

# PETROLEUM DEVELOPMENT CORP Weld County CO

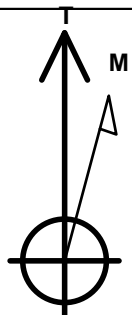
Well Name: **Tarin 32W-434**

Surface Location: Tarin 32X-HZ Pad Sec.32-T4N-R66W  
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
 Ground Elevation: 4774.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1339704.50	3197253.09	40.263730	-104.793170	
RKB - 15' WELL @ 4789.0ft (RKB - 15')						

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 1033'FSL & 355'FEL, Sec.32	1.0	0.0	0.0	Point
BHL 2002'FSL & 2150'FEL, Sec.31	7066.0	930.0	-7096.8	Point



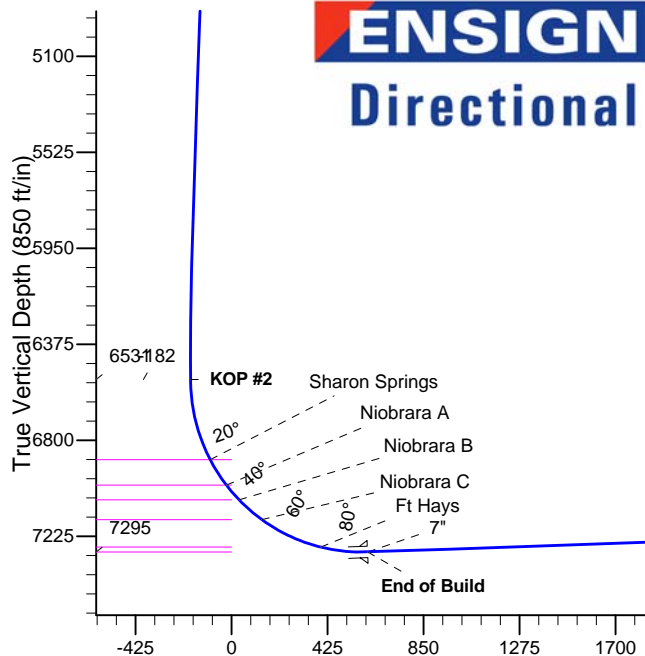
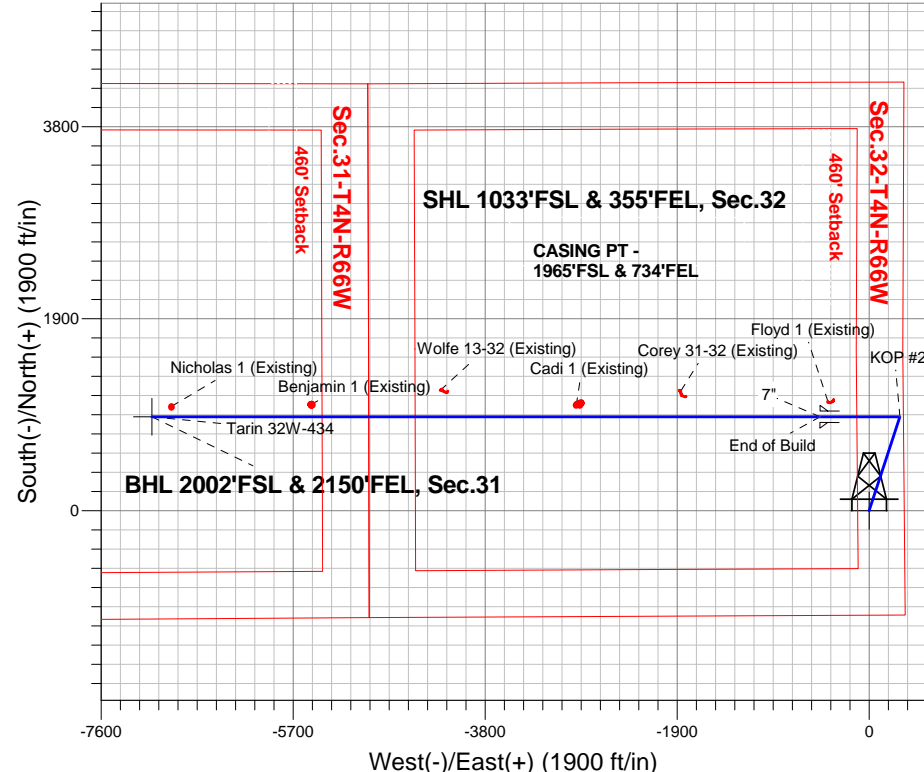
Azimuths to True North  
 Magnetic North: 8.48°

Magnetic Field  
 Strength: 52756.5srT  
 Dip Angle: 66.84°  
 Date: 4/23/2014  
 Model: IGRF2010

Tarin 32X-HZ Pad Sec.32-T4N-R66W  
 Tarin 32W-434  
 Plan #2 (12-18-14)  
 17:40, December 18 2014

## ANNOTATIONS

TVD	MD	Annotation
400.0	400.0	KOP #1
6531.1	6615.0	KOP #2
7294.6	7841.4	End of Build



## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	905.1	10.10	18.16	902.5	42.2	13.8	2.00	18.16	-8.2	
4	5978.8	10.10	18.16	5897.5	887.8	291.2	0.00	0.00	-173.3	
5	6483.9	0.00	0.00	6400.0	930.0	305.0	2.00	180.00	-181.6	
6	6615.0	0.00	0.00	6531.1	930.0	305.0	0.00	0.00	-181.6	
7	7841.4	91.98	270.00	7294.6	930.0	-485.3	7.50	270.00	602.1	
8	14456.8	91.98	270.00	7066.0	930.0	-7096.8	0.00	0.00	7157.5	BHL 2002'FSL & 2150'FEL, Sec.31

**BHL 2002'FSL & 2150'FEL, Sec.31**

Vertical Section at 277.47° (850 ft/in)



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.32-T4N-R66W**

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

**Tarin 32W-434**

**Wellbore #1**

**Plan: Plan #2 (12-18-14)**

## **Standard Planning Report**

**18 December, 2014**

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Project:</b>	SEC.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (12-18-14)		

<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

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

<b>Well</b>	Tarin 32W-434		
<b>Well Position</b>	<b>+N/-S</b>	-29.2 ft	<b>Northing:</b>
	<b>+E/-W</b>	2.8 ft	<b>Easting:</b>
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>
			ft
			<b>Latitude:</b>
			40.263730
			<b>Longitude:</b>
			-104.793170
			<b>Ground Level:</b>
			4,774.0 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	52,757

<b>Design</b>	Plan #2 (12-18-14)			
<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	277.47

<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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
905.1	10.10	18.16	902.5	42.2	13.8	2.00	2.00	0.00	18.16	
5,978.8	10.10	18.16	5,897.5	887.8	291.2	0.00	0.00	0.00	0.00	
6,483.9	0.00	0.00	6,400.0	930.0	305.0	2.00	-2.00	0.00	180.00	
6,615.0	0.00	0.00	6,531.1	930.0	305.0	0.00	0.00	0.00	0.00	
7,841.4	91.98	270.00	7,294.6	930.0	-485.3	7.50	7.50	0.00	270.00	
14,456.8	91.98	270.00	7,066.0	930.0	-7,096.8	0.00	0.00	0.00	0.00	BHL 2002'FSL & 21

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Project:</b>	SEC.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (12-18-14)		

## 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 1033'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
<b>KOP #1</b>									
500.0	2.00	18.16	500.0	1.7	0.5	-0.3	2.00	2.00	0.00
600.0	4.00	18.16	599.8	6.6	2.2	-1.3	2.00	2.00	0.00
700.0	6.00	18.16	699.5	14.9	4.9	-2.9	2.00	2.00	0.00
800.0	8.00	18.16	798.7	26.5	8.7	-5.2	2.00	2.00	0.00
900.0	10.00	18.16	897.5	41.4	13.6	-8.1	2.00	2.00	0.00
905.1	10.10	18.16	902.5	42.2	13.8	-8.2	2.00	2.00	0.00
1,000.0	10.10	18.16	995.9	58.0	19.0	-11.3	0.00	0.00	0.00
1,100.0	10.10	18.16	1,094.4	74.7	24.5	-14.6	0.00	0.00	0.00
1,200.0	10.10	18.16	1,192.8	91.4	30.0	-17.8	0.00	0.00	0.00
1,300.0	10.10	18.16	1,291.3	108.0	35.4	-21.1	0.00	0.00	0.00
1,400.0	10.10	18.16	1,389.7	124.7	40.9	-24.3	0.00	0.00	0.00
1,500.0	10.10	18.16	1,488.2	141.3	46.4	-27.6	0.00	0.00	0.00
1,600.0	10.10	18.16	1,586.6	158.0	51.8	-30.9	0.00	0.00	0.00
1,700.0	10.10	18.16	1,685.1	174.7	57.3	-34.1	0.00	0.00	0.00
1,800.0	10.10	18.16	1,783.5	191.3	62.8	-37.4	0.00	0.00	0.00
1,900.0	10.10	18.16	1,882.0	208.0	68.2	-40.6	0.00	0.00	0.00
2,000.0	10.10	18.16	1,980.4	224.7	73.7	-43.9	0.00	0.00	0.00
2,100.0	10.10	18.16	2,078.9	241.3	79.2	-47.1	0.00	0.00	0.00
2,200.0	10.10	18.16	2,177.3	258.0	84.6	-50.4	0.00	0.00	0.00
2,300.0	10.10	18.16	2,275.8	274.7	90.1	-53.6	0.00	0.00	0.00
2,400.0	10.10	18.16	2,374.2	291.3	95.5	-56.9	0.00	0.00	0.00
2,500.0	10.10	18.16	2,472.7	308.0	101.0	-60.1	0.00	0.00	0.00
2,600.0	10.10	18.16	2,571.1	324.7	106.5	-63.4	0.00	0.00	0.00
2,700.0	10.10	18.16	2,669.6	341.3	111.9	-66.6	0.00	0.00	0.00
2,800.0	10.10	18.16	2,768.0	358.0	117.4	-69.9	0.00	0.00	0.00
2,900.0	10.10	18.16	2,866.5	374.7	122.9	-73.2	0.00	0.00	0.00
3,000.0	10.10	18.16	2,964.9	391.3	128.3	-76.4	0.00	0.00	0.00
3,100.0	10.10	18.16	3,063.4	408.0	133.8	-79.7	0.00	0.00	0.00
3,200.0	10.10	18.16	3,161.8	424.7	139.3	-82.9	0.00	0.00	0.00
3,300.0	10.10	18.16	3,260.3	441.3	144.7	-86.2	0.00	0.00	0.00
3,400.0	10.10	18.16	3,358.7	458.0	150.2	-89.4	0.00	0.00	0.00
3,500.0	10.10	18.16	3,457.2	474.7	155.7	-92.7	0.00	0.00	0.00
3,600.0	10.10	18.16	3,555.6	491.3	161.1	-95.9	0.00	0.00	0.00
3,700.0	10.10	18.16	3,654.1	508.0	166.6	-99.2	0.00	0.00	0.00
3,756.8	10.10	18.16	3,710.0	517.5	169.7	-101.0	0.00	0.00	0.00
<b>Parkman</b>									
3,800.0	10.10	18.16	3,752.5	524.7	172.1	-102.4	0.00	0.00	0.00
3,900.0	10.10	18.16	3,851.0	541.3	177.5	-105.7	0.00	0.00	0.00
4,000.0	10.10	18.16	3,949.4	558.0	183.0	-108.9	0.00	0.00	0.00
4,100.0	10.10	18.16	4,047.9	574.7	188.5	-112.2	0.00	0.00	0.00
4,200.0	10.10	18.16	4,146.3	591.3	193.9	-115.5	0.00	0.00	0.00
4,300.0	10.10	18.16	4,244.8	608.0	199.4	-118.7	0.00	0.00	0.00
4,400.0	10.10	18.16	4,343.2	624.7	204.9	-122.0	0.00	0.00	0.00
4,447.5	10.10	18.16	4,390.0	632.6	207.5	-123.5	0.00	0.00	0.00
<b>Sussex</b>									

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Project:</b>	SEC.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (12-18-14)		

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	10.10	18.16	4,441.7	641.3	210.3	-125.2	0.00	0.00	0.00
4,600.0	10.10	18.16	4,540.1	658.0	215.8	-128.5	0.00	0.00	0.00
4,700.0	10.10	18.16	4,638.6	674.7	221.3	-131.7	0.00	0.00	0.00
4,800.0	10.10	18.16	4,737.0	691.3	226.7	-135.0	0.00	0.00	0.00
4,864.0	10.10	18.16	4,800.0	702.0	230.2	-137.1	0.00	0.00	0.00
<b>Shannon</b>									
4,900.0	10.10	18.16	4,835.5	708.0	232.2	-138.2	0.00	0.00	0.00
5,000.0	10.10	18.16	4,933.9	724.7	237.7	-141.5	0.00	0.00	0.00
5,100.0	10.10	18.16	5,032.4	741.3	243.1	-144.7	0.00	0.00	0.00
5,200.0	10.10	18.16	5,130.8	758.0	248.6	-148.0	0.00	0.00	0.00
5,300.0	10.10	18.16	5,229.3	774.7	254.1	-151.2	0.00	0.00	0.00
5,400.0	10.10	18.16	5,327.7	791.3	259.5	-154.5	0.00	0.00	0.00
5,500.0	10.10	18.16	5,426.2	808.0	265.0	-157.8	0.00	0.00	0.00
5,600.0	10.10	18.16	5,524.6	824.7	270.5	-161.0	0.00	0.00	0.00
5,700.0	10.10	18.16	5,623.1	841.3	275.9	-164.3	0.00	0.00	0.00
5,800.0	10.10	18.16	5,721.5	858.0	281.4	-167.5	0.00	0.00	0.00
5,900.0	10.10	18.16	5,820.0	874.7	286.9	-170.8	0.00	0.00	0.00
5,978.8	10.10	18.16	5,897.5	887.8	291.2	-173.3	0.00	0.00	0.00
6,000.0	9.68	18.16	5,918.4	891.3	292.3	-174.0	2.00	-2.00	0.00
6,100.0	7.68	18.16	6,017.3	905.6	297.0	-176.8	2.00	-2.00	0.00
6,200.0	5.68	18.16	6,116.6	916.6	300.6	-179.0	2.00	-2.00	0.00
6,300.0	3.68	18.16	6,216.2	924.4	303.2	-180.5	2.00	-2.00	0.00
6,400.0	1.68	18.16	6,316.1	928.8	304.6	-181.3	2.00	-2.00	0.00
6,483.9	0.00	0.00	6,400.0	930.0	305.0	-181.6	2.00	-2.00	0.00
6,500.0	0.00	0.00	6,416.1	930.0	305.0	-181.6	0.00	0.00	0.00
6,600.0	0.00	0.00	6,516.1	930.0	305.0	-181.6	0.00	0.00	0.00
6,615.0	0.00	0.00	6,531.1	930.0	305.0	-181.6	0.00	0.00	0.00
<b>KOP #2</b>									
6,700.0	6.38	270.00	6,615.9	930.0	300.3	-176.9	7.50	7.50	0.00
6,800.0	13.88	270.00	6,714.3	930.0	282.7	-159.5	7.50	7.50	0.00
6,900.0	21.38	270.00	6,809.6	930.0	252.4	-129.5	7.50	7.50	0.00
6,984.1	27.68	270.00	6,886.0	930.0	217.5	-94.9	7.50	7.50	0.00
<b>Sharon Springs</b>									
7,000.0	28.88	270.00	6,900.0	930.0	210.0	-87.4	7.50	7.50	0.00
7,100.0	36.38	270.00	6,984.2	930.0	156.1	-34.0	7.50	7.50	0.00
7,117.3	37.68	270.00	6,998.0	930.0	145.7	-23.6	7.50	7.50	0.00
<b>Niobrara A</b>									
7,200.0	43.88	270.00	7,060.6	930.0	91.7	29.9	7.50	7.50	0.00
7,204.7	44.23	270.00	7,064.0	930.0	88.4	33.2	7.50	7.50	0.00
<b>Niobrara B</b>									
7,300.0	51.38	270.00	7,127.9	930.0	17.9	103.1	7.50	7.50	0.00
7,338.2	54.24	270.00	7,151.0	930.0	-12.5	133.2	7.50	7.50	0.00
<b>Niobrara C</b>									
7,400.0	58.88	270.00	7,185.1	930.0	-64.1	184.4	7.50	7.50	0.00
7,500.0	66.38	270.00	7,231.0	930.0	-152.8	272.4	7.50	7.50	0.00
7,600.0	73.88	270.00	7,265.0	930.0	-246.8	365.6	7.50	7.50	0.00
7,631.1	76.21	270.00	7,273.0	930.0	-276.8	395.3	7.50	7.50	0.00
<b>Ft Hays</b>									
7,700.0	81.38	270.00	7,286.4	930.0	-344.4	462.3	7.50	7.50	0.00
7,800.0	88.88	270.00	7,294.9	930.0	-444.0	561.1	7.50	7.50	0.00
7,841.4	91.98	270.00	7,294.6	930.0	-485.4	602.1	7.49	7.49	0.00
<b>End of Build - 7"</b>									

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Project:</b>	SEC.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (12-18-14)		

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)
7,900.0	91.98	270.00	7,292.5	930.0	-543.9	660.2	0.00	0.00	0.00
8,000.0	91.98	270.00	7,289.1	930.0	-643.9	759.3	0.00	0.00	0.00
8,100.0	91.98	270.00	7,285.6	930.0	-743.8	858.4	0.00	0.00	0.00
8,200.0	91.98	270.00	7,282.2	930.0	-843.8	957.5	0.00	0.00	0.00
8,300.0	91.98	270.00	7,278.7	930.0	-943.7	1,056.5	0.00	0.00	0.00
8,400.0	91.98	270.00	7,275.3	930.0	-1,043.6	1,155.6	0.00	0.00	0.00
8,500.0	91.98	270.00	7,271.8	930.0	-1,143.6	1,254.7	0.00	0.00	0.00
8,600.0	91.98	270.00	7,268.4	930.0	-1,243.5	1,353.8	0.00	0.00	0.00
8,700.0	91.98	270.00	7,264.9	930.0	-1,343.5	1,452.9	0.00	0.00	0.00
8,800.0	91.98	270.00	7,261.4	930.0	-1,443.4	1,552.0	0.00	0.00	0.00
8,900.0	91.98	270.00	7,258.0	930.0	-1,543.3	1,651.1	0.00	0.00	0.00
9,000.0	91.98	270.00	7,254.5	930.0	-1,643.3	1,750.2	0.00	0.00	0.00
9,100.0	91.98	270.00	7,251.1	930.0	-1,743.2	1,849.3	0.00	0.00	0.00
9,200.0	91.98	270.00	7,247.6	930.0	-1,843.2	1,948.4	0.00	0.00	0.00
9,300.0	91.98	270.00	7,244.2	930.0	-1,943.1	2,047.5	0.00	0.00	0.00
9,400.0	91.98	270.00	7,240.7	930.0	-2,043.1	2,146.6	0.00	0.00	0.00
9,500.0	91.98	270.00	7,237.3	930.0	-2,143.0	2,245.7	0.00	0.00	0.00
9,600.0	91.98	270.00	7,233.8	930.0	-2,242.9	2,344.8	0.00	0.00	0.00
9,700.0	91.98	270.00	7,230.3	930.0	-2,342.9	2,443.8	0.00	0.00	0.00
9,800.0	91.98	270.00	7,226.9	930.0	-2,442.8	2,542.9	0.00	0.00	0.00
9,900.0	91.98	270.00	7,223.4	930.0	-2,542.8	2,642.0	0.00	0.00	0.00
10,000.0	91.98	270.00	7,220.0	930.0	-2,642.7	2,741.1	0.00	0.00	0.00
10,100.0	91.98	270.00	7,216.5	930.0	-2,742.6	2,840.2	0.00	0.00	0.00
10,200.0	91.98	270.00	7,213.1	930.0	-2,842.6	2,939.3	0.00	0.00	0.00
10,300.0	91.98	270.00	7,209.6	930.0	-2,942.5	3,038.4	0.00	0.00	0.00
10,400.0	91.98	270.00	7,206.2	930.0	-3,042.5	3,137.5	0.00	0.00	0.00
10,500.0	91.98	270.00	7,202.7	930.0	-3,142.4	3,236.6	0.00	0.00	0.00
10,600.0	91.98	270.00	7,199.3	930.0	-3,242.3	3,335.7	0.00	0.00	0.00
10,700.0	91.98	270.00	7,195.8	930.0	-3,342.3	3,434.8	0.00	0.00	0.00
10,800.0	91.98	270.00	7,192.3	930.0	-3,442.2	3,533.9	0.00	0.00	0.00
10,900.0	91.98	270.00	7,188.9	930.0	-3,542.2	3,633.0	0.00	0.00	0.00
11,000.0	91.98	270.00	7,185.4	930.0	-3,642.1	3,732.1	0.00	0.00	0.00
11,100.0	91.98	270.00	7,182.0	930.0	-3,742.0	3,831.2	0.00	0.00	0.00
11,200.0	91.98	270.00	7,178.5	930.0	-3,842.0	3,930.2	0.00	0.00	0.00
11,300.0	91.98	270.00	7,175.1	930.0	-3,941.9	4,029.3	0.00	0.00	0.00
11,400.0	91.98	270.00	7,171.6	930.0	-4,041.9	4,128.4	0.00	0.00	0.00
11,500.0	91.98	270.00	7,168.2	930.0	-4,141.8	4,227.5	0.00	0.00	0.00
11,600.0	91.98	270.00	7,164.7	930.0	-4,241.7	4,326.6	0.00	0.00	0.00
11,700.0	91.98	270.00	7,161.2	930.0	-4,341.7	4,425.7	0.00	0.00	0.00
11,800.0	91.98	270.00	7,157.8	930.0	-4,441.6	4,524.8	0.00	0.00	0.00
11,900.0	91.98	270.00	7,154.3	930.0	-4,541.6	4,623.9	0.00	0.00	0.00
12,000.0	91.98	270.00	7,150.9	930.0	-4,641.5	4,723.0	0.00	0.00	0.00
12,100.0	91.98	270.00	7,147.4	930.0	-4,741.4	4,822.1	0.00	0.00	0.00
12,200.0	91.98	270.00	7,144.0	930.0	-4,841.4	4,921.2	0.00	0.00	0.00
12,300.0	91.98	270.00	7,140.5	930.0	-4,941.3	5,020.3	0.00	0.00	0.00
12,400.0	91.98	270.00	7,137.1	930.0	-5,041.3	5,119.4	0.00	0.00	0.00
12,500.0	91.98	270.00	7,133.6	930.0	-5,141.2	5,218.5	0.00	0.00	0.00
12,600.0	91.98	270.00	7,130.2	930.0	-5,241.1	5,317.5	0.00	0.00	0.00
12,700.0	91.98	270.00	7,126.7	930.0	-5,341.1	5,416.6	0.00	0.00	0.00
12,800.0	91.98	270.00	7,123.2	930.0	-5,441.0	5,515.7	0.00	0.00	0.00
12,900.0	91.98	270.00	7,119.8	930.0	-5,541.0	5,614.8	0.00	0.00	0.00
13,000.0	91.98	270.00	7,116.3	930.0	-5,640.9	5,713.9	0.00	0.00	0.00
13,100.0	91.98	270.00	7,112.9	930.0	-5,740.8	5,813.0	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Project:</b>	SEC.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (12-18-14)		

## 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)
13,200.0	91.98	270.00	7,109.4	930.0	-5,840.8	5,912.1	0.00	0.00	0.00
13,300.0	91.98	270.00	7,106.0	930.0	-5,940.7	6,011.2	0.00	0.00	0.00
13,400.0	91.98	270.00	7,102.5	930.0	-6,040.7	6,110.3	0.00	0.00	0.00
13,500.0	91.98	270.00	7,099.1	930.0	-6,140.6	6,209.4	0.00	0.00	0.00
13,600.0	91.98	270.00	7,095.6	930.0	-6,240.5	6,308.5	0.00	0.00	0.00
13,700.0	91.98	270.00	7,092.1	930.0	-6,340.5	6,407.6	0.00	0.00	0.00
13,800.0	91.98	270.00	7,088.7	930.0	-6,440.4	6,506.7	0.00	0.00	0.00
13,900.0	91.98	270.00	7,085.2	930.0	-6,540.4	6,605.8	0.00	0.00	0.00
14,000.0	91.98	270.00	7,081.8	930.0	-6,640.3	6,704.9	0.00	0.00	0.00
14,100.0	91.98	270.00	7,078.3	930.0	-6,740.2	6,803.9	0.00	0.00	0.00
14,200.0	91.98	270.00	7,074.9	930.0	-6,840.2	6,903.0	0.00	0.00	0.00
14,300.0	91.98	270.00	7,071.4	930.0	-6,940.1	7,002.1	0.00	0.00	0.00
14,400.0	91.98	270.00	7,068.0	930.0	-7,040.1	7,101.2	0.00	0.00	0.00
14,456.8	91.98	270.00	7,066.0	930.0	-7,096.8	7,157.5	0.00	0.00	0.00
BHL 2002'FSL & 2150'FEL, Sec.31									

## Targets

Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N-S (ft)	+E-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
BHL 2002'FSL & 2150'FEL, Sec.31	- plan hits target center	0.00	0.00	7,066.0	930.0	-7,096.8	1,340,577.86	3,190,149.42	40.266280	-104.818600
SHL 1033'FSL & 355'FEL, Sec.31	- plan hits target center	0.00	0.00	1.0	0.0	0.0	1,339,704.51	3,197,253.08	40.263730	-104.793170

## Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,841.4	7,294.6	7"	7	7-1/2

## Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,756.8	3,710.0	Parkman		0.00	
4,447.5	4,390.0	Sussex		0.00	
4,864.0	4,800.0	Shannon		0.00	
6,984.1	6,886.0	Sharon Springs		0.00	
7,117.3	6,998.0	Niobrara A		0.00	
7,204.7	7,064.0	Niobrara B		0.00	
7,338.2	7,151.0	Niobrara C		0.00	
7,631.1	7,273.0	Ft Hays		0.00	
	7,295.0	Codell		0.00	

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Project:</b>	SEC.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (12-18-14)		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
400.0	400.0	0.0	0.0	KOP #1
6,615.0	6,531.1	930.0	305.0	KOP #2
7,841.4	7,294.6	930.0	-485.4	End of Build





# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.32-T4N-R66W**

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

**Tarin 32W-434**

**Wellbore #1**

**Plan #2 (12-18-14)**

## **Anticollision Report**

**18 December, 2014**



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #2 (12-18-14)
<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	12/18/2014		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	14,456.8	Plan #2 (12-18-14) (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						
Existing Wells Sec.32-T4N-R66W						
Benjamin 1 (Existing) - Wellbore #1 - Wellbore #1	12,881.3	7,103.9	120.8	-50.2	0.707	Level 1, CC, ES, SF
Cadi 1 (Existing) - Wellbore #1 - Wellbore #1	10,256.9	7,195.5	112.0	13.0	1.131	Level 2, CC, ES, SF
Corey 31-32 (Existing) - Wellbore #1 - Wellbore #1	9,222.5	7,225.0	253.4	181.6	3.528	CC, ES, SF
Floyd 1 (Existing) - Wellbore #1 - Wellbore #1	7,764.3	7,272.7	149.8	113.0	4.074	CC, ES, SF
Nicholas 1 (Existing) - Wellbore #1 - Wellbore #1	14,264.1	7,059.7	101.9	-236.5	0.301	Level 1, CC, ES, SF
Wolfe 13-32 (Existing) - Wellbore #1 - Wellbore #1	11,599.7	7,150.0	262.2	124.1	1.899	CC
Wolfe 13-32 (Existing) - Wellbore #1 - Wellbore #1	11,600.0	7,150.0	262.2	124.1	1.898	ES, SF
Tarin 32X-HZ Pad Sec.32-T4N-R66W						
Tarin 32W-234 - Wellbore #1 - Plan #1 (4-14-14)	200.0	200.0	29.3	28.6	43.407	CC
Tarin 32W-234 - Wellbore #1 - Plan #1 (4-14-14)	14,456.8	14,312.0	382.6	-22.6	0.944	Level 1, ES, SF
Tarin 32X-204 - Wellbore #1 - Plan #2 (12-18-14)	400.0	401.0	58.3	56.7	36.994	CC, ES
Tarin 32X-204 - Wellbore #1 - Plan #2 (12-18-14)	14,456.8	14,157.0	706.8	301.8	1.745	SF
Tarin 32X-304 - Wellbore #1 - Plan #3 (12-18-14)	400.0	401.0	91.1	89.5	57.806	CC, ES
Tarin 32X-304 - Wellbore #1 - Plan #3 (12-18-14)	14,456.8	14,253.0	776.4	372.9	1.924	SF
Tarin 32X-314 - Wellbore #1 - Plan #1 (4-14-14)	400.0	401.0	29.1	27.6	18.495	CC
Tarin 32X-314 - Wellbore #1 - Plan #1 (4-14-14)	14,456.8	14,304.2	288.2	-103.5	0.736	Level 1, ES, SF
Tarin 32Y-214 - Wellbore #1 - Plan #3 (12-18-14)	400.0	401.0	120.2	118.7	76.306	CC, ES
Tarin 32Y-214 - Wellbore #1 - Plan #3 (12-18-14)	1,200.0	1,193.8	213.7	208.5	40.818	SF
Tarin 32Y-314 - Wellbore #1 - Plan #3 (12-18-14)	400.0	402.0	149.4	147.8	94.663	CC, ES
Tarin 32Y-314 - Wellbore #1 - Plan #3 (12-18-14)	1,100.0	1,090.2	226.7	222.0	47.787	SF
Tarin 32Y-404 - Wellbore #1 - Plan #2 (7-15-14)	400.0	402.0	178.5	176.9	113.136	CC, ES
Tarin 32Y-404 - Wellbore #1 - Plan #2 (7-15-14)	3,300.0	3,145.2	989.9	974.2	62.987	SF

<b>Offset Design</b>	Existing Wells Sec.32-T4N-R66W - Benjamin 1 (Existing) - Wellbore #1 - Wellbore #1										<b>Offset Site Error:</b>	0.0ft
<b>Survey Program:</b>	100-NS-GYRO-MS										<b>Offset Well Error:</b>	0.0ft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Warning				
Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
11,900.0	7,154.3	7,126.8	7,126.4	131.6	12.4	100.79	1,050.8	-5,522.5	988.4	847.6	140.86	7.017
12,000.0	7,150.9	7,124.4	7,124.0	134.4	12.4	99.65	1,050.8	-5,522.5	889.3	745.2	144.11	6.171
12,100.0	7,147.4	7,121.9	7,121.5	137.2	12.4	98.52	1,050.8	-5,522.4	790.3	643.0	147.33	5.364
12,200.0	7,144.0	7,119.5	7,119.1	140.0	12.4	97.39	1,050.8	-5,522.4	691.7	541.2	150.51	4.596
12,300.0	7,140.5	7,117.1	7,116.7	142.7	12.3	96.28	1,050.8	-5,522.4	593.5	439.9	153.64	3.863

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 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.32-T4N-R66W - Benjamin 1 (Existing) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
12,400.0	7,137.1	7,114.8	7,114.4	145.5	12.3	95.18	1,050.8	-5,522.4	496.1	339.3	156.74	3.165	
12,500.0	7,133.6	7,112.4	7,112.1	148.3	12.3	94.08	1,050.8	-5,522.3	399.8	240.1	159.78	2.502	
12,600.0	7,130.2	7,110.2	7,109.8	151.1	12.3	93.00	1,050.8	-5,522.3	306.0	143.2	162.78	1.880	
12,700.0	7,126.7	7,107.9	7,107.5	153.9	12.3	91.93	1,050.8	-5,522.3	217.8	52.0	165.73	1.314 Level 3	
12,800.0	7,123.2	7,105.7	7,105.3	156.6	12.3	90.87	1,050.8	-5,522.2	145.6	-23.1	168.63	0.863 Level 1	
12,881.3	7,120.4	7,103.9	7,103.5	158.9	12.3	90.02	1,050.8	-5,522.2	120.8	-50.2	170.95	0.707 Level 1, CC, ES, SF	
12,900.0	7,119.8	7,103.5	7,103.1	159.4	12.3	89.83	1,050.8	-5,522.2	122.2	-49.2	171.48	0.713 Level 1	
13,000.0	7,116.3	7,101.3	7,100.9	162.2	12.3	88.79	1,050.8	-5,522.2	169.4	-4.9	174.27	0.972 Level 1	
13,100.0	7,112.9	7,099.1	7,098.7	165.0	12.3	87.77	1,050.8	-5,522.2	249.8	72.8	177.01	1.411 Level 3	
13,200.0	7,109.4	7,097.0	7,096.6	167.8	12.3	86.76	1,050.8	-5,522.1	340.8	161.1	179.70	1.896	
13,300.0	7,106.0	7,094.8	7,094.4	170.6	12.3	85.74	1,050.8	-5,522.1	435.7	253.4	182.33	2.390	
13,400.0	7,102.5	7,092.7	7,092.3	173.3	12.3	84.74	1,050.8	-5,522.1	532.5	347.6	184.91	2.880	
13,500.0	7,099.1	7,090.6	7,090.2	176.1	12.3	83.73	1,050.8	-5,522.1	630.3	442.9	187.43	3.363	
13,600.0	7,095.6	7,088.4	7,088.0	178.9	12.3	82.74	1,050.8	-5,522.0	728.7	538.8	189.88	3.837	
13,700.0	7,092.1	7,086.3	7,085.9	181.7	12.3	81.75	1,050.8	-5,522.0	827.4	635.1	192.28	4.303	
13,800.0	7,088.7	7,084.2	7,083.8	184.5	12.3	80.77	1,050.8	-5,522.0	926.4	731.8	194.61	4.761	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.32-T4N-R66W - Cadi 1 (Existing) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.0	7,244.2	7,200.0	7,199.1	60.6	13.1	92.03	1,042.0	-2,899.4	963.3	890.3	72.92	13.211		
9,400.0	7,240.7	7,200.0	7,199.1	63.3	13.1	92.03	1,042.0	-2,899.4	864.0	788.4	75.60	11.430		
9,500.0	7,237.3	7,200.0	7,199.1	65.9	13.1	92.03	1,042.0	-2,899.4	765.0	686.7	78.28	9.772		
9,600.0	7,233.8	7,200.0	7,199.1	68.6	13.1	92.03	1,042.0	-2,899.4	666.2	585.2	80.98	8.227		
9,700.0	7,230.3	7,200.0	7,199.1	71.3	13.1	92.03	1,042.0	-2,899.4	567.9	484.2	83.69	6.786		
9,800.0	7,226.9	7,200.0	7,199.1	74.0	13.1	92.03	1,042.0	-2,899.4	470.3	383.9	86.40	5.443		
9,900.0	7,223.4	7,200.0	7,199.1	76.7	13.1	92.03	1,042.0	-2,899.4	373.9	284.8	89.12	4.195		
10,000.0	7,220.0	7,200.0	7,199.1	79.4	13.1	92.03	1,042.0	-2,899.4	280.1	188.3	91.85	3.050		
10,100.0	7,216.5	7,200.0	7,199.1	82.1	13.1	92.03	1,042.0	-2,899.4	192.7	98.1	94.58	2.037		
10,200.0	7,213.1	7,197.4	7,196.5	84.8	13.1	90.72	1,042.0	-2,899.4	125.6	28.2	97.42	1.289 Level 3		
10,256.9	7,211.1	7,195.5	7,194.5	86.4	13.1	89.71	1,042.0	-2,899.4	112.0	13.0	99.03	1.131 Level 2, CC, ES, SF		
10,300.0	7,209.6	7,193.9	7,193.0	87.6	13.1	88.93	1,042.0	-2,899.4	120.0	19.8	100.23	1.197 Level 2		
10,400.0	7,206.2	7,190.4	7,189.5	90.3	13.1	87.13	1,042.0	-2,899.4	181.7	78.7	102.95	1.764		
10,500.0	7,202.7	7,186.8	7,185.9	93.0	13.1	85.30	1,042.0	-2,899.4	267.5	162.0	105.57	2.534		
10,600.0	7,199.3	7,183.2	7,182.3	95.8	13.1	83.46	1,041.9	-2,899.4	360.7	252.6	108.08	3.337		
10,700.0	7,195.8	7,179.5	7,178.6	98.5	13.1	81.60	1,041.9	-2,899.4	456.8	346.3	110.47	4.135		
10,800.0	7,192.3	7,175.8	7,174.8	101.3	13.1	79.74	1,041.9	-2,899.4	554.2	441.5	112.73	4.916		
10,900.0	7,188.9	7,172.0	7,171.1	104.0	13.1	77.88	1,041.9	-2,899.4	652.4	537.5	114.85	5.680		
11,000.0	7,185.4	7,168.1	7,167.2	106.8	13.1	76.01	1,041.9	-2,899.4	751.0	634.2	116.83	6.429		
11,100.0	7,182.0	7,164.3	7,163.3	109.5	13.1	74.15	1,041.9	-2,899.5	850.0	731.3	118.66	7.163		
11,200.0	7,178.5	7,160.3	7,159.4	112.3	13.1	72.30	1,041.8	-2,899.5	949.1	828.8	120.33	7.888		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Existing Wells Sec.32-T4N-R66W - Corey 31-32 (Existing) - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
<b>Survey Program:</b> 100-NS-GYRO-MS												<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
8,300.0	7,278.7	7,264.5	7,262.9	35.4	14.0	98.52	1,183.6	-1,865.2	955.8	908.5	47.33	20.194	
8,400.0	7,275.3	7,260.2	7,258.6	37.7	14.0	97.58	1,183.6	-1,865.3	859.9	810.0	49.87	17.243	
8,500.0	7,271.8	7,255.9	7,254.3	40.1	14.0	96.63	1,183.6	-1,865.3	765.0	712.5	52.45	14.584	
8,600.0	7,268.4	7,251.7	7,250.1	42.6	14.0	95.67	1,183.6	-1,865.3	671.5	616.5	55.08	12.192	
8,700.0	7,264.9	7,247.4	7,245.8	45.1	14.0	94.72	1,183.5	-1,865.4	580.2	522.5	57.74	10.050	
8,800.0	7,261.4	7,243.1	7,241.5	47.6	14.0	93.76	1,183.5	-1,865.4	492.3	431.9	60.41	8.149	
8,900.0	7,258.0	7,238.8	7,237.2	50.1	14.0	92.79	1,183.5	-1,865.4	409.9	346.8	63.11	6.495	
9,000.0	7,254.5	7,234.6	7,233.0	52.7	14.0	91.83	1,183.5	-1,865.5	337.1	271.3	65.81	5.122	
9,100.0	7,251.1	7,230.3	7,228.7	55.3	14.0	90.86	1,183.4	-1,865.5	281.4	212.9	68.51	4.107	
9,200.0	7,247.6	7,226.0	7,224.4	58.0	14.0	89.90	1,183.4	-1,865.6	254.4	183.2	71.21	3.572	
9,222.5	7,246.8	7,225.0	7,223.4	58.6	14.0	89.68	1,183.4	-1,865.6	253.4	181.6	71.82	3.528 CC, ES, SF	
9,300.0	7,244.2	7,221.7	7,220.1	60.6	13.9	88.93	1,183.4	-1,865.6	265.0	191.1	73.91	3.585	
9,400.0	7,240.7	7,217.4	7,215.8	63.3	13.9	87.96	1,183.4	-1,865.6	309.3	232.7	76.60	4.038	
9,500.0	7,237.3	7,213.2	7,211.6	65.9	13.9	87.00	1,183.3	-1,865.7	375.6	296.4	79.28	4.738	
9,600.0	7,233.8	7,208.9	7,207.3	68.6	13.9	86.04	1,183.3	-1,865.7	454.4	372.5	81.94	5.546	
9,700.0	7,230.3	7,204.6	7,203.0	71.3	13.9	85.08	1,183.3	-1,865.7	540.2	455.7	84.58	6.387	
9,800.0	7,226.9	7,200.3	7,198.7	74.0	13.9	84.12	1,183.3	-1,865.8	630.2	543.0	87.20	7.227	
9,900.0	7,223.4	7,196.1	7,194.5	76.7	13.9	83.16	1,183.3	-1,865.8	722.8	633.0	89.80	8.049	
10,000.0	7,220.0	7,191.8	7,190.2	79.4	13.9	82.21	1,183.2	-1,865.8	817.1	724.8	92.36	8.847	
10,100.0	7,216.5	7,187.5	7,185.9	82.1	13.9	81.26	1,183.2	-1,865.9	912.6	817.7	94.90	9.616	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.32-T4N-R66W - Floyd 1 (Existing) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
1,800.0	1,783.5	1,767.0	1,767.0	5.4	3.6	-43.31		1,093.5	-351.7	992.9	984.6	8.30	119.624	
1,900.0	1,882.0	1,868.4	1,868.4	5.7	3.8	-44.03		1,092.9	-351.5	979.4	970.5	8.87	110.391	
2,000.0	1,980.4	1,964.9	1,964.9	6.1	4.0	-44.74		1,092.3	-351.3	966.1	956.6	9.45	102.246	
2,100.0	2,078.9	2,062.7	2,062.7	6.5	4.3	-45.49		1,091.7	-351.3	953.1	943.1	10.04	94.941	
2,200.0	2,177.3	2,160.6	2,160.6	6.9	4.5	-46.29		1,090.9	-351.8	940.3	929.7	10.63	88.438	
2,300.0	2,275.8	2,259.5	2,259.4	7.3	4.8	-47.13		1,090.0	-352.5	927.7	916.5	11.23	82.604	
2,400.0	2,374.2	2,358.4	2,358.3	7.7	5.0	-48.00		1,089.0	-353.1	915.2	903.4	11.84	77.308	
2,500.0	2,472.7	2,454.9	2,454.8	8.1	5.2	-48.86		1,088.2	-353.7	903.0	890.6	12.44	72.566	
2,600.0	2,571.1	2,550.9	2,550.9	8.4	5.5	-49.74		1,087.6	-354.3	891.3	878.2	13.04	68.328	
2,700.0	2,669.6	2,649.4	2,649.4	8.8	5.7	-50.64		1,087.3	-354.8	879.9	866.2	13.65	64.457	
2,800.0	2,768.0	2,748.6	2,748.5	9.2	5.9	-51.58		1,086.7	-355.3	868.6	854.3	14.27	60.862	
2,900.0	2,866.5	2,847.3	2,847.2	9.6	6.2	-52.54		1,086.2	-355.8	857.5	842.7	14.88	57.638	
3,000.0	2,964.9	2,946.4	2,946.3	10.0	6.4	-53.48		1,086.0	-355.7	846.6	831.2	15.47	54.740	
3,100.0	3,063.4	3,044.3	3,044.2	10.4	6.6	-54.45		1,085.6	-355.8	835.9	819.8	16.09	51.969	
3,200.0	3,161.8	3,143.3	3,143.2	10.8	6.8	-55.45		1,085.3	-355.8	825.6	808.8	16.74	49.323	
3,300.0	3,260.3	3,242.7	3,242.7	11.2	7.1	-56.48		1,084.8	-355.8	815.2	797.8	17.39	46.874	
3,400.0	3,358.7	3,337.9	3,337.9	11.6	7.3	-57.53		1,084.2	-356.2	805.3	787.2	18.03	44.661	
3,500.0	3,457.2	3,433.3	3,433.2	12.0	7.5	-58.62		1,083.7	-357.1	796.2	777.5	18.66	42.662	
3,600.0	3,555.6	3,532.0	3,532.0	12.4	7.8	-59.80		1,083.0	-358.4	787.4	768.1	19.30	40.790	
3,700.0	3,654.1	3,628.7	3,628.6	12.7	8.0	-61.01		1,082.2	-359.9	779.1	759.2	19.95	39.055	
3,800.0	3,752.5	3,727.3	3,727.2	13.1	8.2	-62.27		1,081.4	-361.6	771.2	750.6	20.60	37.430	
3,900.0	3,851.0	3,825.5	3,825.4	13.5	8.4	-63.56		1,080.5	-363.4	763.7	742.5	21.27	35.914	
4,000.0	3,949.4	3,924.0	3,923.9	13.9	8.7	-64.85		1,079.7	-365.0	756.6	734.7	21.93	34.501	
4,100.0	4,047.9	4,024.2	4,024.0	14.3	8.9	-66.20		1,078.8	-366.5	749.8	727.1	22.61	33.159	
4,200.0	4,146.3	4,122.9	4,122.7	14.7	9.2	-67.60		1,077.3	-368.3	743.1	719.8	23.30	31.893	
4,300.0	4,244.8	4,221.0	4,220.8	15.1	9.4	-69.05		1,075.5	-370.3	736.9	713.0	24.00	30.711	
4,400.0	4,343.2	4,318.7	4,318.4	15.5	9.7	-70.54		1,073.3	-372.5	731.2	706.5	24.69	29.614	
4,500.0	4,441.7	4,414.0	4,413.7	15.9	9.9	-72.02		1,071.3	-374.9	726.3	700.9	25.38	28.616	
4,600.0	4,540.1	4,508.6	4,508.2	16.3	10.1	-73.50		1,069.7	-377.5	722.2	696.2	26.06	27.717	
4,700.0	4,638.6	4,601.9	4,601.5	16.7	10.3	-74.94		1,068.7	-380.3	719.3	692.6	26.71	26.926	
4,800.0	4,737.0	4,698.4	4,698.0	17.0	10.6	-76.40		1,068.2	-383.3	717.3	689.9	27.36	26.213	
4,900.0	4,835.5	4,793.1	4,792.6	17.4	10.8	-77.85		1,067.9	-386.6	716.2	688.2	28.00	25.574	
5,000.0	4,933.9	4,890.8	4,890.2	17.8	11.0	-79.33		1,067.9	-390.1	715.8	687.2	28.64	24.996	
5,015.0	4,948.7	4,905.5	4,904.9	17.9	11.0	-79.55		1,068.0	-390.6	715.8	687.1	28.73	24.913	
5,100.0	5,032.4	4,989.4	4,988.8	18.2	11.2	-80.80		1,068.2	-393.5	716.0	686.7	29.26	24.466	
5,200.0	5,130.8	5,087.1	5,086.4	18.6	11.3	-82.23		1,068.8	-396.7	716.6	686.7	29.87	23.987	
5,300.0	5,229.3	5,189.5	5,188.8	19.0	11.5	-83.68		1,069.8	-399.6	717.5	687.0	30.47	23.544	
5,400.0	5,327.7	5,289.9	5,289.1	19.4	11.7	-85.08		1,070.8	-402.0	718.4	687.3	31.07	23.124	
5,500.0	5,426.2	5,390.0	5,389.2	19.8	11.9	-86.48		1,071.6	-404.2	719.4	687.8	31.65	22.728	
5,600.0	5,524.6	5,487.6	5,486.8	20.2	12.1	-87.84		1,072.4	-406.3	720.8	688.6	32.23	22.363	
5,700.0	5,623.1	5,592.0	5,591.1	20.6	12.3	-89.31		1,072.9	-408.3	722.4	689.6	32.84	21.996	
5,800.0	5,721.5	5,694.5	5,693.6	21.0	12.5	-90.78		1,072.8	-409.6	723.7	690.2	33.47	21.621	
5,900.0	5,820.0	5,792.8	5,791.9	21.4	12.7	-92.18		1,072.6	-410.6	725.1	691.0	34.09	21.272	
6,000.0	5,918.4	5,896.8	5,895.9	21.7	12.9	-93.62		1,072.7	-411.3	726.6	692.0	34.63	20.984	
6,100.0	6,017.3	5,998.6	5,997.7	22.0	13.0	-94.83		1,073.0	-411.2	727.7	692.8	34.95	20.820	
6,200.0	6,116.6	6,098.9	6,098.0	22.3	13.0	-95.73		1,073.4	-410.9	728.5	693.3	35.20	20.695	
6,300.0	6,216.2	6,197.8	6,196.9	22.5	13.0	-96.33		1,073.8	-410.5	729.1	693.7	35.43	20.582	
6,400.0	6,316.1	6,296.9	6,296.0	22.6	13.1	-96.64		1,074.5	-410.2	729.5	693.8	35.63	20.476	
6,500.0	6,416.1	6,398.1	6,397.2	22.8	13.1	-78.52		1,075.2	-409.8	729.4	700.5	28.89	25.245	
6,589.6	6,505.7	6,485.6	6,484.7	22.9	13.2	-78.47		1,075.7	-409.6	729.3	700.2	29.12	25.044	
6,600.0	6,516.1	6,495.8	6,494.9	22.9	13.2	-78.47		1,075.8	-409.6	729.3	700.1	29.15	25.022	

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 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.32-T4N-R66W - Floyd 1 (Existing) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
6,700.0	6,615.9	6,596.9	6,596.0	23.0	13.3	11.71	1,076.2	-409.4	724.6	688.6	35.98	20.140		
6,800.0	6,714.3	6,696.8	6,695.9	23.1	13.3	12.32	1,076.6	-409.1	707.2	671.7	35.41	19.971		
6,900.0	6,809.6	6,791.2	6,790.3	23.1	13.4	13.43	1,076.8	-408.7	677.3	643.0	34.32	19.735		
7,000.0	6,900.0	6,879.4	6,878.6	23.1	13.4	15.19	1,077.1	-408.6	635.8	603.0	32.79	19.390		
7,100.0	6,984.2	6,963.3	6,962.4	23.0	13.5	17.95	1,077.5	-408.6	583.7	552.7	30.94	18.863		
7,200.0	7,060.6	7,039.4	7,038.6	23.0	13.6	22.25	1,077.8	-408.6	521.7	492.7	29.00	17.988		
7,300.0	7,127.9	7,106.3	7,105.4	23.0	13.7	29.03	1,078.4	-408.6	451.6	424.1	27.52	16.409		
7,400.0	7,185.1	7,163.8	7,162.9	23.0	13.7	39.76	1,079.0	-408.6	375.3	347.8	27.57	13.616		
7,500.0	7,231.0	7,210.1	7,209.2	23.1	13.8	55.36	1,079.4	-408.5	296.2	266.1	30.07	9.849		
7,600.0	7,265.0	7,244.5	7,243.6	23.4	13.8	73.19	1,079.7	-408.5	220.3	186.7	33.55	6.566		
7,700.0	7,286.4	7,266.0	7,265.1	24.2	13.8	86.22	1,079.8	-408.4	162.9	127.1	35.72	4.559		
7,764.3	7,293.3	7,272.7	7,271.8	24.9	13.8	89.78	1,079.8	-408.4	149.8	113.0	36.76	4.074 CC, ES, SF		
7,800.0	7,294.9	7,274.1	7,273.2	25.4	13.8	90.00	1,079.8	-408.4	154.0	116.6	37.37	4.120		
7,900.0	7,292.5	7,271.3	7,270.4	27.0	13.8	87.79	1,079.8	-408.4	202.0	162.7	39.34	5.135		
8,000.0	7,289.1	7,267.5	7,266.6	28.9	13.8	86.33	1,079.8	-408.4	279.1	237.7	41.41	6.740		
8,100.0	7,285.6	7,263.7	7,262.8	30.9	13.8	84.86	1,079.8	-408.4	367.3	323.8	43.56	8.432		
8,200.0	7,282.2	7,259.8	7,258.9	33.1	13.8	83.42	1,079.7	-408.4	460.4	414.6	45.79	10.055		
8,300.0	7,278.7	7,256.0	7,255.1	35.4	13.8	81.99	1,079.7	-408.4	555.8	507.8	48.05	11.568		
8,400.0	7,275.3	7,252.3	7,251.4	37.7	13.8	80.58	1,079.7	-408.4	652.6	602.3	50.33	12.966		
8,500.0	7,271.8	7,248.5	7,247.6	40.1	13.8	79.19	1,079.7	-408.4	750.2	697.6	52.62	14.257		
8,600.0	7,268.4	7,244.8	7,243.9	42.6	13.8	77.82	1,079.7	-408.5	848.4	793.5	54.91	15.451		
8,700.0	7,264.9	7,241.1	7,240.2	45.1	13.8	76.48	1,079.6	-408.5	946.9	889.7	57.18	16.559		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.32-T4N-R66W - Nicholas 1 (Existing) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 7493-UNKNOWN												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
13,300.0	7,106.0	7,093.0	7,093.0	170.6	141.9	108.09	1,031.9	-6,904.2	968.9	672.3	296.57	3.267	
13,400.0	7,102.5	7,089.5	7,089.5	173.3	141.8	106.32	1,031.9	-6,904.2	869.6	567.6	301.99	2.879	
13,500.0	7,099.1	7,086.1	7,086.1	176.1	141.7	104.51	1,031.9	-6,904.2	770.4	463.2	307.23	2.508	
13,600.0	7,095.6	7,082.6	7,082.6	178.9	141.7	102.68	1,031.9	-6,904.2	671.5	359.2	312.26	2.150	
13,700.0	7,092.1	7,079.1	7,079.1	181.7	141.6	100.82	1,031.9	-6,904.2	572.9	255.8	317.05	1.807	
13,800.0	7,088.7	7,075.7	7,075.7	184.5	141.5	98.93	1,031.9	-6,904.2	474.9	153.3	321.57	1.477	Level 3
13,900.0	7,085.2	7,072.2	7,072.2	187.3	141.4	97.03	1,031.9	-6,904.2	377.9	52.1	325.80	1.160	Level 2
14,000.0	7,081.8	7,068.8	7,068.8	190.1	141.4	95.11	1,031.9	-6,904.2	282.9	-46.8	329.71	0.858	Level 1
14,100.0	7,078.3	7,065.3	7,065.3	192.9	141.3	93.18	1,031.9	-6,904.2	193.1	-140.2	333.29	0.579	Level 1
14,200.0	7,074.9	7,061.9	7,061.9	195.6	141.2	91.24	1,031.9	-6,904.2	120.4	-216.1	336.52	0.358	Level 1
14,264.1	7,072.7	7,059.7	7,059.7	197.4	141.2	90.00	1,031.9	-6,904.2	101.9	-236.5	338.40	0.301	Level 1, CC, ES, SF
14,300.0	7,071.4	7,058.4	7,058.4	198.4	141.2	89.30	1,031.9	-6,904.2	108.1	-231.3	339.39	0.318	Level 1
14,400.0	7,068.0	7,055.0	7,055.0	201.2	141.1	87.36	1,031.9	-6,904.2	169.8	-172.0	341.88	0.497	Level 1
14,456.8	7,066.0	7,053.0	7,053.0	202.8	141.1	86.27	1,031.9	-6,904.2	217.9	-125.2	343.13	0.635	Level 1



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Existing Wells Sec.32-T4N-R66W - Wolfe 13-32 (Existing) - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 100-NS-GYRO-MS												<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		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)					
10,700.0	7,195.8	7,175.3	7,174.3	98.5	15.2	96.00	1,192.0	-4,241.6	936.8	824.3	112.47	8.329	
10,800.0	7,192.3	7,172.5	7,171.5	101.3	15.2	95.39	1,192.0	-4,241.6	841.3	725.9	115.35	7.293	
10,900.0	7,188.9	7,169.7	7,168.7	104.0	15.2	94.78	1,192.1	-4,241.6	746.9	628.7	118.22	6.318	
11,000.0	7,185.4	7,166.9	7,165.8	106.8	15.2	94.17	1,192.1	-4,241.6	654.3	533.2	121.09	5.403	
11,100.0	7,182.0	7,164.1	7,163.0	109.5	15.2	93.56	1,192.1	-4,241.6	564.1	440.2	123.96	4.551	
11,200.0	7,178.5	7,161.2	7,160.2	112.3	15.2	92.95	1,192.1	-4,241.6	477.9	351.1	126.81	3.768	
11,300.0	7,175.1	7,158.4	7,157.4	115.0	15.2	92.34	1,192.2	-4,241.5	398.1	268.5	129.66	3.071	
11,400.0	7,171.6	7,155.6	7,154.6	117.8	15.2	91.72	1,192.2	-4,241.5	329.6	197.1	132.50	2.487	
11,500.0	7,168.2	7,152.8	7,151.8	120.6	15.2	91.11	1,192.2	-4,241.5	280.5	145.2	135.32	2.073	
11,599.7	7,164.7	7,150.0	7,149.0	123.3	15.2	90.50	1,192.2	-4,241.5	262.2	124.1	138.13	1.899 CC	
11,600.0	7,164.7	7,150.0	7,149.0	123.3	15.2	90.50	1,192.2	-4,241.5	262.2	124.1	138.14	1.898 ES, SF	
11,700.0	7,161.2	7,147.2	7,146.2	126.1	15.2	89.88	1,192.3	-4,241.5	280.8	139.8	140.94	1.992	
11,800.0	7,157.8	7,144.4	7,143.4	128.9	15.2	89.27	1,192.3	-4,241.4	330.0	186.2	143.73	2.296	
11,900.0	7,154.3	7,141.6	7,140.6	131.6	15.2	88.66	1,192.3	-4,241.4	398.6	252.1	146.50	2.721	
12,000.0	7,150.9	7,138.8	7,137.7	134.4	15.2	88.04	1,192.3	-4,241.4	478.4	329.2	149.26	3.205	
12,100.0	7,147.4	7,136.0	7,134.9	137.2	15.2	87.43	1,192.4	-4,241.4	564.7	412.7	152.00	3.715	
12,200.0	7,144.0	7,133.1	7,132.1	140.0	15.1	86.82	1,192.4	-4,241.4	654.9	500.2	154.72	4.233	
12,300.0	7,140.5	7,130.3	7,129.3	142.7	15.1	86.21	1,192.4	-4,241.4	747.6	590.1	157.43	4.749	
12,400.0	7,137.1	7,127.5	7,126.5	145.5	15.1	85.60	1,192.4	-4,241.3	841.9	681.8	160.12	5.258	
12,500.0	7,133.6	7,124.7	7,123.7	148.3	15.1	84.99	1,192.5	-4,241.3	937.4	774.6	162.78	5.759	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<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	0.0	-5.47	29.1	-2.8	29.3				
100.0	100.0	100.0	100.0	0.1	0.1	0.1	-5.47	29.1	-2.8	29.3	29.0	0.22	130.222	
200.0	200.0	200.0	200.0	0.3	0.3	0.3	-5.47	29.1	-2.8	29.3	28.6	0.67	43.407 CC	
300.0	300.0	299.0	299.0	0.6	0.6	0.6	-4.45	30.8	-2.4	30.9	29.8	1.12	27.520	
400.0	400.0	397.8	397.6	0.8	0.8	0.8	-1.94	35.8	-1.2	35.9	34.3	1.58	22.703	
500.0	500.0	496.2	495.7	1.0	1.0	1.0	-17.83	44.0	0.7	42.6	40.5	2.03	20.938	
600.0	599.8	594.5	593.2	1.2	1.3	1.3	-16.51	55.5	3.5	49.3	46.9	2.49	19.821	
700.0	699.5	692.4	690.0	1.5	1.6	1.6	-15.81	70.2	7.0	56.1	53.2	2.95	19.010	
800.0	798.7	790.2	786.1	1.7	2.0	2.0	-15.51	88.1	11.2	62.9	59.5	3.43	18.358	
900.0	897.5	887.8	881.2	2.0	2.4	2.4	-15.51	109.1	16.2	69.7	65.8	3.92	17.786	
1,000.0	995.9	987.3	977.7	2.4	2.8	2.8	-15.62	132.4	21.8	76.7	72.2	4.44	17.263	
1,100.0	1,094.4	1,087.0	1,074.5	2.7	3.3	3.3	-15.72	155.9	27.3	83.6	78.7	4.97	16.825	
1,200.0	1,192.8	1,186.8	1,171.3	3.1	3.8	3.8	-15.80	179.3	32.9	90.6	85.1	5.51	16.451	
1,300.0	1,291.3	1,286.5	1,268.1	3.5	4.3	4.3	-15.87	202.8	38.5	97.6	91.6	6.05	16.136	
1,400.0	1,389.7	1,386.3	1,364.9	3.8	4.8	4.8	-15.93	226.2	44.1	104.6	98.0	6.60	15.856	
1,500.0	1,488.2	1,486.0	1,461.7	4.2	5.2	5.2	-15.99	249.7	49.6	111.6	104.4	7.15	15.614	
1,600.0	1,586.6	1,585.8	1,558.5	4.6	5.7	5.7	-16.04	273.1	55.2	118.6	110.9	7.70	15.402	
1,700.0	1,685.1	1,685.5	1,655.3	5.0	6.2	6.2	-16.08	296.6	60.8	125.5	117.3	8.25	15.216	
1,800.0	1,783.5	1,785.3	1,752.1	5.4	6.7	6.7	-16.11	320.1	66.3	132.5	123.7	8.81	15.049	
1,900.0	1,882.0	1,885.1	1,848.9	5.7	7.2	7.2	-16.15	343.5	71.9	139.5	130.1	9.36	14.901	
2,000.0	1,980.4	1,984.8	1,945.7	6.1	7.7	7.7	-16.18	367.0	77.5	146.5	136.6	9.92	14.768	
2,100.0	2,078.9	2,084.6	2,042.5	6.5	8.2	8.2	-16.21	390.4	83.1	153.5	143.0	10.48	14.647	
2,200.0	2,177.3	2,184.3	2,139.3	6.9	8.7	8.7	-16.23	413.9	88.6	160.5	149.4	11.04	14.538	
2,300.0	2,275.8	2,284.1	2,236.1	7.3	9.2	9.2	-16.26	437.3	94.2	167.4	155.8	11.60	14.438	
2,400.0	2,374.2	2,383.8	2,332.9	7.7	9.7	9.7	-16.28	460.8	99.8	174.4	162.3	12.16	14.347	
2,500.0	2,472.7	2,483.6	2,429.7	8.1	10.2	10.2	-16.30	484.2	105.4	181.4	168.7	12.72	14.264	
2,600.0	2,571.1	2,583.4	2,526.5	8.4	10.7	10.7	-16.31	507.7	110.9	188.4	175.1	13.28	14.186	
2,700.0	2,669.6	2,683.1	2,623.3	8.8	11.2	11.2	-16.33	531.1	116.5	195.4	181.5	13.84	14.115	
2,800.0	2,768.0	2,782.9	2,720.1	9.2	11.7	11.7	-16.35	554.6	122.1	202.4	188.0	14.40	14.049	
2,900.0	2,866.5	2,882.6	2,816.9	9.6	12.2	12.2	-16.36	578.0	127.7	209.3	194.4	14.97	13.988	
3,000.0	2,964.9	2,982.4	2,913.7	10.0	12.7	12.7	-16.38	601.5	133.2	216.3	200.8	15.53	13.931	
3,100.0	3,063.4	3,082.1	3,010.5	10.4	13.2	13.2	-16.39	624.9	138.8	223.3	207.2	16.09	13.877	
3,200.0	3,161.8	3,181.9	3,107.3	10.8	13.7	13.7	-16.40	648.4	144.4	230.3	213.6	16.65	13.828	
3,300.0	3,260.3	3,281.6	3,204.1	11.2	14.2	14.2	-16.41	671.8	149.9	237.3	220.1	17.22	13.781	
3,400.0	3,358.7	3,381.4	3,300.9	11.6	14.6	14.6	-16.42	695.3	155.5	244.3	226.5	17.78	13.737	
3,500.0	3,457.2	3,481.2	3,397.7	12.0	15.1	15.1	-16.43	718.7	161.1	251.2	232.9	18.35	13.695	
3,600.0	3,555.6	3,580.9	3,494.5	12.4	15.6	15.6	-16.44	742.2	166.7	258.2	239.3	18.91	13.656	
3,700.0	3,654.1	3,680.7	3,591.3	12.7	16.1	16.1	-16.45	765.6	172.2	265.2	245.7	19.47	13.619	
3,800.0	3,752.5	3,780.4	3,688.1	13.1	16.6	16.6	-16.46	789.1	177.8	272.2	252.2	20.04	13.584	
3,900.0	3,851.0	3,880.2	3,784.9	13.5	17.1	17.1	-16.47	812.5	183.4	279.2	258.6	20.60	13.551	
4,000.0	3,949.4	3,979.9	3,881.7	13.9	17.6	17.6	-16.48	836.0	189.0	286.2	265.0	21.17	13.520	
4,100.0	4,047.9	4,079.7	3,978.5	14.3	18.1	18.1	-16.48	859.4	194.5	293.1	271.4	21.73	13.490	
4,200.0	4,146.3	4,179.4	4,075.3	14.7	18.6	18.6	-16.49	882.9	200.1	300.1	277.8	22.29	13.462	
4,300.0	4,244.8	4,279.2	4,172.1	15.1	19.1	19.1	-16.50	906.3	205.7	307.1	284.3	22.86	13.435	
4,400.0	4,343.2	4,379.0	4,268.9	15.5	19.6	19.6	-16.50	929.8	211.3	314.1	290.7	23.42	13.409	
4,500.0	4,441.7	4,478.7	4,365.7	15.9	20.1	20.1	-16.51	953.2	216.8	321.1	297.1	23.99	13.384	
4,600.0	4,540.1	4,578.5	4,462.5	16.3	20.6	20.6	-16.52	976.7	222.4	328.1	303.5	24.55	13.361	
4,700.0	4,638.6	4,678.2	4,559.3	16.7	21.1	21.1	-16.52	1,000.1	228.0	335.0	309.9	25.12	13.338	
4,800.0	4,737.0	4,778.0	4,656.1	17.0	21.6	21.6	-16.53	1,023.6	233.5	342.0	316.3	25.68	13.317	
4,900.0	4,835.5	4,877.7	4,752.9	17.4	22.1	22.1	-16.53	1,047.0	239.1	349.0	322.8	26.25	13.296	
5,000.0	4,933.9	4,977.5	4,849.7	17.8	22.6	22.6	-16.54	1,070.5	244.7	356.0	329.2	26.81	13.277	

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 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,032.4	5,077.2	4,946.5	18.2	23.1	-16.54		1,094.0	250.3	363.0	335.6	27.38	13.258	
5,200.0	5,130.8	5,177.0	5,043.3	18.6	23.6	-16.55		1,117.4	255.8	370.0	342.0	27.94	13.239	
5,300.0	5,229.3	5,276.8	5,140.1	19.0	24.1	-16.55		1,140.9	261.4	376.9	348.4	28.51	13.222	
5,400.0	5,327.7	5,376.5	5,236.9	19.4	24.6	-16.56		1,164.3	267.0	383.9	354.9	29.07	13.205	
5,500.0	5,426.2	5,476.3	5,333.7	19.8	25.1	-16.56		1,187.8	272.6	390.9	361.3	29.64	13.189	
5,600.0	5,524.6	5,576.0	5,430.5	20.2	25.6	-16.56		1,211.2	278.1	397.9	367.7	30.21	13.173	
5,700.0	5,623.1	5,679.0	5,530.5	20.6	26.1	-16.57		1,235.3	283.9	404.8	374.0	30.77	13.154	
5,800.0	5,721.5	5,795.1	5,643.8	21.0	26.5	-16.67		1,259.5	289.6	409.0	377.7	31.34	13.052	
5,900.0	5,820.0	5,911.3	5,758.3	21.4	26.9	-16.91		1,279.2	294.3	409.3	377.4	31.90	12.829	
6,000.0	5,918.4	6,027.3	5,873.2	21.7	27.2	-17.27		1,294.3	297.9	405.6	373.2	32.46	12.497	
6,100.0	6,017.3	6,143.0	5,988.4	22.0	27.4	-17.65		1,304.9	300.4	400.4	367.5	32.90	12.168	
6,200.0	6,116.6	6,258.4	6,103.7	22.3	27.6	-18.01		1,310.9	301.8	394.5	361.2	33.28	11.853	
6,300.0	6,216.2	6,371.0	6,216.2	22.5	27.7	-18.33		1,312.5	302.2	388.1	354.5	33.60	11.552	
6,400.0	6,316.1	6,470.9	6,316.1	22.6	27.8	-18.52		1,312.5	302.2	383.7	349.8	33.85	11.336	
6,492.3	6,408.4	6,562.5	6,407.5	22.8	27.9	-19.30		1,312.5	297.4	382.4	348.2	34.16	11.194	
6,500.0	6,416.1	6,570.1	6,415.1	22.8	27.9	-1.27		1,312.5	296.5	382.6	333.2	49.42	7.742	
6,600.0	6,516.1	6,666.2	6,509.5	22.9	28.0	-3.91		1,312.5	278.9	383.5	334.2	49.24	7.787	
6,700.0	6,615.9	6,758.1	6,597.0	23.0	28.0	82.41		1,312.5	251.1	386.1	350.0	36.09	10.699	
6,800.0	6,714.3	6,847.3	6,678.2	23.1	28.0	78.88		1,312.5	214.2	390.3	353.3	37.01	10.545	
6,900.0	6,809.6	6,934.4	6,752.8	23.1	27.9	75.61		1,312.5	169.3	395.5	357.9	37.66	10.504	
7,000.0	6,900.0	7,019.7	6,820.4	23.1	27.9	72.64		1,312.5	117.4	401.5	363.6	37.99	10.569	
7,100.0	6,984.2	7,100.0	6,878.4	23.0	27.9	70.08		1,312.5	61.9	407.9	369.9	38.04	10.724	
7,200.0	7,060.6	7,185.6	6,933.5	23.0	27.9	67.71		1,312.5	-3.6	414.2	376.2	37.95	10.913	
7,300.0	7,127.9	7,266.8	6,978.6	23.0	27.9	65.77		1,312.5	-71.0	420.1	382.2	37.94	11.074	
7,400.0	7,185.1	7,350.0	7,017.2	23.0	28.0	64.15		1,312.5	-144.7	425.4	387.3	38.17	11.145	
7,500.0	7,231.0	7,426.7	7,045.5	23.1	28.1	62.96		1,312.5	-215.9	429.8	390.8	38.95	11.035	
7,600.0	7,265.0	7,505.7	7,067.0	23.4	28.3	62.08		1,312.5	-291.9	433.1	392.6	40.43	10.711	
7,700.0	7,286.4	7,584.5	7,080.5	24.2	28.7	61.55		1,312.5	-369.5	435.1	392.4	42.72	10.185	
7,800.0	7,294.9	7,663.0	7,086.0	25.4	29.2	61.36		1,312.5	-447.8	435.9	390.1	45.75	9.526	
7,900.0	7,292.5	7,758.2	7,085.8	27.0	30.2	61.61		1,312.5	-543.0	434.8	385.5	49.33	8.816	
8,000.0	7,289.1	7,858.2	7,085.3	28.9	31.5	61.96		1,312.5	-643.0	433.4	380.4	53.01	8.176	
8,100.0	7,285.6	7,958.1	7,084.8	30.9	33.1	62.32		1,312.5	-742.9	432.0	375.1	56.94	7.588	
8,200.0	7,282.2	8,058.1	7,084.4	33.1	35.0	62.67		1,312.5	-842.9	430.6	369.6	61.06	7.053	
8,300.0	7,278.7	8,158.1	7,083.9	35.4	37.0	63.02		1,312.5	-942.8	429.3	363.9	65.34	6.569	
8,400.0	7,275.3	8,258.0	7,083.5	37.7	39.2	63.38		1,312.5	-1,042.8	427.9	358.1	69.77	6.133	
8,500.0	7,271.8	8,358.0	7,083.0	40.1	41.4	63.74		1,312.5	-1,142.7	426.6	352.2	74.32	5.740	
8,600.0	7,268.4	8,457.9	7,082.6	42.6	43.8	64.11		1,312.5	-1,242.7	425.2	346.3	78.97	5.385	
8,700.0	7,264.9	8,557.9	7,082.1	45.1	46.2	64.47		1,312.5	-1,342.6	423.9	340.2	83.72	5.064	
8,800.0	7,261.4	8,657.8	7,081.7	47.6	48.6	64.84		1,312.5	-1,442.6	422.7	334.1	88.55	4.773	
8,900.0	7,258.0	8,757.8	7,081.2	50.1	51.1	65.21		1,312.5	-1,542.5	421.4	327.9	93.45	4.509	
9,000.0	7,254.5	8,857.7	7,080.8	52.7	53.6	65.58		1,312.5	-1,642.5	420.1	321.7	98.42	4.269	
9,100.0	7,251.1	8,957.7	7,080.3	55.3	56.2	65.95		1,312.5	-1,742.5	418.9	315.5	103.45	4.049	
9,200.0	7,247.6	9,057.6	7,079.9	58.0	58.8	66.33		1,312.5	-1,842.4	417.7	309.1	108.54	3.848	
9,300.0	7,244.2	9,157.6	7,079.4	60.6	61.4	66.71		1,312.5	-1,942.4	416.5	302.8	113.68	3.664	
9,400.0	7,240.7	9,257.6	7,078.9	63.3	64.0	67.09		1,312.5	-2,042.3	415.3	296.5	118.86	3.494	
9,500.0	7,237.3	9,357.5	7,078.5	65.9	66.6	67.47		1,312.5	-2,142.3	414.2	290.1	124.10	3.337	
9,600.0	7,233.8	9,457.5	7,078.0	68.6	69.3	67.85		1,312.5	-2,242.2	413.0	283.6	129.37	3.193	
9,700.0	7,230.3	9,557.4	7,077.6	71.3	71.9	68.24		1,312.5	-2,342.2	411.9	277.2	134.68	3.058	
9,800.0	7,226.9	9,657.4	7,077.1	74.0	74.6	68.63		1,312.5	-2,442.1	410.8	270.8	140.02	2.934	
9,900.0	7,223.4	9,757.3	7,076.7	76.7	77.3	69.02		1,312.5	-2,542.1	409.7	264.3	145.41	2.818	
10,000.0	7,220.0	9,857.3	7,076.2	79.4	80.0	69.41		1,312.5	-2,642.0	408.6	257.8	150.82	2.709	

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 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32W-234 - Wellbore #1 - Plan #1 (4-14-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,100.0	7,216.5	9,957.2	7,075.8	82.1	82.7	69.81		1,312.5	-2,742.0	407.6	251.3	156.27	2.608	
10,200.0	7,213.1	10,057.2	7,075.3	84.8	85.4	70.20		1,312.5	-2,841.9	406.6	244.8	161.74	2.514	
10,300.0	7,209.6	10,157.2	7,074.9	87.6	88.1	70.60		1,312.5	-2,941.9	405.6	238.3	167.24	2.425	
10,400.0	7,206.2	10,257.1	7,074.4	90.3	90.8	71.00		1,312.5	-3,041.9	404.6	231.8	172.77	2.342	
10,500.0	7,202.7	10,357.1	7,074.0	93.0	93.5	71.41		1,312.5	-3,141.8	403.6	225.3	178.33	2.263	
10,600.0	7,199.3	10,457.0	7,073.5	95.8	96.2	71.81		1,312.5	-3,241.8	402.7	218.8	183.90	2.190	
10,700.0	7,195.8	10,557.0	7,073.1	98.5	99.0	72.22		1,312.5	-3,341.7	401.7	212.2	189.50	2.120	
10,800.0	7,192.3	10,656.9	7,072.6	101.3	101.7	72.62		1,312.5	-3,441.7	400.8	205.7	195.12	2.054	
10,900.0	7,188.9	10,756.9	7,072.1	104.0	104.4	73.03		1,312.5	-3,541.6	399.9	199.2	200.76	1.992	
11,000.0	7,185.4	10,856.8	7,071.7	106.8	107.2	73.45		1,312.5	-3,641.6	399.1	192.6	206.42	1.933	
11,100.0	7,182.0	10,956.8	7,071.2	109.5	109.9	73.86		1,312.5	-3,741.5	398.2	186.1	212.10	1.878	
11,200.0	7,178.5	11,056.7	7,070.8	112.3	112.7	74.28		1,312.5	-3,841.5	397.4	179.6	217.79	1.825	
11,300.0	7,175.1	11,156.7	7,070.3	115.0	115.4	74.69		1,312.5	-3,941.4	396.6	173.1	223.50	1.774	
11,400.0	7,171.6	11,256.7	7,069.9	117.8	118.2	75.11		1,312.5	-4,041.4	395.8	166.6	229.22	1.727	
11,500.0	7,168.2	11,356.6	7,069.4	120.6	120.9	75.53		1,312.5	-4,141.3	395.1	160.1	234.96	1.681	
11,600.0	7,164.7	11,456.6	7,069.0	123.3	123.7	75.96		1,312.5	-4,241.3	394.3	153.6	240.71	1.638	
11,700.0	7,161.2	11,556.5	7,068.5	126.1	126.4	76.38		1,312.5	-4,341.3	393.6	147.1	246.47	1.597	
11,800.0	7,157.8	11,656.5	7,068.1	128.9	129.2	76.80		1,312.5	-4,441.2	392.9	140.7	252.23	1.558	
11,900.0	7,154.3	11,756.4	7,067.6	131.6	132.0	77.23		1,312.5	-4,541.2	392.2	134.2	258.01	1.520	
12,000.0	7,150.9	11,856.4	7,067.2	134.4	134.7	77.66		1,312.5	-4,641.1	391.6	127.8	263.79	1.484	Level 3
12,100.0	7,147.4	11,956.3	7,066.7	137.2	137.5	78.09		1,312.5	-4,741.1	390.9	121.4	269.59	1.450	Level 3
12,200.0	7,144.0	12,056.3	7,066.2	140.0	140.3	78.52		1,312.5	-4,841.0	390.3	115.0	275.38	1.417	Level 3
12,300.0	7,140.5	12,156.2	7,065.8	142.7	143.0	78.95		1,312.5	-4,941.0	389.7	108.6	281.18	1.386	Level 3
12,400.0	7,137.1	12,256.2	7,065.3	145.5	145.8	79.39		1,312.5	-5,040.9	389.2	102.2	286.99	1.356	Level 3
12,500.0	7,133.6	12,356.2	7,064.9	148.3	148.6	79.82		1,312.5	-5,140.9	388.6	95.8	292.79	1.327	Level 3
12,600.0	7,130.2	12,456.1	7,064.4	151.1	151.4	80.26		1,312.5	-5,240.8	388.1	89.5	298.60	1.300	Level 3
12,700.0	7,126.7	12,556.1	7,064.0	153.9	154.1	80.69		1,312.5	-5,340.8	387.6	83.2	304.41	1.273	Level 3
12,800.0	7,123.2	12,656.0	7,063.5	156.6	156.9	81.13		1,312.5	-5,440.7	387.2	76.9	310.21	1.248	Level 2
12,900.0	7,119.8	12,756.0	7,063.1	159.4	159.7	81.57		1,312.5	-5,540.7	386.7	70.7	316.01	1.224	Level 2
13,000.0	7,116.3	12,855.9	7,062.6	162.2	162.5	82.01		1,312.5	-5,640.7	386.3	64.5	321.81	1.200	Level 2
13,100.0	7,112.9	12,955.9	7,062.2	165.0	165.2	82.45		1,312.5	-5,740.6	385.9	58.3	327.61	1.178	Level 2
13,200.0	7,109.4	13,055.8	7,061.7	167.8	168.0	82.89		1,312.5	-5,840.6	385.5	52.1	333.40	1.156	Level 2
13,300.0	7,106.0	13,155.8	7,061.3	170.6	170.8	83.34		1,312.5	-5,940.5	385.1	45.9	339.18	1.135	Level 2
13,400.0	7,102.5	13,255.8	7,060.8	173.3	173.6	83.78		1,312.5	-6,040.5	384.8	39.8	344.95	1.115	Level 2
13,500.0	7,099.1	13,355.7	7,060.4	176.1	176.4	84.22		1,312.5	-6,140.4	384.5	33.8	350.72	1.096	Level 2
13,600.0	7,095.6	13,455.7	7,059.9	178.9	179.1	84.67		1,312.5	-6,240.4	384.2	27.7	356.47	1.078	Level 2
13,700.0	7,092.1	13,555.6	7,059.4	181.7	181.9	85.12		1,312.5	-6,340.3	383.9	21.7	362.22	1.060	Level 2
13,800.0	7,088.7	13,655.6	7,059.0	184.5	184.7	85.56		1,312.5	-6,440.3	383.7	15.7	367.95	1.043	Level 2
13,900.0	7,085.2	13,755.5	7,058.5	187.3	187.5	86.01		1,312.5	-6,540.2	383.4	9.8	373.67	1.026	Level 2
14,000.0	7,081.8	13,855.5	7,058.1	190.1	190.3	86.46		1,312.5	-6,640.2	383.3	3.9	379.37	1.010	Level 2
14,100.0	7,078.3	13,955.4	7,057.6	192.9	193.1	86.90		1,312.5	-6,740.1	383.1	-2.0	385.06	0.995	Level 1
14,200.0	7,074.9	14,055.4	7,057.2	195.6	195.9	87.35		1,312.5	-6,840.1	382.9	-7.8	390.73	0.980	Level 1
14,300.0	7,071.4	14,155.3	7,056.7	198.4	198.6	87.80		1,312.5	-6,940.1	382.8	-13.6	396.39	0.966	Level 1
14,400.0	7,068.0	14,255.3	7,056.3	201.2	201.4	88.25		1,312.5	-7,040.0	382.7	-19.3	402.02	0.952	Level 1
14,456.8	7,066.0	14,312.0	7,056.0	202.8	203.0	88.51		1,312.5	-7,096.7	382.6	-22.6	405.21	0.944	Level 1, ES, SF

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<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)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	1.0	1.0	0.0	0.0	-180.00	-180.00	-58.3	0.0	58.3	58.3	0.00	N/A	
100.0	100.0	101.0	101.0	0.1	0.1	-180.00	-180.00	-58.3	0.0	58.3	58.1	0.23	256.762	
200.0	200.0	201.0	201.0	0.3	0.3	-180.00	-180.00	-58.3	0.0	58.3	57.6	0.68	86.156	
300.0	300.0	301.0	301.0	0.6	0.6	-180.00	-180.00	-58.3	0.0	58.3	57.2	1.13	51.762	
400.0	400.0	401.0	401.0	0.8	0.8	-180.00	-180.00	-58.3	0.0	58.3	56.7	1.58	36.994 CC, ES	
500.0	500.0	501.0	501.0	1.0	1.0	162.35	162.35	-58.3	0.0	59.9	57.9	2.03	29.563	
600.0	599.8	600.8	600.8	1.2	1.2	163.72	163.72	-58.3	0.0	65.0	62.5	2.48	26.166	
700.0	699.5	700.5	700.5	1.5	1.5	165.59	165.59	-58.3	0.0	73.4	70.4	2.94	24.975	
800.0	798.7	799.7	799.7	1.7	1.7	167.58	167.58	-58.3	0.0	85.2	81.8	3.39	25.122	
900.0	897.5	898.5	898.5	2.0	1.9	169.44	169.44	-58.3	0.0	100.6	96.7	3.85	26.139	
1,000.0	995.9	996.9	996.9	2.4	2.1	171.00	171.00	-58.3	0.0	117.9	113.5	4.30	27.385	
1,100.0	1,094.4	1,099.1	1,099.0	2.7	2.4	171.75	171.75	-57.1	1.3	133.9	129.1	4.76	28.104	
1,200.0	1,192.8	1,202.2	1,202.0	3.1	2.6	171.48	171.48	-53.5	5.2	147.1	141.9	5.23	28.135	
1,300.0	1,291.3	1,306.0	1,305.4	3.5	2.8	170.42	170.42	-47.2	12.0	157.5	151.8	5.71	27.587	
1,400.0	1,389.7	1,406.2	1,405.0	3.8	3.1	169.01	169.01	-39.6	20.2	166.2	160.0	6.20	26.793	
1,500.0	1,488.2	1,505.8	1,503.9	4.2	3.3	167.74	167.74	-32.1	28.4	174.9	168.2	6.71	26.082	
1,600.0	1,586.6	1,605.3	1,602.8	4.6	3.6	166.59	166.59	-24.5	36.6	183.8	176.5	7.22	25.448	
1,700.0	1,685.1	1,704.9	1,701.8	5.0	3.8	165.55	165.55	-16.9	44.8	192.6	184.9	7.74	24.880	
1,800.0	1,783.5	1,804.4	1,800.7	5.4	4.1	164.60	164.60	-9.3	53.0	201.6	193.3	8.27	24.371	
1,900.0	1,882.0	1,903.9	1,899.6	5.7	4.4	163.73	163.73	-1.8	61.2	210.6	201.7	8.81	23.910	
2,000.0	1,980.4	2,003.5	1,998.5	6.1	4.7	162.93	162.93	5.8	69.4	219.6	210.2	9.35	23.493	
2,100.0	2,078.9	2,103.0	2,097.4	6.5	5.0	162.20	162.20	13.4	77.6	228.7	218.8	9.89	23.114	
2,200.0	2,177.3	2,202.6	2,196.4	6.9	5.2	161.52	161.52	20.9	85.9	237.8	227.3	10.44	22.768	
2,300.0	2,275.8	2,302.1	2,295.3	7.3	5.5	160.89	160.89	28.5	94.1	246.9	235.9	11.00	22.451	
2,400.0	2,374.2	2,401.7	2,394.2	7.7	5.8	160.31	160.31	36.1	102.3	256.0	244.5	11.55	22.160	
2,500.0	2,472.7	2,501.2	2,493.1	8.1	6.1	159.76	159.76	43.7	110.5	265.2	253.1	12.12	21.892	
2,600.0	2,571.1	2,600.8	2,592.0	8.4	6.4	159.26	159.26	51.2	118.7	274.4	261.8	12.68	21.644	
2,700.0	2,669.6	2,700.3	2,691.0	8.8	6.7	158.78	158.78	58.8	126.9	283.7	270.4	13.25	21.415	
2,800.0	2,768.0	2,799.9	2,789.9	9.2	7.0	158.34	158.34	66.4	135.1	292.9	279.1	13.81	21.203	
2,900.0	2,866.5	2,899.4	2,888.8	9.6	7.3	157.92	157.92	73.9	143.3	302.2	287.8	14.39	21.005	
3,000.0	2,964.9	2,999.0	2,987.7	10.0	7.6	157.53	157.53	81.5	151.5	311.5	296.5	14.96	20.820	
3,100.0	3,063.4	3,098.5	3,086.6	10.4	7.9	157.16	157.16	89.1	159.7	320.7	305.2	15.53	20.648	
3,200.0	3,161.8	3,198.1	3,185.5	10.8	8.2	156.81	156.81	96.7	167.9	330.0	313.9	16.11	20.487	
3,300.0	3,260.3	3,297.6	3,284.5	11.2	8.5	156.48	156.48	104.2	176.1	339.4	322.7	16.69	20.336	
3,400.0	3,358.7	3,397.2	3,383.4	11.6	8.8	156.17	156.17	111.8	184.3	348.7	331.4	17.27	20.193	
3,500.0	3,457.2	3,496.7	3,482.3	12.0	9.1	155.87	155.87	119.4	192.5	358.0	340.2	17.85	20.060	
3,600.0	3,555.6	3,596.2	3,581.2	12.4	9.3	155.59	155.59	126.9	200.7	367.4	348.9	18.43	19.933	
3,700.0	3,654.1	3,695.8	3,680.1	12.7	9.6	155.32	155.32	134.5	208.9	376.7	357.7	19.01	19.814	
3,800.0	3,752.5	3,795.3	3,779.1	13.1	9.9	155.07	155.07	142.1	217.1	386.1	366.5	19.60	19.702	
3,900.0	3,851.0	3,894.9	3,878.0	13.5	10.2	154.83	154.83	149.7	225.3	395.4	375.3	20.18	19.595	
4,000.0	3,949.4	3,994.4	3,976.9	13.9	10.5	154.60	154.60	157.2	233.5	404.8	384.0	20.77	19.494	
4,100.0	4,047.9	4,094.0	4,075.8	14.3	10.8	154.38	154.38	164.8	241.7	414.2	392.8	21.35	19.398	
4,200.0	4,146.3	4,193.5	4,174.7	14.7	11.1	154.17	154.17	172.4	249.9	423.6	401.6	21.94	19.307	
4,300.0	4,244.8	4,293.1	4,273.7	15.1	11.4	153.97	153.97	179.9	258.1	433.0	410.4	22.53	19.220	
4,400.0	4,343.2	4,392.6	4,372.6	15.5	11.7	153.77	153.77	187.5	266.3	442.4	419.2	23.12	19.137	
4,500.0	4,441.7	4,492.2	4,471.5	15.9	12.0	153.59	153.59	195.1	274.5	451.8	428.1	23.70	19.059	
4,600.0	4,540.1	4,591.7	4,570.4	16.3	12.3	153.41	153.41	202.7	282.7	461.2	436.9	24.29	18.983	
4,700.0	4,638.6	4,691.3	4,669.3	16.7	12.6	153.24	153.24	210.2	290.9	470.6	445.7	24.88	18.911	
4,800.0	4,737.0	4,783.0	4,760.6	17.0	12.9	153.21	153.21	216.4	297.6	480.7	455.3	25.40	18.925	
4,900.0	4,835.5	4,873.6	4,851.0	17.4	13.1	153.45	153.45	220.6	302.2	492.6	466.8	25.84	19.065	
5,000.0	4,933.9	4,963.6	4,940.9	17.8	13.2	153.95	153.95	222.8	304.6	506.3	480.1	26.23	19.307	

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 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<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)						
5,100.0	5,032.4	5,056.0	5,033.4	18.2	13.4	154.69	223.2	305.0	521.8	495.2	26.58	19.632		
5,200.0	5,130.8	5,154.5	5,131.8	18.6	13.5	155.49	223.2	305.0	537.8	510.8	26.95	19.954		
5,300.0	5,229.3	5,252.9	5,230.3	19.0	13.7	156.24	223.2	305.0	553.8	526.5	27.33	20.261		
5,400.0	5,327.7	5,351.4	5,328.7	19.4	13.9	156.95	223.2	305.0	569.9	542.2	27.72	20.559		
5,500.0	5,426.2	5,449.8	5,427.2	19.8	14.1	157.62	223.2	305.0	586.2	558.0	28.11	20.849		
5,600.0	5,524.6	5,548.3	5,525.6	20.2	14.3	158.25	223.2	305.0	602.4	573.9	28.51	21.130		
5,700.0	5,623.1	5,646.7	5,624.1	20.6	14.5	158.85	223.2	305.0	618.8	589.9	28.91	21.403		
5,800.0	5,721.5	5,745.2	5,722.5	21.0	14.6	159.42	223.2	305.0	635.2	605.9	29.32	21.669		
5,900.0	5,820.0	5,843.6	5,821.0	21.4	14.8	159.96	223.2	305.0	651.7	622.0	29.72	21.926		
6,000.0	5,918.4	5,942.1	5,919.4	21.7	15.0	160.50	223.2	305.0	668.2	638.0	30.14	22.172		
6,100.0	6,017.3	6,040.9	6,018.3	22.0	15.2	161.01	223.2	305.0	682.4	651.9	30.51	22.366		
6,200.0	6,116.6	6,140.3	6,117.6	22.3	15.4	161.40	223.2	305.0	693.4	662.6	30.87	22.464		
6,300.0	6,216.2	6,239.9	6,217.2	22.5	15.6	161.66	223.2	305.0	701.2	670.0	31.20	22.473		
6,400.0	6,316.1	6,339.8	6,317.1	22.6	15.8	161.81	223.2	304.9	705.6	674.1	31.50	22.398		
6,500.0	6,416.1	6,439.0	6,415.9	22.8	15.9	-179.34	223.2	296.9	706.8	669.7	37.18	19.012		
6,600.0	6,516.1	6,534.6	6,509.4	22.9	16.0	-177.74	223.2	277.1	707.4	669.8	37.60	18.812		
6,700.0	6,615.9	6,625.4	6,595.3	23.0	16.0	-85.57	223.2	247.6	709.1	677.4	31.72	22.353		
6,800.0	6,714.3	6,713.7	6,674.7	23.1	16.0	-83.47	223.2	209.4	711.7	680.1	31.67	22.475		
6,900.0	6,809.6	6,800.0	6,747.8	23.1	16.0	-81.49	223.2	163.4	715.1	683.5	31.65	22.593		
7,000.0	6,900.0	6,883.6	6,813.0	23.1	16.0	-79.66	223.2	111.3	719.0	687.3	31.75	22.649		
7,100.0	6,984.2	6,965.9	6,871.4	23.0	16.1	-78.00	223.2	53.3	723.2	691.2	32.01	22.596		
7,200.0	7,060.6	7,050.0	6,924.3	23.0	16.3	-76.48	223.2	-12.1	727.4	694.9	32.51	22.377		
7,300.0	7,127.9	7,126.7	6,965.9	23.0	16.9	-75.24	223.2	-76.4	731.4	698.1	33.30	21.967		
7,400.0	7,185.1	7,205.6	7,001.9	23.0	17.7	-74.17	223.2	-146.6	735.0	700.6	34.46	21.331		
7,500.0	7,231.0	7,283.8	7,030.1	23.1	18.7	-73.33	223.2	-219.5	738.1	702.0	36.04	20.481		
7,600.0	7,265.0	7,361.4	7,050.7	23.4	19.9	-72.71	223.2	-294.3	740.4	702.3	38.03	19.469		
7,700.0	7,286.4	7,438.7	7,063.5	24.2	21.2	-72.32	223.2	-370.5	741.9	701.4	40.42	18.353		
7,800.0	7,294.9	7,515.8	7,068.5	25.4	22.6	-72.17	223.2	-447.4	742.5	699.3	43.16	17.202		
7,900.0	7,292.5	7,612.2	7,068.6	27.0	24.6	-72.35	223.2	-543.8	741.7	695.0	46.75	15.866		
8,000.0	7,289.1	7,712.1	7,068.5	28.9	26.7	-72.60	223.2	-643.7	740.7	689.9	50.81	14.577		
8,100.0	7,285.6	7,812.1	7,068.4	30.9	29.0	-72.85	223.2	-743.7	739.7	684.6	55.12	13.420		
8,200.0	7,282.2	7,912.0	7,068.4	33.1	31.3	-73.10	223.2	-843.6	738.7	679.1	59.62	12.390		
8,300.0	7,278.7	8,012.0	7,068.3	35.4	33.7	-73.35	223.2	-943.6	737.7	673.5	64.28	11.477		
8,400.0	7,275.3	8,111.9	7,068.2	37.7	36.2	-73.61	223.2	-1,043.5	736.8	667.7	69.07	10.668		
8,500.0	7,271.8	8,211.9	7,068.2	40.1	38.7	-73.86	223.2	-1,143.4	735.8	661.9	73.96	9.949		
8,600.0	7,268.4	8,311.8	7,068.1	42.6	41.2	-74.11	223.2	-1,243.4	734.9	655.9	78.94	9.309		
8,700.0	7,264.9	8,411.7	7,068.0	45.1	43.8	-74.37	223.2	-1,343.3	734.0	650.0	84.00	8.738		
8,800.0	7,261.4	8,511.7	7,067.9	47.6	46.4	-74.62	223.2	-1,443.3	733.1	643.9	89.12	8.225		
8,900.0	7,258.0	8,611.6	7,067.9	50.1	49.0	-74.88	223.2	-1,543.2	732.2	637.9	94.30	7.764		
9,000.0	7,254.5	8,711.6	7,067.8	52.7	51.7	-75.13	223.2	-1,643.2	731.3	631.8	99.52	7.348		
9,100.0	7,251.1	8,811.5	7,067.7	55.3	54.4	-75.39	223.2	-1,743.1	730.4	625.6	104.79	6.970		
9,200.0	7,247.6	8,911.5	7,067.7	58.0	57.0	-75.65	223.2	-1,843.0	729.6	619.5	110.10	6.627		
9,300.0	7,244.2	9,011.4	7,067.6	60.6	59.7	-75.90	223.2	-1,943.0	728.7	613.3	115.44	6.313		
9,400.0	7,240.7	9,111.3	7,067.5	63.3	62.4	-76.16	223.2	-2,042.9	727.9	607.1	120.81	6.026		
9,500.0	7,237.3	9,211.3	7,067.5	65.9	65.1	-76.42	223.2	-2,142.9	727.1	600.9	126.20	5.762		
9,600.0	7,233.8	9,311.2	7,067.4	68.6	67.8	-76.68	223.2	-2,242.8	726.3	594.7	131.63	5.518		
9,700.0	7,230.3	9,411.2	7,067.3	71.3	70.6	-76.94	223.2	-2,342.8	725.6	588.5	137.07	5.293		
9,800.0	7,226.9	9,511.1	7,067.2	74.0	73.3	-77.20	223.2	-2,442.7	724.8	582.3	142.54	5.085		
9,900.0	7,223.4	9,611.1	7,067.2	76.7	76.0	-77.46	223.2	-2,542.6	724.1	576.0	148.03	4.891		
10,000.0	7,220.0	9,711.0	7,067.1	79.4	78.8	-77.72	223.2	-2,642.6	723.3	569.8	153.53	4.711		
10,100.0	7,216.5	9,810.9	7,067.0	82.1	81.5	-77.99	223.2	-2,742.5	722.6	563.6	159.05	4.543		

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 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32X-204 - Wellbore #1 - Plan #2 (12-18-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.0	7,213.1	9,910.9	7,067.0	84.8	84.3	-78.25		223.2	-2,842.5	721.9	557.3	164.59	4.386	
10,300.0	7,209.6	10,010.8	7,066.9	87.6	87.0	-78.51		223.2	-2,942.4	721.2	551.1	170.14	4.239	
10,400.0	7,206.2	10,110.8	7,066.8	90.3	89.8	-78.78		223.2	-3,042.4	720.6	544.9	175.70	4.101	
10,500.0	7,202.7	10,210.7	7,066.8	93.0	92.5	-79.04		223.2	-3,142.3	719.9	538.6	181.28	3.971	
10,600.0	7,199.3	10,310.7	7,066.7	95.8	95.3	-79.30		223.2	-3,242.2	719.3	532.4	186.87	3.849	
10,700.0	7,195.8	10,410.6	7,066.6	98.5	98.0	-79.57		223.2	-3,342.2	718.7	526.2	192.46	3.734	
10,800.0	7,192.3	10,510.5	7,066.5	101.3	100.8	-79.83		223.2	-3,442.1	718.1	520.0	198.07	3.625	
10,900.0	7,188.9	10,610.5	7,066.5	104.0	103.6	-80.10		223.2	-3,542.1	717.5	513.8	203.69	3.522	
11,000.0	7,185.4	10,710.4	7,066.4	106.8	106.3	-80.37		223.2	-3,642.0	716.9	507.6	209.32	3.425	
11,100.0	7,182.0	10,810.4	7,066.3	109.5	109.1	-80.63		223.2	-3,742.0	716.3	501.4	214.95	3.332	
11,200.0	7,178.5	10,910.3	7,066.3	112.3	111.9	-80.90		223.2	-3,841.9	715.8	495.2	220.60	3.245	
11,300.0	7,175.1	11,010.3	7,066.2	115.0	114.7	-81.17		223.2	-3,941.8	715.3	489.0	226.24	3.161	
11,400.0	7,171.6	11,110.2	7,066.1	117.8	117.4	-81.44		223.2	-4,041.8	714.7	482.8	231.90	3.082	
11,500.0	7,168.2	11,210.1	7,066.1	120.6	120.2	-81.71		223.2	-4,141.7	714.2	476.7	237.56	3.007	
11,600.0	7,164.7	11,310.1	7,066.0	123.3	123.0	-81.97		223.2	-4,241.7	713.8	470.5	243.23	2.935	
11,700.0	7,161.2	11,410.0	7,065.9	126.1	125.8	-82.24		223.2	-4,341.6	713.3	464.4	248.90	2.866	
11,800.0	7,157.8	11,510.0	7,065.8	128.9	128.6	-82.51		223.2	-4,441.6	712.8	458.3	254.57	2.800	
11,900.0	7,154.3	11,609.9	7,065.8	131.6	131.3	-82.78		223.2	-4,541.5	712.4	452.2	260.25	2.737	
12,000.0	7,150.9	11,709.9	7,065.7	134.4	134.1	-83.05		223.2	-4,641.4	712.0	446.1	265.93	2.677	
12,100.0	7,147.4	11,809.8	7,065.6	137.2	136.9	-83.32		223.2	-4,741.4	711.6	440.0	271.62	2.620	
12,200.0	7,144.0	11,909.7	7,065.6	140.0	139.7	-83.59		223.2	-4,841.3	711.2	433.9	277.30	2.565	
12,300.0	7,140.5	12,009.7	7,065.5	142.7	142.5	-83.86		223.2	-4,941.3	710.8	427.8	282.99	2.512	
12,400.0	7,137.1	12,109.6	7,065.4	145.5	145.3	-84.14		223.2	-5,041.2	710.5	421.8	288.68	2.461	
12,500.0	7,133.6	12,209.6	7,065.4	148.3	148.0	-84.41		223.2	-5,141.2	710.1	415.8	294.37	2.412	
12,600.0	7,130.2	12,309.5	7,065.3	151.1	150.8	-84.68		223.2	-5,241.1	709.8	409.8	300.06	2.366	
12,700.0	7,126.7	12,409.4	7,065.2	153.9	153.6	-84.95		223.2	-5,341.0	709.5	403.8	305.75	2.321	
12,800.0	7,123.2	12,509.4	7,065.2	156.6	156.4	-85.22		223.2	-5,441.0	709.2	397.8	311.44	2.277	
12,900.0	7,119.8	12,609.3	7,065.1	159.4	159.2	-85.50		223.2	-5,540.9	709.0	391.8	317.13	2.236	
13,000.0	7,116.3	12,709.3	7,065.0	162.2	162.0	-85.77		223.2	-5,640.9	708.7	385.9	322.81	2.195	
13,100.0	7,112.9	12,809.2	7,064.9	165.0	164.8	-86.04		223.2	-5,740.8	708.5	380.0	328.50	2.157	
13,200.0	7,109.4	12,909.2	7,064.9	167.8	167.6	-86.31		223.2	-5,840.8	708.2	374.0	334.18	2.119	
13,300.0	7,106.0	13,009.1	7,064.8	170.6	170.4	-86.59		223.2	-5,940.7	708.0	368.2	339.86	2.083	
13,400.0	7,102.5	13,109.0	7,064.7	173.3	173.2	-86.86		223.2	-6,040.6	707.8	362.3	345.54	2.048	
13,500.0	7,099.1	13,209.0	7,064.7	176.1	175.9	-87.13		223.2	-6,140.6	707.6	356.4	351.21	2.015	
13,600.0	7,095.6	13,308.9	7,064.6	178.9	178.7	-87.41		223.2	-6,240.5	707.5	350.6	356.88	1.982	
13,700.0	7,092.1	13,408.9	7,064.5	181.7	181.5	-87.68		223.2	-6,340.5	707.3	344.8	362.55	1.951	
13,800.0	7,088.7	13,508.8	7,064.5	184.5	184.3	-87.96		223.2	-6,440.4	707.2	339.0	368.21	1.921	
13,900.0	7,085.2	13,608.8	7,064.4	187.3	187.1	-88.23		223.2	-6,540.4	707.1	333.2	373.86	1.891	
14,000.0	7,081.8	13,708.7	7,064.3	190.1	189.9	-88.50		223.3	-6,640.3	707.0	327.5	379.51	1.863	
14,100.0	7,078.3	13,808.6	7,064.2	192.9	192.7	-88.78		223.3	-6,740.2	706.9	321.8	385.16	1.835	
14,200.0	7,074.9	13,908.6	7,064.2	195.6	195.5	-89.05		223.3	-6,840.2	706.8	316.1	390.79	1.809	
14,300.0	7,071.4	14,008.5	7,064.1	198.4	198.3	-89.33		223.3	-6,940.1	706.8	310.4	396.42	1.783	
14,400.0	7,068.0	14,108.5	7,064.0	201.2	201.1	-89.60		223.3	-7,040.1	706.8	304.7	402.05	1.758	
14,440.2	7,066.6	14,148.7	7,064.0	202.3	202.2	-89.71		223.3	-7,080.3	706.8	302.5	404.31	1.748	
14,456.8	7,066.0	14,157.0	7,064.0	202.8	202.5	-89.73		223.3	-7,088.6	706.8	301.8	405.00	1.745 SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<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)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	1.0	1.0	0.0	0.0	-180.00	-180.00	-91.1	0.0	91.1	91.1	0.00	N/A	
100.0	100.0	101.0	101.0	0.1	0.1	-180.00	-180.00	-91.1	0.0	91.1	90.9	0.23	401.209	
200.0	200.0	201.0	201.0	0.3	0.3	-180.00	-180.00	-91.1	0.0	91.1	90.4	0.68	134.625	
300.0	300.0	301.0	301.0	0.6	0.6	-180.00	-180.00	-91.1	0.0	91.1	90.0	1.13	80.883	
400.0	400.0	401.0	401.0	0.8	0.8	-180.00	-180.00	-91.1	0.0	91.1	89.5	1.58	57.806 CC, ES	
500.0	500.0	501.0	501.0	1.0	1.0	162.17	162.17	-91.1	0.0	92.7	90.7	2.03	45.733	
600.0	599.8	600.8	600.8	1.2	1.2	163.08	163.08	-91.1	0.0	97.7	95.3	2.48	39.370	
700.0	699.5	700.5	700.5	1.5	1.5	164.40	164.40	-91.1	0.0	106.1	103.2	2.94	36.119	
800.0	798.7	799.7	799.7	1.7	1.7	165.94	165.94	-91.1	0.0	117.9	114.5	3.39	34.744	
900.0	897.5	898.5	898.5	2.0	1.9	167.51	167.51	-91.1	0.0	133.1	129.3	3.85	34.587	
1,000.0	995.9	996.9	996.9	2.4	2.1	168.95	168.95	-91.1	0.0	150.3	146.0	4.31	34.901	
1,100.0	1,094.4	1,095.4	1,095.4	2.7	2.3	170.10	170.10	-91.1	0.0	167.6	162.8	4.77	35.145	
1,200.0	1,192.8	1,193.8	1,193.8	3.1	2.6	171.03	171.03	-91.1	0.0	184.9	179.6	5.23	35.340	
1,300.0	1,291.3	1,292.3	1,292.3	3.5	2.8	171.81	171.81	-91.1	0.0	202.2	196.5	5.70	35.500	
1,400.0	1,389.7	1,390.7	1,390.7	3.8	3.0	172.46	172.46	-91.1	0.0	219.6	213.4	6.16	35.632	
1,500.0	1,488.2	1,489.2	1,489.2	4.2	3.2	173.01	173.01	-91.1	0.0	237.0	230.4	6.63	35.743	
1,600.0	1,586.6	1,594.1	1,594.1	4.6	3.5	173.30	173.30	-90.1	1.2	253.3	246.2	7.11	35.639	
1,700.0	1,685.1	1,700.6	1,700.5	5.0	3.7	173.02	173.02	-86.6	5.4	266.8	259.2	7.59	35.164	
1,800.0	1,783.5	1,807.5	1,807.0	5.4	3.9	172.25	172.25	-80.7	12.8	277.5	269.4	8.08	34.336	
1,900.0	1,882.0	1,907.0	1,905.9	5.7	4.2	171.35	171.35	-74.0	20.9	286.9	278.3	8.57	33.472	
2,000.0	1,980.4	2,006.5	2,004.8	6.1	4.4	170.51	170.51	-67.3	29.1	296.3	287.3	9.07	32.678	
2,100.0	2,078.9	2,105.9	2,103.7	6.5	4.7	169.72	169.72	-60.7	37.3	305.8	296.3	9.57	31.952	
2,200.0	2,177.3	2,205.4	2,202.6	6.9	4.9	168.98	168.98	-54.0	45.4	315.4	305.3	10.08	31.287	
2,300.0	2,275.8	2,304.8	2,301.5	7.3	5.2	168.29	168.29	-47.4	53.6	325.0	314.5	10.60	30.675	
2,400.0	2,374.2	2,404.3	2,400.4	7.7	5.4	167.63	167.63	-40.7	61.7	334.7	323.6	11.12	30.111	
2,500.0	2,472.7	2,503.8	2,499.3	8.1	5.7	167.01	167.01	-34.1	69.9	344.4	332.8	11.64	29.589	
2,600.0	2,571.1	2,603.2	2,598.2	8.4	6.0	166.43	166.43	-27.4	78.1	354.2	342.0	12.17	29.106	
2,700.0	2,669.6	2,702.7	2,697.1	8.8	6.2	165.87	165.87	-20.7	86.2	364.0	351.3	12.70	28.657	
2,800.0	2,768.0	2,802.1	2,796.0	9.2	6.5	165.35	165.35	-14.1	94.4	373.8	360.5	13.24	28.239	
2,900.0	2,866.5	2,901.6	2,894.9	9.6	6.8	164.85	164.85	-7.4	102.6	383.6	369.8	13.77	27.850	
3,000.0	2,964.9	3,001.1	2,993.8	10.0	7.1	164.38	164.38	-0.8	110.7	393.5	379.2	14.32	27.486	
3,100.0	3,063.4	3,100.5	3,092.7	10.4	7.3	163.93	163.93	5.9	118.9	403.4	388.5	14.86	27.145	
3,200.0	3,161.8	3,200.0	3,191.6	10.8	7.6	163.50	163.50	12.6	127.0	413.3	397.9	15.41	26.826	
3,300.0	3,260.3	3,299.4	3,290.5	11.2	7.9	163.09	163.09	19.2	135.2	423.2	407.3	15.96	26.525	
3,400.0	3,358.7	3,398.9	3,389.4	11.6	8.2	162.70	162.70	25.9	143.4	433.2	416.7	16.51	26.243	
3,500.0	3,457.2	3,498.4	3,488.3	12.0	8.5	162.33	162.33	32.5	151.5	443.2	426.1	17.06	25.977	
3,600.0	3,555.6	3,597.8	3,587.2	12.4	8.7	161.97	161.97	39.2	159.7	453.2	435.6	17.62	25.726	
3,700.0	3,654.1	3,697.3	3,686.1	12.7	9.0	161.63	161.63	45.8	167.9	463.2	445.0	18.17	25.488	
3,800.0	3,752.5	3,796.7	3,785.0	13.1	9.3	161.31	161.31	52.5	176.0	473.2	454.5	18.73	25.264	
3,900.0	3,851.0	3,896.2	3,883.9	13.5	9.6	161.00	161.00	59.2	184.2	483.3	464.0	19.29	25.051	
4,000.0	3,949.4	3,995.7	3,982.8	13.9	9.9	160.70	160.70	65.8	192.3	493.3	473.5	19.85	24.849	
4,100.0	4,047.9	4,095.1	4,081.7	14.3	10.2	160.41	160.41	72.5	200.5	503.4	483.0	20.42	24.657	
4,200.0	4,146.3	4,194.6	4,180.6	14.7	10.5	160.13	160.13	79.1	208.7	513.5	492.5	20.98	24.474	
4,300.0	4,244.8	4,294.0	4,279.5	15.1	10.7	159.87	159.87	85.8	216.8	523.6	502.0	21.55	24.301	
4,400.0	4,343.2	4,393.5	4,378.4	15.5	11.0	159.61	159.61	92.5	225.0	533.7	511.6	22.11	24.135	
4,500.0	4,441.7	4,493.0	4,477.3	15.9	11.3	159.37	159.37	99.1	233.2	543.8	521.1	22.68	23.977	
4,600.0	4,540.1	4,592.4	4,576.2	16.3	11.6	159.13	159.13	105.8	241.3	553.9	530.7	23.25	23.826	
4,700.0	4,638.6	4,691.9	4,675.1	16.7	11.9	158.90	158.90	112.4	249.5	564.1	540.3	23.82	23.682	
4,800.0	4,737.0	4,791.4	4,774.0	17.0	12.2	158.68	158.68	119.1	257.6	574.2	549.8	24.39	23.544	
4,900.0	4,835.5	4,890.8	4,872.9	17.4	12.5	158.47	158.47	125.7	265.8	584.4	559.4	24.96	23.412	
5,000.0	4,933.9	4,990.3	4,971.8	17.8	12.8	158.26	158.26	132.4	274.0	594.5	569.0	25.53	23.285	

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 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32X-304 - Wellbore #1 - Plan #3 (12-18-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,100.0	5,032.4	5,089.7	5,070.7	18.2	13.1	158.06	139.1	282.1	604.7	578.6	26.11	23.163		
5,200.0	5,130.8	5,189.2	5,169.6	18.6	13.3	157.87	145.7	290.3	614.9	588.2	26.68	23.047		
5,300.0	5,229.3	5,280.6	5,260.5	19.0	13.6	157.75	151.4	297.2	625.5	598.3	27.20	22.999		
5,400.0	5,327.7	5,368.5	5,348.3	19.4	13.8	157.84	155.2	301.9	637.9	610.2	27.64	23.076		
5,500.0	5,426.2	5,456.0	5,435.7	19.8	13.9	158.11	157.3	304.4	652.0	623.9	28.04	23.248		
5,600.0	5,524.6	5,545.9	5,525.6	20.2	14.1	158.58	157.7	305.0	667.8	639.4	28.42	23.496		
5,700.0	5,623.1	5,644.4	5,624.1	20.6	14.2	159.11	157.7	305.0	684.2	655.4	28.82	23.739		
5,800.0	5,721.5	5,742.8	5,722.5	21.0	14.4	159.62	157.7	305.0	700.7	671.4	29.24	23.966		
5,900.0	5,820.0	5,841.3	5,821.0	21.4	14.6	160.11	157.7	305.0	717.2	687.5	29.65	24.186		
6,000.0	5,918.4	5,939.7	5,919.4	21.7	14.8	160.59	157.7	305.0	733.7	703.6	30.07	24.396		
6,100.0	6,017.3	6,038.6	6,018.3	22.0	15.0	161.07	157.7	305.0	747.9	717.5	30.46	24.555		
6,200.0	6,116.6	6,137.9	6,117.6	22.3	15.2	161.43	157.7	305.0	758.9	728.1	30.82	24.623		
6,300.0	6,216.2	6,237.6	6,217.2	22.5	15.4	161.67	157.7	305.0	766.7	735.5	31.16	24.604		
6,400.0	6,316.1	6,337.5	6,317.1	22.6	15.6	161.81	157.7	305.0	771.1	739.6	31.47	24.502		
6,500.0	6,416.1	6,437.4	6,417.1	22.8	15.8	-179.99	157.7	304.9	772.3	735.3	36.95	20.899		
6,515.9	6,432.0	6,453.3	6,433.0	22.8	15.8	-179.96	157.7	304.4	772.3	735.3	37.01	20.868		
6,600.0	6,516.1	6,536.6	6,515.9	22.9	15.9	-179.38	157.7	296.6	772.3	735.0	37.31	20.698		
6,700.0	6,615.9	6,633.2	6,610.2	23.0	16.0	-88.18	157.7	276.3	772.7	740.6	32.12	24.058		
6,800.0	6,714.3	6,727.8	6,699.5	23.1	16.0	-87.01	157.7	245.1	773.4	741.2	32.14	24.066		
6,900.0	6,809.6	6,820.8	6,782.7	23.1	16.0	-85.90	157.7	203.9	774.3	742.2	32.14	24.090		
7,000.0	6,900.0	6,912.2	6,859.2	23.1	16.0	-84.86	157.7	153.8	775.5	743.2	32.21	24.071		
7,100.0	6,984.2	7,000.0	6,926.4	23.0	16.1	-83.93	157.7	97.4	776.7	744.3	32.44	23.946		
7,200.0	7,060.6	7,091.3	6,989.0	23.0	16.3	-83.06	157.7	31.0	778.1	745.1	32.94	23.619		
7,300.0	7,127.9	7,179.3	7,041.4	23.0	16.7	-82.31	157.7	-39.6	779.3	745.5	33.81	23.051		
7,400.0	7,185.1	7,266.5	7,085.0	23.0	17.5	-81.69	157.7	-115.0	780.5	745.4	35.12	22.224		
7,500.0	7,231.0	7,350.0	7,118.5	23.1	18.5	-81.20	157.7	-191.5	781.5	744.7	36.89	21.187		
7,600.0	7,265.0	7,439.1	7,144.7	23.4	19.7	-80.82	157.7	-276.6	782.3	743.1	39.24	19.937		
7,700.0	7,286.4	7,524.8	7,160.5	24.2	21.2	-80.60	157.7	-360.8	782.8	740.8	42.00	18.640		
7,800.0	7,294.9	7,610.4	7,166.7	25.4	22.7	-80.50	157.7	-446.1	783.0	737.9	45.11	17.358		
7,900.0	7,292.5	7,707.8	7,166.6	27.0	24.7	-80.67	157.7	-543.5	782.7	733.8	48.86	16.019		
8,000.0	7,289.1	7,807.8	7,166.2	28.9	26.8	-80.89	157.7	-643.5	782.2	729.1	53.02	14.753		
8,100.0	7,285.6	7,907.7	7,165.9	30.9	29.0	-81.12	157.7	-743.4	781.7	724.2	57.42	13.613		
8,200.0	7,282.2	8,007.7	7,165.6	33.1	31.4	-81.35	157.7	-843.4	781.2	719.2	62.02	12.596		
8,300.0	7,278.7	8,107.6	7,165.3	35.4	33.8	-81.58	157.7	-943.3	780.7	713.9	66.77	11.692		
8,400.0	7,275.3	8,207.6	7,165.0	37.7	36.2	-81.81	157.7	-1,043.3	780.3	708.6	71.65	10.890		
8,500.0	7,271.8	8,307.5	7,164.7	40.1	38.7	-82.03	157.7	-1,143.2	779.8	703.2	76.63	10.176		
8,600.0	7,268.4	8,407.5	7,164.4	42.6	41.3	-82.26	157.7	-1,243.2	779.4	697.7	81.70	9.540		
8,700.0	7,264.9	8,507.4	7,164.1	45.1	43.9	-82.49	157.7	-1,343.1	779.0	692.1	86.84	8.971		
8,800.0	7,261.4	8,607.4	7,163.7	47.6	46.5	-82.72	157.7	-1,443.1	778.6	686.5	92.03	8.460		
8,900.0	7,258.0	8,707.3	7,163.4	50.1	49.1	-82.95	157.7	-1,543.0	778.2	680.9	97.28	7.999		
9,000.0	7,254.5	8,807.3	7,163.1	52.7	51.7	-83.18	157.7	-1,643.0	777.8	675.2	102.57	7.583		
9,100.0	7,251.1	8,907.2	7,162.8	55.3	54.4	-83.41	157.7	-1,742.9	777.4	669.5	107.90	7.205		
9,200.0	7,247.6	9,007.2	7,162.5	58.0	57.1	-83.64	157.7	-1,842.9	777.1	663.8	113.26	6.861		
9,300.0	7,244.2	9,107.1	7,162.2	60.6	59.8	-83.87	157.7	-1,942.8	776.7	658.1	118.65	6.547		
9,400.0	7,240.7	9,207.1	7,161.9	63.3	62.5	-84.10	157.7	-2,042.8	776.4	652.4	124.06	6.258		
9,500.0	7,237.3	9,307.0	7,161.5	65.9	65.2	-84.33	157.7	-2,142.7	776.1	646.6	129.49	5.993		
9,600.0	7,233.8	9,407.0	7,161.2	68.6	67.9	-84.56	157.7	-2,242.7	775.8	640.8	134.95	5.749		
9,700.0	7,230.3	9,506.9	7,160.9	71.3	70.6	-84.79	157.7	-2,342.6	775.5	635.1	140.42	5.523		
9,800.0	7,226.9	9,606.9	7,160.6	74.0	73.3	-85.02	157.7	-2,442.6	775.2	629.3	145.90	5.313		
9,900.0	7,223.4	9,706.8	7,160.3	76.7	76.1	-85.25	157.7	-2,542.5	775.0	623.6	151.40	5.118		
10,000.0	7,220.0	9,806.8	7,160.0	79.4	78.8	-85.48	157.7	-2,642.5	774.7	617.8	156.92	4.937		

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 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32X-304 - Wellbore #1 - Plan #3 (12-18-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,100.0	7,216.5	9,906.7	7,159.7	82.1	81.5	-85.72		157.7	-2,742.4	774.5	612.0	162.44	4.768	
10,200.0	7,213.1	10,006.7	7,159.3	84.8	84.3	-85.95		157.7	-2,842.4	774.2	606.3	167.97	4.609	
10,300.0	7,209.6	10,106.6	7,159.0	87.6	87.0	-86.18		157.7	-2,942.3	774.0	600.5	173.51	4.461	
10,400.0	7,206.2	10,206.6	7,158.7	90.3	89.8	-86.41		157.7	-3,042.3	773.8	594.8	179.05	4.322	
10,500.0	7,202.7	10,306.5	7,158.4	93.0	92.6	-86.64		157.7	-3,142.2	773.6	589.0	184.61	4.191	
10,600.0	7,199.3	10,406.5	7,158.1	95.8	95.3	-86.88		157.7	-3,242.2	773.5	583.3	190.17	4.067	
10,700.0	7,195.8	10,506.4	7,157.8	98.5	98.1	-87.11		157.7	-3,342.1	773.3	577.6	195.73	3.951	
10,800.0	7,192.3	10,606.4	7,157.5	101.3	100.8	-87.34		157.7	-3,442.1	773.1	571.8	201.30	3.841	
10,900.0	7,188.9	10,706.3	7,157.1	104.0	103.6	-87.57		157.7	-3,542.0	773.0	566.1	206.87	3.737	
11,000.0	7,185.4	10,806.3	7,156.8	106.8	106.4	-87.81		157.7	-3,642.0	772.9	560.4	212.45	3.638	
11,100.0	7,182.0	10,906.2	7,156.5	109.5	109.2	-88.04		157.7	-3,741.9	772.8	554.7	218.02	3.544	
11,200.0	7,178.5	11,006.2	7,156.2	112.3	111.9	-88.27		157.7	-3,841.9	772.7	549.1	223.60	3.456	
11,300.0	7,175.1	11,106.1	7,155.9	115.0	114.7	-88.50		157.7	-3,941.8	772.6	543.4	229.18	3.371	
11,400.0	7,171.6	11,206.1	7,155.6	117.8	117.5	-88.74		157.7	-4,041.8	772.5	537.7	234.76	3.291	
11,500.0	7,168.2	11,306.0	7,155.3	120.6	120.3	-88.97		157.7	-4,141.7	772.4	532.1	240.34	3.214	
11,600.0	7,164.7	11,406.0	7,154.9	123.3	123.0	-89.20		157.7	-4,241.7	772.4	526.5	245.92	3.141	
11,700.0	7,161.2	11,505.9	7,154.6	126.1	125.8	-89.44		157.7	-4,341.6	772.3	520.8	251.50	3.071	
11,800.0	7,157.8	11,605.9	7,154.3	128.9	128.6	-89.67		157.7	-4,441.6	772.3	515.2	257.08	3.004	
11,900.0	7,154.3	11,705.8	7,154.0	131.6	131.4	-89.90		157.7	-4,541.5	772.3	509.6	262.66	2.940	
11,937.7	7,153.0	11,743.5	7,153.9	132.7	132.4	-89.99		157.7	-4,579.2	772.3	507.5	264.76	2.917	
12,000.0	7,150.9	11,805.8	7,153.7	134.4	134.2	-90.13		157.7	-4,641.5	772.3	504.1	268.24	2.879	
12,100.0	7,147.4	11,905.7	7,153.4	137.2	136.9	-90.37		157.7	-4,741.4	772.3	498.5	273.81	2.821	
12,200.0	7,144.0	12,005.7	7,153.1	140.0	139.7	-90.60		157.7	-4,841.4	772.4	493.0	279.38	2.764	
12,300.0	7,140.5	12,105.6	7,152.7	142.7	142.5	-90.83		157.7	-4,941.3	772.4	487.4	284.95	2.711	
12,400.0	7,137.1	12,205.6	7,152.4	145.5	145.3	-91.07		157.7	-5,041.3	772.4	481.9	290.52	2.659	
12,500.0	7,133.6	12,305.5	7,152.1	148.3	148.1	-91.30		157.7	-5,141.2	772.5	476.4	296.08	2.609	
12,600.0	7,130.2	12,405.5	7,151.8	151.1	150.9	-91.53		157.7	-5,241.2	772.6	471.0	301.64	2.561	
12,700.0	7,126.7	12,505.4	7,151.5	153.9	153.7	-91.76		157.7	-5,341.2	772.7	465.5	307.19	2.515	
12,800.0	7,123.2	12,605.4	7,151.2	156.6	156.5	-92.00		157.7	-5,441.1	772.8	460.0	312.74	2.471	
12,900.0	7,119.8	12,705.3	7,150.9	159.4	159.2	-92.23		157.7	-5,541.1	772.9	454.6	318.29	2.428	
13,000.0	7,116.3	12,805.3	7,150.5	162.2	162.0	-92.46		157.7	-5,641.0	773.0	449.2	323.82	2.387	
13,100.0	7,112.9	12,905.2	7,150.2	165.0	164.8	-92.69		157.7	-5,741.0	773.2	443.8	329.36	2.348	
13,200.0	7,109.4	13,005.2	7,149.9	167.8	167.6	-92.93		157.7	-5,840.9	773.3	438.4	334.88	2.309	
13,300.0	7,106.0	13,105.1	7,149.6	170.6	170.4	-93.16		157.7	-5,940.9	773.5	433.1	340.41	2.272	
13,400.0	7,102.5	13,205.1	7,149.3	173.3	173.2	-93.39		157.7	-6,040.8	773.7	427.8	345.92	2.237	
13,500.0	7,099.1	13,305.0	7,149.0	176.1	176.0	-93.62		157.7	-6,140.8	773.9	422.4	351.43	2.202	
13,600.0	7,095.6	13,405.0	7,148.7	178.9	178.8	-93.85		157.7	-6,240.7	774.1	417.1	356.93	2.169	
13,700.0	7,092.1	13,504.9	7,148.4	181.7	181.6	-94.09		157.7	-6,340.7	774.3	411.9	362.42	2.136	
13,800.0	7,088.7	13,604.9	7,148.0	184.5	184.4	-94.32		157.7	-6,440.6	774.5	406.6	367.91	2.105	
13,900.0	7,085.2	13,704.8	7,147.7	187.3	187.2	-94.55		157.7	-6,540.6	774.8	401.4	373.39	2.075	
14,000.0	7,081.8	13,804.8	7,147.4	190.1	190.0	-94.78		157.7	-6,640.5	775.0	396.2	378.86	2.046	
14,100.0	7,078.3	13,904.7	7,147.1	192.9	192.8	-95.01		157.7	-6,740.5	775.3	391.0	384.32	2.017	
14,200.0	7,074.9	14,004.7	7,146.8	195.6	195.6	-95.24		157.7	-6,840.4	775.6	385.8	389.77	1.990	
14,300.0	7,071.4	14,104.7	7,146.5	198.4	198.3	-95.47		157.7	-6,940.4	775.9	380.7	395.22	1.963	
14,400.0	7,068.0	14,204.6	7,146.2	201.2	201.1	-95.70		157.7	-7,040.3	776.2	375.5	400.65	1.937	
14,456.8	7,066.0	14,253.0	7,146.0	202.8	202.5	-95.82		157.7	-7,088.7	776.4	372.9	403.51	1.924 SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	1.0	1.0	0.0	0.0	-180.00	-180.00	-29.1	0.0	29.1	29.1	0.00	N/A	
100.0	100.0	101.0	101.0	0.1	0.1	-180.00	-180.00	-29.1	0.0	29.1	28.9	0.23	128.363	
200.0	200.0	201.0	201.0	0.3	0.3	-180.00	-180.00	-29.1	0.0	29.1	28.5	0.68	43.072	
300.0	300.0	301.0	301.0	0.6	0.6	-180.00	-180.00	-29.1	0.0	29.1	28.0	1.13	25.878	
400.0	400.0	401.0	401.0	0.8	0.8	-180.00	-180.00	-29.1	0.0	29.1	27.6	1.58	18.495 CC	
500.0	500.0	501.0	501.0	1.0	1.0	162.84	162.84	-29.1	0.0	30.8	28.8	2.03	15.190	
600.0	599.8	600.8	600.8	1.2	1.2	165.29	165.29	-29.1	0.0	35.8	33.4	2.48	14.435	
700.0	699.5	701.9	701.9	1.5	1.5	167.41	167.41	-27.5	0.7	42.6	39.7	2.93	14.524	
800.0	798.7	803.2	803.1	1.7	1.7	168.52	168.52	-22.6	2.9	49.5	46.1	3.38	14.627	
900.0	897.5	904.8	904.2	2.0	1.9	168.99	168.99	-14.4	6.6	56.4	52.6	3.84	14.695	
1,000.0	995.9	1,006.5	1,005.2	2.4	2.2	168.75	168.75	-2.9	11.8	61.9	57.5	4.32	14.334	
1,100.0	1,094.4	1,106.5	1,104.1	2.7	2.5	168.15	168.15	9.9	17.4	65.8	61.0	4.80	13.693	
1,200.0	1,192.8	1,206.4	1,203.1	3.1	2.8	167.61	167.61	22.6	23.1	69.7	64.4	5.30	13.148	
1,300.0	1,291.3	1,306.3	1,302.0	3.5	3.1	167.13	167.13	35.4	28.8	73.6	67.8	5.80	12.684	
1,400.0	1,389.7	1,406.2	1,400.9	3.8	3.4	166.70	166.70	48.1	34.5	77.5	71.2	6.31	12.283	
1,500.0	1,488.2	1,506.1	1,499.9	4.2	3.7	166.31	166.31	60.9	40.2	81.4	74.6	6.82	11.937	
1,600.0	1,586.6	1,606.1	1,598.8	4.6	4.0	165.95	165.95	73.6	45.9	85.4	78.0	7.34	11.632	
1,700.0	1,685.1	1,706.0	1,697.8	5.0	4.3	165.63	165.63	86.3	51.6	89.3	81.4	7.86	11.364	
1,800.0	1,783.5	1,805.9	1,796.7	5.4	4.7	165.33	165.33	99.1	57.3	93.2	84.8	8.38	11.126	
1,900.0	1,882.0	1,905.8	1,895.7	5.7	5.0	165.06	165.06	111.8	63.0	97.2	88.3	8.90	10.913	
2,000.0	1,980.4	2,005.8	1,994.6	6.1	5.3	164.81	164.81	124.6	68.7	101.1	91.7	9.43	10.722	
2,100.0	2,078.9	2,105.7	2,093.5	6.5	5.6	164.58	164.58	137.3	74.4	105.0	95.1	9.96	10.549	
2,200.0	2,177.3	2,205.6	2,192.5	6.9	6.0	164.36	164.36	150.0	80.1	109.0	98.5	10.49	10.392	
2,300.0	2,275.8	2,305.5	2,291.4	7.3	6.3	164.16	164.16	162.8	85.8	112.9	101.9	11.02	10.249	
2,400.0	2,374.2	2,405.4	2,390.4	7.7	6.6	163.97	163.97	175.5	91.5	116.9	105.3	11.55	10.119	
2,500.0	2,472.7	2,505.4	2,489.3	8.1	7.0	163.80	163.80	188.3	97.2	120.8	108.7	12.08	9.999	
2,600.0	2,571.1	2,605.3	2,588.2	8.4	7.3	163.64	163.64	201.0	102.9	124.8	112.1	12.62	9.888	
2,700.0	2,669.6	2,705.2	2,687.2	8.8	7.6	163.48	163.48	213.8	108.6	128.7	115.6	13.15	9.786	
2,800.0	2,768.0	2,805.1	2,786.1	9.2	8.0	163.34	163.34	226.5	114.3	132.7	119.0	13.69	9.691	
2,900.0	2,866.5	2,905.0	2,885.1	9.6	8.3	163.20	163.20	239.2	120.0	136.6	122.4	14.22	9.603	
3,000.0	2,964.9	3,005.0	2,984.0	10.0	8.7	163.07	163.07	252.0	125.7	140.6	125.8	14.76	9.522	
3,100.0	3,063.4	3,104.9	3,083.0	10.4	9.0	162.95	162.95	264.7	131.4	144.5	129.2	15.30	9.445	
3,200.0	3,161.8	3,204.8	3,181.9	10.8	9.3	162.84	162.84	277.5	137.1	148.5	132.6	15.84	9.373	
3,300.0	3,260.3	3,304.7	3,280.8	11.2	9.7	162.73	162.73	290.2	142.8	152.4	136.0	16.38	9.306	
3,400.0	3,358.7	3,404.7	3,379.8	11.6	10.0	162.62	162.62	303.0	148.5	156.4	139.4	16.92	9.243	
3,500.0	3,457.2	3,504.6	3,478.7	12.0	10.3	162.53	162.53	315.7	154.2	160.3	142.9	17.46	9.183	
3,600.0	3,555.6	3,604.5	3,577.7	12.4	10.7	162.43	162.43	328.4	159.8	164.3	146.3	18.00	9.127	
3,700.0	3,654.1	3,704.4	3,676.6	12.7	11.0	162.34	162.34	341.2	165.5	168.2	149.7	18.54	9.074	
3,800.0	3,752.5	3,804.3	3,775.5	13.1	11.3	162.26	162.26	353.9	171.2	172.2	153.1	19.08	9.024	
3,900.0	3,851.0	3,904.3	3,874.5	13.5	11.7	162.18	162.18	366.7	176.9	176.1	156.5	19.62	8.977	
4,000.0	3,949.4	4,004.2	3,973.4	13.9	12.0	162.10	162.10	379.4	182.6	180.1	159.9	20.16	8.932	
4,100.0	4,047.9	4,104.1	4,072.4	14.3	12.4	162.03	162.03	392.1	188.3	184.0	163.3	20.70	8.889	
4,200.0	4,146.3	4,204.0	4,171.3	14.7	12.7	161.95	161.95	404.9	194.0	188.0	166.7	21.25	8.848	
4,300.0	4,244.8	4,303.9	4,270.3	15.1	13.0	161.89	161.89	417.6	199.7	191.9	170.2	21.79	8.809	
4,400.0	4,343.2	4,403.9	4,369.2	15.5	13.4	161.82	161.82	430.4	205.4	195.9	173.6	22.33	8.772	
4,500.0	4,441.7	4,503.8	4,468.1	15.9	13.7	161.76	161.76	443.1	211.1	199.9	177.0	22.87	8.737	
4,600.0	4,540.1	4,603.7	4,567.1	16.3	14.1	161.70	161.70	455.9	216.8	203.8	180.4	23.42	8.703	
4,700.0	4,638.6	4,703.6	4,666.0	16.7	14.4	161.64	161.64	468.6	222.5	207.8	183.8	23.96	8.671	
4,800.0	4,737.0	4,803.6	4,765.0	17.0	14.7	161.58	161.58	481.3	228.2	211.7	187.2	24.50	8.640	
4,900.0	4,835.5	4,903.5	4,863.9	17.4	15.1	161.53	161.53	494.1	233.9	215.7	190.6	25.05	8.611	
5,000.0	4,933.9	5,003.4	4,962.9	17.8	15.4	161.48	161.48	506.8	239.6	219.6	194.0	25.59	8.582	

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 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<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 32X-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
5,100.0	5,032.4	5,103.3	5,061.8	18.2	15.7	161.43	519.6	245.3	223.6	197.5	26.14	8.555	
5,200.0	5,130.8	5,203.2	5,160.7	18.6	16.1	161.38	532.3	251.0	227.6	200.9	26.68	8.529	
5,300.0	5,229.3	5,303.2	5,259.7	19.0	16.4	161.33	545.1	256.7	231.5	204.3	27.23	8.504	
5,400.0	5,327.7	5,403.1	5,358.6	19.4	16.8	161.29	557.8	262.4	235.5	207.7	27.77	8.479	
5,500.0	5,426.2	5,503.0	5,457.6	19.8	17.1	161.24	570.5	268.1	239.4	211.1	28.31	8.456	
5,600.0	5,524.6	5,602.9	5,556.5	20.2	17.4	161.20	583.3	273.8	243.4	214.5	28.86	8.434	
5,700.0	5,623.1	5,702.8	5,655.4	20.6	17.8	161.16	596.0	279.5	247.3	217.9	29.40	8.412	
5,800.0	5,721.5	5,802.8	5,754.4	21.0	18.1	161.12	608.8	285.2	251.3	221.4	29.95	8.391	
5,900.0	5,820.0	5,902.7	5,853.3	21.4	18.5	161.08	621.5	290.9	255.3	224.8	30.49	8.371	
6,000.0	5,918.4	6,000.0	5,949.7	21.7	18.8	161.09	633.5	296.2	259.6	228.5	31.01	8.371	
6,100.0	6,017.3	6,090.8	6,040.0	22.0	19.0	161.20	642.3	300.2	264.2	232.8	31.38	8.418	
6,200.0	6,116.6	6,182.9	6,131.9	22.3	19.2	161.35	648.6	303.0	268.4	236.7	31.70	8.466	
6,300.0	6,216.2	6,275.0	6,223.8	22.5	19.3	161.54	652.2	304.6	272.3	240.3	31.97	8.518	
6,400.0	6,316.1	6,368.3	6,317.1	22.6	19.5	161.76	653.1	305.0	275.7	243.5	32.18	8.568	
6,500.0	6,416.1	6,468.3	6,417.1	22.8	19.6	180.00	653.1	305.0	276.9	235.8	41.04	6.747	
6,527.9	6,444.1	6,496.2	6,445.0	22.8	19.6	-179.90	653.1	304.5	276.9	235.7	41.13	6.732	
6,600.0	6,516.1	6,567.7	6,516.3	22.9	19.7	-178.68	653.1	298.6	276.9	235.5	41.47	6.679	
6,700.0	6,615.9	6,664.9	6,611.6	23.0	19.8	-85.72	653.1	280.0	277.7	245.3	32.39	8.573	
6,800.0	6,714.3	6,760.4	6,702.2	23.1	19.8	-82.83	653.1	250.1	279.1	246.9	32.20	8.668	
6,900.0	6,809.6	6,854.3	6,787.0	23.1	19.8	-80.12	653.1	209.8	281.1	249.0	32.06	8.767	
7,000.0	6,900.0	6,946.8	6,865.1	23.1	19.7	-77.61	653.1	160.3	283.6	251.5	32.03	8.852	
7,100.0	6,984.2	7,038.1	6,935.8	23.0	19.7	-75.34	653.1	102.6	286.3	254.1	32.16	8.903	
7,200.0	7,060.6	7,128.4	6,998.3	23.0	19.7	-73.34	653.1	37.6	289.1	256.6	32.49	8.899	
7,300.0	7,127.9	7,217.7	7,052.3	23.0	19.7	-71.63	653.1	-33.5	291.8	258.7	33.11	8.815	
7,400.0	7,185.1	7,306.2	7,097.2	23.0	19.7	-70.21	653.1	-109.7	294.3	260.3	34.01	8.655	
7,500.0	7,231.0	7,394.2	7,132.9	23.1	20.1	-69.09	653.1	-190.1	296.4	261.1	35.33	8.390	
7,600.0	7,265.0	7,481.7	7,158.9	23.4	20.9	-68.28	653.1	-273.6	298.1	261.0	37.09	8.036	
7,700.0	7,286.4	7,568.9	7,175.2	24.2	22.2	-67.77	653.1	-359.2	299.1	259.8	39.28	7.615	
7,800.0	7,294.9	7,655.9	7,181.6	25.4	23.7	-67.57	653.1	-445.9	299.5	257.7	41.86	7.155	
7,900.0	7,292.5	7,753.3	7,181.3	27.0	25.6	-67.94	653.1	-543.4	298.8	253.4	45.34	6.589	
8,000.0	7,289.1	7,853.3	7,180.8	28.9	27.6	-68.46	653.1	-643.3	297.7	248.3	49.37	6.029	
8,100.0	7,285.6	7,953.3	7,180.3	30.9	29.8	-68.99	653.1	-743.3	296.6	242.9	53.67	5.527	
8,200.0	7,282.2	8,053.2	7,179.7	33.1	32.1	-69.52	653.1	-843.2	295.6	237.4	58.18	5.081	
8,300.0	7,278.7	8,153.2	7,179.2	35.4	34.4	-70.05	653.1	-943.2	294.5	231.7	62.86	4.686	
8,400.0	7,275.3	8,253.1	7,178.7	37.7	36.8	-70.59	653.1	-1,043.1	293.6	225.9	67.69	4.337	
8,500.0	7,271.8	8,353.1	7,178.2	40.1	39.3	-71.13	653.1	-1,143.1	292.6	220.0	72.64	4.028	
8,600.0	7,268.4	8,453.0	7,177.6	42.6	41.8	-71.68	653.1	-1,243.0	291.7	214.0	77.70	3.754	
8,700.0	7,264.9	8,553.0	7,177.1	45.1	44.4	-72.23	653.1	-1,343.0	290.8	207.9	82.85	3.510	
8,800.0	7,261.4	8,653.0	7,176.6	47.6	46.9	-72.78	653.1	-1,443.0	289.9	201.8	88.07	3.291	
8,900.0	7,258.0	8,752.9	7,176.1	50.1	49.5	-73.33	653.1	-1,542.9	289.0	195.7	93.37	3.095	
9,000.0	7,254.5	8,852.9	7,175.5	52.7	52.1	-73.89	653.1	-1,642.9	288.2	189.5	98.72	2.919	
9,100.0	7,251.1	8,952.8	7,175.0	55.3	54.8	-74.45	653.1	-1,742.8	287.4	183.3	104.13	2.760	
9,200.0	7,247.6	9,052.8	7,174.5	58.0	57.4	-75.02	653.1	-1,842.8	286.6	177.0	109.59	2.615	
9,300.0	7,244.2	9,152.7	7,174.0	60.6	60.1	-75.58	653.1	-1,942.7	285.9	170.8	115.09	2.484	
9,400.0	7,240.7	9,252.7	7,173.4	63.3	62.8	-76.15	653.1	-2,042.7	285.2	164.5	120.62	2.364	
9,500.0	7,237.3	9,352.7	7,172.9	65.9	65.5	-76.73	653.1	-2,142.6	284.5	158.3	126.20	2.254	
9,600.0	7,233.8	9,452.6	7,172.4	68.6	68.2	-77.30	653.1	-2,242.6	283.8	152.0	131.80	2.153	
9,700.0	7,230.3	9,552.6	7,171.9	71.3	70.9	-77.88	653.1	-2,342.6	283.2	145.8	137.43	2.061	
9,800.0	7,226.9	9,652.5	7,171.4	74.0	73.6	-78.46	653.1	-2,442.5	282.6	139.5	143.08	1.975	
9,900.0	7,223.4	9,752.5	7,170.8	76.7	76.3	-79.05	653.1	-2,542.5	282.0	133.3	148.75	1.896	
10,000.0	7,220.0	9,852.4	7,170.3	79.4	79.0	-79.63	653.1	-2,642.4	281.5	127.0	154.44	1.823	

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 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32X-314 - Wellbore #1 - Plan #1 (4-14-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,100.0	7,216.5	9,952.4	7,169.8	82.1	81.8	-80.22		653.1	-2,742.4	281.0	120.8	160.14	1.754	
10,200.0	7,213.1	10,052.3	7,169.3	84.8	84.5	-80.81		653.1	-2,842.3	280.5	114.6	165.86	1.691	
10,300.0	7,209.6	10,152.3	7,168.7	87.6	87.2	-81.40		653.1	-2,942.3	280.0	108.4	171.59	1.632	
10,400.0	7,206.2	10,252.3	7,168.2	90.3	90.0	-82.00		653.1	-3,042.2	279.6	102.3	177.32	1.577	
10,500.0	7,202.7	10,352.2	7,167.7	93.0	92.7	-82.59		653.1	-3,142.2	279.2	96.1	183.06	1.525	
10,600.0	7,199.3	10,452.2	7,167.2	95.8	95.5	-83.19		653.1	-3,242.2	278.8	90.0	188.80	1.477	Level 3
10,700.0	7,195.8	10,552.1	7,166.6	98.5	98.2	-83.79		653.1	-3,342.1	278.5	84.0	194.54	1.432	Level 3
10,800.0	7,192.3	10,652.1	7,166.1	101.3	101.0	-84.39		653.1	-3,442.1	278.2	77.9	200.28	1.389	Level 3
10,900.0	7,188.9	10,752.0	7,165.6	104.0	103.8	-84.99		653.1	-3,542.0	277.9	71.9	206.01	1.349	Level 3
11,000.0	7,185.4	10,852.0	7,165.1	106.8	106.5	-85.59		653.1	-3,642.0	277.7	65.9	211.74	1.311	Level 3
11,100.0	7,182.0	10,952.0	7,164.6	109.5	109.3	-86.19		653.1	-3,741.9	277.5	60.0	217.46	1.276	Level 3
11,200.0	7,178.5	11,051.9	7,164.0	112.3	112.0	-86.80		653.1	-3,841.9	277.3	54.1	223.17	1.243	Level 2
11,300.0	7,175.1	11,151.9	7,163.5	115.0	114.8	-87.40		653.1	-3,941.8	277.2	48.3	228.86	1.211	Level 2
11,400.0	7,171.6	11,251.8	7,163.0	117.8	117.6	-88.01		653.1	-4,041.8	277.0	42.5	234.54	1.181	Level 2
11,500.0	7,168.2	11,351.8	7,162.5	120.6	120.4	-88.61		653.1	-4,141.8	277.0	36.7	240.21	1.153	Level 2
11,600.0	7,164.7	11,451.7	7,161.9	123.3	123.1	-89.22		653.1	-4,241.7	276.9	31.0	245.85	1.126	Level 2
11,700.0	7,161.2	11,551.7	7,161.4	126.1	125.9	-89.83		653.1	-4,341.7	276.9	25.4	251.47	1.101	Level 2
11,728.3	7,160.3	11,580.0	7,161.3	126.9	126.7	-90.00		653.1	-4,370.0	276.9	23.8	253.06	1.094	Level 2
11,800.0	7,157.8	11,651.7	7,160.9	128.9	128.7	-90.43		653.1	-4,441.6	276.9	19.8	257.07	1.077	Level 2
11,900.0	7,154.3	11,751.6	7,160.4	131.6	131.5	-91.04		653.1	-4,541.6	276.9	14.3	262.64	1.054	Level 2
12,000.0	7,150.9	11,851.6	7,159.8	134.4	134.2	-91.65		653.1	-4,641.5	277.0	8.8	268.19	1.033	Level 2
12,100.0	7,147.4	11,951.5	7,159.3	137.2	137.0	-92.25		653.1	-4,741.5	277.1	3.4	273.71	1.012	Level 2
12,200.0	7,144.0	12,051.5	7,158.8	140.0	139.8	-92.86		653.1	-4,841.5	277.2	-2.0	279.20	0.993	Level 1
12,300.0	7,140.5	12,151.4	7,158.3	142.7	142.6	-93.46		653.1	-4,941.4	277.4	-7.3	284.65	0.974	Level 1
12,400.0	7,137.1	12,251.4	7,157.7	145.5	145.4	-94.07		653.1	-5,041.4	277.6	-12.5	290.07	0.957	Level 1
12,500.0	7,133.6	12,351.4	7,157.2	148.3	148.1	-94.67		653.1	-5,141.3	277.8	-17.7	295.46	0.940	Level 1
12,600.0	7,130.2	12,451.3	7,156.7	151.1	150.9	-95.27		653.1	-5,241.3	278.0	-22.8	300.81	0.924	Level 1
12,700.0	7,126.7	12,551.3	7,156.2	153.9	153.7	-95.87		653.1	-5,341.2	278.3	-27.8	306.12	0.909	Level 1
12,800.0	7,123.2	12,651.2	7,155.7	156.6	156.5	-96.47		653.1	-5,441.2	278.6	-32.7	311.39	0.895	Level 1
12,900.0	7,119.8	12,751.2	7,155.1	159.4	159.3	-97.07		653.1	-5,541.1	279.0	-37.6	316.61	0.881	Level 1
13,000.0	7,116.3	12,851.1	7,154.6	162.2	162.1	-97.66		653.1	-5,641.1	279.4	-42.4	321.80	0.868	Level 1
13,100.0	7,112.9	12,951.1	7,154.1	165.0	164.9	-98.26		653.1	-5,741.1	279.8	-47.2	326.94	0.856	Level 1
13,200.0	7,109.4	13,051.1	7,153.6	167.8	167.6	-98.85		653.1	-5,841.0	280.2	-51.8	332.04	0.844	Level 1
13,300.0	7,106.0	13,151.0	7,153.0	170.6	170.4	-99.44		653.1	-5,941.0	280.7	-56.4	337.08	0.833	Level 1
13,400.0	7,102.5	13,251.0	7,152.5	173.3	173.2	-100.03		653.1	-6,040.9	281.2	-60.9	342.09	0.822	Level 1
13,500.0	7,099.1	13,350.9	7,152.0	176.1	176.0	-100.62		653.1	-6,140.9	281.7	-65.3	347.04	0.812	Level 1
13,600.0	7,095.6	13,450.9	7,151.5	178.9	178.8	-101.20		653.1	-6,240.8	282.3	-69.7	351.94	0.802	Level 1
13,700.0	7,092.1	13,550.8	7,150.9	181.7	181.6	-101.79		653.1	-6,340.8	282.8	-74.0	356.79	0.793	Level 1
13,800.0	7,088.7	13,650.8	7,150.4	184.5	184.4	-102.37		653.1	-6,440.7	283.5	-78.1	361.59	0.784	Level 1
13,900.0	7,085.2	13,750.8	7,149.9	187.3	187.2	-102.94		653.1	-6,540.7	284.1	-82.2	366.34	0.775	Level 1
14,000.0	7,081.8	13,850.7	7,149.4	190.1	190.0	-103.52		653.1	-6,640.7	284.8	-86.3	371.03	0.767	Level 1
14,100.0	7,078.3	13,950.7	7,148.9	192.9	192.8	-104.09		653.1	-6,740.6	285.5	-90.2	375.67	0.760	Level 1
14,200.0	7,074.9	14,050.6	7,148.3	195.6	195.6	-104.66		653.1	-6,840.6	286.2	-94.1	380.26	0.753	Level 1
14,300.0	7,071.4	14,150.6	7,147.8	198.4	198.3	-105.23		653.1	-6,940.5	287.0	-97.8	384.79	0.746	Level 1
14,400.0	7,068.0	14,250.5	7,147.3	201.2	201.1	-105.79		653.1	-7,040.5	287.7	-101.5	389.27	0.739	Level 1
14,456.8	7,066.0	14,304.2	7,147.0	202.8	202.6	-106.09		653.1	-7,094.1	288.2	-103.5	391.73	0.736	Level 1, ES, SF

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<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-214 - Wellbore #1 - Plan #3 (12-18-14)													
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Between Centres (ft)	Between Ellipses (ft)					
0.0	0.0	1.0	1.0	0.0	0.0	-180.00	-120.2	0.0	120.2	120.2	0.00	N/A	
100.0	100.0	101.0	101.0	0.1	0.1	-180.00	-120.2	0.0	120.2	120.0	0.23	529.609	
200.0	200.0	201.0	201.0	0.3	0.3	-180.00	-120.2	0.0	120.2	119.6	0.68	177.709	
300.0	300.0	301.0	301.0	0.6	0.6	-180.00	-120.2	0.0	120.2	119.1	1.13	106.767	
400.0	400.0	401.0	401.0	0.8	0.8	-180.00	-120.2	0.0	120.2	118.7	1.58	76.306 CC, ES	
500.0	500.0	501.0	501.0	1.0	1.0	162.09	-120.2	0.0	121.9	119.9	2.03	60.107	
600.0	599.8	600.8	600.8	1.2	1.2	162.79	-120.2	0.0	126.9	124.4	2.48	51.110	
700.0	699.5	700.5	700.5	1.5	1.5	163.83	-120.2	0.0	135.2	132.3	2.94	46.033	
800.0	798.7	799.7	799.7	1.7	1.7	165.09	-120.2	0.0	147.0	143.6	3.39	43.311	
900.0	897.5	898.5	898.5	2.0	1.9	166.44	-120.2	0.0	162.2	158.3	3.85	42.115	
1,000.0	995.9	996.9	996.9	2.4	2.1	167.75	-120.2	0.0	179.3	174.9	4.31	41.603	
1,100.0	1,094.4	1,095.4	1,095.4	2.7	2.3	168.84	-120.2	0.0	196.4	191.7	4.77	41.176	
1,200.0	1,192.8	1,193.8	1,193.8	3.1	2.6	169.75	-120.2	0.0	213.7	208.5	5.24	40.818 SF	
1,300.0	1,291.3	1,287.0	1,287.0	3.5	2.8	170.26	-121.3	0.7	232.0	226.4	5.67	40.906	
1,400.0	1,389.7	1,379.0	1,378.9	3.8	2.9	170.23	-124.9	3.1	252.7	246.6	6.10	41.444	
1,500.0	1,488.2	1,470.0	1,469.6	4.2	3.1	169.80	-130.9	6.9	275.8	269.2	6.53	42.230	
1,600.0	1,586.6	1,560.0	1,559.0	4.6	3.3	169.07	-139.1	12.3	301.1	294.2	6.97	43.180	
1,700.0	1,685.1	1,656.3	1,654.6	5.0	3.5	168.23	-149.2	18.9	327.7	320.3	7.44	44.069	
1,800.0	1,783.5	1,752.6	1,750.1	5.4	3.7	167.52	-159.3	25.5	354.3	346.4	7.90	44.832	
1,900.0	1,882.0	1,848.9	1,845.7	5.7	4.0	166.90	-169.4	32.0	380.9	372.6	8.38	45.474	
2,000.0	1,980.4	1,945.2	1,941.2	6.1	4.2	166.37	-179.4	38.6	407.6	398.8	8.86	46.019	
2,100.0	2,078.9	2,041.5	2,036.8	6.5	4.5	165.90	-189.5	45.1	434.3	425.0	9.34	46.482	
2,200.0	2,177.3	2,137.8	2,132.3	6.9	4.8	165.49	-199.6	51.7	461.1	451.2	9.83	46.883	
2,300.0	2,275.8	2,234.1	2,227.9	7.3	5.0	165.12	-209.7	58.3	487.8	477.5	10.33	47.230	
2,400.0	2,374.2	2,330.4	2,323.5	7.7	5.3	164.79	-219.7	64.8	514.6	503.8	10.83	47.534	
2,500.0	2,472.7	2,426.7	2,419.0	8.1	5.6	164.49	-229.8	71.4	541.4	530.1	11.33	47.799	
2,600.0	2,571.1	2,523.0	2,514.6	8.4	5.9	164.22	-239.9	78.0	568.2	556.4	11.83	48.034	
2,700.0	2,669.6	2,619.4	2,610.1	8.8	6.2	163.98	-249.9	84.5	595.0	582.7	12.33	48.242	
2,800.0	2,768.0	2,715.7	2,705.7	9.2	6.5	163.76	-260.0	91.1	621.8	609.0	12.84	48.427	
2,900.0	2,866.5	2,812.0	2,801.2	9.6	6.8	163.55	-270.1	97.6	648.6	635.3	13.35	48.593	
3,000.0	2,964.9	2,908.3	2,896.8	10.0	7.1	163.36	-280.2	104.2	675.5	661.6	13.86	48.742	
3,100.0	3,063.4	3,004.6	2,992.3	10.4	7.4	163.19	-290.2	110.8	702.3	688.0	14.37	48.876	
3,200.0	3,161.8	3,100.9	3,087.9	10.8	7.7	163.02	-300.3	117.3	729.2	714.3	14.88	48.998	
3,300.0	3,260.3	3,197.2	3,183.5	11.2	8.0	162.87	-310.4	123.9	756.0	740.6	15.40	49.108	
3,400.0	3,358.7	3,293.5	3,279.0	11.6	8.3	162.73	-320.4	130.5	782.9	767.0	15.91	49.209	
3,500.0	3,457.2	3,389.8	3,374.6	12.0	8.6	162.60	-330.5	137.0	809.7	793.3	16.42	49.301	
3,600.0	3,555.6	3,486.1	3,470.1	12.4	8.9	162.48	-340.6	143.6	836.6	819.7	16.94	49.385	
3,700.0	3,654.1	3,582.4	3,565.7	12.7	9.2	162.37	-350.7	150.1	863.5	846.0	17.46	49.462	
3,800.0	3,752.5	3,678.8	3,661.2	13.1	9.5	162.26	-360.7	156.7	890.3	872.4	17.97	49.533	
3,900.0	3,851.0	3,775.1	3,756.8	13.5	9.8	162.16	-370.8	163.3	917.2	898.7	18.49	49.599	
4,000.0	3,949.4	3,871.4	3,852.4	13.9	10.1	162.06	-380.9	169.8	944.1	925.1	19.01	49.660	
4,100.0	4,047.9	3,967.7	3,947.9	14.3	10.4	161.97	-390.9	176.4	971.0	951.4	19.53	49.716	
4,200.0	4,146.3	4,064.0	4,043.5	14.7	10.8	161.89	-401.0	183.0	997.8	977.8	20.05	49.769	



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32Y-314 - Wellbore #1 - Plan #3 (12-18-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	2.0	2.0	0.0	0.0	-180.00	-180.00	-149.4	0.0	149.4	149.4	0.00	N/A	
100.0	100.0	102.0	102.0	0.1	0.1	-180.00	-180.00	-149.4	0.0	149.4	149.1	0.23	651.503	
200.0	200.0	202.0	202.0	0.3	0.3	-180.00	-180.00	-149.4	0.0	149.4	148.7	0.68	220.044	
300.0	300.0	302.0	302.0	0.6	0.6	-180.00	-180.00	-149.4	0.0	149.4	148.2	1.13	132.377	
400.0	400.0	402.0	402.0	0.8	0.8	-180.00	-180.00	-149.4	0.0	149.4	147.8	1.58	94.663 CC, ES	
500.0	500.0	502.0	502.0	1.0	1.0	162.04	162.04	-149.4	0.0	151.0	149.0	2.03	74.392	
600.0	599.8	601.8	601.8	1.2	1.2	162.60	162.60	-149.4	0.0	156.0	153.5	2.48	62.790	
700.0	699.5	701.5	701.5	1.5	1.5	163.46	163.46	-149.4	0.0	164.3	161.4	2.94	55.903	
800.0	798.7	800.7	800.7	1.7	1.7	164.53	164.53	-149.4	0.0	176.1	172.7	3.40	51.847	
900.0	897.5	899.5	899.5	2.0	1.9	165.70	165.70	-149.4	0.0	191.2	187.3	3.85	49.621	
1,000.0	995.9	997.9	997.9	2.4	2.1	166.89	166.89	-149.4	0.0	208.3	203.9	4.31	48.290	
1,100.0	1,094.4	1,090.2	1,090.2	2.7	2.3	167.66	167.66	-150.7	0.6	226.7	222.0	4.74	47.787 SF	
1,200.0	1,192.8	1,181.3	1,181.2	3.1	2.5	167.96	167.96	-154.6	2.3	247.9	242.7	5.17	47.984	
1,300.0	1,291.3	1,271.4	1,271.0	3.5	2.7	167.91	167.91	-161.1	5.1	271.8	266.2	5.59	48.576	
1,400.0	1,389.7	1,360.1	1,359.2	3.8	2.8	167.59	167.59	-170.1	9.0	298.3	292.2	6.03	49.449	
1,500.0	1,488.2	1,447.4	1,445.6	4.2	3.0	167.08	167.08	-181.3	13.9	327.3	320.9	6.48	50.537	
1,600.0	1,586.6	1,535.0	1,531.9	4.6	3.3	166.43	166.43	-195.0	19.9	358.9	352.0	6.94	51.729	
1,700.0	1,685.1	1,629.5	1,624.9	5.0	3.6	165.78	165.78	-210.5	26.7	391.4	384.0	7.41	52.817	
1,800.0	1,783.5	1,724.0	1,717.9	5.4	3.9	165.22	165.22	-226.1	33.5	423.9	416.0	7.89	53.732	
1,900.0	1,882.0	1,818.5	1,810.8	5.7	4.2	164.75	164.75	-241.6	40.2	456.4	448.0	8.37	54.507	
2,000.0	1,980.4	1,913.0	1,903.8	6.1	4.5	164.34	164.34	-257.1	47.0	488.9	480.1	8.87	55.144	
2,100.0	2,078.9	2,007.5	1,996.8	6.5	4.8	163.98	163.98	-272.7	53.8	521.5	512.1	9.36	55.704	
2,200.0	2,177.3	2,102.0	2,089.7	6.9	5.2	163.66	163.66	-288.2	60.6	554.1	544.2	9.86	56.183	
2,300.0	2,275.8	2,196.5	2,182.7	7.3	5.5	163.38	163.38	-303.8	67.4	586.6	576.3	10.37	56.598	
2,400.0	2,374.2	2,291.0	2,275.7	7.7	5.9	163.12	163.12	-319.3	74.1	619.2	608.4	10.87	56.959	
2,500.0	2,472.7	2,385.6	2,368.7	8.1	6.3	162.89	162.89	-334.9	80.9	651.9	640.5	11.38	57.277	
2,600.0	2,571.1	2,480.1	2,461.6	8.4	6.6	162.69	162.69	-350.4	87.7	684.5	672.6	11.89	57.559	
2,700.0	2,669.6	2,574.6	2,554.6	8.8	7.0	162.50	162.50	-365.9	94.5	717.1	704.7	12.40	57.808	
2,800.0	2,768.0	2,669.1	2,647.6	9.2	7.4	162.33	162.33	-381.5	101.3	749.7	736.8	12.92	58.031	
2,900.0	2,866.5	2,763.6	2,740.5	9.6	7.7	162.17	162.17	-397.0	108.0	782.4	768.9	13.44	58.231	
3,000.0	2,964.9	2,858.1	2,833.5	10.0	8.1	162.03	162.03	-412.6	114.8	815.0	801.1	13.95	58.411	
3,100.0	3,063.4	2,952.6	2,926.5	10.4	8.5	161.90	161.90	-428.1	121.6	847.7	833.2	14.47	58.573	
3,200.0	3,161.8	3,047.1	3,019.4	10.8	8.9	161.77	161.77	-443.7	128.4	880.3	865.3	14.99	58.721	
3,300.0	3,260.3	3,141.6	3,112.4	11.2	9.2	161.66	161.66	-459.2	135.2	913.0	897.5	15.51	58.855	
3,400.0	3,358.7	3,236.1	3,205.4	11.6	9.6	161.55	161.55	-474.7	142.0	945.6	929.6	16.03	58.978	
3,500.0	3,457.2	3,330.6	3,298.3	12.0	10.0	161.45	161.45	-490.3	148.7	978.3	961.7	16.56	59.090	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32Y-404 - Wellbore #1 - Plan #2 (7-15-14)													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance				Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	2.0	2.0	0.0	0.0	180.00	-178.5	0.0	178.5	178.5	0.00	N/A		
100.0	100.0	102.0	102.0	0.1	0.1	180.00	-178.5	0.0	178.5	178.3	0.23	778.643		
200.0	200.0	202.0	202.0	0.3	0.3	180.00	-178.5	0.0	178.5	177.8	0.68	262.986		
300.0	300.0	302.0	302.0	0.6	0.6	180.00	-178.5	0.0	178.5	177.4	1.13	158.210		
400.0	400.0	402.0	402.0	0.8	0.8	180.00	-178.5	0.0	178.5	176.9	1.58	113.136 CC, ES		
500.0	500.0	500.0	500.0	1.0	1.0	162.00	-178.5	0.0	180.2	178.2	2.03	88.950		
600.0	599.8	596.0	596.0	1.2	1.2	162.26	-180.0	0.6	186.7	184.3	2.45	76.159		
700.0	699.5	689.3	689.2	1.5	1.4	162.42	-184.4	2.2	199.7	196.8	2.87	69.473		
800.0	798.7	781.2	780.7	1.7	1.6	162.48	-191.4	4.8	218.9	215.6	3.31	66.101		
900.0	897.5	871.1	870.1	2.0	1.8	162.45	-201.0	8.4	244.2	240.4	3.76	64.941		
1,000.0	995.9	959.5	957.5	2.4	2.0	162.44	-213.0	12.8	274.0	269.8	4.21	65.019		
1,100.0	1,094.4	1,054.5	1,051.3	2.7	2.3	162.35	-227.1	18.1	305.2	300.5	4.68	65.249		
1,200.0	1,192.8	1,149.5	1,145.2	3.1	2.6	162.27	-241.2	23.4	336.3	331.1	5.14	65.381		
1,300.0	1,291.3	1,244.6	1,239.0	3.5	3.0	162.20	-255.3	28.6	367.4	361.8	5.62	65.387		
1,400.0	1,389.7	1,339.6	1,332.8	3.8	3.3	162.14	-269.4	33.9	398.5	392.4	6.10	65.319		
1,500.0	1,488.2	1,434.6	1,426.7	4.2	3.6	162.10	-283.5	39.1	429.7	423.1	6.59	65.225		
1,600.0	1,586.6	1,529.7	1,520.5	4.6	4.0	162.05	-297.6	44.4	460.8	453.7	7.08	65.057		
1,700.0	1,685.1	1,624.7	1,614.3	5.0	4.3	162.02	-311.8	49.6	491.9	484.3	7.58	64.912		
1,800.0	1,783.5	1,719.7	1,708.2	5.4	4.7	161.99	-325.9	54.9	523.0	514.9	8.08	64.759		
1,900.0	1,882.0	1,814.8	1,802.0	5.7	5.0	161.96	-340.0	60.2	554.1	545.6	8.58	64.605		
2,000.0	1,980.4	1,909.8	1,895.8	6.1	5.4	161.93	-354.1	65.4	585.3	576.2	9.08	64.454		
2,100.0	2,078.9	2,004.8	1,989.7	6.5	5.7	161.91	-368.2	70.7	616.4	606.8	9.59	64.307		
2,200.0	2,177.3	2,099.9	2,083.5	6.9	6.1	161.89	-382.3	75.9	647.5	637.4	10.09	64.166		
2,300.0	2,275.8	2,194.9	2,177.3	7.3	6.4	161.87	-396.4	81.2	678.6	668.0	10.60	64.031		
2,400.0	2,374.2	2,289.9	2,271.2	7.7	6.8	161.85	-410.5	86.4	709.8	698.7	11.11	63.901		
2,500.0	2,472.7	2,385.0	2,365.0	8.1	7.1	161.84	-424.7	91.7	740.9	729.3	11.62	63.778		
2,600.0	2,571.1	2,480.0	2,458.8	8.4	7.5	161.82	-438.8	97.0	772.0	759.9	12.13	63.661		
2,700.0	2,669.6	2,575.0	2,552.7	8.8	7.9	161.81	-452.9	102.2	803.1	790.5	12.64	63.550		
2,800.0	2,768.0	2,670.1	2,646.5	9.2	8.2	161.80	-467.0	107.5	834.3	821.1	13.15	63.444		
2,900.0	2,866.5	2,765.1	2,740.3	9.6	8.6	161.79	-481.1	112.7	865.4	851.7	13.66	63.344		
3,000.0	2,964.9	2,860.1	2,834.1	10.0	8.9	161.78	-495.2	118.0	896.5	882.3	14.17	63.248		
3,100.0	3,063.4	2,955.2	2,928.0	10.4	9.3	161.77	-509.3	123.2	927.6	912.9	14.69	63.157		
3,200.0	3,161.8	3,050.2	3,021.8	10.8	9.7	161.76	-523.4	128.5	958.8	943.6	15.20	63.070		
3,300.0	3,260.3	3,145.2	3,115.6	11.2	10.0	161.75	-537.6	133.8	989.9	974.2	15.72	62.987 SF		



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Tarin 32W-434
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<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4789.0ft (RKB - 15')

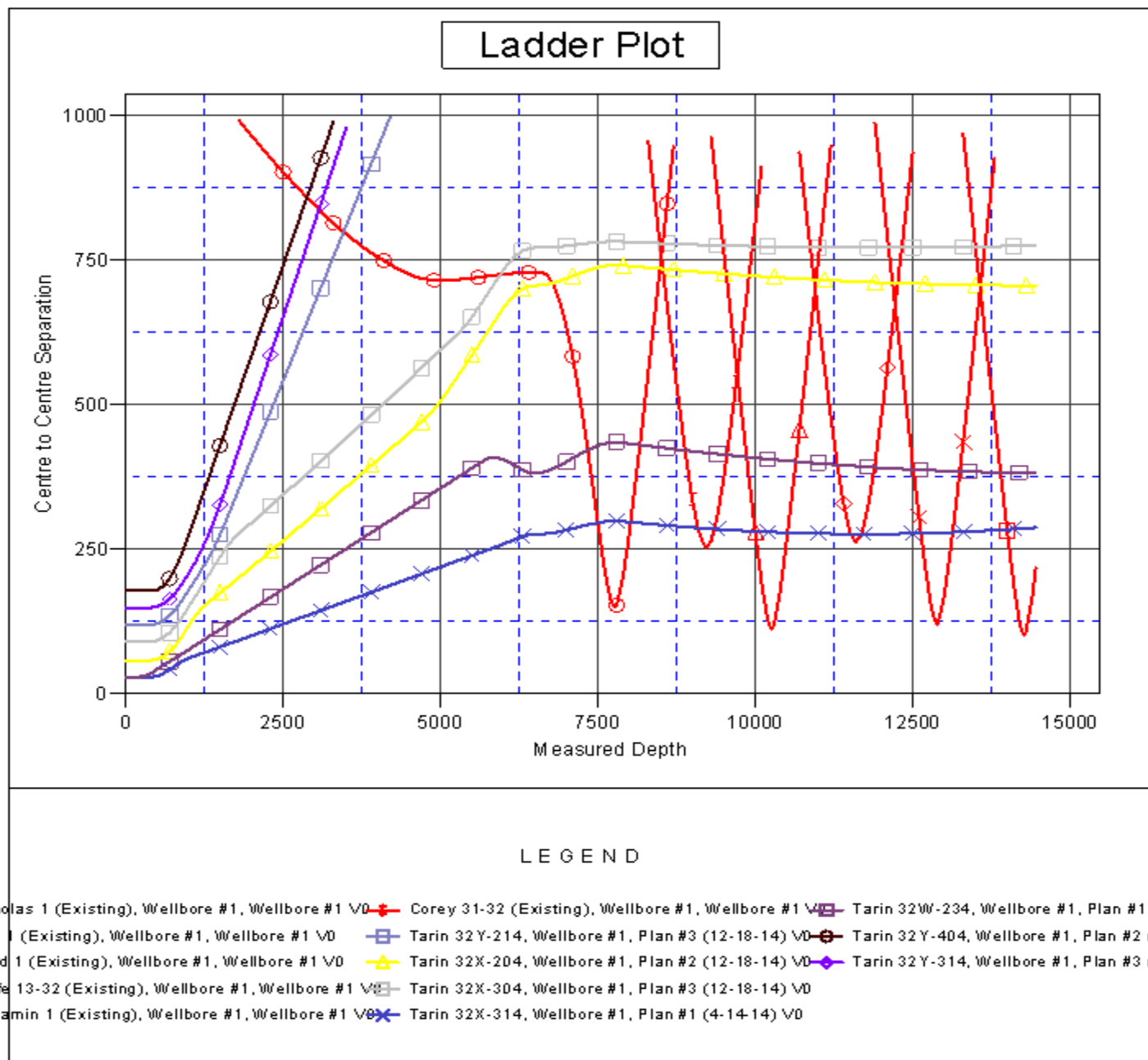
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Tarin 32W-434

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 32W-434
<b>Project:</b>	SEC.32-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
<b>Reference Site:</b>	Tarin 32X-HZ Pad Sec.32-T4N-R66W	<b>MD Reference:</b>	WELL @ 4789.0ft (RKB - 15')
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<b>Reference Well:</b>	Tarin 32W-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (12-18-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4789.0ft (RKB - 15')

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Tarin 32W-434

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.46°

