

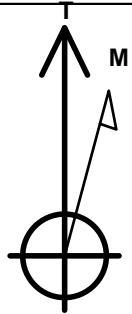
# PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Tarin 32Y-404**

Surface Location: Tarin 32X-HZ Pad Sec.32-T4N-R66W  
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
 Ground Elevation: 4776.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1339526.00 3197254.51 40.263240 -104.793170  
 RKB - 15' WELL @ 4791.0ft (RKB - 15')

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 853'FSL & 355'FEL, Sec.32	1.0	0.0	0.0	Point
BHL 75'FSL & 2141'FEL, Sec.31	7284.0	-818.7	-7080.6	Point



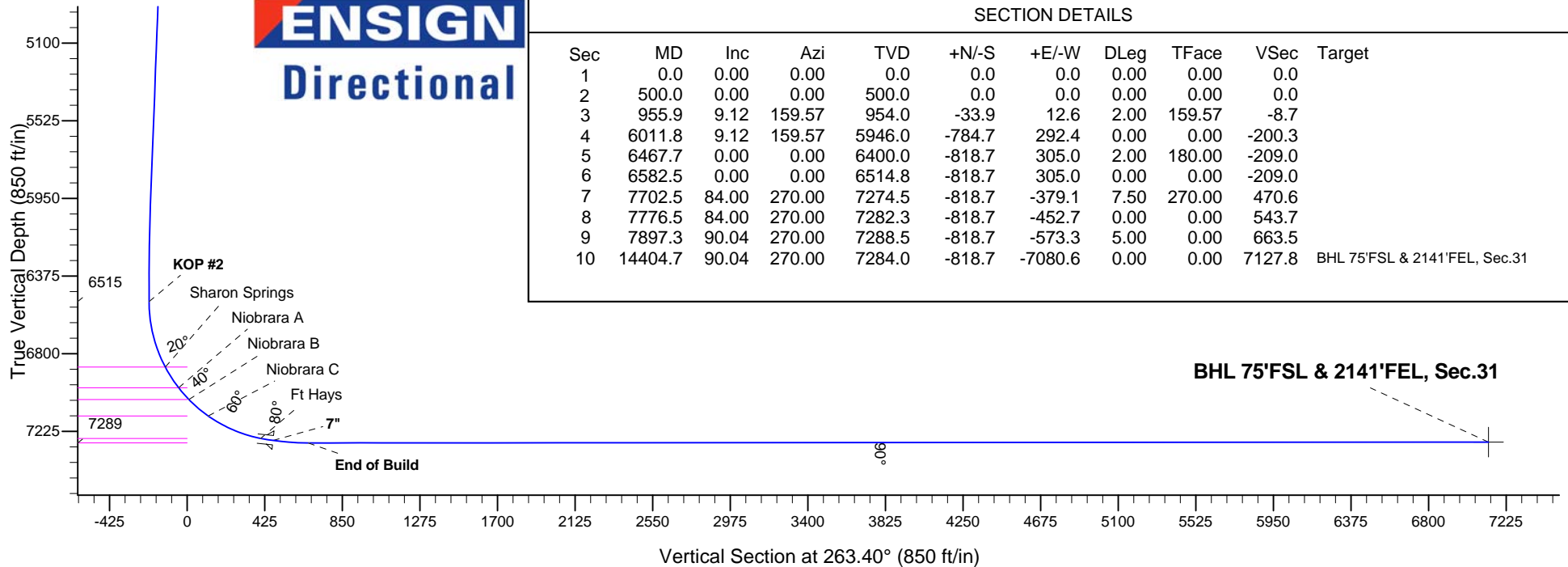
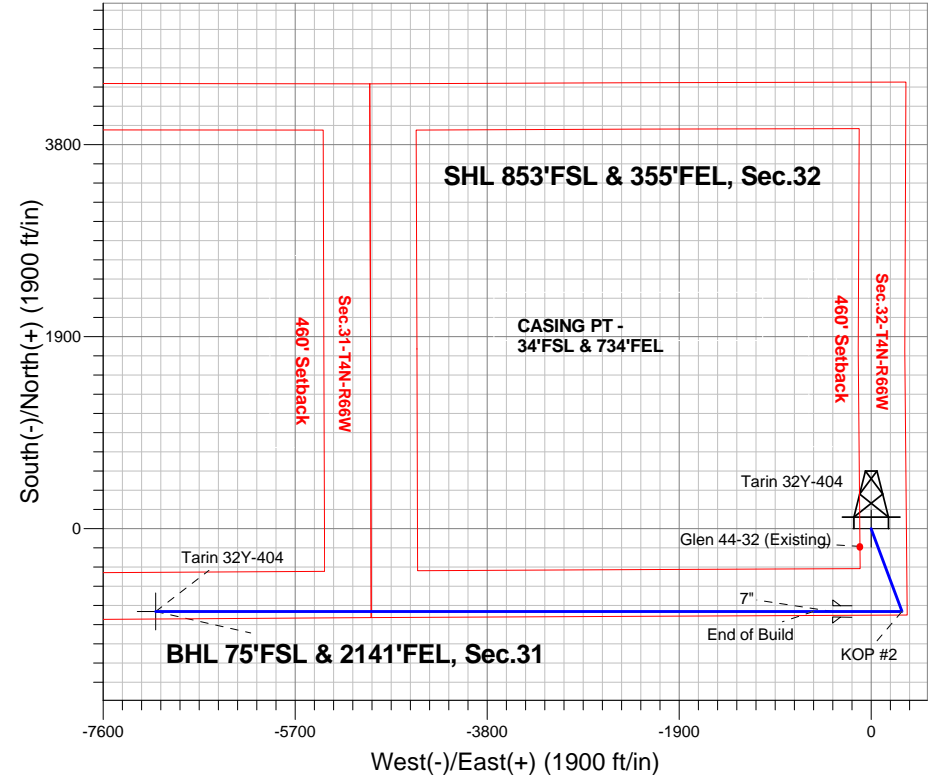
Azimuths to True North  
 Magnetic North: 8.48°

Magnetic Field  
 Strength: 52756.3nT  
 Dip Angle: 66.84°  
 Date: 4/23/2014  
 Model: IGRF2010

Tarin 32X-HZ Pad Sec.32-T4N-R66W  
 Tarin 32Y-404  
 Plan #1 (4-14-14)  
 8:53, April 24 2014

## ANNOTATIONS

TVD	MD	Annotation
500.0	500.0	KOP #1
6514.8	6582.5	KOP #2
7288.5	7897.3	End of Build





# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.32-T4N-R66W**

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

**Tarin 32Y-404**

**Wellbore #1**

**Plan: Plan #1 (4-14-14)**

## **Standard Planning Report**

**24 April, 2014**

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-404
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Project:</b>	SEC.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Tarin 32Y-404	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (4-14-14)		

<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-404					
Well Position	+N-S	-207.7 ft	Northing:	1,339,526.00 ft	Latitude:	40.263240
	+E-W	2.8 ft	Easting:	3,197,254.51 ft	Longitude:	-104.793170
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,776.0 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	4/23/2014	8.48	66.84	52,756

<b>Design</b>	Plan #1 (4-14-14)			
<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	263.40

<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	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
955.9	9.12	159.57	954.0	-33.9	12.6	2.00	2.00	0.00	159.57	
6,011.8	9.12	159.57	5,946.0	-784.7	292.4	0.00	0.00	0.00	0.00	
6,467.7	0.00	0.00	6,400.0	-818.7	305.0	2.00	-2.00	0.00	180.00	
6,582.5	0.00	0.00	6,514.8	-818.7	305.0	0.00	0.00	0.00	0.00	
7,702.5	84.00	270.00	7,274.5	-818.7	-379.1	7.50	7.50	0.00	270.00	
7,776.5	84.00	270.00	7,282.3	-818.7	-452.7	0.00	0.00	0.00	0.00	
7,897.3	90.04	270.00	7,288.5	-818.7	-573.3	5.00	5.00	0.00	0.00	
14,404.7	90.04	270.00	7,284.0	-818.7	-7,080.6	0.00	0.00	0.00	0.00	BHL 75'FSL & 2141

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-404
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Project:</b>	SEC.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Tarin 32Y-404	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (4-14-14)		

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 853'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
<b>KOP #1</b>									
600.0	2.00	159.57	600.0	-1.6	0.6	-0.4	2.00	2.00	0.00
700.0	4.00	159.57	699.8	-6.5	2.4	-1.7	2.00	2.00	0.00
800.0	6.00	159.57	799.5	-14.7	5.5	-3.8	2.00	2.00	0.00
900.0	8.00	159.57	898.7	-26.1	9.7	-6.7	2.00	2.00	0.00
955.9	9.12	159.57	954.0	-33.9	12.6	-8.7	2.00	2.00	0.00
1,000.0	9.12	159.57	997.5	-40.5	15.1	-10.3	0.00	0.00	0.00
1,100.0	9.12	159.57	1,096.3	-55.3	20.6	-14.1	0.00	0.00	0.00
1,200.0	9.12	159.57	1,195.0	-70.2	26.1	-17.9	0.00	0.00	0.00
1,300.0	9.12	159.57	1,293.7	-85.0	31.7	-21.7	0.00	0.00	0.00
1,400.0	9.12	159.57	1,392.5	-99.9	37.2	-25.5	0.00	0.00	0.00
1,500.0	9.12	159.57	1,491.2	-114.7	42.7	-29.3	0.00	0.00	0.00
1,600.0	9.12	159.57	1,589.9	-129.6	48.3	-33.1	0.00	0.00	0.00
1,700.0	9.12	159.57	1,688.7	-144.4	53.8	-36.9	0.00	0.00	0.00
1,800.0	9.12	159.57	1,787.4	-159.3	59.3	-40.7	0.00	0.00	0.00
1,900.0	9.12	159.57	1,886.1	-174.1	64.9	-44.4	0.00	0.00	0.00
2,000.0	9.12	159.57	1,984.9	-189.0	70.4	-48.2	0.00	0.00	0.00
2,100.0	9.12	159.57	2,083.6	-203.8	75.9	-52.0	0.00	0.00	0.00
2,200.0	9.12	159.57	2,182.4	-218.7	81.5	-55.8	0.00	0.00	0.00
2,300.0	9.12	159.57	2,281.1	-233.5	87.0	-59.6	0.00	0.00	0.00
2,400.0	9.12	159.57	2,379.8	-248.4	92.5	-63.4	0.00	0.00	0.00
2,500.0	9.12	159.57	2,478.6	-263.2	98.1	-67.2	0.00	0.00	0.00
2,600.0	9.12	159.57	2,577.3	-278.1	103.6	-71.0	0.00	0.00	0.00
2,700.0	9.12	159.57	2,676.0	-292.9	109.1	-74.8	0.00	0.00	0.00
2,800.0	9.12	159.57	2,774.8	-307.8	114.7	-78.6	0.00	0.00	0.00
2,900.0	9.12	159.57	2,873.5	-322.6	120.2	-82.3	0.00	0.00	0.00
3,000.0	9.12	159.57	2,972.2	-337.5	125.7	-86.1	0.00	0.00	0.00
3,100.0	9.12	159.57	3,071.0	-352.3	131.3	-89.9	0.00	0.00	0.00
3,200.0	9.12	159.57	3,169.7	-367.2	136.8	-93.7	0.00	0.00	0.00
3,300.0	9.12	159.57	3,268.5	-382.0	142.3	-97.5	0.00	0.00	0.00
3,400.0	9.12	159.57	3,367.2	-396.9	147.9	-101.3	0.00	0.00	0.00
3,500.0	9.12	159.57	3,465.9	-411.7	153.4	-105.1	0.00	0.00	0.00
3,600.0	9.12	159.57	3,564.7	-426.6	158.9	-108.9	0.00	0.00	0.00
3,700.0	9.12	159.57	3,663.4	-441.4	164.5	-112.7	0.00	0.00	0.00
3,747.2	9.12	159.57	3,710.0	-448.4	167.1	-114.5	0.00	0.00	0.00
<b>Parkman</b>									
3,800.0	9.12	159.57	3,762.1	-456.3	170.0	-116.5	0.00	0.00	0.00
3,900.0	9.12	159.57	3,860.9	-471.1	175.5	-120.3	0.00	0.00	0.00
4,000.0	9.12	159.57	3,959.6	-486.0	181.1	-124.0	0.00	0.00	0.00
4,100.0	9.12	159.57	4,058.3	-500.8	186.6	-127.8	0.00	0.00	0.00
4,200.0	9.12	159.57	4,157.1	-515.7	192.1	-131.6	0.00	0.00	0.00
4,300.0	9.12	159.57	4,255.8	-530.5	197.7	-135.4	0.00	0.00	0.00
4,400.0	9.12	159.57	4,354.6	-545.4	203.2	-139.2	0.00	0.00	0.00
4,435.9	9.12	159.57	4,390.0	-550.7	205.2	-140.6	0.00	0.00	0.00
<b>Sussex</b>									

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-404
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Project:</b>	SEC.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Tarin 32Y-404	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (4-14-14)		

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	9.12	159.57	4,453.3	-560.2	208.7	-143.0	0.00	0.00	0.00
4,600.0	9.12	159.57	4,552.0	-575.1	214.3	-146.8	0.00	0.00	0.00
4,700.0	9.12	159.57	4,650.8	-589.9	219.8	-150.6	0.00	0.00	0.00
4,800.0	9.12	159.57	4,749.5	-604.8	225.3	-154.4	0.00	0.00	0.00
4,851.1	9.12	159.57	4,800.0	-612.4	228.1	-156.3	0.00	0.00	0.00
<b>Shannon</b>									
4,900.0	9.12	159.57	4,848.2	-619.6	230.8	-158.2	0.00	0.00	0.00
5,000.0	9.12	159.57	4,947.0	-634.5	236.4	-161.9	0.00	0.00	0.00
5,100.0	9.12	159.57	5,045.7	-649.3	241.9	-165.7	0.00	0.00	0.00
5,200.0	9.12	159.57	5,144.4	-664.2	247.4	-169.5	0.00	0.00	0.00
5,300.0	9.12	159.57	5,243.2	-679.0	253.0	-173.3	0.00	0.00	0.00
5,400.0	9.12	159.57	5,341.9	-693.9	258.5	-177.1	0.00	0.00	0.00
5,500.0	9.12	159.57	5,440.7	-708.7	264.0	-180.9	0.00	0.00	0.00
5,600.0	9.12	159.57	5,539.4	-723.6	269.6	-184.7	0.00	0.00	0.00
5,700.0	9.12	159.57	5,638.1	-738.4	275.1	-188.5	0.00	0.00	0.00
5,800.0	9.12	159.57	5,736.9	-753.3	280.6	-192.3	0.00	0.00	0.00
5,900.0	9.12	159.57	5,835.6	-768.1	286.2	-196.1	0.00	0.00	0.00
6,000.0	9.12	159.57	5,934.3	-783.0	291.7	-199.8	0.00	0.00	0.00
6,011.8	9.12	159.57	5,946.0	-784.7	292.4	-200.3	0.00	0.00	0.00
6,100.0	7.35	159.57	6,033.3	-796.6	296.8	-203.3	2.00	-2.00	0.00
6,200.0	5.35	159.57	6,132.7	-806.9	300.6	-206.0	2.00	-2.00	0.00
6,300.0	3.35	159.57	6,232.4	-814.1	303.3	-207.8	2.00	-2.00	0.00
6,400.0	1.35	159.57	6,332.3	-817.9	304.7	-208.8	2.00	-2.00	0.00
6,467.7	0.00	0.00	6,400.0	-818.7	305.0	-209.0	2.00	-2.00	0.00
6,500.0	0.00	0.00	6,432.3	-818.7	305.0	-209.0	0.00	0.00	0.00
6,582.5	0.00	0.00	6,514.8	-818.7	305.0	-209.0	0.00	0.00	0.00
<b>KOP #2</b>									
6,600.0	1.31	270.00	6,532.3	-818.7	304.8	-208.8	7.50	7.50	0.00
6,700.0	8.81	270.00	6,631.8	-818.7	296.0	-200.0	7.50	7.50	0.00
6,800.0	16.31	270.00	6,729.3	-818.7	274.2	-178.4	7.50	7.50	0.00
6,900.0	23.81	270.00	6,823.2	-818.7	240.0	-144.4	7.50	7.50	0.00
6,955.4	27.96	270.00	6,873.0	-818.7	215.8	-120.3	7.50	7.50	0.00
<b>Sharon Springs</b>									
7,000.0	31.31	270.00	6,911.8	-818.7	193.7	-98.4	7.50	7.50	0.00
7,090.3	38.09	270.00	6,986.0	-818.7	142.3	-47.4	7.50	7.50	0.00
<b>Niobrara A</b>									
7,100.0	38.81	270.00	6,993.6	-818.7	136.3	-41.4	7.50	7.50	0.00
7,176.9	44.58	270.00	7,051.0	-818.7	85.2	9.4	7.50	7.50	0.00
<b>Niobrara B</b>									
7,200.0	46.31	270.00	7,067.2	-818.7	68.7	25.7	7.50	7.50	0.00
7,300.0	53.81	270.00	7,131.3	-818.7	-7.9	101.9	7.50	7.50	0.00
7,316.6	55.06	270.00	7,141.0	-818.7	-21.4	115.3	7.50	7.50	0.00
<b>Niobrara C</b>									
7,400.0	61.31	270.00	7,184.9	-818.7	-92.2	185.6	7.50	7.50	0.00
7,500.0	68.81	270.00	7,227.1	-818.7	-182.8	275.6	7.50	7.50	0.00
7,600.0	76.31	270.00	7,257.0	-818.7	-278.2	370.4	7.50	7.50	0.00
7,632.3	78.74	270.00	7,264.0	-818.7	-309.7	401.7	7.50	7.50	0.00
<b>Ft Hays</b>									
7,700.0	83.81	270.00	7,274.3	-818.7	-376.6	468.1	7.50	7.50	0.00
7,702.5	84.00	270.00	7,274.5	-818.7	-379.1	470.6	7.50	7.50	0.00
<b>7"</b>									
7,776.5	84.00	270.00	7,282.3	-818.7	-452.7	543.7	0.00	0.00	0.00

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-404
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<b>Project:</b>	SEC.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Tarin 32Y-404	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (4-14-14)		

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	85.17	270.00	7,284.5	-818.7	-476.1	566.9	5.00	5.00	0.00
7,861.2	88.24	270.00	7,288.0	-818.7	-537.2	627.7	5.00	5.00	0.00
<b>Codell</b>									
7,897.3	90.04	270.00	7,288.5	-818.7	-573.3	663.5	5.00	5.00	0.00
<b>End of Build</b>									
7,900.0	90.04	270.00	7,288.5	-818.7	-576.0	666.2	0.01	0.01	0.00
8,000.0	90.04	270.00	7,288.5	-818.7	-676.0	765.5	0.00	0.00	0.00
8,100.0	90.04	270.00	7,288.4	-818.7	-776.0	864.9	0.00	0.00	0.00
8,200.0	90.04	270.00	7,288.3	-818.7	-876.0	964.2	0.00	0.00	0.00
8,300.0	90.04	270.00	7,288.3	-818.7	-976.0	1,063.5	0.00	0.00	0.00
8,400.0	90.04	270.00	7,288.2	-818.7	-1,076.0	1,162.9	0.00	0.00	0.00
8,500.0	90.04	270.00	7,288.1	-818.7	-1,176.0	1,262.2	0.00	0.00	0.00
8,600.0	90.04	270.00	7,288.1	-818.7	-1,276.0	1,361.5	0.00	0.00	0.00
8,700.0	90.04	270.00	7,288.0	-818.7	-1,376.0	1,460.9	0.00	0.00	0.00
8,800.0	90.04	270.00	7,287.9	-818.7	-1,476.0	1,560.2	0.00	0.00	0.00
8,900.0	90.04	270.00	7,287.8	-818.7	-1,576.0	1,659.6	0.00	0.00	0.00
9,000.0	90.04	270.00	7,287.8	-818.7	-1,676.0	1,758.9	0.00	0.00	0.00
9,100.0	90.04	270.00	7,287.7	-818.7	-1,776.0	1,858.2	0.00	0.00	0.00
9,200.0	90.04	270.00	7,287.6	-818.7	-1,876.0	1,957.6	0.00	0.00	0.00
9,300.0	90.04	270.00	7,287.6	-818.7	-1,976.0	2,056.9	0.00	0.00	0.00
9,400.0	90.04	270.00	7,287.5	-818.7	-2,076.0	2,156.2	0.00	0.00	0.00
9,500.0	90.04	270.00	7,287.4	-818.7	-2,176.0	2,255.6	0.00	0.00	0.00
9,600.0	90.04	270.00	7,287.4	-818.7	-2,276.0	2,354.9	0.00	0.00	0.00
9,700.0	90.04	270.00	7,287.3	-818.7	-2,376.0	2,454.3	0.00	0.00	0.00
9,800.0	90.04	270.00	7,287.2	-818.7	-2,476.0	2,553.6	0.00	0.00	0.00
9,900.0	90.04	270.00	7,287.1	-818.7	-2,576.0	2,652.9	0.00	0.00	0.00
10,000.0	90.04	270.00	7,287.1	-818.7	-2,676.0	2,752.3	0.00	0.00	0.00
10,100.0	90.04	270.00	7,287.0	-818.7	-2,776.0	2,851.6	0.00	0.00	0.00
10,200.0	90.04	270.00	7,286.9	-818.7	-2,876.0	2,951.0	0.00	0.00	0.00
10,300.0	90.04	270.00	7,286.9	-818.7	-2,976.0	3,050.3	0.00	0.00	0.00
10,400.0	90.04	270.00	7,286.8	-818.7	-3,076.0	3,149.6	0.00	0.00	0.00
10,500.0	90.04	270.00	7,286.7	-818.7	-3,176.0	3,249.0	0.00	0.00	0.00
10,600.0	90.04	270.00	7,286.7	-818.7	-3,276.0	3,348.3	0.00	0.00	0.00
10,700.0	90.04	270.00	7,286.6	-818.7	-3,376.0	3,447.6	0.00	0.00	0.00
10,800.0	90.04	270.00	7,286.5	-818.7	-3,476.0	3,547.0	0.00	0.00	0.00
10,900.0	90.04	270.00	7,286.4	-818.7	-3,576.0	3,646.3	0.00	0.00	0.00
11,000.0	90.04	270.00	7,286.4	-818.7	-3,676.0	3,745.7	0.00	0.00	0.00
11,100.0	90.04	270.00	7,286.3	-818.7	-3,776.0	3,845.0	0.00	0.00	0.00
11,200.0	90.04	270.00	7,286.2	-818.7	-3,876.0	3,944.3	0.00	0.00	0.00
11,300.0	90.04	270.00	7,286.2	-818.7	-3,976.0	4,043.7	0.00	0.00	0.00
11,400.0	90.04	270.00	7,286.1	-818.7	-4,076.0	4,143.0	0.00	0.00	0.00
11,500.0	90.04	270.00	7,286.0	-818.7	-4,176.0	4,242.4	0.00	0.00	0.00
11,600.0	90.04	270.00	7,286.0	-818.7	-4,276.0	4,341.7	0.00	0.00	0.00
11,700.0	90.04	270.00	7,285.9	-818.7	-4,376.0	4,441.0	0.00	0.00	0.00
11,800.0	90.04	270.00	7,285.8	-818.7	-4,476.0	4,540.4	0.00	0.00	0.00
11,900.0	90.04	270.00	7,285.7	-818.7	-4,576.0	4,639.7	0.00	0.00	0.00
12,000.0	90.04	270.00	7,285.7	-818.7	-4,676.0	4,739.0	0.00	0.00	0.00
12,100.0	90.04	270.00	7,285.6	-818.7	-4,776.0	4,838.4	0.00	0.00	0.00
12,200.0	90.04	270.00	7,285.5	-818.7	-4,876.0	4,937.7	0.00	0.00	0.00
12,300.0	90.04	270.00	7,285.5	-818.7	-4,976.0	5,037.1	0.00	0.00	0.00
12,400.0	90.04	270.00	7,285.4	-818.7	-5,076.0	5,136.4	0.00	0.00	0.00
12,500.0	90.04	270.00	7,285.3	-818.7	-5,176.0	5,235.7	0.00	0.00	0.00
12,600.0	90.04	270.00	7,285.3	-818.7	-5,276.0	5,335.1	0.00	0.00	0.00

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-404
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Project:</b>	SEC.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Tarin 32Y-404	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (4-14-14)		

#### 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	-818.7	-5,376.0	5,434.4	0.00	0.00	0.00
12,800.0	90.04	270.00	7,285.1	-818.7	-5,476.0	5,533.7	0.00	0.00	0.00
12,900.0	90.04	270.00	7,285.1	-818.7	-5,576.0	5,633.1	0.00	0.00	0.00
13,000.0	90.04	270.00	7,285.0	-818.7	-5,676.0	5,732.4	0.00	0.00	0.00
13,100.0	90.04	270.00	7,284.9	-818.7	-5,776.0	5,831.8	0.00	0.00	0.00
13,200.0	90.04	270.00	7,284.8	-818.7	-5,876.0	5,931.1	0.00	0.00	0.00
13,300.0	90.04	270.00	7,284.8	-818.7	-5,976.0	6,030.4	0.00	0.00	0.00
13,400.0	90.04	270.00	7,284.7	-818.7	-6,076.0	6,129.8	0.00	0.00	0.00
13,500.0	90.04	270.00	7,284.6	-818.7	-6,176.0	6,229.1	0.00	0.00	0.00
13,600.0	90.04	270.00	7,284.6	-818.7	-6,276.0	6,328.5	0.00	0.00	0.00
13,700.0	90.04	270.00	7,284.5	-818.7	-6,376.0	6,427.8	0.00	0.00	0.00
13,800.0	90.04	270.00	7,284.4	-818.7	-6,476.0	6,527.1	0.00	0.00	0.00
13,900.0	90.04	270.00	7,284.4	-818.7	-6,576.0	6,626.5	0.00	0.00	0.00
14,000.0	90.04	270.00	7,284.3	-818.7	-6,676.0	6,725.8	0.00	0.00	0.00
14,100.0	90.04	270.00	7,284.2	-818.7	-6,776.0	6,825.1	0.00	0.00	0.00
14,200.0	90.04	270.00	7,284.1	-818.7	-6,876.0	6,924.5	0.00	0.00	0.00
14,300.0	90.04	270.00	7,284.1	-818.7	-6,976.0	7,023.8	0.00	0.00	0.00
14,400.0	90.04	270.00	7,284.0	-818.7	-7,076.0	7,123.2	0.00	0.00	0.00
14,404.7	90.04	270.00	7,284.0	-818.7	-7,080.6	7,127.8	0.00	0.00	0.00
BHL 75'FSL & 2141'FEL, Sec.31									

#### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,702.5	7,274.5	7"	7	7-1/2

#### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,747.2	3,710.0	Parkman		0.00	
4,435.9	4,390.0	Sussex		0.00	
4,851.1	4,800.0	Shannon		0.00	
6,955.4	6,873.0	Sharon Springs		0.00	
7,090.3	6,986.0	Niobrara A		0.00	
7,176.9	7,051.0	Niobrara B		0.00	
7,316.6	7,141.0	Niobrara C		0.00	
7,632.3	7,264.0	Ft Hays		0.00	
7,861.2	7,288.0	Codell		0.00	

<b>Database:</b>	landmark	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-404
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Project:</b>	SEC.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Tarin 32Y-404	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (4-14-14)		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
500.0	500.0	0.0	0.0	KOP #1
6,582.5	6,514.8	-818.7	305.0	KOP #2
7,897.3	7,288.5	-818.7	-573.3	End of Build





# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.32-T4N-R66W**

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

**Tarin 32Y-404**

**Wellbore #1**

**Plan #1 (4-14-14)**

## **Anticollision Report**

**24 April, 2014**



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-404
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-404	<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 #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #1 (4-14-14)
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria
<b>Interpolation Method:</b>	MD Interval 100.0ft
<b>Depth Range:</b>	Unlimited
<b>Results Limited by:</b>	Maximum center-center distance of 1,000.0ft
<b>Warning Levels Evaluated at:</b>	2.00 Sigma
<b>Error Model:</b>	ISCWSA
<b>Scan Method:</b>	Closest Approach 3D
<b>Error Surface:</b>	Elliptical Conic

Survey Tool Program		Date	4/24/2014		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	14,404.7	Plan #1 (4-14-14) (Wellbore #1)	MWD	MWD - Standard	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Tarin 32X-HZ Pad Sec.32-T4N-R66W						
Tarin 32W-234 - Wellbore #1 - Plan #1 (4-14-14)	200.0	198.0	207.7	207.0	310.037	CC, ES
Tarin 32W-234 - Wellbore #1 - Plan #1 (4-14-14)	2,700.0	2,496.2	986.3	973.5	77.235	SF
Tarin 32W-434 - Wellbore #1 - Plan #1 (4-14-14)	400.0	398.0	178.5	176.9	113.782	CC, ES
Tarin 32W-434 - Wellbore #1 - Plan #1 (4-14-14)	3,300.0	3,138.7	989.6	973.9	63.116	SF
Tarin 32X-234 - Wellbore #1 - Plan #1 (4-14-14)	500.0	499.0	87.4	85.4	43.272	CC, ES
Tarin 32X-234 - Wellbore #1 - Plan #1 (4-14-14)	900.0	897.7	114.0	110.3	30.697	SF
Tarin 32X-314 - Wellbore #1 - Plan #1 (4-14-14)	500.0	499.0	149.4	147.3	73.921	CC, ES
Tarin 32X-314 - Wellbore #1 - Plan #1 (4-14-14)	900.0	881.4	188.9	185.2	50.875	SF
Tarin 32X-404 - Wellbore #1 - Plan #1 (4-14-14)	500.0	499.0	120.2	118.2	59.498	CC, ES
Tarin 32X-404 - Wellbore #1 - Plan #1 (4-14-14)	1,100.0	1,091.6	177.7	173.1	38.725	SF
Tarin 32X-434 - Wellbore #1 - Plan #1 (4-14-14)	500.0	499.0	58.3	56.3	28.846	CC, ES
Tarin 32X-434 - Wellbore #1 - Plan #1 (4-14-14)	14,404.7	14,365.6	543.3	139.0	1.344	Level 3, SF
Tarin 32Y-314 - Wellbore #1 - Plan #1 (4-14-14)	500.0	500.0	29.1	27.1	14.407	CC
Tarin 32Y-314 - Wellbore #1 - Plan #1 (4-14-14)	14,404.7	14,270.0	362.2	-9.5	0.974	Level 1, ES, SF
Tarin Existing Wells Sec.32-T4N-R66W						
Glen 44-32 (Existing) - Wellbore #1 - Wellbore #1	1,515.6	1,492.6	165.7	131.9	4.905	CC
Glen 44-32 (Existing) - Wellbore #1 - Wellbore #1	1,700.0	1,674.7	168.2	130.2	4.421	ES
Glen 44-32 (Existing) - Wellbore #1 - Wellbore #1	7,500.0	7,213.1	647.7	484.7	3.973	SF

<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>	0.0ft
<b>Survey Program:</b>	0-MWD											<b>Offset Well Error:</b>	0.0ft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		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	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-0.77	207.6	-2.8	207.7				
100.0	100.0	98.0	98.0	0.1	0.1	-0.77	207.6	-2.8	207.7	207.4	0.22	933.225	
200.0	200.0	198.0	198.0	0.3	0.3	-0.77	207.6	-2.8	207.7	207.0	0.67	310.037	CC, ES
300.0	300.0	291.5	291.5	0.6	0.5	-0.67	209.1	-2.5	209.2	208.1	1.11	188.955	
400.0	400.0	384.7	384.6	0.8	0.8	-0.38	213.4	-1.4	213.9	212.3	1.55	137.851	
500.0	500.0	477.6	477.1	1.0	1.0	0.08	220.7	0.3	221.7	219.7	2.00	110.927	
600.0	600.0	569.6	568.6	1.2	1.2	-158.95	230.8	2.7	234.3	231.9	2.44	96.063	
700.0	699.8	660.3	658.3	1.4	1.5	-158.53	243.5	5.7	253.2	250.3	2.87	88.273	

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-404
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-404	<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 #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference														
		Offset		Semi Major Axis		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)						
800.0	799.5	749.0	745.7	1.6	1.8	-158.23	258.7	9.3	278.3	275.0	3.31	84.079		
900.0	898.7	835.4	830.2	1.9	2.2	-158.01	275.9	13.4	309.3	305.5	3.76	82.290		
1,000.0	997.5	921.5	914.0	2.2	2.5	-157.97	295.5	18.1	345.7	341.5	4.21	82.058		
1,100.0	1,096.3	1,014.2	1,003.8	2.5	3.0	-158.08	317.3	23.3	383.4	378.7	4.68	81.871		
1,200.0	1,195.0	1,106.8	1,093.7	2.8	3.4	-158.17	339.0	28.4	421.1	415.9	5.16	81.686		
1,300.0	1,293.7	1,199.4	1,183.6	3.2	3.9	-158.25	360.8	33.6	458.8	453.1	5.64	81.386		
1,400.0	1,392.5	1,292.0	1,273.5	3.5	4.3	-158.32	382.6	38.8	496.5	490.3	6.13	81.021		
1,500.0	1,491.2	1,384.7	1,363.4	3.9	4.7	-158.37	404.4	44.0	534.1	527.5	6.62	80.658		
1,600.0	1,589.9	1,477.3	1,453.3	4.2	5.2	-158.42	426.2	49.1	571.8	564.7	7.12	80.289		
1,700.0	1,688.7	1,569.9	1,543.1	4.6	5.7	-158.46	447.9	54.3	609.5	601.9	7.63	79.929		
1,800.0	1,787.4	1,662.6	1,633.0	5.0	6.1	-158.50	469.7	59.5	647.2	639.0	8.13	79.583		
1,900.0	1,886.1	1,755.2	1,722.9	5.3	6.6	-158.53	491.5	64.7	684.9	676.2	8.64	79.254		
2,000.0	1,984.9	1,847.8	1,812.8	5.7	7.0	-158.56	513.3	69.8	722.5	713.4	9.15	78.944		
2,100.0	2,083.6	1,940.4	1,902.7	6.1	7.5	-158.59	535.0	75.0	760.2	750.6	9.67	78.652		
2,200.0	2,182.4	2,033.1	1,992.6	6.5	7.9	-158.61	556.8	80.2	797.9	787.7	10.18	78.377		
2,300.0	2,281.1	2,125.7	2,082.4	6.8	8.4	-158.63	578.6	85.4	835.6	824.9	10.70	78.119		
2,400.0	2,379.8	2,218.3	2,172.3	7.2	8.9	-158.65	600.4	90.5	873.3	862.0	11.21	77.877		
2,500.0	2,478.6	2,311.0	2,262.2	7.6	9.3	-158.67	622.1	95.7	910.9	899.2	11.73	77.650		
2,600.0	2,577.3	2,403.6	2,352.1	8.0	9.8	-158.69	643.9	100.9	948.6	936.4	12.25	77.437		
2,700.0	2,676.0	2,496.2	2,442.0	8.3	10.2	-158.70	665.7	106.1	986.3	973.5	12.77	77.235 SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-404
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-404	<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 #1 (4-14-14)	<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
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	178.5	0.0	178.5				
100.0	100.0	98.0	98.0	0.1	0.1	0.00	0.00	178.5	0.0	178.5	178.3	0.22	802.206	
200.0	200.0	198.0	198.0	0.3	0.3	0.00	0.00	178.5	0.0	178.5	177.8	0.67	266.509	
300.0	300.0	298.0	298.0	0.6	0.6	0.00	0.00	178.5	0.0	178.5	177.4	1.12	159.477	
400.0	400.0	398.0	398.0	0.8	0.8	0.00	0.00	178.5	0.0	178.5	176.9	1.57	113.782 CC, ES	
500.0	500.0	492.5	492.5	1.0	1.0	0.15	0.15	179.9	0.5	180.0	178.0	2.01	89.702	
600.0	600.0	586.6	586.4	1.2	1.2	-159.12	-159.12	184.3	1.9	186.3	183.8	2.43	76.627	
700.0	699.8	679.8	679.3	1.4	1.4	-158.86	-158.86	191.5	4.2	198.9	196.0	2.85	69.806	
800.0	799.5	771.6	770.6	1.6	1.7	-158.66	-158.66	201.4	7.5	217.8	214.5	3.28	66.341	
900.0	898.7	861.6	859.6	1.9	1.9	-158.49	-158.49	213.8	11.5	242.8	239.0	3.73	65.144	
1,000.0	997.5	953.1	949.8	2.2	2.2	-158.46	-158.46	228.7	16.4	273.1	268.9	4.18	65.323	
1,100.0	1,096.3	1,048.2	1,043.3	2.5	2.6	-158.56	-158.56	244.6	21.6	304.2	299.6	4.64	65.541	
1,200.0	1,195.0	1,143.2	1,136.9	2.8	2.9	-158.64	-158.64	260.5	26.8	335.4	330.3	5.11	65.649	
1,300.0	1,293.7	1,238.2	1,230.4	3.2	3.2	-158.70	-158.70	276.3	32.0	366.5	360.9	5.58	65.635	
1,400.0	1,392.5	1,333.2	1,324.0	3.5	3.6	-158.76	-158.76	292.2	37.2	397.7	391.6	6.07	65.563	
1,500.0	1,491.2	1,428.3	1,417.5	3.9	3.9	-158.81	-158.81	308.1	42.4	428.8	422.3	6.56	65.405	
1,600.0	1,589.9	1,523.3	1,511.1	4.2	4.3	-158.85	-158.85	323.9	47.6	460.0	452.9	7.05	65.259	
1,700.0	1,688.7	1,618.3	1,604.6	4.6	4.7	-158.89	-158.89	339.8	52.8	491.1	483.6	7.54	65.099	
1,800.0	1,787.4	1,713.3	1,698.1	5.0	5.0	-158.92	-158.92	355.7	58.0	522.3	514.2	8.04	64.936	
1,900.0	1,886.1	1,808.4	1,791.7	5.3	5.4	-158.95	-158.95	371.5	63.2	553.4	544.9	8.54	64.775	
2,000.0	1,984.9	1,903.4	1,885.2	5.7	5.8	-158.97	-158.97	387.4	68.4	584.6	575.5	9.05	64.617	
2,100.0	2,083.6	1,998.4	1,978.8	6.1	6.1	-158.99	-158.99	403.3	73.6	615.7	606.2	9.55	64.465	
2,200.0	2,182.4	2,093.4	2,072.3	6.5	6.5	-159.01	-159.01	419.1	78.8	646.9	636.8	10.06	64.319	
2,300.0	2,281.1	2,188.5	2,165.9	6.8	6.9	-159.03	-159.03	435.0	84.0	678.0	667.5	10.56	64.180	
2,400.0	2,379.8	2,283.5	2,259.4	7.2	7.2	-159.05	-159.05	450.9	89.2	709.2	698.1	11.07	64.047	
2,500.0	2,478.6	2,378.5	2,353.0	7.6	7.6	-159.07	-159.07	466.7	94.4	740.3	728.8	11.58	63.921	
2,600.0	2,577.3	2,473.5	2,446.5	8.0	8.0	-159.08	-159.08	482.6	99.6	771.5	759.4	12.09	63.801	
2,700.0	2,676.0	2,568.5	2,540.1	8.3	8.3	-159.09	-159.09	498.5	104.7	802.7	790.1	12.60	63.688	
2,800.0	2,774.8	2,663.6	2,633.6	8.7	8.7	-159.10	-159.10	514.3	109.9	833.8	820.7	13.11	63.580	
2,900.0	2,873.5	2,758.6	2,727.1	9.1	9.1	-159.12	-159.12	530.2	115.1	865.0	851.3	13.63	63.478	
3,000.0	2,972.2	2,853.6	2,820.7	9.5	9.4	-159.13	-159.13	546.1	120.3	896.1	882.0	14.14	63.381	
3,100.0	3,071.0	2,948.6	2,914.2	9.8	9.8	-159.14	-159.14	561.9	125.5	927.3	912.6	14.65	63.288	
3,200.0	3,169.7	3,043.7	3,007.8	10.2	10.2	-159.15	-159.15	577.8	130.7	958.4	943.3	15.16	63.200	
3,300.0	3,268.5	3,138.7	3,101.3	10.6	10.6	-159.15	-159.15	593.7	135.9	989.6	973.9	15.68	63.116 SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-404
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-404	<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 #1 (4-14-14)	<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	87.4	0.0	87.4				
100.0	100.0	99.0	99.0	0.1	0.1	0.00	0.00	87.4	0.0	87.4	87.2	0.22	390.965	
200.0	200.0	199.0	199.0	0.3	0.3	0.00	0.00	87.4	0.0	87.4	86.8	0.67	130.105	
300.0	300.0	299.0	299.0	0.6	0.6	0.00	0.00	87.4	0.0	87.4	86.3	1.12	77.959	
400.0	400.0	399.0	399.0	0.8	0.8	0.00	0.00	87.4	0.0	87.4	85.9	1.57	55.653	
500.0	500.0	499.0	499.0	1.0	1.0	0.00	0.00	87.4	0.0	87.4	85.4	2.02	43.272 CC, ES	
600.0	600.0	599.0	599.0	1.2	1.2	-159.95		87.4	0.0	89.1	86.6	2.45	36.412	
700.0	699.8	698.8	698.8	1.4	1.5	-161.01		87.4	0.0	94.0	91.1	2.86	32.882	
800.0	799.5	798.5	798.5	1.6	1.7	-162.55		87.4	0.0	102.3	99.0	3.28	31.163	
900.0	898.7	897.7	897.7	1.9	1.9	-164.32		87.4	0.0	114.0	110.3	3.71	30.697 SF	
1,000.0	997.5	996.5	996.5	2.2	2.1	-166.12		87.4	0.0	128.8	124.6	4.15	31.038	
1,100.0	1,096.3	1,095.3	1,095.3	2.5	2.3	-167.63		87.4	0.0	144.2	139.6	4.59	31.402	
1,200.0	1,195.0	1,194.0	1,194.0	2.8	2.6	-168.85		87.4	0.0	159.8	154.7	5.04	31.687	
1,300.0	1,293.7	1,292.7	1,292.7	3.2	2.8	-169.85		87.4	0.0	175.3	169.8	5.49	31.916	
1,400.0	1,392.5	1,391.5	1,391.5	3.5	3.0	-170.69		87.4	0.0	191.0	185.0	5.95	32.102	
1,500.0	1,491.2	1,490.2	1,490.2	3.9	3.2	-171.40		87.4	0.0	206.6	200.2	6.41	32.257	
1,600.0	1,589.9	1,585.9	1,585.9	4.2	3.4	-171.69		88.3	1.0	222.9	216.1	6.86	32.513	
1,700.0	1,688.7	1,680.8	1,680.6	4.6	3.7	-171.27		91.1	4.4	240.7	233.4	7.31	32.930	
1,800.0	1,787.4	1,774.9	1,774.5	5.0	3.9	-170.28		95.8	10.2	260.0	252.3	7.77	33.461	
1,900.0	1,886.1	1,871.2	1,870.3	5.3	4.1	-168.97		102.2	18.0	280.7	272.4	8.25	34.024	
2,000.0	1,984.9	1,968.8	1,967.3	5.7	4.3	-167.80		108.8	26.0	301.5	292.8	8.74	34.510	
2,100.0	2,083.6	2,066.5	2,064.4	6.1	4.6	-166.77		115.4	34.0	322.5	313.2	9.23	34.933	
2,200.0	2,182.4	2,164.1	2,161.5	6.5	4.8	-165.87		122.0	42.0	343.5	333.8	9.73	35.299	
2,300.0	2,281.1	2,261.7	2,258.6	6.8	5.1	-165.08		128.6	50.0	364.6	354.4	10.24	35.623	
2,400.0	2,379.8	2,359.4	2,355.6	7.2	5.3	-164.37		135.2	58.0	385.8	375.0	10.74	35.907	
2,500.0	2,478.6	2,457.0	2,452.7	7.6	5.6	-163.74		141.7	66.0	407.0	395.7	11.26	36.159	
2,600.0	2,577.3	2,554.6	2,549.8	8.0	5.8	-163.17		148.3	74.1	428.3	416.5	11.77	36.384	
2,700.0	2,676.0	2,652.2	2,646.9	8.3	6.1	-162.65		154.9	82.1	449.6	437.3	12.29	36.586	
2,800.0	2,774.8	2,749.9	2,743.9	8.7	6.4	-162.18		161.5	90.1	470.9	458.1	12.81	36.768	
2,900.0	2,873.5	2,847.5	2,841.0	9.1	6.6	-161.75		168.1	98.1	492.2	478.9	13.33	36.932	
3,000.0	2,972.2	2,945.1	2,938.1	9.5	6.9	-161.35		174.7	106.1	513.6	499.8	13.85	37.081	
3,100.0	3,071.0	3,042.8	3,035.2	9.8	7.2	-160.99		181.3	114.1	535.0	520.6	14.38	37.217	
3,200.0	3,169.7	3,140.4	3,132.3	10.2	7.4	-160.65		187.9	122.1	556.4	541.5	14.90	37.341	
3,300.0	3,268.5	3,238.0	3,229.3	10.6	7.7	-160.34		194.5	130.2	577.9	562.4	15.43	37.456	
3,400.0	3,367.2	3,335.6	3,326.4	11.0	8.0	-160.06		201.1	138.2	599.3	583.4	15.96	37.561	
3,500.0	3,465.9	3,433.3	3,423.5	11.4	8.3	-159.79		207.6	146.2	620.8	604.3	16.49	37.658	
3,600.0	3,564.7	3,530.9	3,520.6	11.7	8.6	-159.54		214.2	154.2	642.3	625.3	17.02	37.748	
3,700.0	3,663.4	3,628.5	3,617.6	12.1	8.8	-159.30		220.8	162.2	663.8	646.2	17.55	37.831	
3,800.0	3,762.1	3,726.2	3,714.7	12.5	9.1	-159.08		227.4	170.2	685.3	667.2	18.08	37.909	
3,900.0	3,860.9	3,823.8	3,811.8	12.9	9.4	-158.88		234.0	178.2	706.8	688.2	18.61	37.981	
4,000.0	3,959.6	3,921.4	3,908.9	13.3	9.7	-158.68		240.6	186.3	728.3	709.1	19.14	38.048	
4,100.0	4,058.3	4,019.1	4,005.9	13.6	10.0	-158.50		247.2	194.3	749.8	730.1	19.67	38.112	
4,200.0	4,157.1	4,116.7	4,103.0	14.0	10.2	-158.33		253.8	202.3	771.3	751.1	20.21	38.171	
4,300.0	4,255.8	4,214.3	4,200.1	14.4	10.5	-158.17		260.4	210.3	792.9	772.1	20.74	38.227	
4,400.0	4,354.6	4,311.9	4,297.2	14.8	10.8	-158.01		266.9	218.3	814.4	793.1	21.28	38.279	
4,500.0	4,453.3	4,409.6	4,394.2	15.2	11.1	-157.87		273.5	226.3	836.0	814.2	21.81	38.328	
4,600.0	4,552.0	4,507.2	4,491.3	15.5	11.4	-157.73		280.1	234.3	857.5	835.2	22.35	38.375	
4,700.0	4,650.8	4,604.8	4,588.4	15.9	11.6	-157.59		286.7	242.3	879.1	856.2	22.88	38.419	
4,800.0	4,749.5	4,702.5	4,685.5	16.3	11.9	-157.47		293.3	250.4	900.6	877.2	23.42	38.461	
4,900.0	4,848.2	4,800.1	4,782.5	16.7	12.2	-157.35		299.9	258.4	922.2	898.3	23.95	38.500	
5,000.0	4,947.0	4,897.7	4,879.6	17.1	12.5	-157.23		306.5	266.4	943.8	919.3	24.49	38.538	

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-404
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-404	<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 #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32X-234 - Wellbore #1 - Plan #1 (4-14-14)													<b>Offset Site Error:</b>	0.0 ft
Survey Program: 0-MWD													<b>Offset Well Error:</b>	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,100.0	5,045.7	4,995.3	4,976.7	17.4	12.8	-157.12	313.1	274.4	965.4	940.3	25.03	38.573		
5,200.0	5,144.4	5,093.0	5,073.8	17.8	13.1	-157.02	319.7	282.4	986.9	961.4	25.56	38.607		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-404
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-404	<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 #1 (4-14-14)	<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 (ft)	Offset (ft)	Semi Major Axis (ft)	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	149.4	0.0	149.4				
100.0	100.0	99.0	99.0	0.1	0.1	0.00	0.00	149.4	0.0	149.4	149.1	0.22	667.885	
200.0	200.0	199.0	199.0	0.3	0.3	0.00	0.00	149.4	0.0	149.4	148.7	0.67	222.258	
300.0	300.0	299.0	299.0	0.6	0.6	0.00	0.00	149.4	0.0	149.4	148.2	1.12	133.177	
400.0	400.0	399.0	399.0	0.8	0.8	0.00	0.00	149.4	0.0	149.4	147.8	1.57	95.072	
500.0	500.0	499.0	499.0	1.0	1.0	0.00	0.00	149.4	0.0	149.4	147.3	2.02	73.921 CC, ES	
600.0	600.0	599.0	599.0	1.2	1.2	-159.79		149.4	0.0	151.0	148.6	2.45	61.728	
700.0	699.8	694.2	694.1	1.4	1.4	-160.14		150.8	0.6	157.4	154.5	2.85	55.200	
800.0	799.5	788.5	788.3	1.6	1.7	-160.34		155.0	2.5	170.1	166.8	3.28	51.914	
900.0	898.7	881.4	880.9	1.9	1.9	-160.40		162.0	5.6	188.9	185.2	3.71	50.875 SF	
1,000.0	997.5	972.5	971.5	2.2	2.1	-160.38		171.5	9.9	213.5	209.3	4.16	51.332	
1,100.0	1,096.3	1,066.8	1,064.8	2.5	2.4	-160.25		183.3	15.2	240.7	236.0	4.62	52.127	
1,200.0	1,195.0	1,163.0	1,160.1	2.8	2.6	-160.12		195.6	20.7	268.0	262.9	5.08	52.732	
1,300.0	1,293.7	1,259.2	1,255.3	3.2	2.9	-160.02		207.9	26.2	295.3	289.8	5.55	53.178	
1,400.0	1,392.5	1,355.4	1,350.6	3.5	3.2	-159.93		220.1	31.6	322.7	316.6	6.03	53.490	
1,500.0	1,491.2	1,451.5	1,445.8	3.9	3.5	-159.86		232.4	37.1	350.0	343.5	6.51	53.723	
1,600.0	1,589.9	1,547.7	1,541.1	4.2	3.8	-159.80		244.7	42.6	377.3	370.3	7.01	53.854	
1,700.0	1,688.7	1,643.9	1,636.3	4.6	4.1	-159.74		256.9	48.1	404.7	397.2	7.50	53.969	
1,800.0	1,787.4	1,740.1	1,731.6	5.0	4.5	-159.70		269.2	53.6	432.0	424.0	7.99	54.046	
1,900.0	1,886.1	1,836.3	1,826.8	5.3	4.8	-159.66		281.5	59.1	459.3	450.9	8.49	54.098	
2,000.0	1,984.9	1,932.5	1,922.1	5.7	5.1	-159.62		293.7	64.5	486.7	477.7	8.99	54.131	
2,100.0	2,083.6	2,028.7	2,017.3	6.1	5.4	-159.59		306.0	70.0	514.0	504.5	9.49	54.152	
2,200.0	2,182.4	2,124.9	2,112.6	6.5	5.7	-159.56		318.3	75.5	541.4	531.4	10.00	54.162	
2,300.0	2,281.1	2,221.1	2,207.8	6.8	6.0	-159.53		330.5	81.0	568.7	558.2	10.50	54.165	
2,400.0	2,379.8	2,317.3	2,303.0	7.2	6.4	-159.51		342.8	86.5	596.0	585.0	11.00	54.163	
2,500.0	2,478.6	2,413.4	2,398.3	7.6	6.7	-159.49		355.1	92.0	623.4	611.9	11.51	54.156	
2,600.0	2,577.3	2,509.6	2,493.5	8.0	7.0	-159.47		367.3	97.4	650.7	638.7	12.02	54.146	
2,700.0	2,676.0	2,605.8	2,588.8	8.3	7.3	-159.45		379.6	102.9	678.1	665.5	12.53	54.133	
2,800.0	2,774.8	2,702.0	2,684.0	8.7	7.6	-159.43		391.9	108.4	705.4	692.4	13.03	54.119	
2,900.0	2,873.5	2,798.2	2,779.3	9.1	8.0	-159.42		404.1	113.9	732.7	719.2	13.54	54.103	
3,000.0	2,972.2	2,894.4	2,874.5	9.5	8.3	-159.40		416.4	119.4	760.1	746.0	14.05	54.087	
3,100.0	3,071.0	2,990.6	2,969.8	9.8	8.6	-159.39		428.7	124.9	787.4	772.9	14.56	54.070	
3,200.0	3,169.7	3,086.8	3,065.0	10.2	8.9	-159.37		440.9	130.3	814.8	799.7	15.07	54.052	
3,300.0	3,268.5	3,183.0	3,160.3	10.6	9.3	-159.36		453.2	135.8	842.1	826.5	15.58	54.034	
3,400.0	3,367.2	3,279.2	3,255.5	11.0	9.6	-159.35		465.5	141.3	869.4	853.3	16.10	54.017	
3,500.0	3,465.9	3,375.3	3,350.8	11.4	9.9	-159.34		477.7	146.8	896.8	880.2	16.61	53.999	
3,600.0	3,564.7	3,471.5	3,446.0	11.7	10.2	-159.33		490.0	152.3	924.1	907.0	17.12	53.981	
3,700.0	3,663.4	3,567.7	3,541.3	12.1	10.5	-159.32		502.3	157.8	951.5	933.8	17.63	53.963	
3,800.0	3,762.1	3,663.9	3,636.5	12.5	10.9	-159.31		514.5	163.2	978.8	960.6	18.14	53.946	



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-404
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-404	<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 #1 (4-14-14)	<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
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	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	
500.0	500.0	499.0	499.0	1.0	1.0	0.00	0.00	120.2	0.0	120.2	118.2	2.02	59.498 CC, ES	
600.0	600.0	599.0	599.0	1.2	1.2	-159.84		120.2	0.0	121.9	119.4	2.45	49.815	
700.0	699.8	698.8	698.8	1.4	1.5	-160.62		120.2	0.0	126.8	123.9	2.86	44.348	
800.0	799.5	798.5	798.5	1.6	1.7	-161.80		120.2	0.0	135.0	131.8	3.28	41.139	
900.0	898.7	897.7	897.7	1.9	1.9	-163.22		120.2	0.0	146.7	143.0	3.71	39.494	
1,000.0	997.5	996.5	996.5	2.2	2.1	-164.74		120.2	0.0	161.4	157.2	4.15	38.879	
1,100.0	1,096.3	1,091.6	1,091.6	2.5	2.3	-165.68		121.3	1.0	177.7	173.1	4.59	38.725 SF	
1,200.0	1,195.0	1,186.0	1,185.8	2.8	2.5	-165.74		124.6	4.2	196.2	191.1	5.04	38.955	
1,300.0	1,293.7	1,279.5	1,279.0	3.2	2.8	-165.15		130.1	9.4	216.7	211.2	5.49	39.454	
1,400.0	1,392.5	1,373.5	1,372.5	3.5	3.0	-164.11		137.7	16.7	239.2	233.2	5.96	40.106	
1,500.0	1,491.2	1,470.7	1,468.9	3.9	3.2	-163.10		146.1	24.8	262.3	255.9	6.45	40.679	
1,600.0	1,589.9	1,567.9	1,565.4	4.2	3.5	-162.24		154.5	32.8	285.5	278.5	6.94	41.137	
1,700.0	1,688.7	1,665.1	1,661.9	4.6	3.7	-161.52		162.9	40.9	308.7	301.3	7.44	41.502	
1,800.0	1,787.4	1,762.3	1,758.4	5.0	4.0	-160.90		171.4	48.9	332.0	324.0	7.94	41.797	
1,900.0	1,886.1	1,859.5	1,854.9	5.3	4.3	-160.36		179.8	57.0	355.3	346.8	8.45	42.035	
2,000.0	1,984.9	1,956.7	1,951.4	5.7	4.6	-159.88		188.2	65.0	378.6	369.6	8.96	42.234	
2,100.0	2,083.6	2,053.9	2,047.9	6.1	4.9	-159.46		196.6	73.1	401.9	392.5	9.48	42.400	
2,200.0	2,182.4	2,151.1	2,144.4	6.5	5.1	-159.09		205.0	81.1	425.3	415.3	10.00	42.539	
2,300.0	2,281.1	2,248.3	2,240.9	6.8	5.4	-158.76		213.5	89.2	448.7	438.2	10.52	42.656	
2,400.0	2,379.8	2,345.5	2,337.4	7.2	5.7	-158.45		221.9	97.2	472.1	461.0	11.04	42.757	
2,500.0	2,478.6	2,442.7	2,433.9	7.6	6.0	-158.18		230.3	105.3	495.5	483.9	11.57	42.843	
2,600.0	2,577.3	2,539.9	2,530.4	8.0	6.3	-157.93		238.7	113.3	518.9	506.8	12.09	42.917	
2,700.0	2,676.0	2,637.0	2,626.9	8.3	6.6	-157.71		247.1	121.4	542.3	529.7	12.62	42.981	
2,800.0	2,774.8	2,734.2	2,723.4	8.7	6.9	-157.50		255.5	129.4	565.8	552.6	13.15	43.038	
2,900.0	2,873.5	2,831.4	2,819.9	9.1	7.2	-157.31		264.0	137.5	589.2	575.5	13.67	43.087	
3,000.0	2,972.2	2,928.6	2,916.4	9.5	7.5	-157.13		272.4	145.5	612.6	598.4	14.20	43.130	
3,100.0	3,071.0	3,025.8	3,012.9	9.8	7.8	-156.97		280.8	153.6	636.1	621.3	14.73	43.169	
3,200.0	3,169.7	3,123.0	3,109.4	10.2	8.1	-156.81		289.2	161.6	659.5	644.3	15.27	43.203	
3,300.0	3,268.5	3,220.2	3,205.9	10.6	8.4	-156.67		297.6	169.7	683.0	667.2	15.80	43.233	
3,400.0	3,367.2	3,317.4	3,302.4	11.0	8.7	-156.54		306.1	177.7	706.5	690.1	16.33	43.260	
3,500.0	3,465.9	3,414.6	3,398.9	11.4	9.0	-156.42		314.5	185.8	729.9	713.1	16.86	43.284	
3,600.0	3,564.7	3,511.8	3,495.4	11.7	9.3	-156.30		322.9	193.8	753.4	736.0	17.40	43.305	
3,700.0	3,663.4	3,609.0	3,591.9	12.1	9.6	-156.19		331.3	201.9	776.9	758.9	17.93	43.325	
3,800.0	3,762.1	3,706.2	3,688.4	12.5	9.9	-156.09		339.7	209.9	800.3	781.9	18.47	43.342	
3,900.0	3,860.9	3,803.4	3,784.9	12.9	10.2	-155.99		348.1	218.0	823.8	804.8	19.00	43.358	
4,000.0	3,959.6	3,900.6	3,881.4	13.3	10.5	-155.90		356.6	226.0	847.3	827.7	19.53	43.372	
4,100.0	4,058.3	3,997.8	3,977.8	13.6	10.8	-155.81		365.0	234.1	870.7	850.7	20.07	43.385	
4,200.0	4,157.1	4,095.0	4,074.3	14.0	11.1	-155.73		373.4	242.1	894.2	873.6	20.61	43.397	
4,300.0	4,255.8	4,192.2	4,170.8	14.4	11.4	-155.65		381.8	250.2	917.7	896.6	21.14	43.407	
4,400.0	4,354.6	4,289.4	4,267.3	14.8	11.7	-155.58		390.2	258.2	941.2	919.5	21.68	43.417	
4,500.0	4,453.3	4,386.6	4,363.8	15.2	12.0	-155.51		398.7	266.3	964.7	942.5	22.21	43.426	
4,600.0	4,552.0	4,483.8	4,460.3	15.5	12.3	-155.44		407.1	274.3	988.2	965.4	22.75	43.434	



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-404
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-404	<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 #1 (4-14-14)	<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
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	58.3	0.0	58.3				
100.0	100.0	99.0	99.0	0.1	0.1	0.00	0.00	58.3	0.0	58.3	58.1	0.22	260.631	
200.0	200.0	199.0	199.0	0.3	0.3	0.00	0.00	58.3	0.0	58.3	57.6	0.67	86.732	
300.0	300.0	299.0	299.0	0.6	0.6	0.00	0.00	58.3	0.0	58.3	57.2	1.12	51.970	
400.0	400.0	399.0	399.0	0.8	0.8	0.00	0.00	58.3	0.0	58.3	56.7	1.57	37.100	
500.0	500.0	499.0	499.0	1.0	1.0	0.00	0.00	58.3	0.0	58.3	56.3	2.02	28.846 CC, ES	
600.0	600.0	599.0	599.0	1.2	1.2	-160.14		58.3	0.0	59.9	57.5	2.45	24.497	
700.0	699.8	698.8	698.8	1.4	1.5	-161.68		58.3	0.0	64.9	62.0	2.86	22.692	
800.0	799.5	798.5	798.5	1.6	1.7	-163.77		58.3	0.0	73.2	69.9	3.28	22.302	
900.0	898.7	897.7	897.7	1.9	1.9	-166.01		58.3	0.0	85.0	81.3	3.71	22.891	
1,000.0	997.5	996.5	996.5	2.2	2.1	-168.10		58.3	0.0	99.9	95.8	4.15	24.089	
1,100.0	1,096.3	1,095.3	1,095.3	2.5	2.3	-169.72		58.3	0.0	115.5	110.9	4.59	25.158	
1,200.0	1,195.0	1,194.0	1,194.0	2.8	2.6	-170.96		58.3	0.0	131.1	126.1	5.04	26.026	
1,300.0	1,293.7	1,292.0	1,292.0	3.2	2.8	-171.64		57.1	1.1	145.4	139.9	5.47	26.575	
1,400.0	1,392.5	1,401.1	1,400.9	3.5	3.0	-171.52		53.1	4.8	156.6	150.8	5.89	26.582	
1,500.0	1,491.2	1,505.8	1,505.2	3.9	3.2	-170.74		46.3	11.0	164.8	158.4	6.33	26.016	
1,600.0	1,589.9	1,609.1	1,607.7	4.2	3.4	-169.41		36.9	19.5	170.0	163.2	6.79	25.030	
1,700.0	1,688.7	1,708.9	1,706.7	4.6	3.6	-168.05		27.3	28.4	174.6	167.3	7.26	24.045	
1,800.0	1,787.4	1,808.7	1,805.6	5.0	3.9	-166.77		17.6	37.2	179.3	171.6	7.75	23.150	
1,900.0	1,886.1	1,908.5	1,904.6	5.3	4.2	-165.55		8.0	46.0	184.1	175.9	8.24	22.336	
2,000.0	1,984.9	2,008.3	2,003.5	5.7	4.4	-164.39		-1.7	54.8	189.0	180.2	8.75	21.594	
2,100.0	2,083.6	2,108.1	2,102.5	6.1	4.7	-163.29		-11.3	63.6	193.9	184.7	9.27	20.917	
2,200.0	2,182.4	2,207.9	2,201.4	6.5	5.0	-162.25		-20.9	72.4	198.9	189.1	9.80	20.298	
2,300.0	2,281.1	2,307.8	2,300.4	6.8	5.3	-161.26		-30.6	81.3	204.0	193.7	10.34	19.730	
2,400.0	2,379.8	2,407.6	2,399.3	7.2	5.6	-160.32		-40.2	90.1	209.2	198.3	10.89	19.208	
2,500.0	2,478.6	2,507.4	2,498.3	7.6	5.9	-159.42		-49.9	98.9	214.4	202.9	11.45	18.728	
2,600.0	2,577.3	2,607.2	2,597.2	8.0	6.2	-158.56		-59.5	107.7	219.6	207.6	12.01	18.286	
2,700.0	2,676.0	2,707.0	2,696.2	8.3	6.6	-157.75		-69.2	116.5	224.9	212.3	12.58	17.877	
2,800.0	2,774.8	2,806.8	2,795.1	8.7	6.9	-156.97		-78.8	125.3	230.2	217.1	13.16	17.498	
2,900.0	2,873.5	2,906.6	2,894.1	9.1	7.2	-156.23		-88.4	134.2	235.6	221.8	13.74	17.147	
3,000.0	2,972.2	3,006.4	2,993.0	9.5	7.5	-155.52		-98.1	143.0	241.0	226.7	14.33	16.821	
3,100.0	3,071.0	3,106.2	3,092.0	9.8	7.8	-154.84		-107.7	151.8	246.4	231.5	14.92	16.518	
3,200.0	3,169.7	3,206.0	3,190.9	10.2	8.1	-154.19		-117.4	160.6	251.9	236.4	15.52	16.234	
3,300.0	3,268.5	3,305.9	3,289.9	10.6	8.5	-153.57		-127.0	169.4	257.4	241.3	16.12	15.970	
3,400.0	3,367.2	3,405.7	3,388.8	11.0	8.8	-152.97		-136.7	178.2	263.0	246.2	16.72	15.723	
3,500.0	3,465.9	3,505.5	3,487.8	11.4	9.1	-152.40		-146.3	187.0	268.5	251.2	17.33	15.491	
3,600.0	3,564.7	3,605.3	3,586.7	11.7	9.5	-151.85		-155.9	195.9	274.1	256.2	17.95	15.273	
3,700.0	3,663.4	3,705.1	3,685.7	12.1	9.8	-151.33		-165.6	204.7	279.7	261.2	18.56	15.069	
3,800.0	3,762.1	3,804.9	3,784.6	12.5	10.1	-150.82		-175.2	213.5	285.4	266.2	19.18	14.877	
3,900.0	3,860.9	3,904.7	3,883.6	12.9	10.4	-150.34		-184.9	222.3	291.0	271.2	19.80	14.695	
4,000.0	3,959.6	4,004.5	3,982.6	13.3	10.8	-149.87		-194.5	231.1	296.7	276.3	20.43	14.524	
4,100.0	4,058.3	4,104.3	4,081.5	13.6	11.1	-149.42		-204.2	239.9	302.4	281.3	21.05	14.362	
4,200.0	4,157.1	4,204.1	4,180.5	14.0	11.4	-148.99		-213.8	248.8	308.1	286.4	21.68	14.209	
4,300.0	4,255.8	4,304.0	4,279.4	14.4	11.8	-148.57		-223.4	257.6	313.8	291.5	22.31	14.064	
4,400.0	4,354.6	4,403.8	4,378.4	14.8	12.1	-148.17		-233.1	266.4	319.6	296.6	22.95	13.927	
4,500.0	4,453.3	4,503.6	4,477.3	15.2	12.4	-147.79		-242.7	275.2	325.4	301.8	23.58	13.797	
4,600.0	4,552.0	4,603.4	4,576.3	15.5	12.8	-147.41		-252.4	284.0	331.1	306.9	24.22	13.673	
4,700.0	4,650.8	4,700.0	4,672.1	15.9	13.1	-147.12		-261.4	292.3	337.2	312.3	24.82	13.583	
4,800.0	4,749.5	4,793.3	4,764.9	16.3	13.3	-147.21		-268.2	298.5	344.8	319.5	25.31	13.626	
4,900.0	4,848.2	4,886.1	4,857.6	16.7	13.5	-147.69		-272.7	302.6	354.4	328.7	25.72	13.778	
5,000.0	4,947.0	4,978.4	4,949.8	17.1	13.6	-148.53		-275.0	304.7	365.9	339.9	26.07	14.036	

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-404
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-404	<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 #1 (4-14-14)	<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	5,045.7	5,073.3	5,044.7	17.4	13.8	-149.68		-275.3	305.0	379.3	352.9	26.38	14.381	
5,200.0	5,144.4	5,172.1	5,143.4	17.8	13.9	-150.84		-275.3	305.0	393.1	366.4	26.68	14.736	
5,300.0	5,243.2	5,270.8	5,242.2	18.2	14.1	-151.92		-275.3	305.0	407.1	380.1	26.99	15.084	
5,400.0	5,341.9	5,369.5	5,340.9	18.6	14.2	-152.93		-275.3	305.0	421.1	393.8	27.31	15.423	
5,500.0	5,440.7	5,468.3	5,439.7	19.0	14.4	-153.88		-275.3	305.0	435.4	407.7	27.63	15.755	
5,600.0	5,539.4	5,567.0	5,538.4	19.3	14.6	-154.77		-275.3	305.0	449.7	421.7	27.97	16.078	
5,700.0	5,638.1	5,665.8	5,637.1	19.7	14.7	-155.60		-275.3	305.0	464.1	435.8	28.31	16.392	
5,800.0	5,736.9	5,764.5	5,735.9	20.1	14.9	-156.38		-275.3	305.0	478.6	449.9	28.66	16.698	
5,900.0	5,835.6	5,863.2	5,834.6	20.5	15.0	-157.12		-275.3	305.0	493.2	464.2	29.02	16.995	
6,000.0	5,934.3	5,962.0	5,933.3	20.9	15.2	-157.81		-275.3	305.0	507.8	478.5	29.38	17.284	
6,100.0	6,033.3	6,060.9	6,032.3	21.2	15.4	-158.50		-275.3	305.0	521.3	491.6	29.74	17.528	
6,200.0	6,132.7	6,160.3	6,131.7	21.4	15.5	-159.01		-275.3	305.0	531.7	501.6	30.07	17.681	
6,300.0	6,232.4	6,260.0	6,231.4	21.6	15.7	-159.35		-275.3	305.0	538.8	508.4	30.38	17.733	
6,400.0	6,332.3	6,359.9	6,331.3	21.7	15.9	-159.53		-275.3	305.0	542.6	511.9	30.68	17.687	
6,500.0	6,432.3	6,459.9	6,431.3	21.9	16.1	0.00		-275.3	305.0	543.4	507.0	36.30	14.967	
6,559.9	6,492.2	6,519.8	6,491.2	21.9	16.2	90.04		-275.3	305.0	543.4	512.1	31.21	17.409	
6,600.0	6,532.3	6,559.9	6,531.3	22.0	16.2	90.00		-275.3	304.8	543.4	512.0	31.34	17.337	
6,700.0	6,631.8	6,659.9	6,630.8	22.1	16.4	90.02		-275.3	296.1	543.4	511.8	31.59	17.201	
6,800.0	6,729.3	6,759.9	6,728.4	22.1	16.4	90.03		-275.3	274.5	543.4	511.6	31.71	17.134	
6,900.0	6,823.2	6,860.0	6,822.4	22.1	16.5	90.04		-275.3	240.3	543.4	511.6	31.76	17.108	
7,000.0	6,911.8	6,960.0	6,911.1	22.1	16.5	90.05		-275.3	194.2	543.4	511.5	31.82	17.077	
7,100.0	6,993.6	7,060.1	6,993.0	22.1	16.5	90.07		-275.3	136.8	543.4	511.3	32.00	16.979	
7,200.0	7,067.2	7,160.2	7,066.7	22.0	16.5	90.08		-275.3	69.2	543.4	510.9	32.46	16.737	
7,300.0	7,131.3	7,260.3	7,131.0	22.0	16.6	90.09		-275.3	-7.4	543.4	510.0	33.36	16.286	
7,400.0	7,184.9	7,360.4	7,184.7	22.0	17.1	90.09		-275.3	-91.8	543.4	508.5	34.84	15.597	
7,500.0	7,227.1	7,460.5	7,226.9	22.1	18.1	90.10		-275.3	-182.5	543.4	506.4	36.95	14.704	
7,600.0	7,257.0	7,560.7	7,257.0	22.4	19.6	90.10		-275.3	-277.9	543.4	503.6	39.71	13.685	
7,700.0	7,274.3	7,660.8	7,274.3	23.2	21.3	90.11		-275.3	-376.5	543.4	500.3	43.00	12.635	
7,800.0	7,284.5	7,760.8	7,284.5	24.6	23.2	90.11		-275.3	-476.0	543.4	496.6	46.74	11.626	
7,900.0	7,288.5	7,860.9	7,288.5	26.5	25.3	90.11		-275.3	-576.0	543.4	492.6	50.78	10.700	
8,000.0	7,288.5	7,960.9	7,288.5	28.5	27.4	90.11		-275.3	-676.0	543.4	488.2	55.10	9.861	
8,100.0	7,288.4	8,060.9	7,288.4	30.7	29.7	90.11		-275.3	-776.0	543.4	483.7	59.62	9.113	
8,200.0	7,288.3	8,160.9	7,288.3	33.0	32.1	90.11		-275.3	-876.0	543.4	479.0	64.32	8.448	
8,300.0	7,288.3	8,260.9	7,288.3	35.4	34.5	90.11		-275.3	-976.0	543.4	474.2	69.15	7.858	
8,400.0	7,288.2	8,360.9	7,288.2	37.8	37.0	90.11		-275.3	-1,076.0	543.4	469.3	74.09	7.334	
8,500.0	7,288.1	8,460.9	7,288.1	40.3	39.5	90.11		-275.3	-1,176.0	543.4	464.2	79.12	6.867	
8,600.0	7,288.1	8,560.9	7,288.1	42.8	42.1	90.11		-275.3	-1,276.0	543.4	459.1	84.23	6.451	
8,700.0	7,288.0	8,660.9	7,288.0	45.3	44.7	90.11		-275.3	-1,376.0	543.4	454.0	89.39	6.078	
8,800.0	7,287.9	8,760.9	7,287.9	47.9	47.3	90.11		-275.3	-1,476.0	543.3	448.7	94.61	5.743	
8,900.0	7,287.8	8,860.9	7,287.8	50.5	49.9	90.11		-275.3	-1,576.0	543.3	443.5	99.87	5.440	
9,000.0	7,287.8	8,960.9	7,287.8	53.1	52.6	90.11		-275.3	-1,676.0	543.3	438.2	105.17	5.166	
9,100.0	7,287.7	9,060.9	7,287.7	55.8	55.3	90.11		-275.3	-1,776.0	543.3	432.9	110.50	4.917	
9,200.0	7,287.6	9,160.9	7,287.6	58.4	58.0	90.11		-275.3	-1,876.0	543.3	427.5	115.85	4.690	
9,300.0	7,287.6	9,260.9	7,287.6	61.1	60.6	90.11		-275.3	-1,976.0	543.3	422.1	121.23	4.482	
9,400.0	7,287.5	9,360.9	7,287.5	63.8	63.4	90.11		-275.3	-2,076.0	543.3	416.7	126.63	4.291	
9,500.0	7,287.4	9,460.9	7,287.4	66.5	66.1	90.11		-275.3	-2,176.0	543.3	411.3	132.05	4.115	
9,600.0	7,287.4	9,560.9	7,287.4	69.2	68.8	90.11		-275.3	-2,276.0	543.3	405.9	137.48	3.952	
9,700.0	7,287.3	9,660.9	7,287.3	71.9	71.5	90.11		-275.3	-2,376.0	543.3	400.4	142.93	3.802	
9,800.0	7,287.2	9,760.9	7,287.2	74.6	74.2	90.11		-275.3	-2,476.0	543.3	395.0	148.39	3.662	
9,900.0	7,287.1	9,860.9	7,287.1	77.3	77.0	90.11		-275.3	-2,576.0	543.3	389.5	153.86	3.531	
10,000.0	7,287.1	9,960.9	7,287.1	80.0	79.7	90.11		-275.3	-2,676.0	543.3	384.0	159.34	3.410	

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-404
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-404	<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 #1 (4-14-14)	<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	10,060.9	7,287.0	82.8	82.5	90.11	90.11	-275.3	-2,776.0	543.3	378.5	164.83	3.296	
10,200.0	7,286.9	10,160.9	7,286.9	85.5	85.2	90.11	90.11	-275.3	-2,876.0	543.3	373.0	170.33	3.190	
10,300.0	7,286.9	10,260.9	7,286.9	88.2	88.0	90.11	90.11	-275.3	-2,976.0	543.3	367.5	175.83	3.090	
10,400.0	7,286.8	10,360.9	7,286.8	91.0	90.7	90.11	90.11	-275.3	-3,076.0	543.3	362.0	181.34	2.996	
10,500.0	7,286.7	10,460.9	7,286.7	93.7	93.5	90.11	90.11	-275.3	-3,176.0	543.3	356.5	186.86	2.908	
10,600.0	7,286.7	10,560.9	7,286.7	96.5	96.2	90.11	90.11	-275.3	-3,276.0	543.3	351.0	192.38	2.824	
10,700.0	7,286.6	10,660.9	7,286.6	99.2	99.0	90.11	90.11	-275.3	-3,376.0	543.3	345.4	197.91	2.745	
10,800.0	7,286.5	10,760.9	7,286.5	102.0	101.8	90.11	90.11	-275.3	-3,476.0	543.3	339.9	203.44	2.671	
10,900.0	7,286.4	10,860.9	7,286.5	104.7	104.5	90.11	90.11	-275.3	-3,576.0	543.3	334.4	208.98	2.600	
11,000.0	7,286.4	10,960.9	7,286.4	107.5	107.3	90.11	90.11	-275.3	-3,676.0	543.3	328.8	214.52	2.533	
11,100.0	7,286.3	11,060.9	7,286.3	110.3	110.1	90.11	90.11	-275.3	-3,776.0	543.3	323.3	220.07	2.469	
11,200.0	7,286.2	11,160.9	7,286.2	113.0	112.9	90.11	90.11	-275.3	-3,876.0	543.3	317.7	225.62	2.408	
11,300.0	7,286.2	11,260.9	7,286.2	115.8	115.6	90.11	90.11	-275.3	-3,976.0	543.3	312.2	231.17	2.350	
11,400.0	7,286.1	11,360.9	7,286.1	118.6	118.4	90.11	90.11	-275.3	-4,076.0	543.3	306.6	236.72	2.295	
11,500.0	7,286.0	11,460.9	7,286.0	121.4	121.2	90.11	90.11	-275.3	-4,176.0	543.3	301.1	242.28	2.243	
11,600.0	7,286.0	11,560.9	7,286.0	124.1	124.0	90.11	90.11	-275.3	-4,276.0	543.3	295.5	247.84	2.192	
11,700.0	7,285.9	11,660.9	7,285.9	126.9	126.8	90.11	90.11	-275.3	-4,376.0	543.3	289.9	253.40	2.144	
11,800.0	7,285.8	11,760.9	7,285.8	129.7	129.5	90.11	90.11	-275.3	-4,476.0	543.3	284.4	258.97	2.098	
11,900.0	7,285.7	11,860.9	7,285.8	132.5	132.3	90.11	90.11	-275.3	-4,576.0	543.3	278.8	264.53	2.054	
12,000.0	7,285.7	11,960.9	7,285.7	135.2	135.1	90.11	90.11	-275.3	-4,676.0	543.3	273.2	270.10	2.012	
12,100.0	7,285.6	12,060.9	7,285.6	138.0	137.9	90.11	90.11	-275.3	-4,776.0	543.3	267.7	275.67	1.971	
12,200.0	7,285.5	12,160.9	7,285.5	140.8	140.7	90.11	90.11	-275.3	-4,876.0	543.3	262.1	281.24	1.932	
12,300.0	7,285.5	12,260.9	7,285.5	143.6	143.5	90.11	90.11	-275.3	-4,976.0	543.3	256.5	286.82	1.894	
12,400.0	7,285.4	12,360.9	7,285.4	146.4	146.3	90.11	90.11	-275.3	-5,076.0	543.3	251.0	292.39	1.858	
12,500.0	7,285.3	12,460.9	7,285.3	149.1	149.1	90.11	90.11	-275.3	-5,176.0	543.3	245.4	297.97	1.824	
12,600.0	7,285.3	12,560.9	7,285.3	151.9	151.8	90.11	90.11	-275.3	-5,276.0	543.3	239.8	303.55	1.790	
12,700.0	7,285.2	12,660.9	7,285.2	154.7	154.6	90.11	90.11	-275.3	-5,376.0	543.3	234.2	309.13	1.758	
12,800.0	7,285.1	12,760.9	7,285.1	157.5	157.4	90.11	90.11	-275.3	-5,476.0	543.3	228.6	314.71	1.727	
12,900.0	7,285.1	12,860.9	7,285.1	160.3	160.2	90.11	90.11	-275.3	-5,576.0	543.3	223.1	320.29	1.696	
13,000.0	7,285.0	12,960.9	7,285.0	163.1	163.0	90.11	90.11	-275.3	-5,676.0	543.3	217.5	325.87	1.667	
13,100.0	7,284.9	13,060.9	7,284.9	165.9	165.8	90.11	90.11	-275.3	-5,776.0	543.3	211.9	331.46	1.639	
13,200.0	7,284.8	13,160.9	7,284.8	168.7	168.6	90.11	90.11	-275.3	-5,876.0	543.3	206.3	337.04	1.612	
13,300.0	7,284.8	13,260.9	7,284.8	171.4	171.4	90.11	90.11	-275.3	-5,976.0	543.3	200.7	342.63	1.586	
13,400.0	7,284.7	13,360.9	7,284.7	174.2	174.2	90.11	90.11	-275.3	-6,076.0	543.3	195.1	348.21	1.560	
13,500.0	7,284.6	13,460.9	7,284.6	177.0	177.0	90.11	90.11	-275.3	-6,176.0	543.3	189.5	353.80	1.536	
13,600.0	7,284.6	13,560.9	7,284.6	179.8	179.8	90.11	90.11	-275.3	-6,276.0	543.3	184.0	359.39	1.512	
13,700.0	7,284.5	13,660.9	7,284.5	182.6	182.6	90.11	90.11	-275.3	-6,376.0	543.3	178.4	364.98	1.489 Level 3	
13,800.0	7,284.4	13,760.9	7,284.4	185.4	185.4	90.11	90.11	-275.3	-6,476.0	543.3	172.8	370.57	1.466 Level 3	
13,900.0	7,284.4	13,860.9	7,284.4	188.2	188.2	90.11	90.11	-275.3	-6,576.0	543.3	167.2	376.16	1.444 Level 3	
14,000.0	7,284.3	13,960.9	7,284.3	191.0	190.9	90.11	90.11	-275.3	-6,676.0	543.3	161.6	381.75	1.423 Level 3	
14,100.0	7,284.2	14,060.9	7,284.2	193.8	193.7	90.11	90.11	-275.3	-6,776.0	543.3	156.0	387.34	1.403 Level 3	
14,200.0	7,284.1	14,160.9	7,284.1	196.6	196.5	90.11	90.11	-275.3	-6,876.0	543.3	150.4	392.93	1.383 Level 3	
14,300.0	7,284.1	14,260.9	7,284.1	199.4	199.3	90.11	90.11	-275.3	-6,976.0	543.3	144.8	398.53	1.363 Level 3	
14,400.0	7,284.0	14,360.9	7,284.0	202.2	202.1	90.11	90.11	-275.3	-7,076.0	543.3	139.2	404.12	1.345 Level 3	
14,404.7	7,284.0	14,365.6	7,284.0	202.3	202.3	90.11	90.11	-275.3	-7,080.6	543.3	139.0	404.38	1.344 Level 3, SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-404
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-404	<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 #1 (4-14-14)	<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
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	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	129.665	
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	43.222	
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	25.933	
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	18.524	
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	14.407 CC	
600.0	600.0	600.0	600.0	1.2	1.2	-160.69		29.1	0.0	30.8	28.3	2.45	12.573	
700.0	699.8	699.8	699.8	1.4	1.5	-163.43		29.1	0.0	35.8	32.9	2.86	12.501	
800.0	799.5	799.5	799.5	1.6	1.7	-166.62		29.1	0.0	44.2	40.9	3.28	13.457	
900.0	898.7	898.7	898.7	1.9	1.9	-169.45		29.1	0.0	56.1	52.4	3.71	15.117	
1,000.0	997.5	997.5	997.5	2.2	2.1	-171.68		29.1	0.0	71.2	67.1	4.15	17.181	
1,100.0	1,096.3	1,099.1	1,099.1	2.5	2.3	-172.89		27.7	0.9	85.4	80.8	4.56	18.703	
1,200.0	1,195.0	1,201.6	1,201.5	2.8	2.5	-173.15		23.0	3.6	96.1	91.1	4.97	19.345	
1,300.0	1,293.7	1,304.8	1,304.2	3.2	2.7	-172.75		15.2	8.2	103.5	98.1	5.39	19.184	
1,400.0	1,392.5	1,407.9	1,406.5	3.5	3.0	-171.82		4.2	14.7	107.4	101.6	5.84	18.404	
1,500.0	1,491.2	1,507.9	1,505.5	3.9	3.2	-170.74		-7.7	21.8	110.0	103.7	6.29	17.492	
1,600.0	1,589.9	1,607.8	1,604.5	4.2	3.5	-169.70		-19.6	28.8	112.7	105.9	6.76	16.680	
1,700.0	1,688.7	1,707.8	1,703.5	4.6	3.7	-168.72		-31.4	35.8	115.4	108.1	7.23	15.953	
1,800.0	1,787.4	1,807.7	1,802.5	5.0	4.0	-167.78		-43.3	42.8	118.1	110.4	7.72	15.300	
1,900.0	1,886.1	1,907.6	1,901.5	5.3	4.3	-166.88		-55.2	49.8	120.9	112.6	8.21	14.715	
2,000.0	1,984.9	2,007.6	2,000.5	5.7	4.6	-166.03		-67.1	56.8	123.6	114.9	8.72	14.185	
2,100.0	2,083.6	2,107.5	2,099.5	6.1	5.0	-165.21		-78.9	63.9	126.5	117.2	9.23	13.704	
2,200.0	2,182.4	2,207.5	2,198.4	6.5	5.3	-164.42		-90.8	70.9	129.3	119.5	9.75	13.267	
2,300.0	2,281.1	2,307.4	2,297.4	6.8	5.6	-163.67		-102.7	77.9	132.2	121.9	10.27	12.868	
2,400.0	2,379.8	2,407.4	2,396.4	7.2	5.9	-162.96		-114.6	84.9	135.0	124.2	10.80	12.502	
2,500.0	2,478.6	2,507.3	2,495.4	7.6	6.3	-162.27		-126.5	91.9	137.9	126.6	11.34	12.167	
2,600.0	2,577.3	2,607.3	2,594.4	8.0	6.6	-161.61		-138.3	98.9	140.9	129.0	11.88	11.858	
2,700.0	2,676.0	2,707.2	2,693.4	8.3	6.9	-160.98		-150.2	106.0	143.8	131.4	12.43	11.573	
2,800.0	2,774.8	2,807.1	2,792.4	8.7	7.3	-160.37		-162.1	113.0	146.8	133.8	12.98	11.309	
2,900.0	2,873.5	2,907.1	2,891.4	9.1	7.6	-159.79		-174.0	120.0	149.7	136.2	13.53	11.064	
3,000.0	2,972.2	3,007.0	2,990.4	9.5	7.9	-159.23		-185.8	127.0	152.7	138.6	14.09	10.837	
3,100.0	3,071.0	3,107.0	3,089.3	9.8	8.3	-158.69		-197.7	134.0	155.7	141.1	14.66	10.624	
3,200.0	3,169.7	3,206.9	3,188.3	10.2	8.6	-158.17		-209.6	141.0	158.7	143.5	15.22	10.426	
3,300.0	3,268.5	3,306.9	3,287.3	10.6	8.9	-157.67		-221.5	148.1	161.8	146.0	15.79	10.241	
3,400.0	3,367.2	3,406.8	3,386.3	11.0	9.3	-157.19		-233.4	155.1	164.8	148.4	16.37	10.067	
3,500.0	3,465.9	3,506.8	3,485.3	11.4	9.6	-156.73		-245.2	162.1	167.8	150.9	16.95	9.904	
3,600.0	3,564.7	3,606.7	3,584.3	11.7	10.0	-156.28		-257.1	169.1	170.9	153.4	17.53	9.751	
3,700.0	3,663.4	3,706.6	3,683.3	12.1	10.3	-155.85		-269.0	176.1	174.0	155.9	18.11	9.607	
3,800.0	3,762.1	3,806.6	3,782.3	12.5	10.7	-155.44		-280.9	183.1	177.0	158.4	18.69	9.470	
3,900.0	3,860.9	3,906.5	3,881.2	12.9	11.0	-155.04		-292.7	190.2	180.1	160.9	19.28	9.342	
4,000.0	3,959.6	4,006.5	3,980.2	13.3	11.3	-154.65		-304.6	197.2	183.2	163.4	19.87	9.220	
4,100.0	4,058.3	4,106.4	4,079.2	13.6	11.7	-154.27		-316.5	204.2	186.3	165.9	20.47	9.105	
4,200.0	4,157.1	4,206.4	4,178.2	14.0	12.0	-153.91		-328.4	211.2	189.5	168.4	21.06	8.996	
4,300.0	4,255.8	4,306.3	4,277.2	14.4	12.4	-153.56		-340.3	218.2	192.6	170.9	21.66	8.892	
4,400.0	4,354.6	4,406.3	4,376.2	14.8	12.7	-153.22		-352.1	225.2	195.7	173.4	22.26	8.793	
4,500.0	4,453.3	4,506.2	4,475.2	15.2	13.1	-152.89		-364.0	232.3	198.8	176.0	22.86	8.699	
4,600.0	4,552.0	4,606.1	4,574.2	15.5	13.4	-152.57		-375.9	239.3	202.0	178.5	23.46	8.610	
4,700.0	4,650.8	4,706.1	4,673.1	15.9	13.8	-152.26		-387.8	246.3	205.1	181.1	24.06	8.525	
4,800.0	4,749.5	4,806.0	4,772.1	16.3	14.1	-151.96		-399.6	253.3	208.3	183.6	24.67	8.443	
4,900.0	4,848.2	4,906.0	4,871.1	16.7	14.5	-151.67		-411.5	260.3	211.4	186.2	25.27	8.366	
5,000.0	4,947.0	5,005.9	4,970.1	17.1	14.8	-151.39		-423.4	267.3	214.6	188.7	25.88	8.291	

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-404
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-404	<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 #1 (4-14-14)	<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
5,100.0	5,045.7	5,105.9	5,069.1	17.4	15.1	-151.12		-435.3	274.4	217.8	191.3	26.49	8.220	
5,200.0	5,144.4	5,205.8	5,168.1	17.8	15.5	-150.85		-447.2	281.4	220.9	193.8	27.10	8.152	
5,300.0	5,243.2	5,305.8	5,267.1	18.2	15.8	-150.59		-459.0	288.4	224.1	196.4	27.71	8.087	
5,400.0	5,341.9	5,400.0	5,360.5	18.6	16.1	-150.44		-469.8	294.7	227.8	199.5	28.27	8.057	
5,500.0	5,440.7	5,496.1	5,456.1	19.0	16.4	-150.76		-478.2	299.7	233.8	205.1	28.71	8.143	
5,600.0	5,539.4	5,589.6	5,549.4	19.3	16.5	-151.51		-483.7	303.0	242.4	213.3	29.05	8.342	
5,700.0	5,638.1	5,682.5	5,642.2	19.7	16.7	-152.63		-486.6	304.7	253.6	224.2	29.32	8.648	
5,800.0	5,736.9	5,777.2	5,736.9	20.1	16.8	-154.05		-487.1	305.0	267.2	237.7	29.53	9.049	
5,900.0	5,835.6	5,875.9	5,835.6	20.5	17.0	-155.46		-487.1	305.0	281.6	251.9	29.75	9.465	
6,000.0	5,934.3	5,974.7	5,934.3	20.9	17.1	-156.73		-487.1	305.0	296.1	266.1	30.00	9.873	
6,100.0	6,033.3	6,073.6	6,033.3	21.2	17.2	-157.88		-487.1	305.0	309.5	279.3	30.25	10.234	
6,200.0	6,132.7	6,173.0	6,132.7	21.4	17.4	-158.70		-487.1	305.0	319.8	289.3	30.49	10.491	
6,300.0	6,232.4	6,272.7	6,232.4	21.6	17.5	-159.23		-487.1	305.0	326.9	296.2	30.74	10.636	
6,400.0	6,332.3	6,372.6	6,332.3	21.7	17.7	-159.51		-487.1	305.0	330.8	299.8	30.99	10.673	
6,500.0	6,432.3	6,472.6	6,432.3	21.9	17.8	-0.06		-487.1	304.6	331.5	293.3	38.20	8.678	
6,600.0	6,532.3	6,571.5	6,530.7	22.0	17.9	88.34		-487.1	295.2	331.7	300.3	31.33	10.588	
6,700.0	6,631.8	6,668.5	6,625.2	22.1	18.0	86.02		-487.1	273.7	332.3	301.1	31.20	10.652	
6,800.0	6,729.3	6,764.0	6,714.8	22.1	18.0	83.80		-487.1	241.0	333.5	302.5	31.04	10.746	
6,900.0	6,823.2	6,858.0	6,798.4	22.1	18.0	81.71		-487.1	198.1	335.1	304.2	30.90	10.843	
7,000.0	6,911.8	6,950.0	6,874.5	22.1	17.9	79.80		-487.1	146.6	336.9	306.1	30.87	10.915	
7,100.0	6,993.6	7,042.3	6,944.1	22.1	17.9	78.04		-487.1	86.0	338.9	307.9	31.03	10.922	
7,200.0	7,067.2	7,132.9	7,004.9	22.0	17.9	76.50		-487.1	18.8	341.0	309.5	31.49	10.830	
7,300.0	7,131.3	7,222.7	7,056.8	22.0	17.9	75.19		-487.1	-54.4	343.0	310.6	32.33	10.610	
7,400.0	7,184.9	7,311.9	7,099.5	22.0	17.8	74.11		-487.1	-132.6	344.7	311.1	33.63	10.252	
7,500.0	7,227.1	7,400.0	7,132.4	22.1	18.5	73.28		-487.1	-214.3	346.2	310.8	35.41	9.777	
7,600.0	7,257.0	7,488.6	7,155.9	22.4	19.9	72.69		-487.1	-299.7	347.3	309.5	37.72	9.207	
7,700.0	7,274.3	7,576.6	7,169.2	23.2	21.5	72.35		-487.1	-386.6	347.9	307.4	40.46	8.598	
7,800.0	7,284.5	7,665.6	7,172.6	24.6	23.2	71.42		-487.1	-475.5	349.9	306.3	43.56	8.032	
7,900.0	7,288.5	7,765.5	7,172.1	26.5	25.2	70.64		-487.1	-575.3	351.4	304.4	47.02	7.473	
8,000.0	7,288.5	7,865.5	7,171.6	28.5	27.4	70.57		-487.1	-675.3	351.5	300.5	51.08	6.882	
8,100.0	7,288.4	7,965.5	7,171.0	30.7	29.7	70.50		-487.1	-775.3	351.7	296.3	55.35	6.354	
8,200.0	7,288.3	8,065.4	7,170.5	33.0	32.1	70.43		-487.1	-875.3	351.8	292.1	59.77	5.886	
8,300.0	7,288.3	8,165.4	7,170.0	35.4	34.5	70.36		-487.1	-975.3	352.0	287.7	64.33	5.472	
8,400.0	7,288.2	8,265.4	7,169.5	37.8	37.0	70.29		-487.1	-1,075.3	352.1	283.2	68.98	5.105	
8,500.0	7,288.1	8,365.4	7,168.9	40.3	39.5	70.23		-487.1	-1,175.3	352.3	278.6	73.72	4.779	
8,600.0	7,288.1	8,465.4	7,168.4	42.8	42.1	70.16		-487.1	-1,275.3	352.4	273.9	78.53	4.488	
8,700.0	7,288.0	8,565.4	7,167.9	45.3	44.7	70.09		-487.1	-1,375.3	352.6	269.2	83.38	4.229	
8,800.0	7,287.9	8,665.4	7,167.4	47.9	47.3	70.02		-487.1	-1,475.3	352.8	264.5	88.28	3.996	
8,900.0	7,287.8	8,765.4	7,166.8	50.5	49.9	69.95		-487.1	-1,575.3	352.9	259.7	93.22	3.786	
9,000.0	7,287.8	8,865.4	7,166.3	53.1	52.6	69.88		-487.1	-1,675.3	353.1	254.9	98.19	3.596	
9,100.0	7,287.7	8,965.4	7,165.8	55.8	55.2	69.81		-487.1	-1,775.3	353.2	250.0	103.18	3.423	
9,200.0	7,287.6	9,065.4	7,165.3	58.4	57.9	69.74		-487.1	-1,875.3	353.4	245.2	108.19	3.266	
9,300.0	7,287.6	9,165.4	7,164.7	61.1	60.6	69.67		-487.1	-1,975.3	353.5	240.3	113.22	3.122	
9,400.0	7,287.5	9,265.4	7,164.2	63.8	63.3	69.60		-487.1	-2,075.3	353.7	235.4	118.27	2.991	
9,500.0	7,287.4	9,365.4	7,163.7	66.5	66.0	69.53		-487.1	-2,175.3	353.9	230.5	123.33	2.869	
9,600.0	7,287.4	9,465.4	7,163.2	69.2	68.7	69.47		-487.1	-2,275.3	354.0	225.6	128.39	2.757	
9,700.0	7,287.3	9,565.4	7,162.7	71.9	71.5	69.40		-487.1	-2,375.3	354.2	220.7	133.47	2.654	
9,800.0	7,287.2	9,665.4	7,162.1	74.6	74.2	69.33		-487.1	-2,475.3	354.3	215.8	138.55	2.557	
9,900.0	7,287.1	9,765.4	7,161.6	77.3	76.9	69.26		-487.1	-2,575.3	354.5	210.9	143.64	2.468	
10,000.0	7,287.1	9,865.4	7,161.1	80.0	79.7	69.19		-487.1	-2,675.3	354.7	205.9	148.74	2.384	
10,100.0	7,287.0	9,965.4	7,160.6	82.8	82.4	69.12		-487.1	-2,775.3	354.8	201.0	153.83	2.306	

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-404
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-404	<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 #1 (4-14-14)	<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-314 - Wellbore #1 - Plan #1 (4-14-14)														
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	
10,200.0	7,286.9	10,065.4	7,160.0	85.5	85.2	69.05	-487.1	-2,875.3	355.0	196.0	158.93	2.233		
10,300.0	7,286.9	10,165.4	7,159.5	88.2	87.9	68.99	-487.1	-2,975.3	355.1	191.1	164.04	2.165		
10,400.0	7,286.8	10,265.4	7,159.0	91.0	90.7	68.92	-487.1	-3,075.3	355.3	186.2	169.14	2.101		
10,500.0	7,286.7	10,365.4	7,158.5	93.7	93.4	68.85	-487.1	-3,175.3	355.5	181.2	174.25	2.040		
10,600.0	7,286.7	10,465.4	7,157.9	96.5	96.2	68.78	-487.1	-3,275.3	355.6	176.3	179.35	1.983		
10,700.0	7,286.6	10,565.4	7,157.4	99.2	99.0	68.71	-487.1	-3,375.3	355.8	171.3	184.46	1.929		
10,800.0	7,286.5	10,665.4	7,156.9	102.0	101.7	68.64	-487.1	-3,475.3	356.0	166.4	189.56	1.878		
10,900.0	7,286.4	10,765.4	7,156.4	104.7	104.5	68.58	-487.1	-3,575.3	356.1	161.5	194.67	1.829		
11,000.0	7,286.4	10,865.4	7,155.8	107.5	107.3	68.51	-487.1	-3,675.3	356.3	156.5	199.77	1.783		
11,100.0	7,286.3	10,965.4	7,155.3	110.3	110.0	68.44	-487.1	-3,775.3	356.5	151.6	204.87	1.740		
11,200.0	7,286.2	11,065.4	7,154.8	113.0	112.8	68.37	-487.1	-3,875.3	356.6	146.6	209.98	1.698		
11,300.0	7,286.2	11,165.4	7,154.3	115.8	115.6	68.30	-487.1	-3,975.3	356.8	141.7	215.07	1.659		
11,400.0	7,286.1	11,265.4	7,153.8	118.6	118.4	68.24	-487.1	-4,075.3	357.0	136.8	220.17	1.621		
11,500.0	7,286.0	11,365.4	7,153.2	121.4	121.1	68.17	-487.1	-4,175.3	357.1	131.9	225.27	1.585		
11,600.0	7,286.0	11,465.4	7,152.7	124.1	123.9	68.10	-487.1	-4,275.3	357.3	126.9	230.36	1.551		
11,700.0	7,285.9	11,565.4	7,152.2	126.9	126.7	68.03	-487.1	-4,375.3	357.5	122.0	235.45	1.518		
11,800.0	7,285.8	11,665.4	7,151.7	129.7	129.5	67.97	-487.1	-4,475.3	357.6	117.1	240.54	1.487 Level 3		
11,900.0	7,285.7	11,765.4	7,151.1	132.5	132.3	67.90	-487.1	-4,575.3	357.8	112.2	245.62	1.457 Level 3		
12,000.0	7,285.7	11,865.4	7,150.6	135.2	135.0	67.83	-487.1	-4,675.3	358.0	107.3	250.70	1.428 Level 3		
12,100.0	7,285.6	11,965.4	7,150.1	138.0	137.8	67.77	-487.1	-4,775.2	358.1	102.4	255.78	1.400 Level 3		
12,200.0	7,285.5	12,065.4	7,149.6	140.8	140.6	67.70	-487.1	-4,875.2	358.3	97.5	260.86	1.374 Level 3		
12,300.0	7,285.5	12,165.4	7,149.0	143.6	143.4	67.63	-487.1	-4,975.2	358.5	92.6	265.93	1.348 Level 3		
12,400.0	7,285.4	12,265.4	7,148.5	146.4	146.2	67.56	-487.1	-5,075.2	358.7	87.7	271.00	1.323 Level 3		
12,500.0	7,285.3	12,365.4	7,148.0	149.1	149.0	67.50	-487.1	-5,175.2	358.8	82.8	276.06	1.300 Level 3		
12,600.0	7,285.3	12,465.4	7,147.5	151.9	151.8	67.43	-487.1	-5,275.2	359.0	77.9	281.13	1.277 Level 3		
12,700.0	7,285.2	12,565.4	7,146.9	154.7	154.6	67.36	-487.1	-5,375.2	359.2	73.0	286.18	1.255 Level 3		
12,800.0	7,285.1	12,665.4	7,146.4	157.5	157.3	67.30	-487.1	-5,475.2	359.4	68.1	291.24	1.234 Level 2		
12,900.0	7,285.1	12,765.4	7,145.9	160.3	160.1	67.23	-487.1	-5,575.2	359.5	63.2	296.29	1.213 Level 2		
13,000.0	7,285.0	12,865.4	7,145.4	163.1	162.9	67.16	-487.1	-5,675.2	359.7	58.4	301.34	1.194 Level 2		
13,100.0	7,284.9	12,965.4	7,144.8	165.9	165.7	67.10	-487.1	-5,775.2	359.9	53.5	306.38	1.175 Level 2		
13,200.0	7,284.8	13,065.4	7,144.3	168.7	168.5	67.03	-487.1	-5,875.2	360.1	48.7	311.42	1.156 Level 2		
13,300.0	7,284.8	13,165.4	7,143.8	171.4	171.3	66.96	-487.1	-5,975.2	360.2	43.8	316.45	1.138 Level 2		
13,400.0	7,284.7	13,265.4	7,143.3	174.2	174.1	66.90	-487.1	-6,075.2	360.4	38.9	321.48	1.121 Level 2		
13,500.0	7,284.6	13,365.4	7,142.8	177.0	176.9	66.83	-487.1	-6,175.2	360.6	34.1	326.51	1.104 Level 2		
13,600.0	7,284.6	13,465.4	7,142.2	179.8	179.7	66.76	-487.1	-6,275.2	360.8	29.2	331.53	1.088 Level 2		
13,700.0	7,284.5	13,565.4	7,141.7	182.6	182.5	66.70	-487.1	-6,375.2	361.0	24.4	336.55	1.073 Level 2		
13,800.0	7,284.4	13,665.4	7,141.2	185.4	185.3	66.63	-487.1	-6,475.2	361.1	19.6	341.56	1.057 Level 2		
13,900.0	7,284.4	13,765.4	7,140.7	188.2	188.1	66.57	-487.1	-6,575.2	361.3	14.7	346.57	1.043 Level 2		
14,000.0	7,284.3	13,865.4	7,140.1	191.0	190.9	66.50	-487.1	-6,675.2	361.5	9.9	351.58	1.028 Level 2		
14,100.0	7,284.2	13,965.4	7,139.6	193.8	193.7	66.43	-487.1	-6,775.2	361.7	5.1	356.58	1.014 Level 2		
14,200.0	7,284.1	14,065.4	7,139.1	196.6	196.5	66.37	-487.1	-6,875.2	361.9	0.3	361.57	1.001 Level 2		
14,300.0	7,284.1	14,165.4	7,138.6	199.4	199.3	66.30	-487.1	-6,975.2	362.0	-4.5	366.56	0.988 Level 1		
14,400.0	7,284.0	14,265.4	7,138.0	202.2	202.1	66.24	-487.1	-7,075.2	362.2	-9.3	371.55	0.975 Level 1		
14,404.7	7,284.0	14,270.0	7,138.0	202.3	202.2	66.23	-487.1	-7,079.9	362.2	-9.5	371.78	0.974 Level 1, ES, SF		



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-404
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-404	<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 #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 7404-UNKNOWN													Offset Well Error:	0.0 ft
Tarin Existing Wells Sec.32-T4N-R66W - Glen 44-32 (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	-147.45	-174.9	-111.6	207.9					
100.0	100.0	86.0	86.0	0.1	1.7	-147.45	-174.9	-111.6	207.5	205.6	1.83	113.209		
200.0	200.0	186.0	186.0	0.3	3.7	-147.45	-174.9	-111.6	207.5	203.4	4.06	51.133		
300.0	300.0	286.0	286.0	0.6	5.7	-147.45	-174.9	-111.6	207.5	201.2	6.28	33.025		
400.0	400.0	386.0	386.0	0.8	7.7	-147.45	-174.9	-111.6	207.5	199.0	8.51	24.388		
500.0	500.0	486.0	486.0	1.0	9.7	-147.45	-174.9	-111.6	207.5	196.7	10.73	19.332		
600.0	600.0	586.0	586.0	1.2	11.7	53.39	-174.9	-111.6	206.4	193.5	12.93	15.967		
700.0	699.8	685.8	685.8	1.4	13.7	54.62	-174.9	-111.6	203.3	188.2	15.10	13.463		
800.0	799.5	785.5	785.5	1.6	15.7	56.75	-174.9	-111.6	198.4	181.1	17.29	11.475		
900.0	898.7	884.7	884.7	1.9	17.7	59.89	-174.9	-111.6	192.0	172.5	19.50	9.846		
1,000.0	997.5	983.5	983.5	2.2	19.7	64.04	-174.9	-111.6	184.7	163.0	21.75	8.491		
1,100.0	1,096.3	1,082.3	1,082.3	2.5	21.6	68.57	-174.9	-111.6	178.3	154.2	24.05	7.411		
1,200.0	1,195.0	1,181.0	1,181.0	2.8	23.6	73.40	-174.9	-111.6	173.0	146.7	26.38	6.560		
1,300.0	1,293.7	1,279.7	1,279.7	3.2	25.6	78.49	-174.9	-111.6	169.1	140.4	28.72	5.889		
1,400.0	1,392.5	1,378.5	1,378.5	3.5	27.6	83.77	-174.9	-111.6	166.7	135.6	31.07	5.365		
1,500.0	1,491.2	1,477.2	1,477.2	3.9	29.5	89.16	-174.9	-111.6	165.7	132.3	33.41	4.959		
1,515.6	1,506.6	1,492.6	1,492.6	3.9	29.9	90.00	-174.9	-111.6	165.7	131.9	33.78	4.905 CC		
1,600.0	1,589.9	1,575.9	1,575.9	4.2	31.5	94.56	-174.9	-111.6	166.2	130.5	35.74	4.650		
1,700.0	1,688.7	1,674.7	1,674.7	4.6	33.5	99.88	-174.9	-111.6	168.2	130.2	38.05	4.421 ES		
1,800.0	1,787.4	1,773.4	1,773.4	5.0	35.5	105.04	-174.9	-111.6	171.7	131.3	40.34	4.256		
1,900.0	1,886.1	1,872.1	1,872.1	5.3	37.4	109.96	-174.9	-111.6	176.5	133.9	42.60	4.143		
2,000.0	1,984.9	1,970.9	1,970.9	5.7	39.4	114.59	-174.9	-111.6	182.6	137.7	44.84	4.072		
2,100.0	2,083.6	2,069.6	2,069.6	6.1	41.4	118.90	-174.9	-111.6	189.8	142.7	47.05	4.034		
2,200.0	2,182.4	2,168.4	2,168.4	6.5	43.4	122.88	-174.9	-111.6	198.0	148.8	49.25	4.021		
2,300.0	2,281.1	2,267.1	2,267.1	6.8	45.3	126.54	-174.9	-111.6	207.1	155.7	51.43	4.027		
2,400.0	2,379.8	2,365.8	2,365.8	7.2	47.3	129.87	-174.9	-111.6	217.0	163.4	53.60	4.048		
2,500.0	2,478.6	2,464.6	2,464.6	7.6	49.3	132.92	-174.9	-111.6	227.6	171.8	55.76	4.081		
2,600.0	2,577.3	2,563.3	2,563.3	8.0	51.3	135.69	-174.9	-111.6	238.7	180.8	57.92	4.121		
2,700.0	2,676.0	2,662.0	2,662.0	8.3	53.2	138.21	-174.9	-111.6	250.3	190.3	60.08	4.167		
2,800.0	2,774.8	2,760.8	2,760.8	8.7	55.2	140.50	-174.9	-111.6	262.4	200.2	62.23	4.217		
2,900.0	2,873.5	2,859.5	2,859.5	9.1	57.2	142.59	-174.9	-111.6	274.9	210.5	64.38	4.270		
3,000.0	2,972.2	2,958.2	2,958.2	9.5	59.2	144.50	-174.9	-111.6	287.7	221.2	66.54	4.324		
3,100.0	3,071.0	3,057.0	3,057.0	9.8	61.1	146.25	-174.9	-111.6	300.8	232.1	68.69	4.379		
3,200.0	3,169.7	3,155.7	3,155.7	10.2	63.1	147.85	-174.9	-111.6	314.2	243.3	70.85	4.434		
3,300.0	3,268.5	3,254.5	3,254.5	10.6	65.1	149.32	-174.9	-111.6	327.7	254.7	73.01	4.489		
3,400.0	3,367.2	3,353.2	3,353.2	11.0	67.1	150.67	-174.9	-111.6	341.5	266.3	75.17	4.543		
3,500.0	3,465.9	3,451.9	3,451.9	11.4	69.0	151.92	-174.9	-111.6	355.4	278.1	77.33	4.597		
3,600.0	3,564.7	3,550.7	3,550.7	11.7	71.0	153.07	-174.9	-111.6	369.5	290.0	79.49	4.649		
3,700.0	3,663.4	3,649.4	3,649.4	12.1	73.0	154.14	-174.9	-111.6	383.8	302.1	81.66	4.700		
3,800.0	3,762.1	3,748.1	3,748.1	12.5	75.0	155.13	-174.9	-111.6	398.1	314.3	83.83	4.749		
3,900.0	3,860.9	3,846.9	3,846.9	12.9	76.9	156.06	-174.9	-111.6	412.6	326.6	86.00	4.798		
4,000.0	3,959.6	3,945.6	3,945.6	13.3	78.9	156.92	-174.9	-111.6	427.1	339.0	88.17	4.845		
4,100.0	4,058.3	4,044.3	4,044.3	13.6	80.9	157.72	-174.9	-111.6	441.8	351.5	90.34	4.890		
4,200.0	4,157.1	4,143.1	4,143.1	14.0	82.9	158.48	-174.9	-111.6	456.5	364.0	92.51	4.935		
4,300.0	4,255.8	4,241.8	4,241.8	14.4	84.8	159.18	-174.9	-111.6	471.3	376.6	94.69	4.978		
4,400.0	4,354.6	4,340.6	4,340.6	14.8	86.8	159.84	-174.9	-111.6	486.2	389.3	96.87	5.019		
4,500.0	4,453.3	4,439.3	4,439.3	15.2	88.8	160.47	-174.9	-111.6	501.1	402.1	99.04	5.060		
4,600.0	4,552.0	4,538.0	4,538.0	15.5	90.8	161.06	-174.9	-111.6	516.1	414.9	101.22	5.099		
4,700.0	4,650.8	4,636.8	4,636.8	15.9	92.7	161.61	-174.9	-111.6	531.1	427.7	103.40	5.137		
4,800.0	4,749.5	4,735.5	4,735.5	16.3	94.7	162.13	-174.9	-111.6	546.2	440.6	105.59	5.173		
4,900.0	4,848.2	4,834.2	4,834.2	16.7	96.7	162.63	-174.9	-111.6	561.3	453.6	107.77	5.209		

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-404
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-404	<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 #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Tarin Existing Wells Sec.32-T4N-R66W - Glen 44-32 (Existing) - Wellbore #1 - Wellbore #1		Offset Site Error:		0.0 ft
Survey Program: 7404-UNKNOWN															Offset Well Error:		0.0 ft
Reference				Offset			Semi Major Axis			Distance				Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor					
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
5,000.0	4,947.0	4,933.0	4,933.0	17.1	98.7	163.10	-174.9	-111.6	576.5	466.6	109.95	5.243					
5,100.0	5,045.7	5,031.7	5,031.7	17.4	100.6	163.54	-174.9	-111.6	591.7	479.6	112.14	5.277					
5,200.0	5,144.4	5,130.4	5,130.4	17.8	102.6	163.97	-174.9	-111.6	606.9	492.6	114.32	5.309					
5,300.0	5,243.2	5,229.2	5,229.2	18.2	104.6	164.37	-174.9	-111.6	622.2	505.7	116.51	5.340					
5,400.0	5,341.9	5,327.9	5,327.9	18.6	106.6	164.75	-174.9	-111.6	637.5	518.8	118.69	5.371					
5,500.0	5,440.7	5,426.7	5,426.7	19.0	108.5	165.12	-174.9	-111.6	652.8	531.9	120.88	5.400					
5,600.0	5,539.4	5,525.4	5,525.4	19.3	110.5	165.47	-174.9	-111.6	668.1	545.1	123.07	5.429					
5,700.0	5,638.1	5,624.1	5,624.1	19.7	112.5	165.80	-174.9	-111.6	683.5	558.2	125.26	5.457					
5,800.0	5,736.9	5,722.9	5,722.9	20.1	114.5	166.12	-174.9	-111.6	698.9	571.4	127.45	5.484					
5,900.0	5,835.6	5,821.6	5,821.6	20.5	116.4	166.42	-174.9	-111.6	714.3	584.7	129.63	5.510					
6,000.0	5,934.3	5,920.3	5,920.3	20.9	118.4	166.72	-174.9	-111.6	729.7	597.9	131.82	5.536					
6,100.0	6,033.3	6,019.3	6,019.3	21.2	120.4	167.03	-174.9	-111.6	743.9	609.4	134.49	5.531					
6,200.0	6,132.7	6,118.7	6,118.7	21.4	122.4	167.27	-174.9	-111.6	754.6	617.6	137.07	5.505					
6,300.0	6,232.4	6,218.4	6,218.4	21.6	124.4	167.42	-174.9	-111.6	762.1	622.5	139.52	5.462					
6,400.0	6,332.3	6,318.3	6,318.3	21.7	126.4	167.51	-174.9	-111.6	766.1	624.3	141.81	5.402					
6,500.0	6,432.3	6,418.3	6,418.3	21.9	128.4	-32.91	-174.9	-111.6	766.8	616.9	149.94	5.114					
6,600.0	6,532.3	6,518.3	6,518.3	22.0	130.4	57.11	-174.9	-111.6	766.7	620.6	146.11	5.248					
6,700.0	6,631.8	6,617.8	6,617.8	22.1	132.4	57.97	-174.9	-111.6	762.0	614.4	147.63	5.162					
6,800.0	6,729.3	6,715.3	6,715.3	22.1	134.3	60.09	-174.9	-111.6	750.6	602.0	148.54	5.053					
6,900.0	6,823.2	6,809.2	6,809.2	22.1	136.2	63.45	-174.9	-111.6	733.5	584.2	149.36	4.911					
7,000.0	6,911.8	6,897.8	6,897.8	22.1	138.0	67.94	-174.9	-111.6	712.5	561.8	150.71	4.728					
7,100.0	6,993.6	6,979.6	6,979.6	22.1	139.6	73.29	-174.9	-111.6	689.9	537.0	152.94	4.511					
7,200.0	7,067.2	7,053.2	7,053.2	22.0	141.1	79.05	-174.9	-111.6	668.6	512.7	155.86	4.290					
7,300.0	7,131.3	7,117.3	7,117.3	22.0	142.3	84.56	-174.9	-111.6	652.1	493.3	158.79	4.107					
7,400.0	7,184.9	7,170.9	7,170.9	22.0	143.4	89.17	-174.9	-111.6	644.1	482.9	161.18	3.996					
7,422.0	7,195.2	7,181.2	7,181.2	22.0	143.6	90.00	-174.9	-111.6	643.8	482.1	161.65	3.983					
7,500.0	7,227.1	7,213.1	7,213.1	22.1	144.3	92.29	-174.9	-111.6	647.7	484.7	163.03	3.973 SF					
7,600.0	7,257.0	7,243.0	7,243.0	22.4	144.9	93.50	-174.9	-111.6	665.0	500.2	164.83	4.034					
7,700.0	7,274.3	7,260.3	7,260.3	23.2	145.2	92.54	-174.9	-111.6	696.2	529.3	166.89	4.172					
7,800.0	7,284.5	7,270.5	7,270.5	24.6	145.4	92.73	-174.9	-111.6	739.8	570.9	168.90	4.380					
7,900.0	7,288.5	7,274.5	7,274.5	26.5	145.5	89.97	-174.9	-111.6	793.8	622.7	171.07	4.640					
8,000.0	7,288.5	7,274.5	7,274.5	28.5	145.5	89.96	-174.9	-111.6	856.1	682.9	173.20	4.943					
8,100.0	7,288.4	7,274.4	7,274.4	30.7	145.5	89.96	-174.9	-111.6	925.1	749.7	175.44	5.273					
8,200.0	7,288.3	7,274.3	7,274.3	33.0	145.5	89.95	-174.9	-111.6	999.3	821.6	177.77	5.622					



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32Y-404
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-404	<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 #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4791.0ft (RKB - 15')

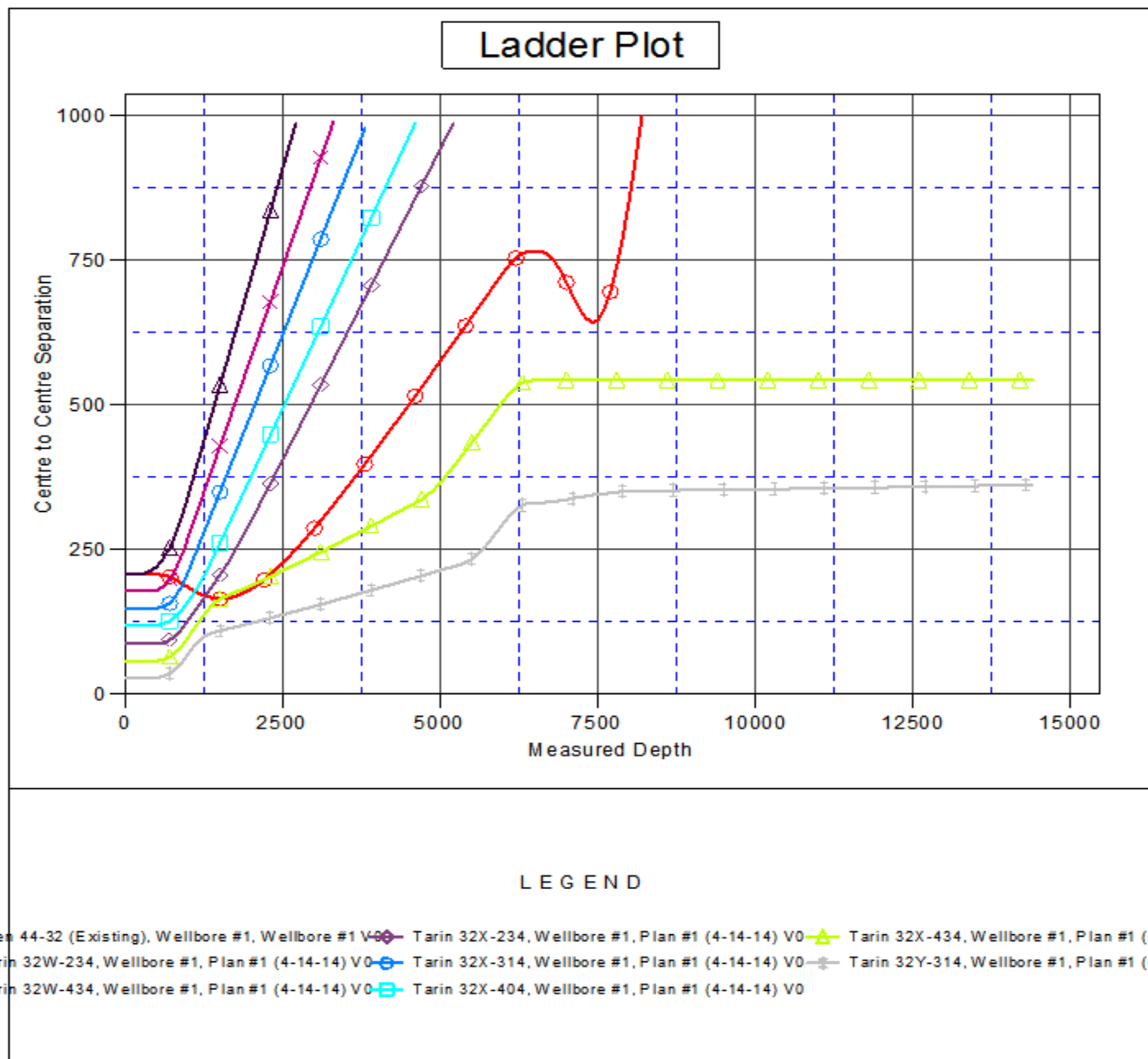
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Tarin 32Y-404

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-404
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4791.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32Y-404	<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 #1 (4-14-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4791.0ft (RKB - 15')

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