

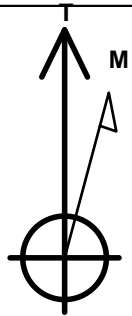
# PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Tarin 32Y-414**

Surface Location: Tarin 32X-HZ Pad Sec.32-T4N-R66W  
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
 Ground Elevation: 4775.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1339584.28 3197254.04 40.263400 -104.793170  
 RKB - 15' WELL @ 4790.0ft (RKB - 15')

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 913'FSL & 355'FEL, Sec.32	1.0	0.0	0.0	Point
BHL 485'FSL & 2143'FEL, Sec.31	7284.0	-468.1	-7083.3	Point



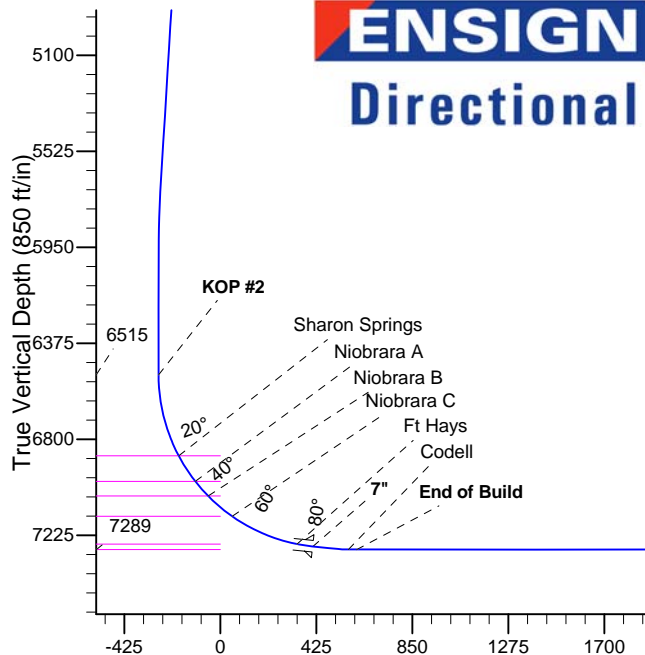
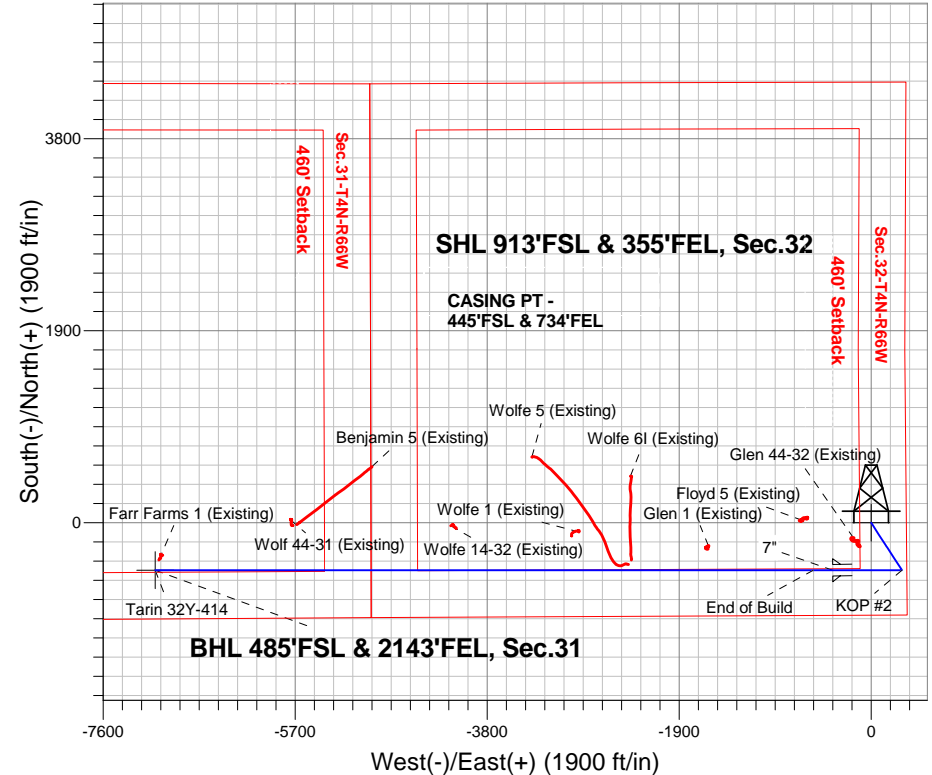
Azimuths to True North  
 Magnetic North: 8.47°

Magnetic Field  
 Strength: 52748.0nT  
 Dip Angle: 66.83°  
 Date: 5/22/2014  
 Model: IGRF2010

Tarin 32X-HZ Pad Sec.32-T4N-R66W  
 Tarin 32Y-414  
 Plan #2 (5-22-14)  
 14:07, May 22 2014

## ANNOTATIONS

TVD	MD	Annotation
1200.0	1200.0	KOP #1
6514.7	6548.8	KOP #2
7288.5	7863.6	End of Build



## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
3	1558.5	7.17	146.91	1557.6	-18.8	12.2	2.00	146.91	-11.0	
4	5675.5	7.17	146.91	5642.4	-449.3	292.8	0.00	0.00	-262.5	
5	6034.1	0.00	0.00	6000.0	-468.1	305.0	2.00	180.00	-273.5	
6	6548.8	0.00	0.00	6514.8	-468.1	305.0	0.00	0.00	-273.5	
7	7668.8	84.00	270.00	7274.5	-468.1	-379.1	7.50	270.00	409.1	
8	7742.8	84.00	270.00	7282.3	-468.1	-452.7	0.00	0.00	482.6	
9	7863.6	90.04	270.00	7288.5	-468.1	-573.3	5.00	0.00	602.9	
10	14373.6	90.04	270.00	7284.0	-468.1	-7083.3	0.00	0.00	7098.7	BHL 485'FSL & 2143'FEL, Sec.31

BHL 485'FSL & 2143'FEL, Sec.31

Vertical Section at 266.22° (850 ft/in)



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.32-T4N-R66W**

**Tarin 32X-HZ Pad Sec.32-T4N-R66W**

**Tarin 32Y-414**

**Wellbore #1**

**Plan: Plan #2 (5-22-14)**

## **Standard Planning Report**

**22 May, 2014**

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Project:</b>	SEC.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (5-22-14)		

<b>Project</b>	SEC.32-T4N-R66W, Weld County, Colorado		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site	Tarin 32X-HZ Pad Sec.32-T4N-R66W				
Site Position:		Northing:	1,339,733.63ft	Latitude:	40.263810
From:	Lat/Long	Easting:	3,197,250.06ft	Longitude:	-104.793180
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.46 °

Well	Tarin 32Y-414					
Well Position	+N-S	-149.4 ft	Northing:	1,339,584.28 ft	Latitude:	40.263400
	+E-W	2.8 ft	Easting:	3,197,254.04 ft	Longitude:	-104.793170
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,775.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	5/22/2014	8.47	66.83	52,748

<b>Design</b>	Plan #2 (5-22-14)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	266.22

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,558.5	7.17	146.91	1,557.6	-18.8	12.2	2.00	2.00	0.00	146.91	
5,675.5	7.17	146.91	5,642.4	-449.3	292.8	0.00	0.00	0.00	0.00	
6,034.1	0.00	0.00	6,000.0	-468.1	305.0	2.00	-2.00	0.00	180.00	
6,548.8	0.00	0.00	6,514.8	-468.1	305.0	0.00	0.00	0.00	0.00	
7,668.8	84.00	270.00	7,274.5	-468.1	-379.1	7.50	7.50	0.00	270.00	
7,742.8	84.00	270.00	7,282.3	-468.1	-452.7	0.00	0.00	0.00	0.00	
7,863.6	90.04	270.00	7,288.5	-468.1	-573.3	5.00	5.00	0.00	0.00	
14,373.6	90.04	270.00	7,284.0	-468.1	-7,083.3	0.00	0.00	0.00	0.00	BHL 485'FSL & 214

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Project:</b>	SEC.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (5-22-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>SHL 913'FSL &amp; 355'FEL, Sec.32</b>									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP #1</b>									
1,300.0	2.00	146.91	1,300.0	-1.5	1.0	-0.9	2.00	2.00	0.00
1,400.0	4.00	146.91	1,399.8	-5.8	3.8	-3.4	2.00	2.00	0.00
1,500.0	6.00	146.91	1,499.5	-13.1	8.6	-7.7	2.00	2.00	0.00
1,558.5	7.17	146.91	1,557.6	-18.8	12.2	-11.0	2.00	2.00	0.00
1,600.0	7.17	146.91	1,598.7	-23.1	15.1	-13.5	0.00	0.00	0.00
1,700.0	7.17	146.91	1,698.0	-33.6	21.9	-19.6	0.00	0.00	0.00
1,800.0	7.17	146.91	1,797.2	-44.0	28.7	-25.7	0.00	0.00	0.00
1,900.0	7.17	146.91	1,896.4	-54.5	35.5	-31.8	0.00	0.00	0.00
2,000.0	7.17	146.91	1,995.6	-64.9	42.3	-37.9	0.00	0.00	0.00
2,100.0	7.17	146.91	2,094.8	-75.4	49.1	-44.0	0.00	0.00	0.00
2,200.0	7.17	146.91	2,194.0	-85.9	55.9	-50.2	0.00	0.00	0.00
2,300.0	7.17	146.91	2,293.3	-96.3	62.8	-56.3	0.00	0.00	0.00
2,400.0	7.17	146.91	2,392.5	-106.8	69.6	-62.4	0.00	0.00	0.00
2,500.0	7.17	146.91	2,491.7	-117.2	76.4	-68.5	0.00	0.00	0.00
2,600.0	7.17	146.91	2,590.9	-127.7	83.2	-74.6	0.00	0.00	0.00
2,700.0	7.17	146.91	2,690.1	-138.1	90.0	-80.7	0.00	0.00	0.00
2,800.0	7.17	146.91	2,789.4	-148.6	96.8	-86.8	0.00	0.00	0.00
2,900.0	7.17	146.91	2,888.6	-159.1	103.6	-92.9	0.00	0.00	0.00
3,000.0	7.17	146.91	2,987.8	-169.5	110.5	-99.0	0.00	0.00	0.00
3,100.0	7.17	146.91	3,087.0	-180.0	117.3	-105.1	0.00	0.00	0.00
3,200.0	7.17	146.91	3,186.2	-190.4	124.1	-111.3	0.00	0.00	0.00
3,300.0	7.17	146.91	3,285.4	-200.9	130.9	-117.4	0.00	0.00	0.00
3,400.0	7.17	146.91	3,384.7	-211.4	137.7	-123.5	0.00	0.00	0.00
3,500.0	7.17	146.91	3,483.9	-221.8	144.5	-129.6	0.00	0.00	0.00
3,600.0	7.17	146.91	3,583.1	-232.3	151.3	-135.7	0.00	0.00	0.00
3,700.0	7.17	146.91	3,682.3	-242.7	158.2	-141.8	0.00	0.00	0.00
3,727.9	7.17	146.91	3,710.0	-245.6	160.1	-143.5	0.00	0.00	0.00
<b>Parkman</b>									
3,800.0	7.17	146.91	3,781.5	-253.2	165.0	-147.9	0.00	0.00	0.00
3,900.0	7.17	146.91	3,880.8	-263.6	171.8	-154.0	0.00	0.00	0.00
4,000.0	7.17	146.91	3,980.0	-274.1	178.6	-160.1	0.00	0.00	0.00
4,100.0	7.17	146.91	4,079.2	-284.6	185.4	-166.2	0.00	0.00	0.00
4,200.0	7.17	146.91	4,178.4	-295.0	192.2	-172.4	0.00	0.00	0.00
4,300.0	7.17	146.91	4,277.6	-305.5	199.0	-178.5	0.00	0.00	0.00
4,400.0	7.17	146.91	4,376.8	-315.9	205.9	-184.6	0.00	0.00	0.00
4,413.3	7.17	146.91	4,390.0	-317.3	206.8	-185.4	0.00	0.00	0.00
<b>Sussex</b>									

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Project:</b>	SEC.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (5-22-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,500.0	7.17	146.91	4,476.1	-326.4	212.7	-190.7	0.00	0.00	0.00
4,600.0	7.17	146.91	4,575.3	-336.8	219.5	-196.8	0.00	0.00	0.00
4,700.0	7.17	146.91	4,674.5	-347.3	226.3	-202.9	0.00	0.00	0.00
4,800.0	7.17	146.91	4,773.7	-357.8	233.1	-209.0	0.00	0.00	0.00
4,826.5	7.17	146.91	4,800.0	-360.5	234.9	-210.6	0.00	0.00	0.00
<b>Shannon</b>									
4,900.0	7.17	146.91	4,872.9	-368.2	239.9	-215.1	0.00	0.00	0.00
5,000.0	7.17	146.91	4,972.2	-378.7	246.7	-221.2	0.00	0.00	0.00
5,100.0	7.17	146.91	5,071.4	-389.1	253.6	-227.3	0.00	0.00	0.00
5,200.0	7.17	146.91	5,170.6	-399.6	260.4	-233.5	0.00	0.00	0.00
5,300.0	7.17	146.91	5,269.8	-410.1	267.2	-239.6	0.00	0.00	0.00
5,400.0	7.17	146.91	5,369.0	-420.5	274.0	-245.7	0.00	0.00	0.00
5,500.0	7.17	146.91	5,468.2	-431.0	280.8	-251.8	0.00	0.00	0.00
5,600.0	7.17	146.91	5,567.5	-441.4	287.6	-257.9	0.00	0.00	0.00
5,675.5	7.17	146.91	5,642.4	-449.3	292.8	-262.5	0.00	0.00	0.00
5,700.0	6.68	146.91	5,666.7	-451.8	294.4	-263.9	2.00	-2.00	0.00
5,800.0	4.68	146.91	5,766.2	-460.1	299.8	-268.8	2.00	-2.00	0.00
5,900.0	2.68	146.91	5,866.0	-465.5	303.3	-271.9	2.00	-2.00	0.00
6,000.0	0.68	146.91	5,965.9	-467.9	304.9	-273.4	2.00	-2.00	0.00
6,034.1	0.00	0.00	6,000.0	-468.1	305.0	-273.5	2.00	-2.00	0.00
6,100.0	0.00	0.00	6,065.9	-468.1	305.0	-273.5	0.00	0.00	0.00
6,200.0	0.00	0.00	6,165.9	-468.1	305.0	-273.5	0.00	0.00	0.00
6,300.0	0.00	0.00	6,265.9	-468.1	305.0	-273.5	0.00	0.00	0.00
6,400.0	0.00	0.00	6,365.9	-468.1	305.0	-273.5	0.00	0.00	0.00
6,500.0	0.00	0.00	6,465.9	-468.1	305.0	-273.5	0.00	0.00	0.00
6,548.8	0.00	0.00	6,514.7	-468.1	305.0	-273.5	0.00	0.00	0.00
<b>KOP #2</b>									
6,600.0	3.84	270.00	6,565.9	-468.1	303.3	-271.8	7.49	7.49	0.00
6,700.0	11.34	270.00	6,664.9	-468.1	290.1	-258.6	7.50	7.50	0.00
6,800.0	18.84	270.00	6,761.4	-468.1	264.1	-232.6	7.50	7.50	0.00
6,900.0	26.34	270.00	6,853.7	-468.1	225.7	-194.3	7.50	7.50	0.00
6,921.7	27.96	270.00	6,873.0	-468.1	215.8	-184.5	7.50	7.50	0.00
<b>Sharon Springs</b>									
7,000.0	33.84	270.00	6,940.2	-468.1	175.6	-144.4	7.50	7.50	0.00
7,056.6	38.09	270.00	6,986.0	-468.1	142.4	-111.2	7.50	7.50	0.00
<b>Niobrara A</b>									
7,100.0	41.34	270.00	7,019.3	-468.1	114.7	-83.5	7.50	7.50	0.00
7,143.3	44.58	270.00	7,051.0	-468.1	85.2	-54.1	7.50	7.50	0.00
<b>Niobrara B</b>									
7,200.0	48.84	270.00	7,089.9	-468.1	43.9	-12.9	7.50	7.50	0.00
7,282.9	55.06	270.00	7,141.0	-468.1	-21.4	52.2	7.50	7.50	0.00
<b>Niobrara C</b>									
7,300.0	56.34	270.00	7,150.6	-468.1	-35.5	66.3	7.50	7.50	0.00
7,400.0	63.84	270.00	7,200.4	-468.1	-122.1	152.7	7.50	7.50	0.00
7,500.0	71.34	270.00	7,238.5	-468.1	-214.5	244.9	7.50	7.50	0.00
7,598.6	78.74	270.00	7,264.0	-468.1	-309.7	339.9	7.50	7.50	0.00
<b>Ft Hays</b>									
7,600.0	78.84	270.00	7,264.3	-468.1	-311.0	341.2	7.50	7.50	0.00
7,668.8	84.00	270.00	7,274.5	-468.1	-379.0	409.1	7.50	7.50	0.00
<b>7"</b>									
7,700.0	84.00	270.00	7,277.8	-468.1	-410.1	440.1	0.01	0.01	0.00
7,742.8	84.00	270.00	7,282.3	-468.1	-452.7	482.6	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Project:</b>	SEC.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (5-22-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,800.0	86.86	270.00	7,286.8	-468.1	-509.7	539.4	5.00	5.00	0.00
7,827.5	88.23	270.00	7,288.0	-468.1	-537.1	566.8	5.00	5.00	0.00
<b>Codell</b>									
7,863.6	90.04	270.00	7,288.5	-468.1	-573.2	602.8	5.00	5.00	0.00
<b>End of Build</b>									
7,900.0	90.04	270.00	7,288.5	-468.1	-609.6	639.2	0.01	0.01	0.00
8,000.0	90.04	270.00	7,288.4	-468.1	-709.6	738.9	0.00	0.00	0.00
8,100.0	90.04	270.00	7,288.4	-468.1	-809.6	838.7	0.00	0.00	0.00
8,200.0	90.04	270.00	7,288.3	-468.1	-909.6	938.5	0.00	0.00	0.00
8,300.0	90.04	270.00	7,288.2	-468.1	-1,009.6	1,038.3	0.00	0.00	0.00
8,400.0	90.04	270.00	7,288.2	-468.1	-1,109.6	1,138.1	0.00	0.00	0.00
8,500.0	90.04	270.00	7,288.1	-468.1	-1,209.6	1,237.9	0.00	0.00	0.00
8,600.0	90.04	270.00	7,288.0	-468.1	-1,309.6	1,337.6	0.00	0.00	0.00
8,700.0	90.04	270.00	7,288.0	-468.1	-1,409.6	1,437.4	0.00	0.00	0.00
8,800.0	90.04	270.00	7,287.9	-468.1	-1,509.6	1,537.2	0.00	0.00	0.00
8,900.0	90.04	270.00	7,287.8	-468.1	-1,609.6	1,637.0	0.00	0.00	0.00
9,000.0	90.04	270.00	7,287.8	-468.1	-1,709.6	1,736.8	0.00	0.00	0.00
9,100.0	90.04	270.00	7,287.7	-468.1	-1,809.6	1,836.6	0.00	0.00	0.00
9,200.0	90.04	270.00	7,287.6	-468.1	-1,909.6	1,936.3	0.00	0.00	0.00
9,300.0	90.04	270.00	7,287.5	-468.1	-2,009.6	2,036.1	0.00	0.00	0.00
9,400.0	90.04	270.00	7,287.5	-468.1	-2,109.6	2,135.9	0.00	0.00	0.00
9,500.0	90.04	270.00	7,287.4	-468.1	-2,209.6	2,235.7	0.00	0.00	0.00
9,600.0	90.04	270.00	7,287.3	-468.1	-2,309.6	2,335.5	0.00	0.00	0.00
9,700.0	90.04	270.00	7,287.3	-468.1	-2,409.6	2,435.2	0.00	0.00	0.00
9,800.0	90.04	270.00	7,287.2	-468.1	-2,509.6	2,535.0	0.00	0.00	0.00
9,900.0	90.04	270.00	7,287.1	-468.1	-2,609.6	2,634.8	0.00	0.00	0.00
10,000.0	90.04	270.00	7,287.1	-468.1	-2,709.6	2,734.6	0.00	0.00	0.00
10,100.0	90.04	270.00	7,287.0	-468.1	-2,809.6	2,834.4	0.00	0.00	0.00
10,200.0	90.04	270.00	7,286.9	-468.1	-2,909.6	2,934.2	0.00	0.00	0.00
10,300.0	90.04	270.00	7,286.8	-468.1	-3,009.6	3,033.9	0.00	0.00	0.00
10,400.0	90.04	270.00	7,286.8	-468.1	-3,109.6	3,133.7	0.00	0.00	0.00
10,500.0	90.04	270.00	7,286.7	-468.1	-3,209.6	3,233.5	0.00	0.00	0.00
10,600.0	90.04	270.00	7,286.6	-468.1	-3,309.6	3,333.3	0.00	0.00	0.00
10,700.0	90.04	270.00	7,286.6	-468.1	-3,409.6	3,433.1	0.00	0.00	0.00
10,800.0	90.04	270.00	7,286.5	-468.1	-3,509.6	3,532.9	0.00	0.00	0.00
10,900.0	90.04	270.00	7,286.4	-468.1	-3,609.6	3,632.6	0.00	0.00	0.00
11,000.0	90.04	270.00	7,286.4	-468.1	-3,709.6	3,732.4	0.00	0.00	0.00
11,100.0	90.04	270.00	7,286.3	-468.1	-3,809.6	3,832.2	0.00	0.00	0.00
11,200.0	90.04	270.00	7,286.2	-468.1	-3,909.6	3,932.0	0.00	0.00	0.00
11,300.0	90.04	270.00	7,286.1	-468.1	-4,009.6	4,031.8	0.00	0.00	0.00
11,400.0	90.04	270.00	7,286.1	-468.1	-4,109.6	4,131.5	0.00	0.00	0.00
11,500.0	90.04	270.00	7,286.0	-468.1	-4,209.6	4,231.3	0.00	0.00	0.00
11,600.0	90.04	270.00	7,285.9	-468.1	-4,309.6	4,331.1	0.00	0.00	0.00
11,700.0	90.04	270.00	7,285.9	-468.1	-4,409.6	4,430.9	0.00	0.00	0.00
11,800.0	90.04	270.00	7,285.8	-468.1	-4,509.6	4,530.7	0.00	0.00	0.00
11,900.0	90.04	270.00	7,285.7	-468.1	-4,609.6	4,630.5	0.00	0.00	0.00
12,000.0	90.04	270.00	7,285.7	-468.1	-4,709.6	4,730.2	0.00	0.00	0.00
12,100.0	90.04	270.00	7,285.6	-468.1	-4,809.6	4,830.0	0.00	0.00	0.00
12,200.0	90.04	270.00	7,285.5	-468.1	-4,909.6	4,929.8	0.00	0.00	0.00
12,300.0	90.04	270.00	7,285.4	-468.1	-5,009.6	5,029.6	0.00	0.00	0.00
12,400.0	90.04	270.00	7,285.4	-468.1	-5,109.6	5,129.4	0.00	0.00	0.00
12,500.0	90.04	270.00	7,285.3	-468.1	-5,209.6	5,229.2	0.00	0.00	0.00
12,600.0	90.04	270.00	7,285.2	-468.1	-5,309.6	5,328.9	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Project:</b>	SEC.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (5-22-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,700.0	90.04	270.00	7,285.2	-468.1	-5,409.6	5,428.7	0.00	0.00	0.00
12,800.0	90.04	270.00	7,285.1	-468.1	-5,509.6	5,528.5	0.00	0.00	0.00
12,900.0	90.04	270.00	7,285.0	-468.1	-5,609.6	5,628.3	0.00	0.00	0.00
13,000.0	90.04	270.00	7,285.0	-468.1	-5,709.6	5,728.1	0.00	0.00	0.00
13,100.0	90.04	270.00	7,284.9	-468.1	-5,809.6	5,827.8	0.00	0.00	0.00
13,200.0	90.04	270.00	7,284.8	-468.1	-5,909.6	5,927.6	0.00	0.00	0.00
13,300.0	90.04	270.00	7,284.7	-468.1	-6,009.6	6,027.4	0.00	0.00	0.00
13,400.0	90.04	270.00	7,284.7	-468.1	-6,109.6	6,127.2	0.00	0.00	0.00
13,500.0	90.04	270.00	7,284.6	-468.1	-6,209.6	6,227.0	0.00	0.00	0.00
13,600.0	90.04	270.00	7,284.5	-468.1	-6,309.6	6,326.8	0.00	0.00	0.00
13,700.0	90.04	270.00	7,284.5	-468.1	-6,409.6	6,426.5	0.00	0.00	0.00
13,800.0	90.04	270.00	7,284.4	-468.1	-6,509.6	6,526.3	0.00	0.00	0.00
13,900.0	90.04	270.00	7,284.3	-468.1	-6,609.6	6,626.1	0.00	0.00	0.00
14,000.0	90.04	270.00	7,284.3	-468.1	-6,709.6	6,725.9	0.00	0.00	0.00
14,100.0	90.04	270.00	7,284.2	-468.1	-6,809.6	6,825.7	0.00	0.00	0.00
14,200.0	90.04	270.00	7,284.1	-468.1	-6,909.6	6,925.5	0.00	0.00	0.00
14,300.0	90.04	270.00	7,284.1	-468.1	-7,009.6	7,025.2	0.00	0.00	0.00
14,373.6	90.04	270.00	7,284.0	-468.1	-7,083.3	7,098.7	0.00	0.00	0.00
BHL 485'FSL & 2143'FEL, Sec.31									

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,668.8	7,274.5	7"	7	7-1/2

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,727.9	3,710.0	Parkman		0.00	
4,413.3	4,390.0	Sussex		0.00	
4,826.5	4,800.0	Shannon		0.00	
6,921.7	6,873.0	Sharon Springs		0.00	
7,056.6	6,986.0	Niobrara A		0.00	
7,143.3	7,051.0	Niobrara B		0.00	
7,282.9	7,141.0	Niobrara C		0.00	
7,598.6	7,264.0	Ft Hays		0.00	
7,827.5	7,288.0	Codell		0.00	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
1,200.0	1,200.0	0.0	0.0	KOP #1
6,548.8	6,514.7	-468.1	305.0	KOP #2
7,863.6	7,288.5	-468.1	-573.2	End of Build



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.32-T4N-R66W**

**Tarin 32X-HZ Pad Sec.32-T4N-R66W**

**Tarin 32Y-414**

**Wellbore #1**

**Plan #2 (5-22-14)**

## **Anticollision Report**

**22 May, 2014**





<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #2 (5-22-14)		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD Interval 100.0ft	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 1,000.0ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b> 5/22/2014			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	14,373.5	Plan #2 (5-22-14) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Tarin 32X-HZ Pad Sec.32-T4N-R66W						
Tarin 32W-234 - Wellbore #1 - Plan #1 (4-14-14)	200.0	199.0	149.4	148.7	222.284	CC, ES
Tarin 32W-234 - Wellbore #1 - Plan #1 (4-14-14)	1,200.0	1,141.4	299.2	293.8	54.931	SF
Tarin 32W-434 - Wellbore #1 - Plan #1 (5-14-14)	400.0	399.0	120.2	118.7	76.522	CC, ES
Tarin 32W-434 - Wellbore #1 - Plan #1 (5-14-14)	1,200.0	1,169.1	211.6	206.4	40.334	SF
Tarin 32X-204 - Wellbore #1 - Plan #2 (5-14-14)	1,200.0	1,200.0	29.1	24.0	5.638	CC, ES
Tarin 32X-204 - Wellbore #1 - Plan #2 (5-14-14)	14,374.3	14,153.5	780.4	392.2	2.011	SF
Tarin 32X-314 - Wellbore #1 - Plan #1 (4-14-14)	600.0	600.0	91.1	88.6	36.840	CC, ES
Tarin 32X-314 - Wellbore #1 - Plan #1 (4-14-14)	1,000.0	986.4	116.3	112.0	27.298	SF
Tarin 32X-404 - Wellbore #1 - Plan #1 (4-14-14)	1,000.0	1,000.0	61.9	57.7	14.504	CC, ES
Tarin 32X-404 - Wellbore #1 - Plan #1 (4-14-14)	14,374.3	14,376.6	811.7	407.1	2.006	SF
Tarin 32Y-314 - Wellbore #1 - Plan #2 (5-22-14)	966.3	967.3	29.1	25.0	7.070	CC
Tarin 32Y-314 - Wellbore #1 - Plan #2 (5-22-14)	14,374.3	14,277.0	182.0	-73.0	0.714	Level 1, ES, SF
Tarin 32Y-404 - Wellbore #1 - Plan #1 (4-14-14)	466.3	467.3	58.3	56.4	31.105	CC
Tarin 32Y-404 - Wellbore #1 - Plan #1 (4-14-14)	14,374.3	14,404.7	408.9	4.5	1.011	Level 2, ES, SF
Tarin Existing Wells Sec.32-T4N-R66W						
Benjamin 5 (Existing) - Wellbore #1 - Wellbore #1						Out of range
Farr Farms 1 (Existing) - Wellbore #1 - Wellbore #1	14,339.0	7,273.4	100.8	-115.0	0.467	Level 1, CC, ES, SF
Floyd 5 (Existing) - Wellbore #1 - Wellbore #1	7,970.4	7,200.0	496.1	370.0	3.934	CC, ES
Floyd 5 (Existing) - Wellbore #1 - Wellbore #1	8,000.0	7,200.0	497.0	370.2	3.921	SF
Glen 1 (Existing) - Wellbore #1 - Wellbore #1	8,903.6	7,267.4	236.4	171.6	3.648	CC, ES, SF
Glen 44-32 (Existing) - Wellbore #1 - Wellbore #1	2,380.5	2,363.9	229.2	217.9	20.273	CC
Glen 44-32 (Existing) - Wellbore #1 - Wellbore #1	2,400.0	2,382.7	229.2	217.8	20.107	ES
Glen 44-32 (Existing) - Wellbore #1 - Wellbore #1	7,500.0	7,150.0	329.4	297.1	10.225	SF
Wolf 44-31 (Existing) - Wellbore #1 - Wellbore #1	13,037.1	7,273.1	499.8	320.4	2.786	CC, ES
Wolf 44-31 (Existing) - Wellbore #1 - Wellbore #1	13,100.0	7,273.3	503.8	322.6	2.781	SF
Wolfe 1 (Existing) - Wellbore #1 - Wellbore #1	10,183.0	7,272.6	380.0	280.3	3.812	CC
Wolfe 1 (Existing) - Wellbore #1 - Wellbore #1	10,200.0	7,272.5	380.4	280.2	3.798	ES, SF
Wolfe 14-32 (Existing) - Wellbore #1 - Wellbore #1	11,447.9	7,272.6	439.2	303.5	3.237	CC, ES
Wolfe 14-32 (Existing) - Wellbore #1 - Wellbore #1	11,500.0	7,273.3	442.2	305.1	3.225	SF
Wolfe 5 (Existing) - Wellbore #1 - Wellbore #1						Out of range
Wolfe 6I (Existing) - Wellbore #1 - Wellbore #1	9,668.9	7,337.2	930.6	841.4	10.440	CC
Wolfe 6I (Existing) - Wellbore #1 - Wellbore #1	9,700.0	7,337.9	931.1	841.1	10.347	ES
Wolfe 6I (Existing) - Wellbore #1 - Wellbore #1	9,900.0	7,341.8	958.8	863.4	10.045	SF

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32W-234 - Wellbore #1 - Plan #1 (4-14-14)													<b>Offset Site Error:</b>	0.0 ft
<b>Survey Program:</b> 0-MWD													<b>Offset Well Error:</b>	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis (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	-1.07	-1.07	149.4	-2.8	149.4				
100.0	100.0	99.0	99.0	0.1	0.1	-1.07	-1.07	149.4	-2.8	149.4	149.2	0.22	667.964	
200.0	200.0	199.0	199.0	0.3	0.3	-1.07	-1.07	149.4	-2.8	149.4	148.7	0.67	222.284 CC, ES	
300.0	300.0	294.2	294.2	0.6	0.6	-0.92	-0.92	150.9	-2.4	151.0	149.9	1.11	135.661	
400.0	400.0	389.2	389.0	0.8	0.8	-0.50	-0.50	155.4	-1.3	155.8	154.2	1.56	99.790	
500.0	500.0	483.7	483.2	1.0	1.0	0.16	0.16	163.0	0.5	163.8	161.8	2.01	81.361	
600.0	600.0	577.6	576.5	1.2	1.3	0.98	0.98	173.5	3.0	175.0	172.5	2.47	70.841	
700.0	700.0	670.7	668.6	1.5	1.6	1.88	1.88	186.9	6.1	189.5	186.5	2.93	64.553	
800.0	800.0	762.8	759.2	1.7	1.9	2.81	2.81	203.0	10.0	207.1	203.7	3.41	60.743	
900.0	900.0	853.8	848.1	1.9	2.2	3.71	3.71	221.6	14.4	227.8	223.9	3.90	58.495	
1,000.0	1,000.0	947.3	938.9	2.1	2.7	4.59	4.59	243.3	19.5	251.3	246.9	4.40	57.122	
1,100.0	1,100.0	1,044.3	1,033.1	2.4	3.1	5.36	5.36	266.1	24.9	275.3	270.3	4.92	55.937	
1,200.0	1,200.0	1,141.4	1,127.3	2.6	3.6	6.00	6.00	288.9	30.4	299.2	293.8	5.45	54.931 SF	
1,300.0	1,300.0	1,238.1	1,221.1	2.8	4.0	-140.23	-140.23	311.6	35.8	324.5	318.8	5.73	56.642	
1,400.0	1,399.8	1,334.1	1,314.3	3.0	4.5	-139.94	-139.94	334.2	41.1	352.4	346.2	6.15	57.263	
1,500.0	1,499.5	1,429.3	1,406.7	3.2	5.0	-139.95	-139.95	356.6	46.5	382.8	376.3	6.58	58.174	
1,600.0	1,598.7	1,523.7	1,498.3	3.4	5.4	-140.35	-140.35	378.8	51.7	415.6	408.6	7.02	59.192	
1,700.0	1,698.0	1,617.9	1,589.7	3.6	5.9	-140.96	-140.96	400.9	57.0	448.9	441.4	7.49	59.966	
1,800.0	1,797.2	1,712.1	1,681.1	3.9	6.4	-141.49	-141.49	423.1	62.3	482.2	474.3	7.96	60.577	
1,900.0	1,896.4	1,806.3	1,772.5	4.1	6.8	-141.94	-141.94	445.2	67.5	515.6	507.1	8.44	61.064	
2,000.0	1,995.6	1,900.5	1,863.9	4.4	7.3	-142.35	-142.35	467.4	72.8	549.0	540.0	8.93	61.455	
2,100.0	2,094.8	1,994.7	1,955.3	4.7	7.8	-142.70	-142.70	489.5	78.0	582.4	572.9	9.43	61.769	
2,200.0	2,194.0	2,088.9	2,046.7	4.9	8.2	-143.02	-143.02	511.6	83.3	615.8	605.8	9.93	62.024	
2,300.0	2,293.3	2,183.1	2,138.1	5.2	8.7	-143.30	-143.30	533.8	88.6	649.2	638.8	10.43	62.232	
2,400.0	2,392.5	2,277.3	2,229.5	5.5	9.2	-143.56	-143.56	555.9	93.8	682.6	671.7	10.94	62.402	
2,500.0	2,491.7	2,371.5	2,320.9	5.8	9.6	-143.79	-143.79	578.1	99.1	716.1	704.6	11.45	62.542	
2,600.0	2,590.9	2,465.7	2,412.4	6.1	10.1	-144.01	-144.01	600.2	104.4	749.6	737.6	11.96	62.657	
2,700.0	2,690.1	2,559.9	2,503.8	6.4	10.6	-144.20	-144.20	622.4	109.6	783.0	770.6	12.48	62.752	
2,800.0	2,789.4	2,654.1	2,595.2	6.7	11.0	-144.38	-144.38	644.5	114.9	816.5	803.5	13.00	62.830	
2,900.0	2,888.6	2,748.3	2,686.6	7.1	11.5	-144.54	-144.54	666.7	120.1	850.0	836.5	13.51	62.895	
3,000.0	2,987.8	2,842.5	2,778.0	7.4	12.0	-144.69	-144.69	688.8	125.4	883.5	869.5	14.04	62.948	
3,100.0	3,087.0	2,936.7	2,869.4	7.7	12.4	-144.84	-144.84	711.0	130.7	917.0	902.4	14.56	62.992	
3,200.0	3,186.2	3,030.9	2,960.8	8.0	12.9	-144.97	-144.97	733.1	135.9	950.5	935.4	15.08	63.028	
3,300.0	3,285.4	3,125.1	3,052.2	8.3	13.4	-145.09	-145.09	755.2	141.2	984.0	968.4	15.60	63.057	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32W-434 - Wellbore #1 - Plan #1 (5-14-14)													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	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	120.2	0.0	120.2				
100.0	100.0	99.0	99.0	0.1	0.1	0.00	0.00	120.2	0.0	120.2	120.0	0.22	537.569	
200.0	200.0	199.0	199.0	0.3	0.3	0.00	0.00	120.2	0.0	120.2	119.6	0.67	178.892	
300.0	300.0	299.0	299.0	0.6	0.6	0.00	0.00	120.2	0.0	120.2	119.1	1.12	107.192	
400.0	400.0	399.0	399.0	0.8	0.8	0.00	0.00	120.2	0.0	120.2	118.7	1.57	76.522 CC, ES	
500.0	500.0	495.2	495.2	1.0	1.0	0.23		121.7	0.5	121.8	119.8	2.01	60.513	
600.0	600.0	591.1	590.9	1.2	1.2	0.90		126.3	2.0	126.6	124.1	2.46	51.474	
700.0	700.0	686.6	686.1	1.5	1.4	1.91		133.8	4.5	134.5	131.6	2.91	46.267	
800.0	800.0	781.4	780.3	1.7	1.7	3.13		144.3	7.9	145.7	142.4	3.36	43.363	
900.0	900.0	875.4	873.3	1.9	2.0	4.44		157.6	12.2	160.2	156.4	3.82	41.937	
1,000.0	1,000.0	972.2	968.6	2.1	2.3	5.75		173.6	17.5	177.2	172.9	4.29	41.297	
1,100.0	1,100.0	1,070.7	1,065.5	2.4	2.6	6.86		190.1	22.9	194.4	189.6	4.77	40.782	
1,200.0	1,200.0	1,169.1	1,162.4	2.6	3.0	7.79		206.5	28.3	211.6	206.4	5.25	40.334 SF	
1,300.0	1,300.0	1,267.4	1,259.1	2.8	3.3	-138.38		222.9	33.6	230.2	224.6	5.65	40.762	
1,400.0	1,399.8	1,365.1	1,355.3	3.0	3.7	-138.21		239.2	39.0	251.4	245.3	6.06	41.455	
1,500.0	1,499.5	1,462.2	1,450.9	3.2	4.1	-138.49		255.4	44.3	275.1	268.6	6.49	42.413	
1,600.0	1,598.7	1,558.6	1,545.8	3.4	4.4	-139.20		271.6	49.5	301.2	294.3	6.92	43.514	
1,700.0	1,698.0	1,654.9	1,640.7	3.6	4.8	-140.03		287.6	54.8	327.8	320.4	7.38	44.431	
1,800.0	1,797.2	1,751.2	1,735.5	3.9	5.2	-140.75		303.7	60.1	354.4	346.5	7.84	45.192	
1,900.0	1,896.4	1,847.5	1,830.3	4.1	5.5	-141.36		319.8	65.3	381.1	372.8	8.31	45.829	
2,000.0	1,995.6	1,943.8	1,925.1	4.4	5.9	-141.89		335.9	70.6	407.8	399.0	8.79	46.368	
2,100.0	2,094.8	2,040.1	2,019.9	4.7	6.3	-142.36		351.9	75.9	434.5	425.2	9.28	46.826	
2,200.0	2,194.0	2,136.4	2,114.7	4.9	6.7	-142.77		368.0	81.1	461.3	451.5	9.77	47.219	
2,300.0	2,293.3	2,232.7	2,209.5	5.2	7.0	-143.14		384.1	86.4	488.1	477.8	10.26	47.559	
2,400.0	2,392.5	2,329.0	2,304.3	5.5	7.4	-143.47		400.2	91.7	514.9	504.1	10.76	47.855	
2,500.0	2,491.7	2,425.3	2,399.1	5.8	7.8	-143.77		416.3	96.9	541.7	530.4	11.26	48.114	
2,600.0	2,590.9	2,521.6	2,493.9	6.1	8.2	-144.04		432.3	102.2	568.5	556.8	11.76	48.342	
2,700.0	2,690.1	2,617.9	2,588.7	6.4	8.5	-144.28		448.4	107.4	595.4	583.1	12.26	48.543	
2,800.0	2,789.4	2,714.2	2,683.5	6.7	8.9	-144.50		464.5	112.7	622.2	609.4	12.77	48.723	
2,900.0	2,888.6	2,810.5	2,778.3	7.1	9.3	-144.71		480.6	118.0	649.1	635.8	13.28	48.883	
3,000.0	2,987.8	2,906.8	2,873.1	7.4	9.7	-144.90		496.7	123.2	675.9	662.1	13.79	49.027	
3,100.0	3,087.0	3,003.1	2,967.9	7.7	10.0	-145.07		512.7	128.5	702.8	688.5	14.30	49.156	
3,200.0	3,186.2	3,099.4	3,062.7	8.0	10.4	-145.23		528.8	133.8	729.7	714.9	14.81	49.273	
3,300.0	3,285.4	3,195.7	3,157.5	8.3	10.8	-145.38		544.9	139.0	756.6	741.2	15.32	49.379	
3,400.0	3,384.7	3,292.0	3,252.3	8.6	11.2	-145.52		561.0	144.3	783.4	767.6	15.83	49.476	
3,500.0	3,483.9	3,388.3	3,347.1	8.9	11.5	-145.65		577.1	149.6	810.3	794.0	16.35	49.564	
3,600.0	3,583.1	3,484.6	3,441.9	9.3	11.9	-145.78		593.1	154.8	837.2	820.4	16.86	49.645	
3,700.0	3,682.3	3,580.9	3,536.7	9.6	12.3	-145.89		609.2	160.1	864.1	846.7	17.38	49.719	
3,800.0	3,781.5	3,677.3	3,631.5	9.9	12.7	-146.00		625.3	165.4	891.0	873.1	17.90	49.787	
3,900.0	3,880.8	3,773.6	3,726.3	10.2	13.0	-146.10		641.4	170.6	917.9	899.5	18.41	49.850	
4,000.0	3,980.0	3,869.9	3,821.1	10.5	13.4	-146.20		657.4	175.9	944.8	925.9	18.93	49.908	
4,100.0	4,079.2	3,966.2	3,915.9	10.9	13.8	-146.29		673.5	181.1	971.7	952.3	19.45	49.962	
4,200.0	4,178.4	4,062.5	4,010.7	11.2	14.2	-146.37		689.6	186.4	998.6	978.7	19.97	50.012	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	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	0.00	0.00	29.1	0.0	29.1				
100.0	100.0	100.0	100.0	0.1	0.1	0.00	0.00	29.1	0.0	29.1	28.9	0.22	129.683	
200.0	200.0	200.0	200.0	0.3	0.3	0.00	0.00	29.1	0.0	29.1	28.5	0.67	43.228	
300.0	300.0	300.0	300.0	0.6	0.6	0.00	0.00	29.1	0.0	29.1	28.0	1.12	25.937	
400.0	400.0	400.0	400.0	0.8	0.8	0.00	0.00	29.1	0.0	29.1	27.6	1.57	18.526	
500.0	500.0	500.0	500.0	1.0	1.0	0.00	0.00	29.1	0.0	29.1	27.1	2.02	14.409	
600.0	600.0	600.0	600.0	1.2	1.2	0.00	0.00	29.1	0.0	29.1	26.7	2.47	11.789	
700.0	700.0	700.0	700.0	1.5	1.5	0.00	0.00	29.1	0.0	29.1	26.2	2.92	9.976	
800.0	800.0	800.0	800.0	1.7	1.7	0.00	0.00	29.1	0.0	29.1	25.8	3.37	8.646	
900.0	900.0	900.0	900.0	1.9	1.9	0.00	0.00	29.1	0.0	29.1	25.3	3.82	7.628	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	0.00	0.00	29.1	0.0	29.1	24.9	4.27	6.825	
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	0.00	0.00	29.1	0.0	29.1	24.4	4.72	6.175	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	0.00	0.00	29.1	0.0	29.1	24.0	5.17	5.638 CC, ES	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-148.68	-148.68	29.1	0.0	30.6	25.0	5.59	5.476	
1,400.0	1,399.8	1,399.8	1,399.8	3.0	3.0	-153.07	-153.07	29.1	0.0	35.2	29.2	5.99	5.876	
1,500.0	1,499.5	1,499.5	1,499.5	3.2	3.3	-158.26	-158.26	29.1	0.0	43.2	36.8	6.39	6.753	
1,600.0	1,598.7	1,598.0	1,597.9	3.4	3.5	-161.22	-161.22	30.2	1.3	55.1	48.3	6.79	8.109	
1,700.0	1,698.0	1,696.1	1,695.9	3.6	3.7	-160.70	-160.70	33.4	5.2	69.1	61.8	7.21	9.579	
1,800.0	1,797.2	1,793.6	1,793.1	3.9	3.9	-158.29	-158.29	38.7	11.6	84.6	76.9	7.64	11.067	
1,900.0	1,896.4	1,892.0	1,890.9	4.1	4.1	-155.60	-155.60	45.3	19.7	101.2	93.1	8.09	12.509	
2,000.0	1,995.6	1,990.5	1,988.9	4.4	4.4	-153.65	-153.65	52.0	27.8	118.0	109.5	8.55	13.803	
2,100.0	2,094.8	2,089.0	2,086.8	4.7	4.6	-152.19	-152.19	58.6	35.8	134.9	125.9	9.02	14.960	
2,200.0	2,194.0	2,187.5	2,184.8	4.9	4.9	-151.06	-151.06	65.3	43.9	151.9	142.4	9.49	15.997	
2,300.0	2,293.3	2,286.0	2,282.7	5.2	5.1	-150.15	-150.15	71.9	52.0	168.9	158.9	9.98	16.929	
2,400.0	2,392.5	2,384.5	2,380.7	5.5	5.4	-149.41	-149.41	78.6	60.1	186.0	175.5	10.47	17.767	
2,500.0	2,491.7	2,483.1	2,478.6	5.8	5.6	-148.79	-148.79	85.2	68.2	203.0	192.1	10.96	18.525	
2,600.0	2,590.9	2,581.6	2,576.6	6.1	5.9	-148.27	-148.27	91.9	76.3	220.1	208.7	11.46	19.211	
2,700.0	2,690.1	2,680.1	2,674.5	6.4	6.2	-147.83	-147.83	98.5	84.4	237.2	225.3	11.96	19.836	
2,800.0	2,789.4	2,778.6	2,772.5	6.7	6.4	-147.44	-147.44	105.2	92.4	254.4	241.9	12.47	20.405	
2,900.0	2,888.6	2,877.1	2,870.4	7.1	6.7	-147.11	-147.11	111.8	100.5	271.5	258.5	12.97	20.926	
3,000.0	2,987.8	2,975.6	2,968.4	7.4	7.0	-146.81	-146.81	118.5	108.6	288.6	275.2	13.48	21.405	
3,100.0	3,087.0	3,074.1	3,066.3	7.7	7.3	-146.55	-146.55	125.1	116.7	305.8	291.8	14.00	21.845	
3,200.0	3,186.2	3,172.6	3,164.3	8.0	7.5	-146.31	-146.31	131.8	124.8	322.9	308.4	14.51	22.251	
3,300.0	3,285.4	3,271.1	3,262.2	8.3	7.8	-146.10	-146.10	138.4	132.9	340.1	325.1	15.03	22.627	
3,400.0	3,384.7	3,369.6	3,360.2	8.6	8.1	-145.91	-145.91	145.1	141.0	357.3	341.7	15.55	22.976	
3,500.0	3,483.9	3,468.1	3,458.2	8.9	8.4	-145.73	-145.73	151.7	149.0	374.4	358.4	16.07	23.300	
3,600.0	3,583.1	3,566.7	3,556.1	9.3	8.7	-145.57	-145.57	158.4	157.1	391.6	375.0	16.59	23.602	
3,700.0	3,682.3	3,665.2	3,654.1	9.6	8.9	-145.43	-145.43	165.0	165.2	408.8	391.7	17.12	23.884	
3,800.0	3,781.5	3,763.7	3,752.0	9.9	9.2	-145.29	-145.29	171.7	173.3	425.9	408.3	17.64	24.147	
3,900.0	3,880.8	3,862.2	3,850.0	10.2	9.5	-145.17	-145.17	178.3	181.4	443.1	425.0	18.16	24.395	
4,000.0	3,980.0	3,960.7	3,947.9	10.5	9.8	-145.06	-145.06	185.0	189.5	460.3	441.6	18.69	24.627	
4,100.0	4,079.2	4,059.2	4,045.9	10.9	10.1	-144.95	-144.95	191.6	197.6	477.5	458.3	19.22	24.845	
4,200.0	4,178.4	4,157.7	4,143.8	11.2	10.4	-144.85	-144.85	198.3	205.6	494.7	474.9	19.75	25.051	
4,300.0	4,277.6	4,256.2	4,241.8	11.5	10.6	-144.76	-144.76	204.9	213.7	511.8	491.6	20.27	25.245	
4,400.0	4,376.8	4,354.7	4,339.7	11.8	10.9	-144.68	-144.68	211.5	221.8	529.0	508.2	20.80	25.429	
4,500.0	4,476.1	4,453.2	4,437.7	12.2	11.2	-144.59	-144.59	218.2	229.9	546.2	524.9	21.33	25.602	
4,600.0	4,575.3	4,551.8	4,535.6	12.5	11.5	-144.52	-144.52	224.8	238.0	563.4	541.5	21.87	25.767	
4,700.0	4,674.5	4,650.3	4,633.6	12.8	11.8	-144.45	-144.45	231.5	246.1	580.6	558.2	22.40	25.923	
4,800.0	4,773.7	4,748.8	4,731.5	13.1	12.1	-144.38	-144.38	238.1	254.2	597.8	574.8	22.93	26.071	
4,900.0	4,872.9	4,847.3	4,829.5	13.5	12.4	-144.32	-144.32	244.8	262.2	615.0	591.5	23.46	26.212	
5,000.0	4,972.2	4,945.8	4,927.4	13.8	12.6	-144.26	-144.26	251.4	270.3	632.1	608.2	23.99	26.347	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,071.4	5,044.3	5,025.4	14.1	12.9	-144.20		258.1	278.4	649.3	624.8	24.53	26.475	
5,200.0	5,170.6	5,142.8	5,123.3	14.4	13.2	-144.15		264.7	286.5	666.5	641.5	25.06	26.597	
5,300.0	5,269.8	5,246.2	5,226.2	14.8	13.5	-144.10		271.6	294.9	683.6	658.0	25.60	26.709	
5,400.0	5,369.0	5,364.0	5,343.6	15.1	13.8	-144.27		277.2	301.7	698.8	672.7	26.10	26.773	
5,500.0	5,468.2	5,482.5	5,462.0	15.4	14.0	-144.73		279.8	304.8	711.2	684.6	26.56	26.776	
5,600.0	5,567.5	5,587.9	5,567.5	15.8	14.2	-145.32		279.9	305.0	721.6	694.6	26.99	26.731	
5,700.0	5,666.7	5,687.2	5,666.7	16.1	14.3	-145.90		279.9	305.0	731.8	704.4	27.45	26.662	
5,800.0	5,766.2	5,786.7	5,766.2	16.3	14.5	-146.42		279.9	305.0	740.1	712.2	27.89	26.539	
5,900.0	5,866.0	5,886.4	5,866.0	16.5	14.7	-146.75		279.9	305.0	745.4	717.1	28.30	26.344	
6,000.0	5,965.9	5,986.4	5,965.9	16.7	14.9	-146.90		279.9	305.0	747.9	719.2	28.68	26.078	
6,100.0	6,065.9	6,086.4	6,065.9	16.8	15.1	0.00		279.9	305.0	748.0	718.0	30.01	24.924	
6,200.0	6,165.9	6,186.4	6,165.9	17.0	15.3	0.00		279.9	305.0	748.0	717.7	30.37	24.630	
6,300.0	6,265.9	6,286.4	6,265.9	17.1	15.5	0.00		279.9	305.0	748.0	717.3	30.73	24.341	
6,360.1	6,326.0	6,346.5	6,326.0	17.2	15.6	-0.02		279.9	304.8	748.0	717.1	30.95	24.171	
6,400.0	6,365.9	6,386.3	6,365.8	17.3	15.7	-0.17		279.9	302.8	748.1	717.0	31.08	24.066	
6,500.0	6,465.9	6,484.3	6,462.7	17.4	15.8	-1.21		279.9	289.3	748.2	716.8	31.43	23.807	
6,600.0	6,565.9	6,577.8	6,553.0	17.6	15.8	87.00		279.9	264.8	749.1	718.6	30.58	24.496	
6,700.0	6,664.9	6,668.3	6,636.8	17.6	15.8	85.14		279.9	230.8	750.9	720.2	30.66	24.489	
6,800.0	6,761.4	6,756.6	6,714.1	17.7	15.8	83.37		279.9	188.4	753.3	722.6	30.70	24.536	
6,900.0	6,853.7	6,842.8	6,784.4	17.7	15.8	81.72		279.9	138.6	756.2	725.5	30.77	24.579	
7,000.0	6,940.2	6,927.3	6,847.5	17.7	15.9	80.21		279.9	82.4	759.5	728.5	30.95	24.541	
7,100.0	7,019.3	7,010.4	6,903.1	17.7	16.1	78.85		279.9	20.7	762.8	731.4	31.33	24.345	
7,200.0	7,089.9	7,092.2	6,950.9	17.6	16.6	77.66		279.9	-45.7	766.0	734.0	32.04	23.909	
7,300.0	7,150.6	7,173.1	6,991.0	17.6	17.3	76.66		279.8	-115.9	769.0	735.8	33.17	23.181	
7,400.0	7,200.4	7,250.0	7,022.0	17.6	18.2	75.86		279.8	-186.2	771.6	736.8	34.74	22.211	
7,500.0	7,238.5	7,332.7	7,047.3	18.6	19.4	75.22		279.8	-264.9	773.6	736.7	36.90	20.964	
7,600.0	7,264.3	7,411.8	7,063.4	20.2	20.7	74.81		279.8	-342.3	775.0	735.5	39.49	19.624	
7,700.0	7,277.8	7,490.6	7,071.4	22.0	22.1	74.57		279.7	-420.6	775.9	733.4	42.49	18.259	
7,800.0	7,286.8	7,579.2	7,072.2	23.9	23.8	74.01		279.7	-509.3	778.0	732.1	45.92	16.944	
7,900.0	7,288.5	7,679.2	7,072.0	26.0	25.9	73.85		279.7	-609.3	778.5	728.6	49.89	15.605	
8,000.0	7,288.4	7,779.2	7,071.7	28.3	28.1	73.84		279.7	-709.3	778.5	724.4	54.14	14.381	
8,100.0	7,288.4	7,879.2	7,071.4	30.6	30.5	73.82		279.6	-809.3	778.6	720.0	58.58	13.291	
8,200.0	7,288.3	7,979.2	7,071.2	32.9	32.8	73.81		279.6	-909.3	778.6	715.4	63.17	12.326	
8,300.0	7,288.2	8,079.2	7,070.9	35.4	35.3	73.79		279.6	-1,009.3	778.6	710.8	67.88	11.471	
8,400.0	7,288.2	8,179.2	7,070.7	37.9	37.8	73.78		279.6	-1,109.3	778.7	706.0	72.68	10.713	
8,500.0	7,288.1	8,279.2	7,070.4	40.4	40.3	73.76		279.5	-1,209.3	778.7	701.1	77.57	10.039	
8,600.0	7,288.0	8,379.2	7,070.1	43.0	42.9	73.75		279.5	-1,309.3	778.7	696.2	82.52	9.437	
8,700.0	7,288.0	8,479.2	7,069.9	45.6	45.5	73.74		279.5	-1,409.3	778.7	691.2	87.52	8.898	
8,800.0	7,287.9	8,579.2	7,069.6	48.2	48.1	73.72		279.4	-1,509.3	778.8	686.2	92.57	8.413	
8,900.0	7,287.8	8,679.2	7,069.3	50.8	50.8	73.71		279.4	-1,609.3	778.8	681.1	97.65	7.975	
9,000.0	7,287.8	8,779.2	7,069.1	53.5	53.4	73.69		279.4	-1,709.3	778.8	676.1	102.77	7.579	
9,100.0	7,287.7	8,879.2	7,068.8	56.2	56.1	73.68		279.4	-1,809.3	778.8	670.9	107.91	7.218	
9,200.0	7,287.6	8,979.2	7,068.6	58.8	58.8	73.67		279.3	-1,909.3	778.9	665.8	113.07	6.888	
9,300.0	7,287.5	9,079.2	7,068.3	61.5	61.5	73.65		279.3	-2,009.3	778.9	660.6	118.26	6.586	
9,400.0	7,287.5	9,179.2	7,068.0	64.2	64.2	73.64		279.3	-2,109.3	778.9	655.5	123.46	6.309	
9,500.0	7,287.4	9,279.2	7,067.8	67.0	66.9	73.62		279.3	-2,209.3	779.0	650.3	128.68	6.053	
9,600.0	7,287.3	9,379.2	7,067.5	69.7	69.6	73.61		279.2	-2,309.3	779.0	645.1	133.92	5.817	
9,700.0	7,287.3	9,479.2	7,067.3	72.4	72.4	73.60		279.2	-2,409.3	779.0	639.9	139.16	5.598	
9,800.0	7,287.2	9,579.2	7,067.0	75.1	75.1	73.58		279.2	-2,509.3	779.0	634.6	144.41	5.394	
9,900.0	7,287.1	9,679.2	7,066.7	77.9	77.8	73.57		279.1	-2,609.3	779.1	629.4	149.68	5.205	
10,000.0	7,287.1	9,779.2	7,066.5	80.6	80.6	73.55		279.1	-2,709.3	779.1	624.1	154.95	5.028	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,100.0	7,287.0	9,879.2	7,066.2	83.4	83.3	73.54	279.1	-2,809.3	779.1	618.9	160.23	4.863		
10,200.0	7,286.9	9,979.2	7,065.9	86.1	86.1	73.52	279.1	-2,909.3	779.2	613.6	165.52	4.707		
10,300.0	7,286.8	10,079.2	7,065.7	88.9	88.8	73.51	279.0	-3,009.3	779.2	608.4	170.81	4.562		
10,400.0	7,286.8	10,179.2	7,065.4	91.6	91.6	73.50	279.0	-3,109.3	779.2	603.1	176.11	4.425		
10,500.0	7,286.7	10,279.2	7,065.2	94.4	94.4	73.48	279.0	-3,209.3	779.2	597.8	181.41	4.295		
10,600.0	7,286.6	10,379.2	7,064.9	97.1	97.1	73.47	278.9	-3,309.2	779.3	592.5	186.71	4.174		
10,700.0	7,286.6	10,479.2	7,064.6	99.9	99.9	73.45	278.9	-3,409.2	779.3	587.3	192.02	4.058		
10,800.0	7,286.5	10,579.2	7,064.4	102.7	102.7	73.44	278.9	-3,509.2	779.3	582.0	197.34	3.949		
10,900.0	7,286.4	10,679.2	7,064.1	105.4	105.4	73.43	278.9	-3,609.2	779.3	576.7	202.66	3.846		
11,000.0	7,286.4	10,779.2	7,063.8	108.2	108.2	73.41	278.8	-3,709.2	779.4	571.4	207.98	3.747		
11,100.0	7,286.3	10,879.2	7,063.6	111.0	111.0	73.40	278.8	-3,809.2	779.4	566.1	213.30	3.654		
11,200.0	7,286.2	10,979.2	7,063.3	113.8	113.7	73.38	278.8	-3,909.2	779.4	560.8	218.62	3.565		
11,300.0	7,286.1	11,079.2	7,063.1	116.5	116.5	73.37	278.8	-4,009.2	779.5	555.5	223.95	3.481		
11,400.0	7,286.1	11,179.2	7,062.8	119.3	119.3	73.36	278.7	-4,109.2	779.5	550.2	229.28	3.400		
11,500.0	7,286.0	11,279.2	7,062.5	122.1	122.1	73.34	278.7	-4,209.2	779.5	544.9	234.61	3.323		
11,600.0	7,285.9	11,379.2	7,062.3	124.9	124.9	73.33	278.7	-4,309.2	779.5	539.6	239.94	3.249		
11,700.0	7,285.9	11,479.2	7,062.0	127.6	127.6	73.31	278.6	-4,409.2	779.6	534.3	245.27	3.178		
11,800.0	7,285.8	11,579.2	7,061.8	130.4	130.4	73.30	278.6	-4,509.2	779.6	529.0	250.61	3.111		
11,900.0	7,285.7	11,679.2	7,061.5	133.2	133.2	73.28	278.6	-4,609.2	779.6	523.7	255.95	3.046		
12,000.0	7,285.7	11,779.2	7,061.2	136.0	136.0	73.27	278.6	-4,709.2	779.7	518.4	261.28	2.984		
12,100.0	7,285.6	11,879.2	7,061.0	138.8	138.8	73.26	278.5	-4,809.2	779.7	513.1	266.62	2.924		
12,200.0	7,285.5	11,979.2	7,060.7	141.6	141.6	73.24	278.5	-4,909.2	779.7	507.8	271.96	2.867		
12,300.0	7,285.4	12,079.2	7,060.4	144.4	144.4	73.23	278.5	-5,009.2	779.7	502.4	277.30	2.812		
12,400.0	7,285.4	12,179.2	7,060.2	147.1	147.1	73.21	278.5	-5,109.2	779.8	497.1	282.64	2.759		
12,500.0	7,285.3	12,279.2	7,059.9	149.9	149.9	73.20	278.4	-5,209.2	779.8	491.8	287.98	2.708		
12,600.0	7,285.2	12,379.2	7,059.7	152.7	152.7	73.19	278.4	-5,309.2	779.8	486.5	293.32	2.659		
12,700.0	7,285.2	12,479.2	7,059.4	155.5	155.5	73.17	278.4	-5,409.2	779.9	481.2	298.66	2.611		
12,800.0	7,285.1	12,579.2	7,059.1	158.3	158.3	73.16	278.3	-5,509.2	779.9	475.9	304.01	2.565		
12,900.0	7,285.0	12,679.2	7,058.9	161.1	161.1	73.14	278.3	-5,609.2	779.9	470.6	309.35	2.521		
13,000.0	7,285.0	12,779.2	7,058.6	163.9	163.9	73.13	278.3	-5,709.2	780.0	465.3	314.69	2.478		
13,100.0	7,284.9	12,879.2	7,058.3	166.7	166.7	73.12	278.3	-5,809.2	780.0	459.9	320.03	2.437		
13,200.0	7,284.8	12,979.2	7,058.1	169.5	169.5	73.10	278.2	-5,909.2	780.0	454.6	325.38	2.397		
13,300.0	7,284.7	13,079.2	7,057.8	172.3	172.3	73.09	278.2	-6,009.2	780.0	449.3	330.72	2.359		
13,400.0	7,284.7	13,179.2	7,057.6	175.0	175.1	73.07	278.2	-6,109.2	780.1	444.0	336.06	2.321		
13,500.0	7,284.6	13,279.2	7,057.3	177.8	177.9	73.06	278.1	-6,209.2	780.1	438.7	341.41	2.285		
13,600.0	7,284.5	13,379.2	7,057.0	180.6	180.7	73.05	278.1	-6,309.2	780.1	433.4	346.75	2.250		
13,700.0	7,284.5	13,479.2	7,056.8	183.4	183.4	73.03	278.1	-6,409.2	780.2	428.1	352.09	2.216		
13,800.0	7,284.4	13,579.2	7,056.5	186.2	186.2	73.02	278.1	-6,509.2	780.2	422.8	357.44	2.183		
13,900.0	7,284.3	13,679.2	7,056.3	189.0	189.0	73.00	278.0	-6,609.2	780.2	417.4	362.78	2.151		
14,000.0	7,284.3	13,779.2	7,056.0	191.8	191.8	72.99	278.0	-6,709.2	780.2	412.1	368.12	2.120		
14,100.0	7,284.2	13,879.2	7,055.7	194.6	194.6	72.97	278.0	-6,809.2	780.3	406.8	373.46	2.089		
14,200.0	7,284.1	13,979.2	7,055.5	197.4	197.4	72.96	278.0	-6,909.2	780.3	401.5	378.81	2.060		
14,300.0	7,284.1	14,079.2	7,055.2	200.2	200.2	72.95	277.9	-7,009.2	780.3	396.2	384.15	2.031		
14,374.3	7,284.0	14,153.5	7,055.0	202.3	202.3	72.94	277.9	-7,083.6	780.4	392.2	388.11	2.011 SF		



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	91.1	0.0	91.1				
100.0	100.0	100.0	100.0	0.1	0.1	0.00	0.00	91.1	0.0	91.1	90.9	0.22	405.240	
200.0	200.0	200.0	200.0	0.3	0.3	0.00	0.00	91.1	0.0	91.1	90.4	0.67	135.080	
300.0	300.0	300.0	300.0	0.6	0.6	0.00	0.00	91.1	0.0	91.1	90.0	1.12	81.048	
400.0	400.0	400.0	400.0	0.8	0.8	0.00	0.00	91.1	0.0	91.1	89.5	1.57	57.891	
500.0	500.0	500.0	500.0	1.0	1.0	0.00	0.00	91.1	0.0	91.1	89.1	2.02	45.027	
600.0	600.0	600.0	600.0	1.2	1.2	0.00	0.00	91.1	0.0	91.1	88.6	2.47	36.840 CC, ES	
700.0	700.0	697.1	697.1	1.5	1.5	0.42	0.42	92.6	0.7	92.6	89.7	2.92	31.776	
800.0	800.0	794.1	793.9	1.7	1.7	1.58	1.58	97.1	2.7	97.3	93.9	3.36	28.954	
900.0	900.0	890.5	890.0	1.9	1.9	3.29	3.29	104.5	6.0	105.2	101.4	3.81	27.613	
1,000.0	1,000.0	986.4	985.2	2.1	2.1	5.28	5.28	114.8	10.6	116.3	112.0	4.26	27.298 SF	
1,100.0	1,100.0	1,084.8	1,082.7	2.4	2.4	7.25	7.25	127.3	16.2	129.5	124.8	4.72	27.468	
1,200.0	1,200.0	1,183.8	1,180.7	2.6	2.7	8.87	8.87	140.0	21.9	143.0	137.8	5.17	27.632	
1,300.0	1,300.0	1,282.7	1,278.6	2.8	3.0	-136.93	-136.93	152.6	27.5	157.8	152.2	5.61	28.102	
1,400.0	1,399.8	1,381.2	1,376.1	3.0	3.3	-136.75	-136.75	165.1	33.1	175.1	169.1	6.03	29.056	
1,500.0	1,499.5	1,479.1	1,473.1	3.2	3.6	-137.23	-137.23	177.6	38.7	194.9	188.5	6.44	30.248	
1,600.0	1,598.7	1,576.6	1,569.6	3.4	3.9	-138.25	-138.25	190.1	44.2	217.1	210.2	6.88	31.567	
1,700.0	1,698.0	1,673.9	1,666.0	3.6	4.2	-139.31	-139.31	202.5	49.8	239.8	232.5	7.33	32.723	
1,800.0	1,797.2	1,771.2	1,762.3	3.9	4.6	-140.20	-140.20	214.9	55.3	262.6	254.8	7.79	33.710	
1,900.0	1,896.4	1,868.5	1,858.6	4.1	4.9	-140.94	-140.94	227.3	60.9	285.4	277.2	8.26	34.561	
2,000.0	1,995.6	1,965.8	1,955.0	4.4	5.2	-141.57	-141.57	239.7	66.4	308.3	299.5	8.73	35.298	
2,100.0	2,094.8	2,063.1	2,051.3	4.7	5.5	-142.12	-142.12	252.1	72.0	331.2	321.9	9.21	35.941	
2,200.0	2,194.0	2,160.4	2,147.7	4.9	5.8	-142.60	-142.60	264.5	77.5	354.1	344.4	9.70	36.507	
2,300.0	2,293.3	2,257.7	2,244.0	5.2	6.2	-143.01	-143.01	276.9	83.1	377.0	366.8	10.19	37.007	
2,400.0	2,392.5	2,355.0	2,340.4	5.5	6.5	-143.38	-143.38	289.3	88.6	400.0	389.3	10.68	37.451	
2,500.0	2,491.7	2,452.3	2,436.7	5.8	6.8	-143.71	-143.71	301.7	94.2	422.9	411.8	11.17	37.848	
2,600.0	2,590.9	2,549.6	2,533.1	6.1	7.1	-144.01	-144.01	314.1	99.7	445.9	434.2	11.67	38.204	
2,700.0	2,690.1	2,646.9	2,629.4	6.4	7.5	-144.27	-144.27	326.5	105.3	468.9	456.7	12.17	38.525	
2,800.0	2,789.4	2,744.2	2,725.8	6.7	7.8	-144.52	-144.52	339.0	110.8	491.9	479.2	12.67	38.816	
2,900.0	2,888.6	2,841.5	2,822.1	7.1	8.1	-144.74	-144.74	351.4	116.4	514.9	501.7	13.17	39.081	
3,000.0	2,987.8	2,938.8	2,918.5	7.4	8.4	-144.94	-144.94	363.8	121.9	537.9	524.2	13.68	39.322	
3,100.0	3,087.0	3,036.1	3,014.8	7.7	8.8	-145.12	-145.12	376.2	127.4	560.9	546.7	14.18	39.543	
3,200.0	3,186.2	3,133.4	3,111.1	8.0	9.1	-145.29	-145.29	388.6	133.0	583.9	569.2	14.69	39.746	
3,300.0	3,285.4	3,230.7	3,207.5	8.3	9.4	-145.45	-145.45	401.0	138.5	607.0	591.8	15.20	39.933	
3,400.0	3,384.7	3,328.0	3,303.8	8.6	9.7	-145.59	-145.59	413.4	144.1	630.0	614.3	15.71	40.106	
3,500.0	3,483.9	3,425.3	3,400.2	8.9	10.1	-145.73	-145.73	425.8	149.6	653.0	636.8	16.22	40.266	
3,600.0	3,583.1	3,522.6	3,496.5	9.3	10.4	-145.86	-145.86	438.2	155.2	676.1	659.3	16.73	40.415	
3,700.0	3,682.3	3,619.9	3,592.9	9.6	10.7	-145.97	-145.97	450.6	160.7	699.1	681.9	17.24	40.554	
3,800.0	3,781.5	3,717.2	3,689.2	9.9	11.1	-146.09	-146.09	463.0	166.3	722.1	704.4	17.75	40.683	
3,900.0	3,880.8	3,814.5	3,785.6	10.2	11.4	-146.19	-146.19	475.4	171.8	745.2	726.9	18.26	40.803	
4,000.0	3,980.0	3,911.8	3,881.9	10.5	11.7	-146.29	-146.29	487.8	177.4	768.2	749.5	18.78	40.916	
4,100.0	4,079.2	4,009.1	3,978.3	10.9	12.0	-146.38	-146.38	500.3	182.9	791.3	772.0	19.29	41.022	
4,200.0	4,178.4	4,106.4	4,074.6	11.2	12.4	-146.46	-146.46	512.7	188.5	814.3	794.5	19.80	41.122	
4,300.0	4,277.6	4,203.7	4,171.0	11.5	12.7	-146.55	-146.55	525.1	194.0	837.4	817.1	20.32	41.216	
4,400.0	4,376.8	4,301.0	4,267.3	11.8	13.0	-146.62	-146.62	537.5	199.6	860.4	839.6	20.83	41.304	
4,500.0	4,476.1	4,398.3	4,363.6	12.2	13.4	-146.70	-146.70	549.9	205.1	883.5	862.1	21.35	41.387	
4,600.0	4,575.3	4,495.6	4,460.0	12.5	13.7	-146.77	-146.77	562.3	210.6	906.5	884.7	21.86	41.466	
4,700.0	4,674.5	4,592.9	4,556.3	12.8	14.0	-146.83	-146.83	574.7	216.2	929.6	907.2	22.38	41.541	
4,800.0	4,773.7	4,690.2	4,652.7	13.1	14.3	-146.90	-146.90	587.1	221.7	952.7	929.8	22.89	41.612	
4,900.0	4,872.9	4,787.5	4,749.0	13.5	14.7	-146.96	-146.96	599.5	227.3	975.7	952.3	23.41	41.679	
5,000.0	4,972.2	4,884.8	4,845.4	13.8	15.0	-147.01	-147.01	611.9	232.8	998.8	974.8	23.93	41.743	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis 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	
0.0	0.0	0.0	0.0	0.0	0.0	0.00	61.9	0.0	61.9					
100.0	100.0	100.0	100.0	0.1	0.1	0.00	61.9	0.0	61.9	61.7	0.22	275.575		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	61.9	0.0	61.9	61.3	0.67	91.858		
300.0	300.0	300.0	300.0	0.6	0.6	0.00	61.9	0.0	61.9	60.8	1.12	55.115		
400.0	400.0	400.0	400.0	0.8	0.8	0.00	61.9	0.0	61.9	60.4	1.57	39.368		
500.0	500.0	500.0	500.0	1.0	1.0	0.00	61.9	0.0	61.9	59.9	2.02	30.619		
600.0	600.0	600.0	600.0	1.2	1.2	0.00	61.9	0.0	61.9	59.5	2.47	25.052		
700.0	700.0	700.0	700.0	1.5	1.5	0.00	61.9	0.0	61.9	59.0	2.92	21.198		
800.0	800.0	800.0	800.0	1.7	1.7	0.00	61.9	0.0	61.9	58.6	3.37	18.372		
900.0	900.0	900.0	900.0	1.9	1.9	0.00	61.9	0.0	61.9	58.1	3.82	16.210		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	0.00	61.9	0.0	61.9	57.7	4.27	14.504 CC, ES		
1,100.0	1,100.0	1,098.4	1,098.4	2.4	2.4	1.06	63.2	1.2	63.2	58.5	4.71	13.407		
1,200.0	1,200.0	1,196.6	1,196.5	2.6	2.6	3.99	66.8	4.7	67.1	61.9	5.16	13.008		
1,300.0	1,300.0	1,294.3	1,293.8	2.8	2.8	-139.51	72.9	10.4	75.2	69.6	5.58	13.471		
1,400.0	1,399.8	1,392.2	1,391.1	3.0	3.0	-137.13	81.0	18.3	88.5	82.5	5.99	14.772		
1,500.0	1,499.5	1,490.9	1,489.0	3.2	3.3	-136.48	89.6	26.4	104.8	98.4	6.41	16.351		
1,600.0	1,598.7	1,589.1	1,586.5	3.4	3.5	-137.06	98.1	34.6	123.4	116.5	6.84	18.032		
1,700.0	1,698.0	1,687.3	1,684.0	3.6	3.8	-137.76	106.6	42.7	142.4	135.1	7.29	19.525		
1,800.0	1,797.2	1,785.5	1,781.4	3.9	4.1	-138.30	115.1	50.8	161.4	153.7	7.76	20.814		
1,900.0	1,896.4	1,883.6	1,878.9	4.1	4.4	-138.72	123.6	59.0	180.5	172.2	8.23	21.932		
2,000.0	1,995.6	1,981.8	1,976.4	4.4	4.6	-139.07	132.1	67.1	199.5	190.8	8.71	22.908		
2,100.0	2,094.8	2,079.9	2,073.8	4.7	4.9	-139.35	140.6	75.2	218.6	209.4	9.20	23.765		
2,200.0	2,194.0	2,178.1	2,171.3	4.9	5.2	-139.59	149.1	83.4	237.6	227.9	9.69	24.521		
2,300.0	2,293.3	2,276.3	2,268.7	5.2	5.5	-139.79	157.6	91.5	256.7	246.5	10.19	25.191		
2,400.0	2,392.5	2,374.4	2,366.2	5.5	5.8	-139.97	166.1	99.6	275.8	265.1	10.69	25.789		
2,500.0	2,491.7	2,472.6	2,463.6	5.8	6.1	-140.12	174.6	107.7	294.8	283.6	11.20	26.325		
2,600.0	2,590.9	2,570.7	2,561.1	6.1	6.4	-140.25	183.1	115.9	313.9	302.2	11.71	26.807		
2,700.0	2,690.1	2,668.9	2,658.5	6.4	6.7	-140.37	191.6	124.0	333.0	320.8	12.22	27.243		
2,800.0	2,789.4	2,767.1	2,756.0	6.7	7.0	-140.47	200.1	132.1	352.1	339.3	12.74	27.638		
2,900.0	2,888.6	2,865.2	2,853.4	7.1	7.3	-140.57	208.6	140.3	371.2	357.9	13.26	27.999		
3,000.0	2,987.8	2,963.4	2,950.9	7.4	7.6	-140.65	217.1	148.4	390.2	376.5	13.78	28.328		
3,100.0	3,087.0	3,061.6	3,048.3	7.7	7.9	-140.73	225.6	156.5	409.3	395.0	14.30	28.630		
3,200.0	3,186.2	3,159.7	3,145.8	8.0	8.2	-140.80	234.1	164.7	428.4	413.6	14.82	28.908		
3,300.0	3,285.4	3,257.9	3,243.3	8.3	8.5	-140.87	242.6	172.8	447.5	432.1	15.34	29.164		
3,400.0	3,384.7	3,356.0	3,340.7	8.6	8.8	-140.93	251.1	180.9	466.6	450.7	15.87	29.401		
3,500.0	3,483.9	3,454.2	3,438.2	8.9	9.1	-140.98	259.6	189.1	485.6	469.2	16.40	29.621		
3,600.0	3,583.1	3,552.4	3,535.6	9.3	9.4	-141.03	268.1	197.2	504.7	487.8	16.92	29.825		
3,700.0	3,682.3	3,650.5	3,633.1	9.6	9.7	-141.08	276.6	205.3	523.8	506.4	17.45	30.016		
3,800.0	3,781.5	3,748.7	3,730.5	9.9	10.0	-141.12	285.1	213.5	542.9	524.9	17.98	30.194		
3,900.0	3,880.8	3,846.8	3,828.0	10.2	10.3	-141.16	293.6	221.6	562.0	543.5	18.51	30.360		
4,000.0	3,980.0	3,945.0	3,925.4	10.5	10.6	-141.20	302.1	229.7	581.1	562.0	19.04	30.516		
4,100.0	4,079.2	4,043.2	4,022.9	10.9	10.9	-141.24	310.6	237.8	600.1	580.6	19.57	30.663		
4,200.0	4,178.4	4,141.3	4,120.3	11.2	11.2	-141.27	319.1	246.0	619.2	599.1	20.10	30.800		
4,300.0	4,277.6	4,239.5	4,217.8	11.5	11.5	-141.30	327.6	254.1	638.3	617.7	20.64	30.930		
4,400.0	4,376.8	4,337.7	4,315.3	11.8	11.8	-141.33	336.1	262.2	657.4	636.2	21.17	31.053		
4,500.0	4,476.1	4,435.8	4,412.7	12.2	12.1	-141.36	344.6	270.4	676.5	654.8	21.70	31.169		
4,600.0	4,575.3	4,534.0	4,510.2	12.5	12.4	-141.38	353.1	278.5	695.6	673.3	22.24	31.279		
4,700.0	4,674.5	4,632.1	4,607.6	12.8	12.7	-141.41	361.6	286.6	714.6	691.9	22.77	31.383		
4,800.0	4,773.7	4,742.5	4,717.2	13.1	13.0	-141.47	370.7	295.3	733.3	710.0	23.30	31.472		
4,900.0	4,872.9	4,866.1	4,840.5	13.5	13.3	-141.75	377.6	301.9	749.1	725.3	23.80	31.475		
5,000.0	4,972.2	4,990.7	4,964.9	13.8	13.5	-142.28	380.7	304.9	761.6	737.3	24.28	31.372		

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	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
5,100.0	5,071.4	5,097.1	5,071.4	14.1	13.7	-142.87		380.8	305.0	771.7	747.0	24.72	31.214	
5,200.0	5,170.6	5,196.3	5,170.6	14.4	13.9	-143.42		380.8	305.0	781.7	756.5	25.18	31.044	
5,300.0	5,269.8	5,295.5	5,269.8	14.8	14.0	-143.96		380.8	305.0	791.8	766.2	25.64	30.884	
5,400.0	5,369.0	5,394.7	5,369.0	15.1	14.2	-144.48		380.8	305.0	802.0	775.9	26.10	30.732	
5,500.0	5,468.2	5,493.9	5,468.2	15.4	14.4	-144.99		380.8	305.0	812.2	785.6	26.55	30.589	
5,600.0	5,567.5	5,593.2	5,567.5	15.8	14.6	-145.49		380.8	305.0	822.5	795.4	27.01	30.454	
5,700.0	5,666.7	5,692.4	5,666.7	16.1	14.8	-146.00		380.8	305.0	832.7	805.2	27.47	30.314	
5,800.0	5,766.2	5,791.9	5,766.2	16.3	14.9	-146.47		380.8	305.0	840.9	813.0	27.92	30.124	
5,900.0	5,866.0	5,891.7	5,866.0	16.5	15.1	-146.77		380.8	305.0	846.3	818.0	28.33	29.870	
6,000.0	5,965.9	5,991.6	5,965.9	16.7	15.3	-146.90		380.8	305.0	848.8	820.0	28.72	29.552	
6,100.0	6,065.9	6,091.6	6,065.9	16.8	15.5	0.00		380.8	305.0	848.9	818.5	30.45	27.876	
6,200.0	6,165.9	6,191.6	6,165.9	17.0	15.7	0.00		380.8	305.0	848.9	818.1	30.81	27.557	
6,300.0	6,265.9	6,291.6	6,265.9	17.1	15.9	0.00		380.8	305.0	848.9	817.8	31.16	27.243	
6,400.0	6,365.9	6,391.6	6,365.9	17.3	16.1	0.00		380.8	305.0	848.9	817.4	31.52	26.934	
6,500.0	6,465.9	6,491.6	6,465.9	17.4	16.3	0.00		380.8	305.0	848.9	817.1	31.88	26.630	
6,600.0	6,565.9	6,591.6	6,565.9	17.6	16.4	90.03		380.8	303.7	848.9	818.0	30.97	27.412	
6,700.0	6,664.9	6,690.6	6,664.9	17.6	16.5	90.08		380.8	291.2	848.9	817.7	31.19	27.217	
6,800.0	6,764.4	6,790.1	6,764.4	17.7	16.6	90.14		380.6	265.6	848.7	817.4	31.30	27.114	
6,900.0	6,863.7	6,889.4	6,863.7	17.7	16.6	90.19		380.4	227.4	848.6	817.2	31.37	27.050	
7,000.0	6,963.2	6,988.9	6,963.2	17.7	16.6	90.24		380.2	177.3	848.3	816.8	31.48	26.945	
7,100.0	7,062.7	7,088.4	7,062.7	17.7	16.6	90.29		379.9	116.0	848.0	816.2	31.77	26.689	
7,200.0	7,162.2	7,187.9	7,162.2	17.6	16.6	90.33		379.5	44.7	847.6	815.2	32.40	26.162	
7,300.0	7,261.7	7,287.4	7,261.7	17.6	17.0	90.36		379.1	-35.5	847.2	813.7	33.52	25.276	
7,400.0	7,361.2	7,386.9	7,361.2	17.6	17.8	90.39		378.7	-123.0	846.8	811.6	35.25	24.024	
7,500.0	7,460.7	7,486.4	7,460.7	18.6	19.1	90.41		378.2	-216.4	846.3	808.7	37.63	22.490	
7,600.0	7,560.2	7,585.9	7,560.2	20.2	20.6	90.43		377.7	-314.0	845.8	805.2	40.63	20.820	
7,700.0	7,659.7	7,685.4	7,659.7	22.0	22.3	90.44		377.2	-413.6	845.3	801.2	44.12	19.160	
7,800.0	7,759.2	7,784.9	7,759.2	23.9	24.3	90.44		376.7	-513.6	844.8	796.8	48.00	17.602	
7,900.0	7,858.7	7,884.4	7,858.7	26.0	26.4	90.44		376.2	-613.9	844.3	792.2	52.16	16.187	
8,000.0	7,958.2	7,983.9	7,958.2	28.3	28.6	90.44		375.7	-713.9	843.8	787.3	56.56	14.919	
8,100.0	8,057.7	8,083.4	8,057.7	30.6	30.9	90.45		375.2	-813.9	843.3	782.2	61.16	13.788	
8,200.0	8,157.2	8,182.9	8,157.2	32.9	33.2	90.46		374.7	-913.9	842.8	776.9	65.92	12.786	
8,300.0	8,256.7	8,282.4	8,256.7	35.4	35.7	90.46		374.2	-1,013.9	842.3	771.5	70.80	11.897	
8,400.0	8,356.2	8,381.9	8,356.2	37.9	38.1	90.47		373.7	-1,113.9	841.8	766.0	75.78	11.108	
8,500.0	8,455.7	8,481.4	8,455.7	40.4	40.7	90.47		373.2	-1,213.9	841.3	760.5	80.85	10.406	
8,600.0	8,555.2	8,580.9	8,555.2	43.0	43.2	90.48		372.7	-1,313.9	840.8	754.8	85.98	9.779	
8,700.0	8,654.7	8,680.4	8,654.7	45.6	45.8	90.48		372.2	-1,413.9	840.3	749.1	91.17	9.217	
8,800.0	8,754.2	8,779.9	8,754.2	48.2	48.4	90.49		371.6	-1,513.9	839.8	743.4	96.41	8.711	
8,900.0	8,853.7	8,879.4	8,853.7	50.8	51.1	90.49		371.1	-1,613.9	839.3	737.6	101.69	8.254	
9,000.0	8,953.2	8,978.9	8,953.2	53.5	53.7	90.50		370.6	-1,713.9	838.8	731.8	107.00	7.839	
9,100.0	9,052.7	9,078.4	9,052.7	56.2	56.4	90.50		370.1	-1,813.9	838.3	725.9	112.34	7.462	
9,200.0	9,152.2	9,177.9	9,152.2	58.8	59.0	90.51		369.6	-1,913.9	837.8	720.1	117.70	7.118	
9,300.0	9,251.7	9,277.4	9,251.7	61.5	61.7	90.51		369.1	-2,013.9	837.3	714.2	123.09	6.802	
9,400.0	9,351.2	9,376.9	9,351.2	64.2	64.4	90.52		368.6	-2,113.9	836.8	708.3	128.50	6.512	
9,500.0	9,450.7	9,476.4	9,450.7	67.0	67.1	90.52		368.1	-2,213.8	836.3	702.3	133.92	6.244	
9,600.0	9,550.2	9,575.9	9,550.2	69.7	69.9	90.53		367.6	-2,313.8	835.8	696.4	139.36	5.997	
9,700.0	9,649.7	9,675.4	9,649.7	72.4	72.6	90.53		367.1	-2,413.8	835.2	690.4	144.81	5.768	
9,800.0	9,749.2	9,774.9	9,749.2	75.1	75.3	90.54		366.6	-2,513.8	834.7	684.5	150.28	5.555	
9,900.0	9,848.7	9,874.4	9,848.7	77.9	78.0	90.54		366.1	-2,613.8	834.2	678.5	155.75	5.356	
10,000.0	9,948.2	9,973.9	9,948.2	80.6	80.8	90.55		365.6	-2,713.8	833.7	672.5	161.24	5.171	
10,100.0	10,047.7	10,073.4	10,047.7	83.4	83.5	90.55		365.1	-2,813.8	833.2	666.5	166.73	4.998	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32X-404 - Wellbore #1 - Plan #1 (4-14-14)													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	Offset	Semi Major Axis	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
10,200.0	7,286.9	10,202.3	7,295.0	86.1	86.3	90.56	364.6	-2,913.8	832.7	660.5	172.23	4.835		
10,300.0	7,286.8	10,302.3	7,295.0	88.9	89.0	90.56	364.1	-3,013.8	832.2	654.5	177.74	4.682		
10,400.0	7,286.8	10,402.3	7,295.0	91.6	91.8	90.57	363.6	-3,113.8	831.7	648.5	183.25	4.539		
10,500.0	7,286.7	10,502.3	7,295.0	94.4	94.5	90.57	363.1	-3,213.8	831.2	642.4	188.77	4.403		
10,600.0	7,286.6	10,602.3	7,295.0	97.1	97.3	90.58	362.6	-3,313.8	830.7	636.4	194.29	4.276		
10,700.0	7,286.6	10,702.3	7,295.0	99.9	100.1	90.58	362.0	-3,413.8	830.2	630.4	199.82	4.155		
10,800.0	7,286.5	10,802.3	7,295.0	102.7	102.8	90.59	361.5	-3,513.8	829.7	624.3	205.36	4.040		
10,900.0	7,286.4	10,902.3	7,295.0	105.4	105.6	90.59	361.0	-3,613.8	829.2	618.3	210.89	3.932		
11,000.0	7,286.4	11,002.3	7,295.0	108.2	108.4	90.60	360.5	-3,713.8	828.7	612.3	216.44	3.829		
11,100.0	7,286.3	11,102.3	7,295.0	111.0	111.1	90.60	360.0	-3,813.8	828.2	606.2	221.98	3.731		
11,200.0	7,286.2	11,202.3	7,295.0	113.8	113.9	90.61	359.5	-3,913.8	827.7	600.1	227.53	3.638		
11,300.0	7,286.1	11,302.3	7,295.0	116.5	116.7	90.61	359.0	-4,013.8	827.2	594.1	233.08	3.549		
11,400.0	7,286.1	11,402.3	7,295.0	119.3	119.4	90.62	358.5	-4,113.8	826.7	588.0	238.64	3.464		
11,500.0	7,286.0	11,502.3	7,295.0	122.1	122.2	90.62	358.0	-4,213.8	826.2	582.0	244.19	3.383		
11,600.0	7,285.9	11,602.3	7,295.0	124.9	125.0	90.63	357.5	-4,313.8	825.7	575.9	249.75	3.306		
11,700.0	7,285.9	11,702.3	7,295.0	127.6	127.8	90.63	357.0	-4,413.8	825.2	569.8	255.31	3.232		
11,800.0	7,285.8	11,802.3	7,295.0	130.4	130.6	90.64	356.5	-4,513.8	824.7	563.8	260.88	3.161		
11,900.0	7,285.7	11,902.3	7,295.0	133.2	133.3	90.64	356.0	-4,613.8	824.1	557.7	266.44	3.093		
12,000.0	7,285.7	12,002.3	7,295.0	136.0	136.1	90.65	355.5	-4,713.8	823.6	551.6	272.01	3.028		
12,100.0	7,285.6	12,102.3	7,295.0	138.8	138.9	90.66	355.0	-4,813.8	823.1	545.6	277.58	2.965		
12,200.0	7,285.5	12,202.3	7,295.0	141.6	141.7	90.66	354.5	-4,913.8	822.6	539.5	283.15	2.905		
12,300.0	7,285.4	12,302.3	7,295.0	144.4	144.5	90.67	354.0	-5,013.8	822.1	533.4	288.73	2.847		
12,400.0	7,285.4	12,402.3	7,295.0	147.1	147.3	90.67	353.5	-5,113.8	821.6	527.3	294.30	2.792		
12,500.0	7,285.3	12,502.3	7,295.0	149.9	150.1	90.68	353.0	-5,213.8	821.1	521.2	299.88	2.738		
12,600.0	7,285.2	12,602.3	7,295.0	152.7	152.8	90.68	352.4	-5,313.8	820.6	515.2	305.45	2.687		
12,700.0	7,285.2	12,702.3	7,295.0	155.5	155.6	90.69	351.9	-5,413.8	820.1	509.1	311.03	2.637		
12,800.0	7,285.1	12,802.3	7,295.0	158.3	158.4	90.69	351.4	-5,513.8	819.6	503.0	316.61	2.589		
12,900.0	7,285.0	12,902.3	7,295.0	161.1	161.2	90.70	350.9	-5,613.8	819.1	496.9	322.19	2.542		
13,000.0	7,285.0	13,002.3	7,295.0	163.9	164.0	90.70	350.4	-5,713.8	818.6	490.8	327.77	2.497		
13,100.0	7,284.9	13,102.3	7,295.0	166.7	166.8	90.71	349.9	-5,813.8	818.1	484.7	333.36	2.454		
13,200.0	7,284.8	13,202.3	7,295.0	169.5	169.6	90.71	349.4	-5,913.8	817.6	478.6	338.94	2.412		
13,300.0	7,284.7	13,302.3	7,295.0	172.3	172.4	90.72	348.9	-6,013.8	817.1	472.6	344.52	2.372		
13,400.0	7,284.7	13,402.3	7,295.0	175.0	175.2	90.72	348.4	-6,113.7	816.6	466.5	350.11	2.332		
13,500.0	7,284.6	13,502.3	7,295.0	177.8	178.0	90.73	347.9	-6,213.7	816.1	460.4	355.70	2.294		
13,600.0	7,284.5	13,602.3	7,295.0	180.6	180.7	90.74	347.4	-6,313.7	815.6	454.3	361.28	2.257		
13,700.0	7,284.5	13,702.3	7,295.0	183.4	183.5	90.74	346.9	-6,413.7	815.1	448.2	366.87	2.222		
13,800.0	7,284.4	13,802.3	7,295.0	186.2	186.3	90.75	346.4	-6,513.7	814.6	442.1	372.46	2.187		
13,900.0	7,284.3	13,902.3	7,295.0	189.0	189.1	90.75	345.9	-6,613.7	814.1	436.0	378.05	2.153		
14,000.0	7,284.3	14,002.3	7,295.0	191.8	191.9	90.76	345.4	-6,713.7	813.6	429.9	383.64	2.121		
14,100.0	7,284.2	14,102.3	7,295.0	194.6	194.7	90.76	344.9	-6,813.7	813.0	423.8	389.23	2.089		
14,200.0	7,284.1	14,202.3	7,295.0	197.4	197.5	90.77	344.4	-6,913.7	812.5	417.7	394.82	2.058		
14,300.0	7,284.1	14,302.3	7,295.0	200.2	200.3	90.77	343.9	-7,013.7	812.0	411.6	400.41	2.028		
14,374.3	7,284.0	14,376.6	7,295.0	202.3	202.4	90.78	343.5	-7,088.0	811.7	407.1	404.56	2.006 SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	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	1.0	1.0	0.0	0.0	180.00	180.00	-29.1	0.0	29.1	29.1	0.00	N/A	
100.0	100.0	101.0	101.0	0.1	0.1	180.00	180.00	-29.1	0.0	29.1	28.9	0.23	128.363	
200.0	200.0	201.0	201.0	0.3	0.3	180.00	180.00	-29.1	0.0	29.1	28.5	0.68	43.072	
300.0	300.0	301.0	301.0	0.6	0.6	180.00	180.00	-29.1	0.0	29.1	28.0	1.13	25.878	
400.0	400.0	401.0	401.0	0.8	0.8	180.00	180.00	-29.1	0.0	29.1	27.6	1.58	18.495	
500.0	500.0	501.0	501.0	1.0	1.0	180.00	180.00	-29.1	0.0	29.1	27.1	2.03	14.389	
600.0	600.0	601.0	601.0	1.2	1.2	180.00	180.00	-29.1	0.0	29.1	26.7	2.47	11.775	
700.0	700.0	701.0	701.0	1.5	1.5	180.00	180.00	-29.1	0.0	29.1	26.2	2.92	9.965	
800.0	800.0	801.0	801.0	1.7	1.7	180.00	180.00	-29.1	0.0	29.1	25.8	3.37	8.637	
900.0	900.0	901.0	901.0	1.9	1.9	180.00	180.00	-29.1	0.0	29.1	25.3	3.82	7.622	
966.3	966.3	967.3	967.3	2.1	2.1	180.00	180.00	-29.1	0.0	29.1	25.0	4.12	7.070 CC	
1,000.0	1,000.0	1,001.0	1,001.0	2.1	2.1	180.00	180.00	-29.1	0.0	29.1	24.9	4.27	6.820	
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.3	178.41	178.41	-30.7	0.9	30.7	26.0	4.69	6.539	
1,200.0	1,200.0	1,198.9	1,198.8	2.6	2.5	174.53	174.53	-35.2	3.4	35.4	30.3	5.10	6.943	
1,300.0	1,300.0	1,297.4	1,296.9	2.8	2.7	23.95	23.95	-42.6	7.5	41.9	36.4	5.48	7.636	
1,400.0	1,399.8	1,395.7	1,394.5	3.0	2.9	21.55	21.55	-53.0	13.3	48.5	42.6	5.85	8.289	
1,500.0	1,499.5	1,495.2	1,492.9	3.2	3.2	20.28	20.28	-65.5	20.3	54.1	47.9	6.23	8.693	
1,600.0	1,598.7	1,595.2	1,591.9	3.4	3.4	20.31	20.31	-78.1	27.3	56.9	50.2	6.63	8.584	
1,700.0	1,698.0	1,695.2	1,690.8	3.6	3.7	20.55	20.55	-90.7	34.4	59.0	52.0	7.05	8.378	
1,800.0	1,797.2	1,795.2	1,789.7	3.9	4.0	20.77	20.77	-103.3	41.4	61.2	53.7	7.48	8.183	
1,900.0	1,896.4	1,895.1	1,888.6	4.1	4.3	20.98	20.98	-115.9	48.5	63.4	55.5	7.93	8.000	
2,000.0	1,995.6	1,995.1	1,987.6	4.4	4.6	21.17	21.17	-128.5	55.5	65.6	57.2	8.38	7.828	
2,100.0	2,094.8	2,095.1	2,086.5	4.7	5.0	21.35	21.35	-141.2	62.5	67.8	58.9	8.84	7.668	
2,200.0	2,194.0	2,195.1	2,185.4	4.9	5.3	21.52	21.52	-153.8	69.6	69.9	60.6	9.30	7.519	
2,300.0	2,293.3	2,295.0	2,284.3	5.2	5.6	21.68	21.68	-166.4	76.6	72.1	62.3	9.77	7.380	
2,400.0	2,392.5	2,395.0	2,383.3	5.5	5.9	21.83	21.83	-179.0	83.7	74.3	64.1	10.25	7.251	
2,500.0	2,491.7	2,495.0	2,482.2	5.8	6.3	21.97	21.97	-191.6	90.7	76.5	65.8	10.73	7.130	
2,600.0	2,590.9	2,595.0	2,581.1	6.1	6.6	22.10	22.10	-204.2	97.8	78.7	67.5	11.21	7.018	
2,700.0	2,690.1	2,694.9	2,680.0	6.4	7.0	22.23	22.23	-216.9	104.8	80.8	69.2	11.70	6.913	
2,800.0	2,789.4	2,794.9	2,779.0	6.7	7.3	22.35	22.35	-229.5	111.8	83.0	70.8	12.18	6.815	
2,900.0	2,888.6	2,894.9	2,877.9	7.1	7.7	22.46	22.46	-242.1	118.9	85.2	72.5	12.68	6.722	
3,000.0	2,987.8	2,994.9	2,976.8	7.4	8.0	22.57	22.57	-254.7	125.9	87.4	74.2	13.17	6.636	
3,100.0	3,087.0	3,094.8	3,075.8	7.7	8.3	22.67	22.67	-267.3	133.0	89.6	75.9	13.67	6.555	
3,200.0	3,186.2	3,194.8	3,174.7	8.0	8.7	22.77	22.77	-279.9	140.0	91.8	77.6	14.16	6.479	
3,300.0	3,285.4	3,294.8	3,273.6	8.3	9.0	22.86	22.86	-292.5	147.1	93.9	79.3	14.66	6.407	
3,400.0	3,384.7	3,394.8	3,372.5	8.6	9.4	22.95	22.95	-305.2	154.1	96.1	81.0	15.16	6.340	
3,500.0	3,483.9	3,494.7	3,471.5	8.9	9.7	23.04	23.04	-317.8	161.1	98.3	82.7	15.67	6.276	
3,600.0	3,583.1	3,594.7	3,570.4	9.3	10.1	23.12	23.12	-330.4	168.2	100.5	84.3	16.17	6.215	
3,700.0	3,682.3	3,694.7	3,669.3	9.6	10.5	23.19	23.19	-343.0	175.2	102.7	86.0	16.68	6.158	
3,800.0	3,781.5	3,794.7	3,768.2	9.9	10.8	23.27	23.27	-355.6	182.3	104.9	87.7	17.18	6.104	
3,900.0	3,880.8	3,894.6	3,867.2	10.2	11.2	23.34	23.34	-368.2	189.3	107.1	89.4	17.69	6.053	
4,000.0	3,980.0	3,994.6	3,966.1	10.5	11.5	23.41	23.41	-380.9	196.4	109.2	91.0	18.20	6.004	
4,100.0	4,079.2	4,094.6	4,065.0	10.9	11.9	23.48	23.48	-393.5	203.4	111.4	92.7	18.71	5.957	
4,200.0	4,178.4	4,194.6	4,163.9	11.2	12.2	23.54	23.54	-406.1	210.5	113.6	94.4	19.21	5.913	
4,300.0	4,277.6	4,294.6	4,262.9	11.5	12.6	23.60	23.60	-418.7	217.5	115.8	96.1	19.73	5.871	
4,400.0	4,376.8	4,394.5	4,361.8	11.8	12.9	23.66	23.66	-431.3	224.5	118.0	97.8	20.24	5.831	
4,500.0	4,476.1	4,494.5	4,460.7	12.2	13.3	23.72	23.72	-443.9	231.6	120.2	99.4	20.75	5.792	
4,600.0	4,575.3	4,594.5	4,559.6	12.5	13.6	23.77	23.77	-456.6	238.6	122.4	101.1	21.26	5.755	
4,700.0	4,674.5	4,694.5	4,658.6	12.8	14.0	23.82	23.82	-469.2	245.7	124.5	102.8	21.77	5.720	
4,800.0	4,773.7	4,794.4	4,757.5	13.1	14.4	23.87	23.87	-481.8	252.7	126.7	104.4	22.29	5.687	
4,900.0	4,872.9	4,894.4	4,856.4	13.5	14.7	23.92	23.92	-494.4	259.8	128.9	106.1	22.80	5.654	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32Y-314 - Wellbore #1 - Plan #2 (5-22-14)													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	Offset	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
5,000.0	4,972.2	4,994.4	4,955.4	13.8	15.1	23.97		-507.0	266.8	131.1	107.8	23.32	5.623	
5,100.0	5,071.4	5,094.4	5,054.3	14.1	15.4	24.02		-519.6	273.8	133.3	109.5	23.83	5.594	
5,200.0	5,170.6	5,194.3	5,153.2	14.4	15.8	24.06		-532.2	280.9	135.5	111.1	24.35	5.565	
5,300.0	5,269.8	5,294.3	5,252.1	14.8	16.1	24.10		-544.9	287.9	137.7	112.8	24.86	5.538	
5,400.0	5,369.0	5,397.4	5,354.3	15.1	16.5	24.26		-557.2	294.8	139.1	113.7	25.38	5.481	
5,500.0	5,468.2	5,502.1	5,458.4	15.4	16.7	24.95		-566.5	300.0	137.3	111.4	25.91	5.300	
5,600.0	5,567.5	5,606.5	5,562.6	15.8	16.9	26.27		-572.6	303.4	132.2	105.7	26.50	4.989	
5,700.0	5,666.7	5,710.4	5,666.4	16.1	17.1	28.34		-575.3	304.9	123.9	96.8	27.16	4.562	
5,800.0	5,766.2	5,811.2	5,767.2	16.3	17.2	30.58		-575.4	305.0	115.5	87.7	27.80	4.154	
5,900.0	5,866.0	5,911.0	5,867.0	16.5	17.3	32.22		-575.4	305.0	110.0	81.7	28.33	3.882	
6,000.0	5,965.9	6,010.9	5,966.9	16.7	17.5	33.03		-575.4	305.0	107.5	78.8	28.74	3.741	
6,055.5	6,021.5	6,066.5	6,022.5	16.7	17.6	33.17		-575.4	305.0	107.1	78.2	28.94	3.701	
6,100.0	6,065.9	6,110.9	6,066.9	16.8	17.6	180.00		-575.4	305.0	107.3	74.6	32.70	3.283	
6,200.0	6,165.9	6,210.9	6,166.9	17.0	17.8	180.00		-575.4	305.0	107.3	74.3	33.00	3.253	
6,300.0	6,265.9	6,310.9	6,266.9	17.1	17.9	180.00		-575.4	305.0	107.3	74.0	33.30	3.223	
6,400.0	6,365.9	6,410.9	6,366.9	17.3	18.0	180.00		-575.4	305.0	107.3	73.7	33.61	3.194	
6,447.4	6,413.3	6,458.3	6,414.3	17.3	18.1	-179.99		-575.4	305.0	107.3	73.6	33.75	3.180	
6,500.0	6,465.9	6,510.8	6,466.8	17.4	18.2	-178.82		-575.4	302.8	107.4	73.6	33.79	3.177	
6,600.0	6,565.9	6,609.0	6,563.9	17.6	18.3	-82.37		-575.4	289.1	108.3	76.7	31.62	3.425	
6,700.0	6,664.9	6,705.4	6,656.8	17.6	18.3	-75.49		-575.4	263.6	110.9	78.4	32.53	3.411	
6,800.0	6,761.4	6,800.0	6,744.2	17.7	18.3	-69.28		-575.4	227.4	114.9	81.8	33.05	3.477	
6,900.0	6,853.7	6,893.8	6,825.7	17.7	18.3	-63.82		-575.4	181.2	119.8	86.7	33.12	3.616	
7,000.0	6,940.2	6,986.0	6,899.8	17.7	18.2	-59.19		-575.4	126.3	125.2	92.4	32.80	3.817	
7,100.0	7,019.3	7,077.2	6,966.0	17.7	18.2	-55.34		-575.4	63.6	130.7	98.5	32.20	4.059	
7,200.0	7,089.9	7,167.5	7,023.7	17.6	18.2	-52.21		-575.4	-5.7	136.0	104.5	31.54	4.312	
7,300.0	7,150.6	7,256.9	7,072.4	17.6	18.2	-49.73		-575.4	-80.6	140.8	109.8	31.05	4.535	
7,400.0	7,200.4	7,345.8	7,111.8	17.6	18.2	-47.83		-575.4	-160.2	144.9	113.9	31.00	4.675	
7,500.0	7,238.5	7,434.1	7,141.6	18.6	19.1	-46.46		-575.4	-243.3	148.1	116.6	31.58	4.692	
7,600.0	7,264.3	7,522.1	7,161.5	20.2	20.5	-45.57		-575.4	-329.0	150.3	117.4	32.93	4.566	
7,700.0	7,277.8	7,609.9	7,171.5	22.0	22.1	-45.00		-575.4	-416.1	151.9	116.9	34.98	4.343	
7,800.0	7,286.8	7,702.8	7,172.4	23.9	23.9	-42.98		-575.4	-509.1	157.6	120.8	36.78	4.285	
7,900.0	7,288.5	7,802.8	7,171.9	26.0	26.0	-42.38		-575.4	-609.0	159.2	119.8	39.48	4.033	
8,000.0	7,288.4	7,902.8	7,171.4	28.3	28.2	-42.27		-575.4	-709.0	159.6	117.1	42.43	3.761	
8,100.0	7,288.4	8,002.8	7,170.9	30.6	30.5	-42.16		-575.4	-809.0	159.9	114.4	45.51	3.514	
8,200.0	7,288.3	8,102.8	7,170.3	32.9	32.9	-42.06		-575.4	-909.0	160.2	111.6	48.69	3.291	
8,300.0	7,288.2	8,202.8	7,169.8	35.4	35.4	-41.95		-575.4	-1,009.0	160.6	108.6	51.94	3.092	
8,400.0	7,288.2	8,302.8	7,169.3	37.9	37.9	-41.84		-575.4	-1,109.0	160.9	105.7	55.26	2.912	
8,500.0	7,288.1	8,402.8	7,168.8	40.4	40.4	-41.73		-575.4	-1,209.0	161.3	102.6	58.63	2.751	
8,600.0	7,288.0	8,502.8	7,168.2	43.0	43.0	-41.62		-575.4	-1,309.0	161.6	99.6	62.03	2.605	
8,700.0	7,288.0	8,602.8	7,167.7	45.6	45.6	-41.52		-575.4	-1,409.0	161.9	96.5	65.47	2.474	
8,800.0	7,287.9	8,702.8	7,167.2	48.2	48.2	-41.41		-575.4	-1,509.0	162.3	93.4	68.93	2.354	
8,900.0	7,287.8	8,802.8	7,166.7	50.8	50.8	-41.31		-575.4	-1,609.0	162.6	90.2	72.40	2.246	
9,000.0	7,287.8	8,902.8	7,166.1	53.5	53.5	-41.20		-575.4	-1,709.0	163.0	87.1	75.89	2.147	
9,100.0	7,287.7	9,002.8	7,165.6	56.2	56.2	-41.10		-575.4	-1,809.0	163.3	83.9	79.39	2.057	
9,200.0	7,287.6	9,102.8	7,165.1	58.8	58.9	-40.99		-575.4	-1,909.0	163.6	80.7	82.90	1.974	
9,300.0	7,287.5	9,202.8	7,164.6	61.5	61.5	-40.89		-575.4	-2,009.0	164.0	77.6	86.41	1.898	
9,400.0	7,287.5	9,302.8	7,164.0	64.2	64.3	-40.78		-575.4	-2,109.0	164.3	74.4	89.92	1.828	
9,500.0	7,287.4	9,402.8	7,163.5	67.0	67.0	-40.68		-575.4	-2,209.0	164.7	71.2	93.43	1.762	
9,600.0	7,287.3	9,502.8	7,163.0	69.7	69.7	-40.58		-575.4	-2,309.0	165.0	68.1	96.94	1.702	
9,700.0	7,287.3	9,602.8	7,162.5	72.4	72.4	-40.48		-575.4	-2,409.0	165.4	64.9	100.45	1.646	
9,800.0	7,287.2	9,702.8	7,162.0	75.1	75.1	-40.37		-575.4	-2,509.0	165.7	61.7	103.96	1.594	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32Y-314 - Wellbore #1 - Plan #2 (5-22-14)													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	Offset	Semi Major Axis	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
9,900.0	7,287.1	9,802.8	7,161.4	77.9	77.9	-40.27	-40.27	-575.4	-2,609.0	166.1	58.6	107.46	1.545	
10,000.0	7,287.1	9,902.8	7,160.9	80.6	80.6	-40.17	-40.17	-575.4	-2,709.0	166.4	55.4	110.96	1.500 Level 3	
10,100.0	7,287.0	10,002.8	7,160.4	83.4	83.4	-40.07	-40.07	-575.4	-2,809.0	166.7	52.3	114.45	1.457 Level 3	
10,200.0	7,286.9	10,102.8	7,159.9	86.1	86.1	-39.97	-39.97	-575.4	-2,909.0	167.1	49.2	117.93	1.417 Level 3	
10,300.0	7,286.8	10,202.8	7,159.3	88.9	88.9	-39.87	-39.87	-575.4	-3,009.0	167.4	46.0	121.41	1.379 Level 3	
10,400.0	7,286.8	10,302.8	7,158.8	91.6	91.6	-39.77	-39.77	-575.4	-3,108.9	167.8	42.9	124.88	1.344 Level 3	
10,500.0	7,286.7	10,402.8	7,158.3	94.4	94.4	-39.67	-39.67	-575.4	-3,208.9	168.1	39.8	128.34	1.310 Level 3	
10,600.0	7,286.6	10,502.8	7,157.8	97.1	97.1	-39.57	-39.57	-575.4	-3,308.9	168.5	36.7	131.79	1.278 Level 3	
10,700.0	7,286.6	10,602.8	7,157.2	99.9	99.9	-39.48	-39.48	-575.4	-3,408.9	168.8	33.6	135.24	1.248 Level 2	
10,800.0	7,286.5	10,702.8	7,156.7	102.7	102.7	-39.38	-39.38	-575.4	-3,508.9	169.2	30.5	138.68	1.220 Level 2	
10,900.0	7,286.4	10,802.8	7,156.2	105.4	105.4	-39.28	-39.28	-575.4	-3,608.9	169.5	27.4	142.10	1.193 Level 2	
11,000.0	7,286.4	10,902.8	7,155.7	108.2	108.2	-39.18	-39.18	-575.4	-3,708.9	169.9	24.4	145.52	1.167 Level 2	
11,100.0	7,286.3	11,002.8	7,155.1	111.0	111.0	-39.09	-39.09	-575.4	-3,808.9	170.2	21.3	148.93	1.143 Level 2	
11,200.0	7,286.2	11,102.8	7,154.6	113.8	113.8	-38.99	-38.99	-575.4	-3,908.9	170.6	18.3	152.33	1.120 Level 2	
11,300.0	7,286.1	11,202.8	7,154.1	116.5	116.5	-38.90	-38.90	-575.4	-4,008.9	171.0	15.2	155.72	1.098 Level 2	
11,400.0	7,286.1	11,302.8	7,153.6	119.3	119.3	-38.80	-38.80	-575.4	-4,108.9	171.3	12.2	159.10	1.077 Level 2	
11,500.0	7,286.0	11,402.8	7,153.1	122.1	122.1	-38.71	-38.71	-575.4	-4,208.9	171.7	9.2	162.47	1.057 Level 2	
11,600.0	7,285.9	11,502.8	7,152.5	124.9	124.9	-38.61	-38.61	-575.4	-4,308.9	172.0	6.2	165.83	1.037 Level 2	
11,700.0	7,285.9	11,602.7	7,152.0	127.6	127.7	-38.52	-38.52	-575.4	-4,408.9	172.4	3.2	169.18	1.019 Level 2	
11,800.0	7,285.8	11,702.7	7,151.5	130.4	130.4	-38.42	-38.42	-575.4	-4,508.9	172.7	0.2	172.52	1.001 Level 2	
11,900.0	7,285.7	11,802.7	7,151.0	133.2	133.2	-38.33	-38.33	-575.4	-4,608.9	173.1	-2.8	175.85	0.984 Level 1	
12,000.0	7,285.7	11,902.7	7,150.4	136.0	136.0	-38.24	-38.24	-575.4	-4,708.9	173.4	-5.7	179.17	0.968 Level 1	
12,100.0	7,285.6	12,002.7	7,149.9	138.8	138.8	-38.14	-38.14	-575.4	-4,808.9	173.8	-8.7	182.48	0.952 Level 1	
12,200.0	7,285.5	12,102.7	7,149.4	141.6	141.6	-38.05	-38.05	-575.4	-4,908.9	174.1	-11.6	185.78	0.937 Level 1	
12,300.0	7,285.4	12,202.7	7,148.9	144.4	144.4	-37.96	-37.96	-575.4	-5,008.9	174.5	-14.6	189.07	0.923 Level 1	
12,400.0	7,285.4	12,302.7	7,148.3	147.1	147.1	-37.87	-37.87	-575.4	-5,108.9	174.9	-17.5	192.35	0.909 Level 1	
12,500.0	7,285.3	12,402.7	7,147.8	149.9	149.9	-37.78	-37.78	-575.4	-5,208.9	175.2	-20.4	195.62	0.896 Level 1	
12,600.0	7,285.2	12,502.7	7,147.3	152.7	152.7	-37.69	-37.69	-575.4	-5,308.9	175.6	-23.3	198.88	0.883 Level 1	
12,700.0	7,285.2	12,602.7	7,146.8	155.5	155.5	-37.60	-37.60	-575.4	-5,408.9	175.9	-26.2	202.13	0.870 Level 1	
12,800.0	7,285.1	12,702.7	7,146.2	158.3	158.3	-37.51	-37.51	-575.4	-5,508.9	176.3	-29.1	205.36	0.858 Level 1	
12,900.0	7,285.0	12,802.7	7,145.7	161.1	161.1	-37.42	-37.42	-575.4	-5,608.9	176.7	-31.9	208.59	0.847 Level 1	
13,000.0	7,285.0	12,902.7	7,145.2	163.9	163.9	-37.33	-37.33	-575.4	-5,708.9	177.0	-34.8	211.81	0.836 Level 1	
13,100.0	7,284.9	13,002.7	7,144.7	166.7	166.7	-37.24	-37.24	-575.4	-5,808.9	177.4	-37.6	215.02	0.825 Level 1	
13,200.0	7,284.8	13,102.7	7,144.1	169.5	169.5	-37.15	-37.15	-575.4	-5,908.9	177.7	-40.5	218.21	0.815 Level 1	
13,300.0	7,284.7	13,202.7	7,143.6	172.3	172.3	-37.06	-37.06	-575.4	-6,008.9	178.1	-43.3	221.40	0.804 Level 1	
13,400.0	7,284.7	13,302.7	7,143.1	175.0	175.1	-36.97	-36.97	-575.4	-6,108.9	178.5	-46.1	224.58	0.795 Level 1	
13,500.0	7,284.6	13,402.7	7,142.6	177.8	177.9	-36.89	-36.89	-575.4	-6,208.9	178.8	-48.9	227.74	0.785 Level 1	
13,600.0	7,284.5	13,502.7	7,142.1	180.6	180.6	-36.80	-36.80	-575.4	-6,308.9	179.2	-51.7	230.90	0.776 Level 1	
13,700.0	7,284.5	13,602.7	7,141.5	183.4	183.4	-36.71	-36.71	-575.4	-6,408.9	179.6	-54.5	234.05	0.767 Level 1	
13,800.0	7,284.4	13,702.7	7,141.0	186.2	186.2	-36.63	-36.63	-575.4	-6,508.9	179.9	-57.3	237.18	0.759 Level 1	
13,900.0	7,284.3	13,802.7	7,140.5	189.0	189.0	-36.54	-36.54	-575.4	-6,608.9	180.3	-60.0	240.31	0.750 Level 1	
14,000.0	7,284.3	13,902.7	7,140.0	191.8	191.8	-36.45	-36.45	-575.4	-6,708.9	180.7	-62.8	243.42	0.742 Level 1	
14,100.0	7,284.2	14,002.7	7,139.4	194.6	194.6	-36.37	-36.37	-575.4	-6,808.9	181.0	-65.5	246.53	0.734 Level 1	
14,200.0	7,284.1	14,102.7	7,138.9	197.4	197.4	-36.28	-36.28	-575.4	-6,908.9	181.4	-68.2	249.63	0.727 Level 1	
14,300.0	7,284.1	14,202.7	7,138.4	200.2	200.2	-36.20	-36.20	-575.4	-7,008.9	181.7	-71.0	252.71	0.719 Level 1	
14,374.3	7,284.0	14,277.0	7,138.0	202.3	202.3	-36.14	-36.14	-575.4	-7,083.2	182.0	-73.0	254.99	0.714 Level 1, ES, SF	



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis 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	
0.0	0.0	1.0	1.0	0.0	0.0	180.00	-58.3	0.0	58.3	58.3	0.00	N/A		
100.0	100.0	101.0	101.0	0.1	0.1	180.00	-58.3	0.0	58.3	58.1	0.23	256.744		
200.0	200.0	201.0	201.0	0.3	0.3	180.00	-58.3	0.0	58.3	57.6	0.68	86.150		
300.0	300.0	301.0	301.0	0.6	0.6	180.00	-58.3	0.0	58.3	57.2	1.13	51.759		
400.0	400.0	401.0	401.0	0.8	0.8	180.00	-58.3	0.0	58.3	56.7	1.58	36.992		
466.3	466.3	467.3	467.3	0.9	0.9	180.00	-58.3	0.0	58.3	56.4	1.87	31.105 CC		
500.0	500.0	501.0	501.0	1.0	1.0	180.00	-58.3	0.0	58.3	56.3	2.02	28.785		
600.0	600.0	600.0	600.0	1.2	1.2	179.42	-59.9	0.6	59.9	57.5	2.45	24.494		
700.0	700.0	696.9	696.8	1.5	1.4	177.91	-64.6	2.4	64.8	62.0	2.86	22.695		
800.0	800.0	794.3	793.8	1.7	1.6	175.84	-72.4	5.3	73.0	69.7	3.29	22.216		
900.0	900.0	891.1	889.8	1.9	1.8	173.62	-83.3	9.3	84.5	80.8	3.74	22.622		
1,000.0	1,000.0	987.9	985.6	2.1	2.1	171.55	-97.0	14.4	99.2	95.0	4.21	23.575		
1,100.0	1,100.0	1,086.7	1,083.1	2.4	2.4	169.91	-111.6	19.9	114.8	110.1	4.69	24.454		
1,200.0	1,200.0	1,185.4	1,180.6	2.6	2.8	168.66	-126.3	25.3	130.4	125.2	5.19	25.150		
1,300.0	1,300.0	1,284.4	1,278.3	2.8	3.1	20.91	-141.0	30.8	144.5	139.0	5.47	26.402		
1,400.0	1,399.8	1,383.8	1,376.5	3.0	3.5	20.68	-155.8	36.3	155.3	149.4	5.88	26.424		
1,500.0	1,499.5	1,483.5	1,474.9	3.2	3.8	20.92	-170.6	41.8	162.9	156.6	6.29	25.880		
1,600.0	1,598.7	1,583.4	1,573.5	3.4	4.2	21.57	-185.4	47.4	167.5	160.8	6.73	24.902		
1,700.0	1,698.0	1,683.3	1,672.2	3.6	4.5	22.28	-200.2	52.9	171.6	164.4	7.18	23.902		
1,800.0	1,797.2	1,783.2	1,770.8	3.9	4.9	22.95	-215.1	58.4	175.7	168.1	7.64	22.996		
1,900.0	1,896.4	1,883.1	1,869.4	4.1	5.3	23.59	-229.9	63.9	179.9	171.8	8.11	22.173		
2,000.0	1,995.6	1,983.0	1,968.1	4.4	5.6	24.21	-244.7	69.5	184.1	175.5	8.59	21.425		
2,100.0	2,094.8	2,082.8	2,066.7	4.7	6.0	24.79	-259.6	75.0	188.2	179.2	9.08	20.742		
2,200.0	2,194.0	2,182.7	2,165.3	4.9	6.4	25.36	-274.4	80.5	192.4	182.9	9.57	20.117		
2,300.0	2,293.3	2,282.6	2,263.9	5.2	6.8	25.89	-289.2	86.0	196.7	186.6	10.06	19.545		
2,400.0	2,392.5	2,382.5	2,362.6	5.5	7.1	26.41	-304.1	91.6	200.9	190.3	10.56	19.018		
2,500.0	2,491.7	2,482.4	2,461.2	5.8	7.5	26.90	-318.9	97.1	205.2	194.1	11.07	18.533		
2,600.0	2,590.9	2,582.3	2,559.8	6.1	7.9	27.37	-333.7	102.6	209.4	197.8	11.58	18.085		
2,700.0	2,690.1	2,682.2	2,658.5	6.4	8.3	27.83	-348.6	108.1	213.7	201.6	12.09	17.670		
2,800.0	2,789.4	2,782.1	2,757.1	6.7	8.6	28.27	-363.4	113.7	218.0	205.4	12.61	17.285		
2,900.0	2,888.6	2,882.0	2,855.7	7.1	9.0	28.69	-378.2	119.2	222.3	209.2	13.13	16.926		
3,000.0	2,987.8	2,981.9	2,954.4	7.4	9.4	29.09	-393.1	124.7	226.6	213.0	13.66	16.592		
3,100.0	3,087.0	3,081.8	3,053.0	7.7	9.8	29.48	-407.9	130.3	231.0	216.8	14.19	16.280		
3,200.0	3,186.2	3,181.7	3,151.6	8.0	10.2	29.85	-422.7	135.8	235.3	220.6	14.72	15.988		
3,300.0	3,285.4	3,281.6	3,250.3	8.3	10.5	30.21	-437.6	141.3	239.7	224.4	15.25	15.714		
3,400.0	3,384.7	3,381.5	3,348.9	8.6	10.9	30.56	-452.4	146.8	244.0	228.2	15.79	15.457		
3,500.0	3,483.9	3,481.4	3,447.5	8.9	11.3	30.90	-467.2	152.4	248.4	232.1	16.33	15.215		
3,600.0	3,583.1	3,581.3	3,546.2	9.3	11.7	31.22	-482.1	157.9	252.8	235.9	16.87	14.987		
3,700.0	3,682.3	3,681.2	3,644.8	9.6	12.0	31.53	-496.9	163.4	257.1	239.7	17.41	14.771		
3,800.0	3,781.5	3,781.0	3,743.4	9.9	12.4	31.84	-511.7	168.9	261.5	243.6	17.95	14.568		
3,900.0	3,880.8	3,880.9	3,842.1	10.2	12.8	32.13	-526.6	174.5	265.9	247.4	18.50	14.376		
4,000.0	3,980.0	3,980.8	3,940.7	10.5	13.2	32.41	-541.4	180.0	270.3	251.3	19.05	14.193		
4,100.0	4,079.2	4,080.7	4,039.3	10.9	13.6	32.69	-556.3	185.5	274.7	255.2	19.60	14.020		
4,200.0	4,178.4	4,180.6	4,138.0	11.2	13.9	32.95	-571.1	191.0	279.2	259.0	20.15	13.856		
4,300.0	4,277.6	4,280.5	4,236.6	11.5	14.3	33.21	-585.9	196.6	283.6	262.9	20.70	13.699		
4,400.0	4,376.8	4,380.4	4,335.2	11.8	14.7	33.46	-600.8	202.1	288.0	266.8	21.26	13.550		
4,500.0	4,476.1	4,480.3	4,433.8	12.2	15.1	33.70	-615.6	207.6	292.5	270.6	21.81	13.408		
4,600.0	4,575.3	4,580.2	4,532.5	12.5	15.5	33.93	-630.4	213.2	296.9	274.5	22.37	13.273		
4,700.0	4,674.5	4,680.1	4,631.1	12.8	15.8	34.16	-645.3	218.7	301.3	278.4	22.93	13.144		
4,800.0	4,773.7	4,780.0	4,729.7	13.1	16.2	34.38	-660.1	224.2	305.8	282.3	23.49	13.020		
4,900.0	4,872.9	4,879.9	4,828.4	13.5	16.6	34.59	-674.9	229.7	310.2	286.2	24.05	12.902		

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32Y-404 - Wellbore #1 - Plan #1 (4-14-14)													
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
5,000.0	4,972.2	4,979.8	4,927.0	13.8	17.0	34.80	-689.8	235.3	314.7	290.1	24.61	12.788	
5,100.0	5,071.4	5,079.7	5,025.6	14.1	17.4	35.01	-704.6	240.8	319.2	294.0	25.17	12.680	
5,200.0	5,170.6	5,179.6	5,124.3	14.4	17.7	35.20	-719.4	246.3	323.6	297.9	25.73	12.575	
5,300.0	5,269.8	5,279.5	5,222.9	14.8	18.1	35.39	-734.3	251.8	328.1	301.8	26.30	12.475	
5,400.0	5,369.0	5,379.4	5,321.5	15.1	18.5	35.58	-749.1	257.4	332.6	305.7	26.86	12.379	
5,500.0	5,468.2	5,479.2	5,420.2	15.4	18.9	35.76	-763.9	262.9	337.0	309.6	27.43	12.287	
5,600.0	5,567.5	5,579.1	5,518.8	15.8	19.3	35.94	-778.8	268.4	341.5	313.5	28.00	12.198	
5,700.0	5,666.7	5,679.0	5,617.4	16.1	19.6	36.12	-793.6	273.9	346.1	317.5	28.56	12.119	
5,800.0	5,766.2	5,778.8	5,715.9	16.3	20.0	36.11	-808.4	279.5	352.7	323.6	29.02	12.151	
5,900.0	5,866.0	5,878.3	5,814.2	16.5	20.4	35.82	-823.2	285.0	362.1	332.6	29.41	12.310	
6,000.0	5,965.9	5,977.5	5,912.1	16.7	20.8	35.26	-837.9	290.5	374.3	344.6	29.73	12.590	
6,100.0	6,065.9	6,085.5	6,018.9	16.8	21.1	-178.68	-853.1	296.1	388.1	351.8	36.26	10.703	
6,200.0	6,165.9	6,199.5	6,132.1	17.0	21.4	-179.37	-865.2	300.6	398.6	361.9	36.75	10.847	
6,300.0	6,265.9	6,314.3	6,246.6	17.1	21.6	-179.80	-873.1	303.6	405.5	368.3	37.16	10.913	
6,400.0	6,365.9	6,429.6	6,361.8	17.3	21.8	-179.99	-876.7	304.9	408.6	371.1	37.51	10.895	
6,500.0	6,465.9	6,534.7	6,466.9	17.4	21.9	180.00	-876.9	305.0	408.8	371.0	37.80	10.815	
6,531.1	6,497.0	6,565.7	6,498.0	17.5	21.9	-90.05	-876.9	305.0	408.8	377.4	31.45	12.999	
6,600.0	6,565.9	6,634.7	6,566.9	17.6	22.0	-89.99	-876.9	303.2	408.8	377.2	31.67	12.909	
6,700.0	6,664.9	6,734.6	6,665.9	17.6	22.1	-89.97	-876.9	289.9	408.8	377.0	31.87	12.830	
6,800.0	6,761.4	6,834.6	6,762.3	17.7	22.1	-89.95	-876.9	263.8	408.8	376.9	31.95	12.798	
6,900.0	6,853.7	6,934.6	6,854.5	17.7	22.1	-89.94	-876.9	225.3	408.8	376.9	31.97	12.788	
7,000.0	6,940.2	7,034.5	6,940.8	17.7	22.1	-89.92	-876.9	175.1	408.8	376.8	32.04	12.762	
7,100.0	7,019.3	7,134.4	7,019.9	17.7	22.1	-89.91	-876.9	114.2	408.8	376.6	32.27	12.670	
7,200.0	7,089.9	7,234.3	7,090.3	17.6	22.0	-89.89	-876.9	43.4	408.8	376.0	32.83	12.452	
7,300.0	7,150.6	7,334.2	7,150.9	17.6	22.0	-89.88	-876.9	-35.9	408.8	375.0	33.88	12.066	
7,400.0	7,200.4	7,434.1	7,200.6	17.6	22.0	-89.87	-876.9	-122.5	408.8	373.3	35.54	11.504	
7,500.0	7,238.5	7,534.0	7,238.6	18.6	22.1	-89.87	-876.9	-214.8	408.8	371.0	37.85	10.803	
7,600.0	7,264.3	7,633.9	7,264.3	20.2	22.5	-89.86	-876.9	-311.2	408.8	368.1	40.77	10.028	
7,700.0	7,277.8	7,733.8	7,277.8	22.0	23.6	-89.86	-876.9	-410.2	408.8	364.6	44.21	9.247	
7,800.0	7,286.8	7,833.7	7,286.8	23.9	25.2	-89.86	-876.9	-509.7	408.8	360.8	48.05	8.508	
7,900.0	7,288.5	7,933.7	7,288.5	26.0	27.2	-89.86	-876.9	-609.6	408.8	356.7	52.18	7.835	
8,000.0	7,288.4	8,033.7	7,288.4	28.3	29.3	-89.86	-876.9	-709.6	408.8	352.3	56.55	7.229	
8,100.0	7,288.4	8,133.7	7,288.4	30.6	31.5	-89.86	-876.9	-809.6	408.8	347.7	61.13	6.688	
8,200.0	7,288.3	8,233.7	7,288.3	32.9	33.8	-89.86	-876.9	-909.6	408.8	343.0	65.87	6.207	
8,300.0	7,288.2	8,333.7	7,288.2	35.4	36.2	-89.86	-876.9	-1,009.6	408.8	338.1	70.74	5.780	
8,400.0	7,288.2	8,433.7	7,288.2	37.9	38.6	-89.86	-876.9	-1,109.6	408.8	333.1	75.71	5.400	
8,500.0	7,288.1	8,533.7	7,288.1	40.4	41.1	-89.86	-876.9	-1,209.6	408.8	328.1	80.76	5.062	
8,600.0	7,288.0	8,633.7	7,288.0	43.0	43.6	-89.86	-876.9	-1,309.6	408.8	323.0	85.89	4.760	
8,700.0	7,288.0	8,733.7	7,288.0	45.6	46.2	-89.86	-876.9	-1,409.6	408.8	317.8	91.07	4.489	
8,800.0	7,287.9	8,833.7	7,287.9	48.2	48.8	-89.86	-876.9	-1,509.6	408.8	312.5	96.30	4.245	
8,900.0	7,287.8	8,933.7	7,287.8	50.8	51.4	-89.86	-876.9	-1,609.6	408.8	307.3	101.57	4.025	
9,000.0	7,287.8	9,033.7	7,287.7	53.5	54.0	-89.86	-876.9	-1,709.6	408.8	302.0	106.88	3.825	
9,100.0	7,287.7	9,133.7	7,287.7	56.2	56.7	-89.86	-876.9	-1,809.6	408.8	296.6	112.22	3.643	
9,200.0	7,287.6	9,233.7	7,287.6	58.8	59.3	-89.86	-876.9	-1,909.6	408.8	291.3	117.58	3.477	
9,300.0	7,287.5	9,333.7	7,287.5	61.5	62.0	-89.86	-876.9	-2,009.6	408.8	285.9	122.96	3.325	
9,400.0	7,287.5	9,433.7	7,287.5	64.2	64.7	-89.86	-876.9	-2,109.6	408.8	280.5	128.37	3.185	
9,500.0	7,287.4	9,533.7	7,287.4	67.0	67.4	-89.86	-876.9	-2,209.6	408.8	275.1	133.79	3.056	
9,600.0	7,287.3	9,633.7	7,287.3	69.7	70.1	-89.86	-876.9	-2,309.6	408.8	269.6	139.23	2.937	
9,700.0	7,287.3	9,733.7	7,287.3	72.4	72.8	-89.86	-876.9	-2,409.6	408.8	264.2	144.68	2.826	
9,800.0	7,287.2	9,833.7	7,287.2	75.1	75.5	-89.86	-876.9	-2,509.6	408.8	258.7	150.14	2.723	
9,900.0	7,287.1	9,933.7	7,287.1	77.9	78.2	-89.86	-876.9	-2,609.6	408.8	253.2	155.61	2.627	

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



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32Y-404 - Wellbore #1 - Plan #1 (4-14-14)		Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft		
Reference		Offset		Semi Major Axis		Distance						Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)			Separation Factor		
10,000.0	7,287.1	10,033.7	7,287.1	80.6	80.9	-89.86	-876.9	-2,709.6	408.8	247.7	161.10	2.538				
10,100.0	7,287.0	10,133.7	7,287.0	83.4	83.7	-89.86	-876.9	-2,809.6	408.8	242.3	166.59	2.454				
10,200.0	7,286.9	10,233.7	7,286.9	86.1	86.4	-89.86	-876.9	-2,909.6	408.8	236.8	172.09	2.376				
10,300.0	7,286.8	10,333.7	7,286.8	88.9	89.2	-89.86	-876.9	-3,009.6	408.8	231.3	177.59	2.302				
10,400.0	7,286.8	10,433.7	7,286.8	91.6	91.9	-89.86	-876.9	-3,109.6	408.8	225.7	183.11	2.233				
10,500.0	7,286.7	10,533.7	7,286.7	94.4	94.7	-89.86	-876.9	-3,209.6	408.8	220.2	188.63	2.167				
10,600.0	7,286.6	10,633.7	7,286.6	97.1	97.4	-89.86	-876.9	-3,309.6	408.8	214.7	194.15	2.106				
10,700.0	7,286.6	10,733.7	7,286.6	99.9	100.2	-89.86	-876.9	-3,409.6	408.8	209.2	199.68	2.047				
10,800.0	7,286.5	10,833.7	7,286.5	102.7	102.9	-89.86	-876.9	-3,509.6	408.8	203.6	205.22	1.992				
10,900.0	7,286.4	10,933.7	7,286.4	105.4	105.7	-89.86	-876.9	-3,609.6	408.8	198.1	210.75	1.940				
11,000.0	7,286.4	11,033.7	7,286.4	108.2	108.4	-89.86	-876.9	-3,709.6	408.8	192.5	216.30	1.890				
11,100.0	7,286.3	11,133.7	7,286.3	111.0	111.2	-89.86	-876.9	-3,809.6	408.8	187.0	221.84	1.843				
11,200.0	7,286.2	11,233.7	7,286.2	113.8	114.0	-89.86	-876.9	-3,909.6	408.8	181.5	227.39	1.798				
11,300.0	7,286.1	11,333.7	7,286.1	116.5	116.7	-89.86	-876.9	-4,009.6	408.8	175.9	232.94	1.755				
11,400.0	7,286.1	11,433.7	7,286.1	119.3	119.5	-89.86	-876.9	-4,109.6	408.8	170.3	238.50	1.714				
11,500.0	7,286.0	11,533.7	7,286.0	122.1	122.3	-89.86	-876.9	-4,209.6	408.8	164.8	244.06	1.675				
11,600.0	7,285.9	11,633.7	7,285.9	124.9	125.1	-89.86	-876.9	-4,309.6	408.8	159.2	249.62	1.638				
11,700.0	7,285.9	11,733.7	7,285.9	127.6	127.8	-89.86	-876.9	-4,409.6	408.8	153.7	255.18	1.602				
11,800.0	7,285.8	11,833.7	7,285.8	130.4	130.6	-89.86	-876.9	-4,509.6	408.8	148.1	260.75	1.568				
11,900.0	7,285.7	11,933.7	7,285.7	133.2	133.4	-89.86	-876.9	-4,609.6	408.8	142.5	266.31	1.535				
12,000.0	7,285.7	12,033.7	7,285.7	136.0	136.2	-89.86	-876.9	-4,709.6	408.8	137.0	271.88	1.504				
12,100.0	7,285.6	12,133.7	7,285.6	138.8	139.0	-89.86	-876.9	-4,809.6	408.8	131.4	277.45	1.474	Level 3			
12,200.0	7,285.5	12,233.7	7,285.5	141.6	141.7	-89.86	-876.9	-4,909.6	408.8	125.8	283.02	1.445	Level 3			
12,300.0	7,285.4	12,333.7	7,285.4	144.4	144.5	-89.86	-876.9	-5,009.6	408.8	120.2	288.60	1.417	Level 3			
12,400.0	7,285.4	12,433.7	7,285.4	147.1	147.3	-89.86	-876.9	-5,109.6	408.8	114.7	294.17	1.390	Level 3			
12,500.0	7,285.3	12,533.7	7,285.3	149.9	150.1	-89.86	-876.9	-5,209.6	408.8	109.1	299.75	1.364	Level 3			
12,600.0	7,285.2	12,633.7	7,285.2	152.7	152.9	-89.86	-876.9	-5,309.6	408.8	103.5	305.33	1.339	Level 3			
12,700.0	7,285.2	12,733.7	7,285.2	155.5	155.7	-89.86	-876.9	-5,409.6	408.8	97.9	310.91	1.315	Level 3			
12,800.0	7,285.1	12,833.7	7,285.1	158.3	158.4	-89.86	-876.9	-5,509.6	408.8	92.4	316.49	1.292	Level 3			
12,900.0	7,285.0	12,933.7	7,285.0	161.1	161.2	-89.86	-876.9	-5,609.6	408.8	86.8	322.07	1.269	Level 3			
13,000.0	7,285.0	13,033.7	7,285.0	163.9	164.0	-89.86	-876.9	-5,709.6	408.8	81.2	327.65	1.248	Level 2			
13,100.0	7,284.9	13,133.7	7,284.9	166.7	166.8	-89.86	-876.9	-5,809.6	408.8	75.6	333.24	1.227	Level 2			
13,200.0	7,284.8	13,233.7	7,284.8	169.5	169.6	-89.86	-876.9	-5,909.6	408.8	70.0	338.82	1.207	Level 2			
13,300.0	7,284.7	13,333.7	7,284.7	172.3	172.4	-89.86	-876.9	-6,009.6	408.8	64.4	344.41	1.187	Level 2			
13,400.0	7,284.7	13,433.7	7,284.7	175.0	175.2	-89.86	-876.9	-6,109.6	408.8	58.8	350.00	1.168	Level 2			
13,500.0	7,284.6	13,533.7	7,284.6	177.8	178.0	-89.86	-876.9	-6,209.6	408.8	53.3	355.58	1.150	Level 2			
13,600.0	7,284.5	13,633.7	7,284.5	180.6	180.8	-89.86	-876.9	-6,309.6	408.8	47.7	361.17	1.132	Level 2			
13,700.0	7,284.5	13,733.7	7,284.5	183.4	183.5	-89.86	-876.9	-6,409.6	408.8	42.1	366.76	1.115	Level 2			
13,800.0	7,284.4	13,833.7	7,284.4	186.2	186.3	-89.86	-876.9	-6,509.6	408.8	36.5	372.35	1.098	Level 2			
13,900.0	7,284.3	13,933.7	7,284.3	189.0	189.1	-89.86	-876.9	-6,609.6	408.8	30.9	377.94	1.082	Level 2			
14,000.0	7,284.3	14,033.7	7,284.3	191.8	191.9	-89.86	-876.9	-6,709.6	408.8	25.3	383.53	1.066	Level 2			
14,100.0	7,284.2	14,133.7	7,284.2	194.6	194.7	-89.86	-876.9	-6,809.6	408.8	19.7	389.13	1.051	Level 2			
14,200.0	7,284.1	14,233.7	7,284.1	197.4	197.5	-89.86	-876.9	-6,909.6	408.8	14.1	394.72	1.036	Level 2			
14,300.0	7,284.1	14,333.7	7,284.0	200.2	200.3	-89.86	-876.9	-7,009.6	408.8	8.5	400.31	1.021	Level 2			
14,353.4	7,284.0	14,387.1	7,284.0	201.7	201.8	-89.86	-876.9	-7,063.0	408.8	5.5	403.29	1.014	Level 2			
14,374.3	7,284.0	14,404.7	7,284.0	202.3	202.3	-89.86	-876.9	-7,080.6	408.9	4.5	404.37	1.011	Level 2, ES, SF			

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design										Tarin Existing Wells Sec.32-T4N-R66W - Farr Farms 1 (Existing) - Wellbore #1 - Wellbore #1				Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS										Offset Well Error:				0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S	Offset Wellbore Centre +E/-W	Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)				
13,400.0	7,284.7	7,272.0	7,270.9	175.0	14.6	89.38	-367.3	-7,048.6	944.4	754.8	189.57	4.982			
13,500.0	7,284.6	7,272.1	7,271.1	177.8	14.6	89.47	-367.3	-7,048.6	845.0	652.7	192.36	4.393			
13,600.0	7,284.5	7,272.3	7,271.2	180.6	14.6	89.56	-367.3	-7,048.6	745.8	550.7	195.16	3.822			
13,700.0	7,284.5	7,272.4	7,271.4	183.4	14.6	89.65	-367.3	-7,048.6	646.9	448.9	197.96	3.268			
13,800.0	7,284.4	7,272.6	7,271.6	186.2	14.6	89.74	-367.3	-7,048.6	548.3	347.6	200.76	2.731			
13,900.0	7,284.3	7,272.7	7,271.7	189.0	14.6	89.82	-367.3	-7,048.6	450.4	246.9	203.56	2.213			
14,000.0	7,284.3	7,272.9	7,271.9	191.8	14.6	89.91	-367.3	-7,048.6	353.7	147.3	206.36	1.714			
14,100.0	7,284.2	7,273.1	7,272.0	194.6	14.6	90.00	-367.3	-7,048.6	259.4	50.2	209.15	1.240 Level 2			
14,200.0	7,284.1	7,273.2	7,272.2	197.4	14.6	90.09	-367.3	-7,048.6	171.7	-40.3	211.95	0.810 Level 1			
14,300.0	7,284.1	7,273.4	7,272.3	200.2	14.6	90.18	-367.3	-7,048.6	108.1	-106.7	214.75	0.503 Level 1			
14,339.0	7,284.0	7,273.4	7,272.4	201.3	14.6	90.21	-367.3	-7,048.6	100.8	-115.0	215.84	0.467 Level 1, CC, ES, SF			
14,374.3	7,284.0	7,273.5	7,272.5	202.3	14.6	90.25	-367.3	-7,048.6	106.8	-110.0	216.82	0.493 Level 1			

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 100-UNKNOWN													Offset Well Error:	0.0 ft
Tarin Existing Wells Sec.32-T4N-R66W - Floyd 5 (Existing) - Wellbore #1 - Wellbore #1														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-85.40	51.0	-633.5	635.9					
100.0	100.0	85.4	85.4	0.1	1.7	-85.40	50.9	-633.2	635.3	633.5	1.82	348.859		
200.0	200.0	181.1	181.1	0.3	3.8	-85.43	50.6	-632.8	634.8	630.7	4.14	153.520		
300.0	300.0	284.0	284.0	0.6	5.4	-85.44	50.4	-632.7	634.7	628.7	6.00	105.708		
380.5	380.5	361.5	361.5	0.7	6.5	-85.44	50.4	-632.4	634.4	627.2	7.26	87.331		
400.0	400.0	379.9	379.9	0.8	6.8	-85.45	50.3	-632.5	634.5	626.9	7.56	83.909		
500.0	500.0	481.3	481.3	1.0	9.3	-85.52	49.6	-632.7	634.6	624.3	10.30	61.612		
600.0	600.0	581.4	581.4	1.2	13.0	-85.59	48.8	-632.7	634.5	620.3	14.20	44.697		
625.4	625.4	606.4	606.4	1.3	13.9	-85.60	48.7	-632.6	634.5	619.3	15.19	41.759		
700.0	700.0	678.3	678.3	1.5	16.4	-85.64	48.3	-632.8	634.7	616.8	17.83	35.594		
800.0	800.0	780.5	780.5	1.7	20.0	-85.75	47.1	-633.3	635.0	613.4	21.66	29.318		
900.0	900.0	881.8	881.7	1.9	23.9	-85.86	45.9	-633.3	635.0	609.1	25.83	24.579		
951.8	951.8	932.8	932.8	2.0	25.9	-85.91	45.3	-633.3	634.9	607.0	27.95	22.718		
1,000.0	1,000.0	979.8	979.8	2.1	27.7	-85.96	44.7	-633.4	635.0	605.1	29.88	21.252		
1,100.0	1,100.0	1,080.9	1,080.8	2.4	31.7	-86.06	43.6	-633.7	635.2	601.1	34.03	18.663		
1,200.0	1,200.0	1,181.3	1,181.3	2.6	35.7	-86.14	42.8	-633.7	635.1	596.9	38.25	16.604		
1,202.2	1,202.2	1,183.5	1,183.4	2.6	35.8	126.95	42.8	-633.7	635.1	596.8	38.35	16.563		
1,300.0	1,300.0	1,278.2	1,278.2	2.8	38.0	127.02	42.5	-633.8	636.3	595.5	40.82	15.590		
1,400.0	1,399.8	1,376.1	1,376.0	3.0	39.7	127.31	42.3	-634.5	640.1	597.5	42.59	15.029		
1,500.0	1,499.5	1,476.3	1,476.3	3.2	40.7	127.79	41.9	-635.2	646.2	602.5	43.72	14.779		
1,600.0	1,598.7	1,575.2	1,575.1	3.4	41.6	128.53	41.9	-635.9	654.2	609.3	44.86	14.583		
1,700.0	1,698.0	1,670.8	1,670.7	3.6	43.9	129.29	41.4	-636.8	663.0	615.7	47.27	14.025		
1,800.0	1,797.2	1,767.8	1,767.7	3.9	45.7	130.06	41.1	-638.3	672.5	623.1	49.37	13.622		
1,900.0	1,896.4	1,865.2	1,865.2	4.1	46.6	130.86	41.6	-639.9	682.3	631.9	50.41	13.535		
2,000.0	1,995.6	1,961.5	1,961.4	4.4	46.9	131.67	42.4	-641.7	692.5	641.5	51.02	13.573		
2,100.0	2,094.8	2,057.9	2,057.8	4.7	47.4	132.46	43.5	-643.8	703.3	651.6	51.74	13.594		
2,200.0	2,194.0	2,150.9	2,150.7	4.9	48.2	133.23	44.8	-646.3	714.7	662.0	52.74	13.550		
2,300.0	2,293.3	2,247.3	2,247.1	5.2	49.7	133.98	46.2	-649.8	727.2	672.7	54.43	13.360		
2,400.0	2,392.5	2,347.6	2,347.3	5.5	52.0	134.67	46.8	-653.3	739.4	682.4	57.01	12.971		
2,500.0	2,491.7	2,445.7	2,445.4	5.8	55.0	135.30	47.0	-656.9	751.9	691.8	60.13	12.505		
2,600.0	2,590.9	2,548.7	2,548.2	6.1	58.4	135.89	46.6	-660.6	764.3	700.5	63.82	11.976		
2,700.0	2,690.1	2,648.0	2,647.5	6.4	62.0	136.45	46.0	-663.7	776.2	708.6	67.63	11.477		
2,800.0	2,789.4	2,745.3	2,744.8	6.7	65.7	136.93	45.2	-667.2	788.6	717.1	71.51	11.028		
2,900.0	2,888.6	2,849.6	2,848.9	7.1	69.7	137.43	44.0	-670.7	800.8	725.0	75.78	10.567		
3,000.0	2,987.8	2,955.0	2,954.4	7.4	73.9	137.93	42.7	-673.4	812.2	732.0	80.16	10.132		
3,100.0	3,087.0	3,055.5	3,054.7	7.7	77.9	138.35	40.9	-675.5	823.1	738.7	84.36	9.757		
3,200.0	3,186.2	3,160.3	3,159.6	8.0	81.9	138.80	39.1	-677.6	834.0	745.3	88.68	9.404		
3,300.0	3,285.4	3,267.7	3,266.9	8.3	85.6	139.30	37.7	-678.4	843.8	751.1	92.62	9.110		
3,400.0	3,384.7	3,370.0	3,369.2	8.6	88.3	139.74	36.0	-678.6	853.0	757.4	95.58	8.924		
3,500.0	3,483.9	3,458.9	3,458.1	8.9	90.8	140.15	35.0	-678.9	862.6	764.3	98.29	8.775		
3,600.0	3,583.1	3,553.4	3,552.6	9.3	94.1	140.56	34.1	-680.5	873.6	771.7	101.83	8.579		
3,700.0	3,682.3	3,651.8	3,651.0	9.6	98.0	140.95	32.7	-682.2	884.4	778.5	105.92	8.350		
3,800.0	3,781.5	3,749.2	3,748.3	9.9	101.8	141.33	31.6	-684.3	895.8	785.8	109.98	8.145		
3,900.0	3,880.8	3,851.6	3,850.7	10.2	105.9	141.69	29.8	-686.4	907.0	792.7	114.28	7.936		
4,000.0	3,980.0	3,951.6	3,950.6	10.5	109.8	142.05	28.3	-688.1	918.0	799.5	118.50	7.746		
4,100.0	4,079.2	4,055.1	4,054.1	10.9	113.9	142.39	26.2	-689.9	928.9	806.2	122.74	7.568		
4,200.0	4,178.4	4,158.7	4,157.8	11.2	117.7	142.75	24.4	-690.9	939.1	812.3	126.82	7.405		
4,300.0	4,277.6	4,254.2	4,253.2	11.5	121.3	143.12	23.4	-691.5	949.4	818.7	130.65	7.267		
4,400.0	4,376.8	4,352.2	4,351.2	11.8	125.1	143.47	22.4	-692.7	960.2	825.5	134.74	7.126		
4,500.0	4,476.1	4,450.6	4,449.6	12.2	129.1	143.86	21.8	-693.6	970.9	832.0	138.90	6.990		
4,600.0	4,575.3	4,546.9	4,545.9	12.5	132.8	144.20	20.9	-695.0	982.0	839.1	142.89	6.873		

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Tarin Existing Wells Sec.32-T4N-R66W - Floyd 5 (Existing) - Wellbore #1 - Wellbore #1													Offset Well Error:	0.0 ft
Survey Program: 100-UNKNOWN														
Reference				Offset			Semi Major Axis		Distance					
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
4,700.0	4,674.5	4,637.9	4,636.9	12.8	136.1	144.54	20.6	-696.3	993.4	847.1	146.36	6.788		
7,000.0	6,940.2	6,942.0	6,940.5	17.7	108.4	34.90	22.9	-684.7	990.7	880.0	110.68	8.951		
7,100.0	7,019.3	7,016.9	7,015.4	17.7	106.5	39.80	22.8	-683.2	936.9	831.5	105.34	8.894		
7,200.0	7,089.9	7,085.1	7,083.6	17.6	104.3	46.36	22.8	-681.9	876.3	774.0	102.36	8.561		
7,300.0	7,150.6	7,143.5	7,141.9	17.6	102.5	54.57	22.8	-681.0	811.0	707.7	103.31	7.850		
7,400.0	7,200.4	7,191.0	7,189.4	17.6	101.0	64.05	22.9	-680.2	743.3	635.6	107.70	6.902		
7,500.0	7,238.5	7,200.0	7,198.5	18.6	100.7	71.01	22.9	-680.0	676.9	564.6	112.37	6.024		
7,600.0	7,264.3	7,200.0	7,198.5	20.2	100.7	76.56	22.9	-680.0	616.0	499.3	116.67	5.279		
7,700.0	7,277.8	7,200.0	7,198.5	22.0	100.7	79.81	22.9	-680.0	563.5	443.7	119.84	4.702		
7,800.0	7,286.8	7,200.0	7,198.5	23.9	100.7	80.91	22.9	-680.0	524.3	402.1	122.19	4.291		
7,900.0	7,288.5	7,200.0	7,198.5	26.0	100.7	81.77	22.9	-680.0	501.1	376.5	124.57	4.022		
7,970.4	7,288.5	7,200.0	7,198.5	27.6	100.7	81.77	22.9	-680.0	496.1	370.0	126.11	3.934 CC, ES		
8,000.0	7,288.4	7,200.0	7,198.5	28.3	100.7	81.77	22.9	-680.0	497.0	370.2	126.76	3.921 SF		
8,100.0	7,288.4	7,200.0	7,198.5	30.6	100.7	81.77	22.9	-680.0	512.8	383.7	129.05	3.973		
8,200.0	7,288.3	7,200.0	7,198.5	32.9	100.7	81.77	22.9	-680.0	546.7	415.2	131.41	4.160		
8,300.0	7,288.2	7,200.0	7,198.5	35.4	100.7	81.77	22.9	-680.0	595.6	461.8	133.83	4.450		
8,400.0	7,288.2	7,200.0	7,198.5	37.9	100.7	81.77	22.9	-680.0	656.2	519.9	136.31	4.814		
8,500.0	7,288.1	7,200.0	7,198.5	40.4	100.7	81.77	22.9	-680.0	725.7	586.8	138.83	5.227		
8,600.0	7,288.0	7,200.0	7,198.5	43.0	100.7	81.77	22.9	-680.0	801.5	660.2	141.37	5.670		
8,700.0	7,288.0	7,200.0	7,198.5	45.6	100.7	81.77	22.9	-680.0	882.3	738.3	143.95	6.129		
8,800.0	7,287.9	7,200.0	7,198.5	48.2	100.7	81.77	22.9	-680.0	966.6	820.0	146.55	6.596		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Tarin Existing Wells Sec.32-T4N-R66W - Glen 1 (Existing) - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
<b>Survey Program:</b> 100-NS-GYRO-MS												<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
8,000.0	7,288.4	7,282.7	7,282.4	28.3	14.1	93.04	-231.5	-1,613.0	933.9	891.8	42.14	22.161	
8,100.0	7,288.4	7,281.0	7,280.7	30.6	14.1	92.63	-231.5	-1,613.0	837.6	793.1	44.45	18.843	
8,200.0	7,288.3	7,279.3	7,279.0	32.9	14.1	92.22	-231.6	-1,613.1	742.2	695.4	46.83	15.848	
8,300.0	7,288.2	7,277.6	7,277.3	35.4	14.0	91.81	-231.6	-1,613.1	648.2	598.9	49.28	13.154	
8,400.0	7,288.2	7,275.9	7,275.6	37.9	14.0	91.40	-231.6	-1,613.1	556.3	504.5	51.77	10.745	
8,500.0	7,288.1	7,274.2	7,273.9	40.4	14.0	90.99	-231.6	-1,613.1	467.7	413.4	54.31	8.613	
8,600.0	7,288.0	7,272.5	7,272.2	43.0	14.0	90.58	-231.6	-1,613.2	384.8	327.9	56.87	6.766	
8,700.0	7,288.0	7,270.8	7,270.5	45.6	14.0	90.17	-231.7	-1,613.2	312.0	252.5	59.46	5.247	
8,800.0	7,287.9	7,269.1	7,268.8	48.2	14.0	89.75	-231.7	-1,613.2	258.1	196.0	62.08	4.158	
8,900.0	7,287.8	7,267.4	7,267.1	50.8	14.0	89.34	-231.7	-1,613.3	236.4	171.7	64.70	3.654	
8,903.6	7,287.8	7,267.4	7,267.0	50.9	14.0	89.33	-231.7	-1,613.3	236.4	171.6	64.80	3.648	CC, ES, SF
9,000.0	7,287.8	7,265.7	7,265.4	53.5	14.0	88.93	-231.7	-1,613.3	255.3	187.9	67.35	3.791	
9,100.0	7,287.7	7,264.0	7,263.7	56.2	14.0	88.52	-231.7	-1,613.3	307.3	237.3	70.00	4.390	
9,200.0	7,287.6	7,262.3	7,262.0	58.8	14.0	88.11	-231.8	-1,613.3	379.1	306.4	72.66	5.217	
9,300.0	7,287.5	7,260.6	7,260.3	61.5	14.0	87.70	-231.8	-1,613.4	461.5	386.1	75.33	6.126	
9,400.0	7,287.5	7,258.9	7,258.6	64.2	14.0	87.29	-231.8	-1,613.4	549.7	471.7	78.00	7.047	
9,500.0	7,287.4	7,257.2	7,256.9	67.0	14.0	86.87	-231.8	-1,613.4	641.4	560.8	80.68	7.950	
9,600.0	7,287.3	7,255.5	7,255.2	69.7	14.0	86.46	-231.8	-1,613.5	735.3	651.9	83.36	8.821	
9,700.0	7,287.3	7,253.8	7,253.4	72.4	14.0	86.04	-231.9	-1,613.5	830.6	744.6	86.03	9.655	
9,800.0	7,287.2	7,251.9	7,251.6	75.1	14.0	85.59	-231.9	-1,613.5	926.9	838.2	88.71	10.449	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Tarin Existing Wells Sec.32-T4N-R66W - Glen 44-32 (Existing) - Wellbore #1 - Wellbore #1												Offset Well Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +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	-154.41	-233.2	-111.6	258.8				
100.0	100.0	85.8	85.8	0.1	0.1	-154.32	-233.1	-112.1	258.7	258.5	0.23	1,142.319	
200.0	200.0	184.8	184.8	0.3	0.4	-154.07	-233.3	-113.4	259.4	258.7	0.69	373.645	
300.0	300.0	287.4	287.3	0.6	0.6	-153.81	-233.2	-114.7	259.8	258.7	1.17	221.354	
400.0	400.0	387.7	387.7	0.8	0.9	-153.53	-232.4	-115.7	259.6	257.9	1.65	157.766	
444.0	444.0	431.0	431.0	0.9	1.0	-153.39	-232.0	-116.2	259.5	257.6	1.85	139.975	
500.0	500.0	485.8	485.7	1.0	1.1	-153.23	-231.8	-116.9	259.6	257.5	2.12	122.458	
600.0	600.0	587.2	587.1	1.2	1.4	-152.94	-231.5	-118.3	259.9	257.3	2.61	99.716	
700.0	700.0	689.5	689.5	1.5	1.6	-152.63	-230.4	-119.3	259.4	256.4	3.06	84.701	
800.0	800.0	787.5	787.4	1.7	1.8	-152.44	-229.4	-119.8	258.8	255.3	3.51	73.694	
900.0	900.0	888.5	888.4	1.9	2.1	-152.14	-228.6	-120.8	258.5	254.5	4.00	64.708	
1,000.0	1,000.0	987.8	987.7	2.1	2.3	-151.84	-227.5	-121.8	258.1	253.6	4.48	57.652	
1,100.0	1,100.0	1,088.6	1,088.5	2.4	2.6	-151.66	-226.8	-122.3	257.7	252.7	4.95	52.026	
1,200.0	1,200.0	1,188.3	1,188.2	2.6	2.8	-151.46	-225.9	-122.9	257.1	251.7	5.43	47.383	
1,300.0	1,300.0	1,287.9	1,287.8	2.8	3.1	62.25	-225.0	-123.7	255.9	250.0	5.88	43.489	
1,400.0	1,399.8	1,388.8	1,388.6	3.0	3.4	63.69	-223.8	-124.7	253.1	246.7	6.33	39.994	
1,500.0	1,499.5	1,487.5	1,487.4	3.2	3.6	65.98	-222.4	-126.0	248.7	242.0	6.78	36.701	
1,600.0	1,598.7	1,586.7	1,586.5	3.4	3.9	68.96	-221.1	-127.2	243.8	236.6	7.25	33.625	
1,700.0	1,698.0	1,684.9	1,684.7	3.6	4.1	72.12	-219.9	-128.6	239.5	231.8	7.74	30.926	
1,800.0	1,797.2	1,783.7	1,783.5	3.9	4.4	75.47	-218.8	-130.3	236.2	228.0	8.25	28.616	
1,900.0	1,896.4	1,883.2	1,883.0	4.1	4.7	78.94	-217.5	-132.0	233.7	224.9	8.78	26.615	
2,000.0	1,995.6	1,981.8	1,981.6	4.4	4.9	82.50	-215.9	-133.7	231.9	222.6	9.31	24.901	
2,100.0	2,094.8	2,081.7	2,081.5	4.7	5.2	86.22	-214.1	-135.7	231.1	221.2	9.86	23.440	
2,200.0	2,194.0	2,182.4	2,182.1	4.9	5.5	90.02	-211.8	-137.2	230.5	220.1	10.40	22.171	
2,300.0	2,293.3	2,285.1	2,284.7	5.2	5.7	93.76	-209.2	-137.3	229.8	218.9	10.91	21.065	
2,380.5	2,373.2	2,363.9	2,363.5	5.5	5.8	96.71	-206.7	-137.0	229.2	217.9	11.31	20.273 CC	
2,400.0	2,392.5	2,382.7	2,382.3	5.5	5.9	97.45	-206.1	-137.0	229.2	217.8	11.40	20.107 ES	
2,500.0	2,491.7	2,483.8	2,483.3	5.8	6.1	101.41	-202.3	-137.1	229.8	217.9	11.90	19.314	
2,600.0	2,590.9	2,582.2	2,581.6	6.1	6.3	105.15	-198.8	-136.3	230.8	218.4	12.38	18.638	
2,700.0	2,690.1	2,680.6	2,680.1	6.4	6.5	108.78	-195.5	-135.8	233.1	220.2	12.86	18.116	
2,800.0	2,789.4	2,779.1	2,778.4	6.7	6.7	112.30	-192.4	-135.4	236.4	223.0	13.35	17.710	
2,900.0	2,888.6	2,879.3	2,878.6	7.1	6.9	115.82	-189.1	-135.0	240.5	226.7	13.82	17.404	
3,000.0	2,987.8	2,979.2	2,978.4	7.4	7.2	119.12	-186.1	-133.9	244.9	230.6	14.27	17.157	
3,100.0	3,087.0	3,081.1	3,080.2	7.7	7.3	122.34	-183.0	-132.1	249.4	234.7	14.70	16.970	
3,200.0	3,186.2	3,180.8	3,180.0	8.0	7.5	125.14	-181.1	-129.4	253.7	238.6	15.07	16.834	
3,300.0	3,285.4	3,276.8	3,275.9	8.3	7.6	127.54	-180.1	-127.3	259.0	243.6	15.44	16.780	
3,400.0	3,384.7	3,372.0	3,371.1	8.6	7.8	129.75	-179.4	-126.7	266.3	250.5	15.85	16.798	
3,500.0	3,483.9	3,466.8	3,465.9	8.9	8.0	131.73	-178.9	-127.6	275.5	259.2	16.30	16.898	
3,600.0	3,583.1	3,561.6	3,560.7	9.3	8.2	133.49	-178.6	-130.0	286.6	269.8	16.74	17.114	
3,700.0	3,682.3	3,659.1	3,658.1	9.6	8.4	135.03	-178.8	-133.7	299.0	281.8	17.17	17.412	
3,800.0	3,781.5	3,755.3	3,754.2	9.9	8.6	136.38	-179.2	-137.7	311.9	294.3	17.60	17.726	
3,900.0	3,880.8	3,850.8	3,849.6	10.2	8.8	137.61	-179.2	-142.9	326.3	308.3	18.03	18.099	
4,000.0	3,980.0	3,950.7	3,949.3	10.5	9.0	138.74	-179.5	-148.7	341.2	322.7	18.47	18.472	
4,100.0	4,079.2	4,048.9	4,047.4	10.9	9.2	139.72	-180.1	-154.0	355.6	336.7	18.91	18.804	
4,200.0	4,178.4	4,145.2	4,143.4	11.2	9.4	140.65	-180.3	-159.9	371.0	351.6	19.35	19.169	
4,300.0	4,277.6	4,244.3	4,242.4	11.5	9.6	141.61	-179.8	-165.8	386.5	366.7	19.81	19.511	
4,400.0	4,376.8	4,343.5	4,341.4	11.8	9.8	142.53	-179.2	-171.6	402.1	381.8	20.27	19.831	
4,500.0	4,476.1	4,442.7	4,440.4	12.2	10.1	143.46	-178.2	-177.0	417.5	396.8	20.74	20.127	
4,600.0	4,575.3	4,541.8	4,539.4	12.5	10.3	144.43	-176.4	-182.0	433.0	411.8	21.22	20.406	
4,700.0	4,674.5	4,643.4	4,640.9	12.8	10.6	145.51	-173.7	-186.4	448.3	426.6	21.70	20.655	
4,800.0	4,773.7	4,744.3	4,741.7	13.1	10.8	146.56	-170.8	-189.8	462.8	440.6	22.19	20.859	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Tarin Existing Wells Sec.32-T4N-R66W - Glen 44-32 (Existing) - Wellbore #1 - Wellbore #1												Offset Well Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													
Reference				Offset			Semi Major Axis		Distance				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,900.0	4,872.9	4,843.1	4,840.4	13.5	11.1	147.65	-167.2	-192.7	477.5	454.8	22.66	21.070	
5,000.0	4,972.2	4,946.5	4,943.6	13.8	11.4	148.72	-163.5	-195.3	491.8	468.7	23.15	21.249	
5,100.0	5,071.4	5,053.3	5,050.4	14.1	11.6	149.69	-161.0	-196.9	504.9	481.3	23.64	21.360	
5,200.0	5,170.6	5,159.9	5,157.0	14.4	11.9	150.57	-159.6	-197.1	516.6	492.5	24.10	21.437	
5,300.0	5,269.8	5,256.8	5,253.9	14.8	12.1	151.39	-158.2	-196.4	527.5	503.0	24.51	21.520	
5,400.0	5,369.0	5,355.3	5,352.4	15.1	12.3	152.17	-156.6	-196.5	539.5	514.5	24.94	21.628	
5,500.0	5,468.2	5,458.3	5,455.4	15.4	12.5	153.01	-154.7	-195.7	550.8	525.5	25.36	21.718	
5,600.0	5,567.5	5,561.3	5,558.4	15.8	12.6	153.80	-153.2	-194.5	561.7	536.0	25.74	21.819	
5,700.0	5,666.7	5,663.9	5,661.0	16.1	12.8	154.58	-152.1	-192.6	571.8	545.7	26.08	21.926	
5,800.0	5,766.2	5,770.5	5,767.5	16.3	12.8	155.18	-152.3	-190.5	579.1	552.7	26.36	21.971	
5,900.0	5,866.0	5,869.2	5,866.2	16.5	12.9	155.54	-153.1	-187.9	582.3	555.7	26.59	21.902	
6,000.0	5,965.9	5,964.5	5,961.5	16.7	12.9	155.64	-154.3	-186.6	583.1	556.3	26.78	21.770	
6,100.0	6,065.9	6,062.1	6,059.1	16.8	12.9	-57.49	-155.3	-185.8	582.1	552.9	29.17	19.956	
6,200.0	6,165.9	6,161.9	6,158.8	17.0	13.0	-57.47	-155.7	-184.9	581.1	551.7	29.38	19.779	
6,300.0	6,265.9	6,261.4	6,258.4	17.1	13.0	-57.57	-157.1	-184.6	580.1	550.5	29.58	19.609	
6,400.0	6,365.9	6,362.3	6,359.2	17.3	13.1	-57.72	-158.8	-184.6	579.1	549.3	29.79	19.442	
6,500.0	6,465.9	6,465.3	6,462.2	17.4	13.1	-57.81	-160.3	-184.0	577.8	547.8	30.00	19.263	
6,600.0	6,565.9	6,564.4	6,561.3	17.6	13.2	32.39	-161.0	-182.4	574.7	546.6	28.11	20.445	
6,700.0	6,664.9	6,661.9	6,658.8	17.6	13.3	33.79	-160.2	-180.4	562.3	534.4	27.98	20.099	
6,800.0	6,761.4	6,754.0	6,750.8	17.7	13.5	36.57	-158.2	-178.0	539.9	512.3	27.60	19.561	
6,900.0	6,853.7	6,841.0	6,837.7	17.7	13.6	40.87	-155.4	-176.1	509.1	482.0	27.14	18.761	
7,000.0	6,940.2	6,926.1	6,922.9	17.7	13.8	47.00	-153.1	-175.1	471.4	444.6	26.89	17.534	
7,100.0	7,019.3	7,008.0	7,004.7	17.7	14.0	55.38	-151.8	-174.7	428.6	401.4	27.25	15.731	
7,200.0	7,089.9	7,080.3	7,077.0	17.6	14.1	65.63	-151.3	-174.2	384.6	356.2	28.40	13.544	
7,300.0	7,150.6	7,140.9	7,137.6	17.6	14.2	76.42	-151.0	-173.6	345.9	315.9	30.01	11.524	
7,400.0	7,200.4	7,150.0	7,146.7	17.6	14.2	79.42	-151.0	-173.5	323.9	292.8	31.10	10.412	
7,430.5	7,213.4	7,150.0	7,146.7	17.8	14.2	79.51	-151.0	-173.5	322.5	291.1	31.46	10.251	
7,500.0	7,238.5	7,150.0	7,146.7	18.6	14.2	79.01	-151.0	-173.5	329.4	297.1	32.21	10.225 SF	
7,600.0	7,264.3	7,150.0	7,146.7	20.2	14.2	76.53	-151.0	-173.5	361.1	327.8	33.36	10.826	
7,700.0	7,277.8	7,150.0	7,146.7	22.0	14.2	73.70	-151.0	-173.5	412.9	378.3	34.60	11.932	
7,800.0	7,286.8	7,150.0	7,146.7	23.9	14.2	71.11	-151.0	-173.5	479.3	443.3	35.96	13.327	
7,900.0	7,288.5	7,150.0	7,146.7	26.0	14.2	67.85	-151.0	-173.5	554.4	517.2	37.16	14.918	
8,000.0	7,288.4	7,150.0	7,146.7	28.3	14.2	67.85	-151.0	-173.5	636.0	596.8	39.21	16.220	
8,100.0	7,288.4	7,150.0	7,146.7	30.6	14.2	67.85	-151.0	-173.5	722.3	681.0	41.36	17.464	
8,200.0	7,288.3	7,150.0	7,146.7	32.9	14.2	67.85	-151.0	-173.5	811.8	768.2	43.58	18.627	
8,300.0	7,288.2	7,150.0	7,146.7	35.4	14.2	67.85	-151.0	-173.5	903.4	857.5	45.86	19.699	
8,400.0	7,288.2	7,150.0	7,146.7	37.9	14.2	67.85	-151.0	-173.5	996.7	948.5	48.19	20.683	



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design											Tarin Existing Wells Sec.32-T4N-R66W - Wolf 44-31 (Existing) - Wellbore #1 - Wellbore #1		Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS											Offset Well Error:	0.0 ft		
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
12,200.0	7,285.5	7,269.5	7,268.3	141.6	14.6	89.81	31.8	-5,746.7	975.0	819.0	156.04	6.248		
12,300.0	7,285.4	7,269.9	7,268.7	144.4	14.6	89.86	31.7	-5,746.7	890.6	731.8	158.83	5.607		
12,400.0	7,285.4	7,270.3	7,269.1	147.1	14.6	89.91	31.7	-5,746.7	809.8	648.2	161.62	5.010		
12,500.0	7,285.3	7,270.8	7,269.6	149.9	14.6	89.96	31.7	-5,746.8	733.7	569.3	164.41	4.463		
12,600.0	7,285.2	7,271.2	7,270.0	152.7	14.6	90.01	31.7	-5,746.8	664.0	496.8	167.20	3.971		
12,700.0	7,285.2	7,271.6	7,270.4	155.5	14.6	90.06	31.7	-5,746.8	602.9	432.9	169.99	3.547		
12,800.0	7,285.1	7,272.0	7,270.8	158.3	14.6	90.10	31.7	-5,746.8	553.2	380.5	172.79	3.202		
12,900.0	7,285.0	7,272.5	7,271.3	161.1	14.6	90.15	31.7	-5,746.8	518.3	342.7	175.58	2.952		
13,000.0	7,285.0	7,272.9	7,271.7	163.9	14.6	90.20	31.7	-5,746.8	501.2	322.8	178.37	2.810		
13,037.1	7,284.9	7,273.1	7,271.9	164.9	14.6	90.22	31.7	-5,746.8	499.8	320.4	179.41	2.786 CC, ES		
13,100.0	7,284.9	7,273.3	7,272.1	166.7	14.6	90.25	31.7	-5,746.8	503.8	322.6	181.16	2.781 SF		
13,200.0	7,284.8	7,273.8	7,272.6	169.5	14.6	90.30	31.7	-5,746.8	525.7	341.7	183.96	2.858		
13,300.0	7,284.7	7,274.2	7,273.0	172.3	14.6	90.35	31.7	-5,746.8	564.7	378.0	186.75	3.024		
13,400.0	7,284.7	7,274.6	7,273.4	175.0	14.6	90.40	31.7	-5,746.8	617.7	428.1	189.55	3.259		
13,500.0	7,284.6	7,275.0	7,273.8	177.8	14.6	90.45	31.7	-5,746.8	681.2	488.9	192.34	3.542		
13,600.0	7,284.5	7,275.5	7,274.3	180.6	14.6	90.50	31.7	-5,746.8	752.8	557.6	195.13	3.858		
13,700.0	7,284.5	7,275.9	7,274.7	183.4	14.6	90.54	31.7	-5,746.8	830.2	632.3	197.93	4.194		
13,800.0	7,284.4	7,276.3	7,275.1	186.2	14.6	90.59	31.7	-5,746.8	912.0	711.3	200.72	4.544		
13,900.0	7,284.3	7,276.7	7,275.5	189.0	14.6	90.64	31.7	-5,746.8	997.2	793.7	203.52	4.900		



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Tarin Existing Wells Sec.32-T4N-R66W - Wolfe 1 (Existing) - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 100-NS-GYRO-MS												<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
9,300.0	7,287.5	7,278.8	7,277.5	61.5	14.2	91.45	-88.2	-2,892.6	961.3	885.7	75.56	12.721	
9,400.0	7,287.5	7,278.0	7,276.8	64.2	14.2	91.34	-88.1	-2,892.6	870.3	792.0	78.27	11.119	
9,500.0	7,287.4	7,277.3	7,276.1	67.0	14.2	91.23	-88.1	-2,892.6	781.6	700.6	80.98	9.651	
9,600.0	7,287.3	7,276.6	7,275.4	69.7	14.2	91.12	-88.1	-2,892.6	695.9	612.2	83.71	8.314	
9,700.0	7,287.3	7,275.9	7,274.7	72.4	14.2	91.02	-88.1	-2,892.6	614.6	528.1	86.43	7.110	
9,800.0	7,287.2	7,275.2	7,274.0	75.1	14.2	90.91	-88.1	-2,892.6	539.5	450.4	89.17	6.051	
9,900.0	7,287.1	7,274.5	7,273.3	77.9	14.2	90.81	-88.1	-2,892.6	473.8	381.9	91.91	5.155	
10,000.0	7,287.1	7,273.8	7,272.6	80.6	14.2	90.70	-88.1	-2,892.6	421.8	327.1	94.65	4.456	
10,100.0	7,287.0	7,273.1	7,271.9	83.4	14.1	90.60	-88.1	-2,892.6	389.0	291.6	97.40	3.994	
10,183.0	7,286.9	7,272.6	7,271.3	85.6	14.1	90.51	-88.1	-2,892.6	380.0	280.3	99.68	3.812 CC	
10,200.0	7,286.9	7,272.5	7,271.2	86.1	14.1	90.49	-88.1	-2,892.6	380.4	280.2	100.15	3.798 ES, SF	
10,300.0	7,286.8	7,271.8	7,270.5	88.9	14.1	90.39	-88.1	-2,892.6	397.6	294.7	102.90	3.864	
10,400.0	7,286.8	7,271.1	7,269.8	91.6	14.1	90.29	-88.1	-2,892.6	437.6	332.0	105.66	4.142	
10,500.0	7,286.7	7,270.4	7,269.2	94.4	14.1	90.19	-88.1	-2,892.6	494.9	386.5	108.42	4.564	
10,600.0	7,286.6	7,269.8	7,268.5	97.1	14.1	90.09	-88.1	-2,892.6	564.2	453.0	111.18	5.074	
10,700.0	7,286.6	7,269.1	7,267.8	99.9	14.1	89.99	-88.1	-2,892.6	641.6	527.7	113.95	5.631	
10,800.0	7,286.5	7,268.4	7,267.2	102.7	14.1	89.89	-88.1	-2,892.6	724.6	607.9	116.71	6.209	
10,900.0	7,286.4	7,267.8	7,266.5	105.4	14.1	89.79	-88.1	-2,892.6	811.5	692.0	119.48	6.792	
11,000.0	7,286.4	7,267.1	7,265.9	108.2	14.1	89.69	-88.0	-2,892.6	901.0	778.8	122.25	7.370	
11,100.0	7,286.3	7,266.5	7,265.2	111.0	14.1	89.59	-88.0	-2,892.7	992.6	867.6	125.02	7.940	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Tarin Existing Wells Sec.32-T4N-R66W - Wolfe 14-32 (Existing) - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
<b>Survey Program:</b> 100-NS-GYRO-MS												<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,600.0	7,286.6	7,261.8	7,261.0	97.1	15.1	89.08	-28.9	-4,157.4	954.8	842.7	112.10	8.518	
10,700.0	7,286.6	7,263.1	7,262.3	99.9	15.1	89.25	-28.9	-4,157.4	867.3	752.4	114.88	7.550	
10,800.0	7,286.5	7,264.4	7,263.6	102.7	15.1	89.42	-28.9	-4,157.4	782.7	665.0	117.65	6.652	
10,900.0	7,286.4	7,265.6	7,264.8	105.4	15.1	89.58	-28.9	-4,157.5	702.2	581.7	120.43	5.830	
11,000.0	7,286.4	7,266.9	7,266.1	108.2	15.1	89.75	-28.9	-4,157.5	627.3	504.1	123.21	5.091	
11,100.0	7,286.3	7,268.2	7,267.4	111.0	15.1	89.91	-28.9	-4,157.5	560.3	434.3	125.99	4.447	
11,200.0	7,286.2	7,269.4	7,268.6	113.8	15.1	90.08	-28.9	-4,157.5	504.3	375.5	128.77	3.916	
11,300.0	7,286.1	7,270.7	7,269.9	116.5	15.1	90.24	-28.9	-4,157.5	463.4	331.8	131.55	3.522	
11,400.0	7,286.1	7,272.0	7,271.2	119.3	15.1	90.41	-29.0	-4,157.5	441.8	307.4	134.34	3.289	
11,447.9	7,286.0	7,272.6	7,271.8	120.6	15.1	90.49	-29.0	-4,157.6	439.2	303.5	135.67	3.237 CC, ES	
11,500.0	7,286.0	7,273.3	7,272.4	122.1	15.1	90.57	-29.0	-4,157.6	442.2	305.1	137.12	3.225 SF	
11,600.0	7,285.9	7,274.5	7,273.7	124.9	15.1	90.74	-29.0	-4,157.6	464.7	324.8	139.90	3.322	
11,700.0	7,285.9	7,275.8	7,275.0	127.6	15.1	90.91	-29.0	-4,157.6	506.3	363.7	142.68	3.549	
11,800.0	7,285.8	7,277.1	7,276.3	130.4	15.1	91.07	-29.0	-4,157.6	562.8	417.4	145.46	3.869	
11,900.0	7,285.7	7,278.3	7,277.5	133.2	15.1	91.24	-29.0	-4,157.6	630.2	482.0	148.24	4.251	
12,000.0	7,285.7	7,279.6	7,278.8	136.0	15.1	91.40	-29.0	-4,157.6	705.4	554.4	151.02	4.671	
12,100.0	7,285.6	7,280.9	7,280.1	138.8	15.1	91.57	-29.0	-4,157.7	786.1	632.3	153.80	5.111	
12,200.0	7,285.5	7,282.1	7,281.3	141.6	15.1	91.73	-29.0	-4,157.7	870.8	714.3	156.58	5.562	
12,300.0	7,285.4	7,283.4	7,282.6	144.4	15.1	91.90	-29.1	-4,157.7	958.5	799.2	159.35	6.015	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Tarin Existing Wells Sec.32-T4N-R66W - Wolfe 6I (Existing) - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 668-NS-GYRO-MS												<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
9,400.0	7,287.5	7,331.8	7,263.5	64.2	18.9	89.65	462.5	-2,378.4	968.6	886.8	81.82	11.839	
9,500.0	7,287.4	7,333.8	7,265.6	67.0	19.0	89.77	462.5	-2,378.4	945.8	861.2	84.53	11.188	
9,600.0	7,287.3	7,335.9	7,267.6	69.7	19.0	89.90	462.5	-2,378.5	933.1	845.9	87.25	10.694	
9,668.9	7,287.3	7,337.2	7,269.0	71.6	19.0	89.98	462.5	-2,378.5	930.6	841.4	89.13	10.440 CC	
9,700.0	7,287.3	7,337.9	7,269.6	72.4	19.0	90.02	462.5	-2,378.5	931.1	841.1	89.98	10.347 ES	
9,800.0	7,287.2	7,339.9	7,271.6	75.1	19.0	90.14	462.5	-2,378.6	939.8	847.0	92.72	10.136	
9,900.0	7,287.1	7,341.8	7,273.6	77.9	19.0	90.26	462.5	-2,378.6	958.8	863.4	95.46	10.045 SF	
10,000.0	7,287.1	7,343.8	7,275.5	80.6	19.0	90.38	462.5	-2,378.6	987.7	889.5	98.20	10.058	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4790.0ft (RKB - 15')

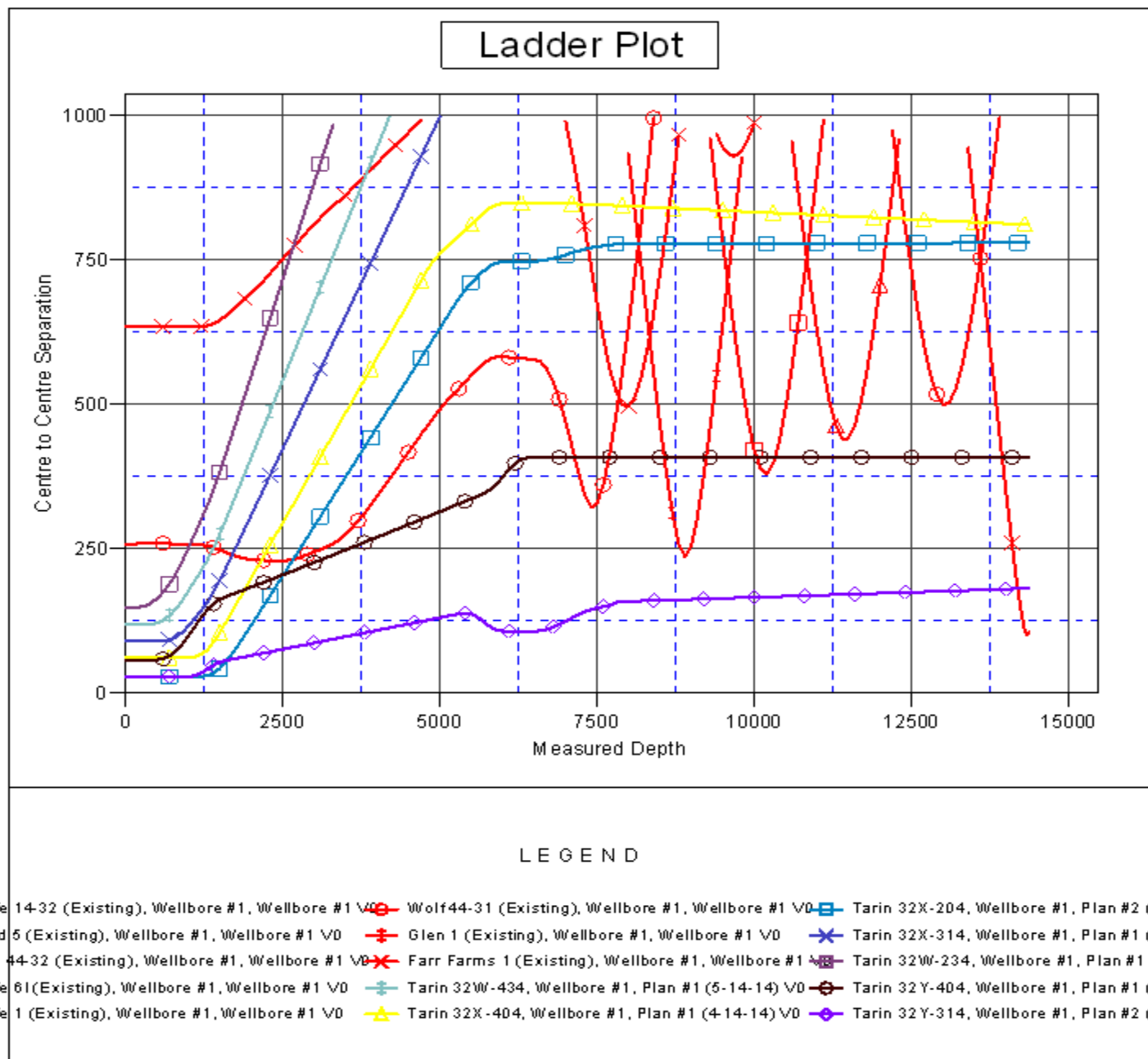
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Tarin 32Y-414

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.46°



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-414
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4790.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-414	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-22-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4790.0ft (RKB - 15')

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Tarin 32Y-414

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.46°

