	250.6	-42.3	292.94	0.856	Level 1
15,000.0	6,701.8	15,118.4	6,776.8	156.7	157.2	107.41	7,946.7	1,579.5	250.6	-46.0	296.60	0.845	Level 1
15,100.0	6,701.6	15,218.4	6,776.6	158.6	159.1	107.41	8,046.7	1,579.5	250.6	-49.7	300.27	0.835	Level 1
15,200.0	6,701.4	15,318.4	6,776.4	160.5	161.0	107.41	8,146.7	1,579.5	250.6	-53.3	303.94	0.825	Level 1
15,300.0	6,701.2	15,418.4	6,776.2	162.4	162.9	107.41	8,246.7	1,579.5	250.6	-57.0	307.61	0.815	Level 1
15,400.0	6,700.9	15,518.4	6,776.0	164.3	164.8	107.41	8,346.7	1,579.5	250.6	-60.7	311.28	0.805	Level 1
15,500.0	6,700.7	15,618.4	6,775.7	166.2	166.7	107.41	8,446.7	1,579.5	250.6	-64.3	314.94	0.796	Level 1
15,600.0	6,700.5	15,718.4	6,775.5	168.1	168.6	107.41	8,546.7	1,579.5	250.6	-68.0	318.61	0.787	Level 1
15,700.0	6,700.3	15,818.4	6,775.3	170.0	170.4	107.41	8,646.7	1,579.5	250.6	-71.7	322.28	0.778	Level 1
15,800.0	6,700.1	15,918.4	6,775.1	171.9	172.3	107.41	8,746.7	1,579.5	250.6	-75.3	325.96	0.769	Level 1
15,900.0	6,699.9	16,018.4	6,774.9	173.8	174.2	107.41	8,846.7	1,579.5	250.6	-79.0	329.63	0.760	Level 1
16,000.0	6,699.7	16,118.4	6,774.7	175.7	176.1	107.41	8,946.7	1,579.5	250.6	-82.7	333.30	0.752	Level 1
16,100.0	6,699.5	16,218.4	6,774.5	177.6	178.0	107.41	9,046.7	1,579.5	250.6	-86.4	336.97	0.744	Level 1
16,200.0	6,699.3	16,318.4	6,774.3	179.5	179.9	107.41	9,146.7	1,579.5	250.6	-90.0	340.64	0.736	Level 1
16,300.0	6,699.0	16,418.4	6,774.0	181.4	181.8	107.41	9,246.7	1,579.5	250.6	-93.7	344.31	0.728	Level 1
16,400.0	6,698.8	16,518.4	6,773.8	183.3	183.7	107.41	9,346.7	1,579.5	250.6	-97.4	347.99	0.720	Level 1
16,500.0	6,698.6	16,618.4	6,773.6	185.2	185.6	107.41	9,446.7	1,579.5	250.6	-101.0	351.66	0.713	Level 1
16,600.0	6,698.4	16,718.4	6,773.4	187.1	187.5	107.41	9,546.7	1,579.5	250.6	-104.7	355.33	0.705	Level 1
16,700.0	6,698.2	16,818.4	6,773.2	189.0	189.4	107.41	9,646.7	1,579.5	250.6	-108.4	359.01	0.698	Level 1
16,767.9	6,698.1	16,886.3	6,773.1	190.3	190.7	107.41	9,714.6	1,579.5	250.6	-110.9	361.50	0.693	Level 1
16,794.5	6,698.0	16,912.4	6,773.0	190.8	191.2	107.41	9,740.7	1,579.5	250.6	-111.9	362.47	0.691	Level 1, ES, SF

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Klein 7Y-241
Project:	SEC.7-T5N-R64W	TVD Reference:	WELL @ 4637.0ft (Original Well Elev)
Reference Site:	Klein 5N64W7 Pad Sec.7-T5N-R64W	MD Reference:	WELL @ 4637.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Klein 7Y-241	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (10-14-15)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4637.0ft (Original Well Elev)

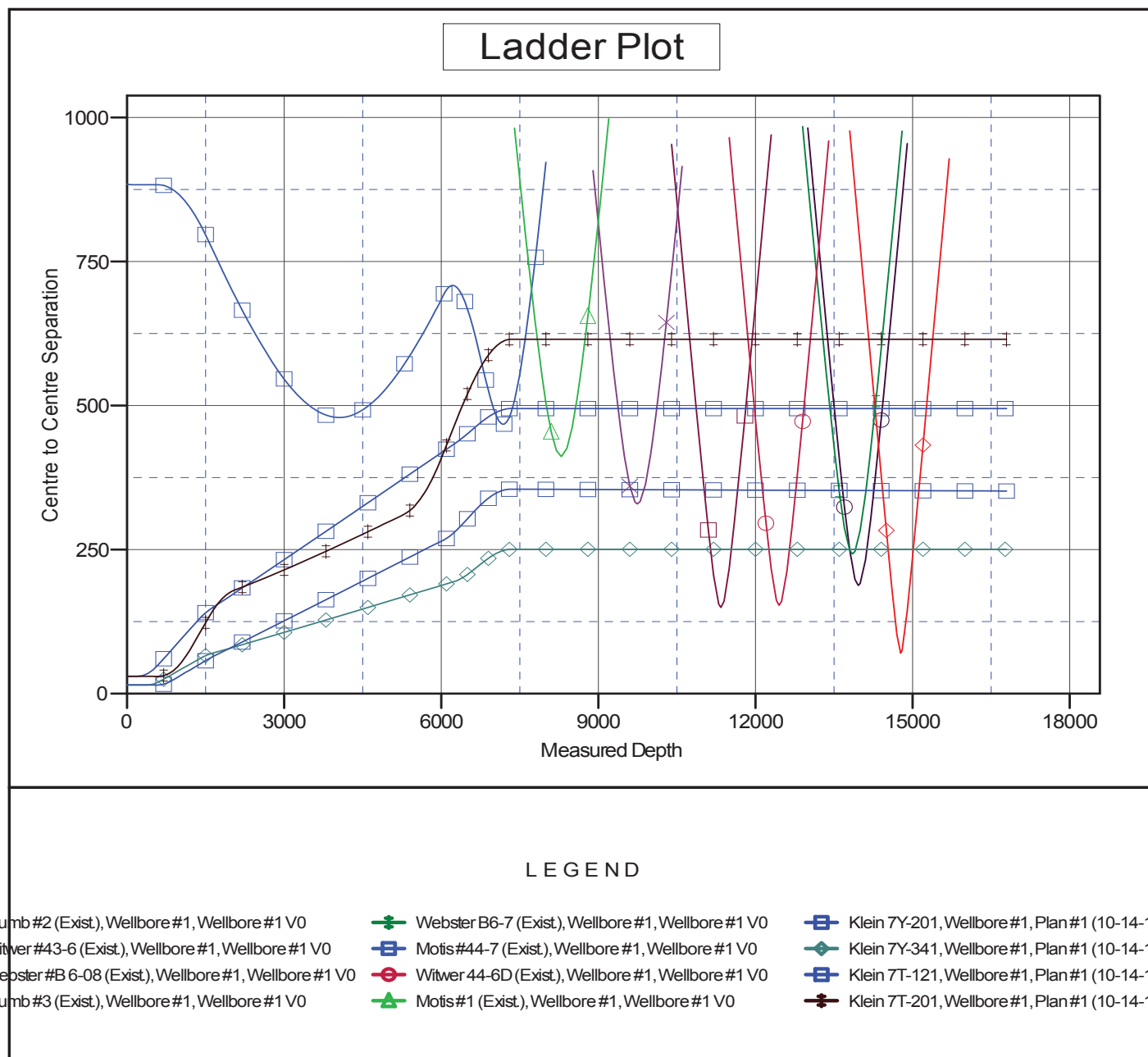
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000

Coordinates are relative to: Klein 7Y-241

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.59°



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