

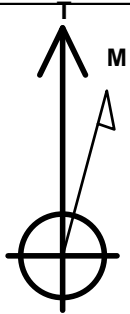
PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Tarin 32X-314**

Surface Location: Tarin 32X-HZ Pad Sec.32-T4N-R66W
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
 Ground Elevation: 4775.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1339675.36 3197253.32 40.263650 -104.793170
 RKB - 15' WELL @ 4790.0ft (RKB - 15')

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 1003'FSL & 355'FEL, Sec.32	1.0	0.0	0.0	Point
BHL 1725'FSL & 2149'FEL, Sec.31	7147.0	682.3	-7094.1	Point



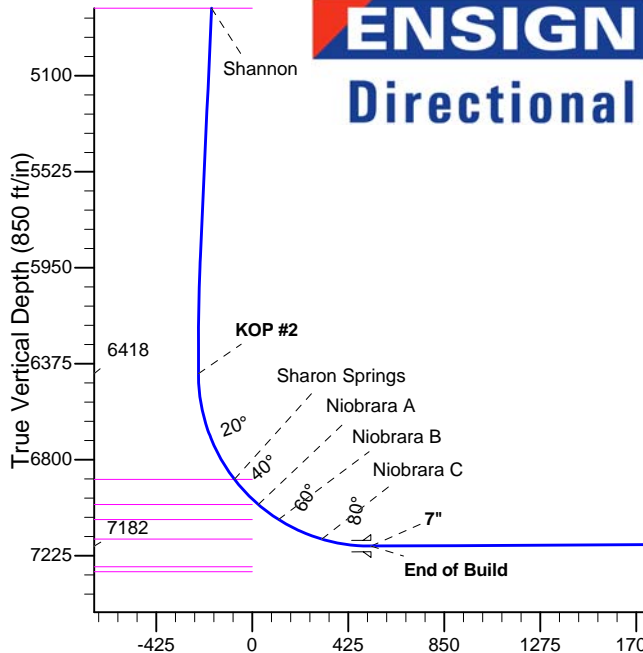
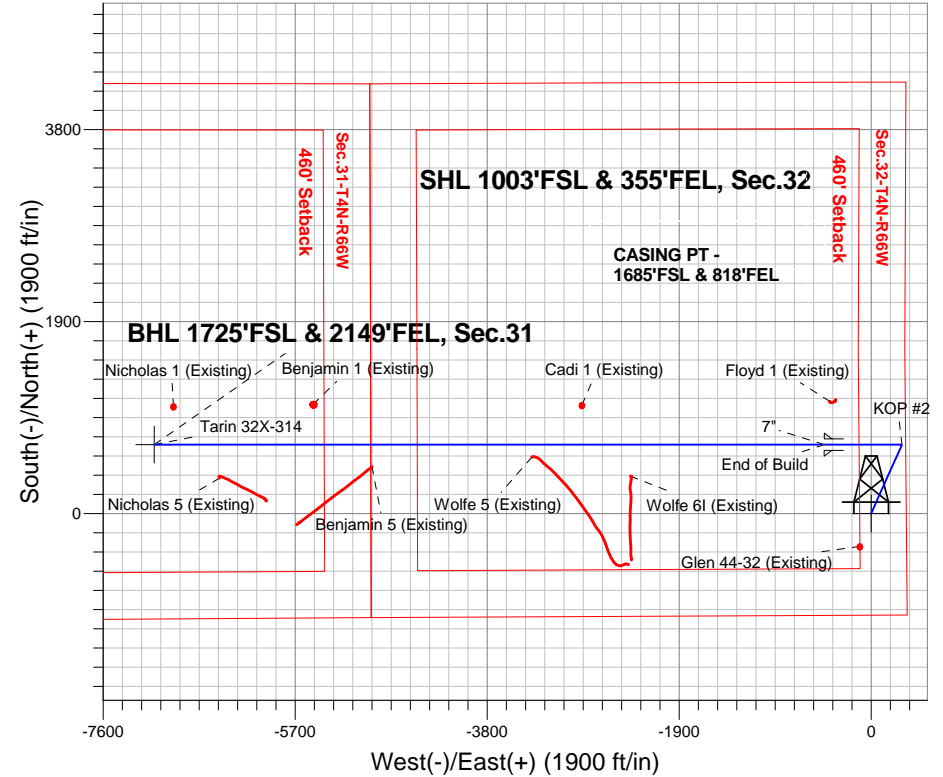
Azimuths to True North
 Magnetic North: 8.48°

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

Tarin 32X-HZ Pad Sec.32-T4N-R66W
 Tarin 32X-314
 Plan #1 (4-14-14)
 8:00, April 25 2014

ANNOTATIONS

TVD	MD	Annotation
600.0	600.0	KOP #1
6417.8	6468.9	KOP #2
7181.7	7672.9	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	600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.0	
3	1001.5	8.03	24.09	1000.2	25.6	11.5	2.00	24.09	-9.0	
4	5949.7	8.03	24.09	5899.8	656.6	293.5	0.00	0.00	-229.3	
5	6351.1	0.00	0.00	6300.0	682.3	305.0	2.00	180.00	-238.3	
6	6468.9	0.00	0.00	6417.8	682.3	305.0	0.00	0.00	-238.3	
7	7672.9	90.30	270.00	7181.7	682.3	-462.9	7.50	270.00	526.1	
8	14304.2	90.30	270.00	7147.0	682.3	-7094.1	0.00	0.00	7126.8	BHL 1725'FSL & 2149'FEL, Sec.31

BHL 1725'FSL & 2149'FEL, Sec.31



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.32-T4N-R66W

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

Tarin 32X-314

Wellbore #1

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

Standard Planning Report

25 April, 2014

Database:	landmark	Local Co-ordinate Reference:	Well Tarin 32X-314
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Project:	SEC.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	North Reference:	True
Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (4-14-14)		

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

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

Well	Tarin 32X-314		
Well Position	+N/-S	-58.3 ft	Northing:
	+E/-W	2.8 ft	Easting:
Position Uncertainty		0.0 ft	Wellhead Elevation:
			ft
			Latitude:
			40.263650
			Longitude:
			-104.793170
			Ground Level:
			4,775.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/23/2014	8.48	66.84	52,756

Design	Plan #1 (4-14-14)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	275.49

Plan Sections										
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	
600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,001.5	8.03	24.09	1,000.2	25.6	11.5	2.00	2.00	0.00	24.09	
5,949.7	8.03	24.09	5,899.8	656.6	293.5	0.00	0.00	0.00	0.00	
6,351.1	0.00	0.00	6,300.0	682.3	305.0	2.00	-2.00	0.00	180.00	
6,468.9	0.00	0.00	6,417.8	682.3	305.0	0.00	0.00	0.00	0.00	
7,672.9	90.30	270.00	7,181.7	682.3	-462.9	7.50	7.50	0.00	270.00	
14,304.2	90.30	270.00	7,147.0	682.3	-7,094.1	0.00	0.00	0.00	0.00	BHL 1725'FSL & 21

Database:	landmark	Local Co-ordinate Reference:	Well Tarin 32X-314
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Project:	SEC.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	North Reference:	True
Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (4-14-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00
SHL 1003'FSL & 355'FEL, Sec.32									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP #1									
700.0	2.00	24.09	700.0	1.6	0.7	-0.6	2.00	2.00	0.00
800.0	4.00	24.09	799.8	6.4	2.8	-2.2	2.00	2.00	0.00
900.0	6.00	24.09	899.5	14.3	6.4	-5.0	2.00	2.00	0.00
1,000.0	8.00	24.09	998.7	25.5	11.4	-8.9	2.00	2.00	0.00
1,001.5	8.03	24.09	1,000.2	25.6	11.5	-9.0	2.00	2.00	0.00
1,100.0	8.03	24.09	1,097.7	38.2	17.1	-13.3	0.00	0.00	0.00
1,200.0	8.03	24.09	1,196.7	51.0	22.8	-17.8	0.00	0.00	0.00
1,300.0	8.03	24.09	1,295.8	63.7	28.5	-22.2	0.00	0.00	0.00
1,400.0	8.03	24.09	1,394.8	76.5	34.2	-26.7	0.00	0.00	0.00
1,500.0	8.03	24.09	1,493.8	89.2	39.9	-31.2	0.00	0.00	0.00
1,600.0	8.03	24.09	1,592.8	102.0	45.6	-35.6	0.00	0.00	0.00
1,700.0	8.03	24.09	1,691.8	114.7	51.3	-40.1	0.00	0.00	0.00
1,800.0	8.03	24.09	1,790.9	127.5	57.0	-44.5	0.00	0.00	0.00
1,900.0	8.03	24.09	1,889.9	140.2	62.7	-49.0	0.00	0.00	0.00
2,000.0	8.03	24.09	1,988.9	153.0	68.4	-53.4	0.00	0.00	0.00
2,100.0	8.03	24.09	2,087.9	165.7	74.1	-57.9	0.00	0.00	0.00
2,200.0	8.03	24.09	2,186.9	178.5	79.8	-62.3	0.00	0.00	0.00
2,300.0	8.03	24.09	2,286.0	191.2	85.5	-66.8	0.00	0.00	0.00
2,400.0	8.03	24.09	2,385.0	204.0	91.2	-71.2	0.00	0.00	0.00
2,500.0	8.03	24.09	2,484.0	216.7	96.9	-75.7	0.00	0.00	0.00
2,600.0	8.03	24.09	2,583.0	229.5	102.6	-80.1	0.00	0.00	0.00
2,700.0	8.03	24.09	2,682.0	242.2	108.3	-84.6	0.00	0.00	0.00
2,800.0	8.03	24.09	2,781.1	255.0	114.0	-89.1	0.00	0.00	0.00
2,900.0	8.03	24.09	2,880.1	267.7	119.7	-93.5	0.00	0.00	0.00
3,000.0	8.03	24.09	2,979.1	280.5	125.4	-98.0	0.00	0.00	0.00
3,100.0	8.03	24.09	3,078.1	293.2	131.1	-102.4	0.00	0.00	0.00
3,200.0	8.03	24.09	3,177.1	306.0	136.8	-106.9	0.00	0.00	0.00
3,300.0	8.03	24.09	3,276.2	318.7	142.5	-111.3	0.00	0.00	0.00
3,400.0	8.03	24.09	3,375.2	331.5	148.2	-115.8	0.00	0.00	0.00
3,500.0	8.03	24.09	3,474.2	344.3	153.9	-120.2	0.00	0.00	0.00
3,600.0	8.03	24.09	3,573.2	357.0	159.6	-124.7	0.00	0.00	0.00
3,700.0	8.03	24.09	3,672.2	369.8	165.3	-129.1	0.00	0.00	0.00
3,738.1	8.03	24.09	3,710.0	374.6	167.5	-130.8	0.00	0.00	0.00
Parkman									
3,800.0	8.03	24.09	3,771.3	382.5	171.0	-133.6	0.00	0.00	0.00
3,900.0	8.03	24.09	3,870.3	395.3	176.7	-138.0	0.00	0.00	0.00
4,000.0	8.03	24.09	3,969.3	408.0	182.4	-142.5	0.00	0.00	0.00
4,100.0	8.03	24.09	4,068.3	420.8	188.1	-147.0	0.00	0.00	0.00
4,200.0	8.03	24.09	4,167.3	433.5	193.8	-151.4	0.00	0.00	0.00
4,300.0	8.03	24.09	4,266.3	446.3	199.5	-155.9	0.00	0.00	0.00
4,400.0	8.03	24.09	4,365.4	459.0	205.2	-160.3	0.00	0.00	0.00
4,424.9	8.03	24.09	4,390.0	462.2	206.6	-161.4	0.00	0.00	0.00
Sussex									

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Project:	SEC.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	North Reference:	True
Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (4-14-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,500.0	8.03	24.09	4,464.4	471.8	210.9	-164.8	0.00	0.00	0.00
4,600.0	8.03	24.09	4,563.4	484.5	216.6	-169.2	0.00	0.00	0.00
4,700.0	8.03	24.09	4,662.4	497.3	222.3	-173.7	0.00	0.00	0.00
4,800.0	8.03	24.09	4,761.4	510.0	228.0	-178.1	0.00	0.00	0.00
4,838.9	8.03	24.09	4,800.0	515.0	230.2	-179.9	0.00	0.00	0.00
Shannon									
4,900.0	8.03	24.09	4,860.5	522.8	233.7	-182.6	0.00	0.00	0.00
5,000.0	8.03	24.09	4,959.5	535.5	239.4	-187.0	0.00	0.00	0.00
5,100.0	8.03	24.09	5,058.5	548.3	245.1	-191.5	0.00	0.00	0.00
5,200.0	8.03	24.09	5,157.5	561.0	250.8	-195.9	0.00	0.00	0.00
5,300.0	8.03	24.09	5,256.5	573.8	256.5	-200.4	0.00	0.00	0.00
5,400.0	8.03	24.09	5,355.6	586.5	262.2	-204.8	0.00	0.00	0.00
5,500.0	8.03	24.09	5,454.6	599.3	267.9	-209.3	0.00	0.00	0.00
5,600.0	8.03	24.09	5,553.6	612.0	273.6	-213.8	0.00	0.00	0.00
5,700.0	8.03	24.09	5,652.6	624.8	279.3	-218.2	0.00	0.00	0.00
5,800.0	8.03	24.09	5,751.6	637.5	285.0	-222.7	0.00	0.00	0.00
5,900.0	8.03	24.09	5,850.7	650.3	290.7	-227.1	0.00	0.00	0.00
5,949.7	8.03	24.09	5,899.8	656.6	293.5	-229.3	0.00	0.00	0.00
6,000.0	7.02	24.09	5,949.7	662.7	296.2	-231.4	2.00	-2.00	0.00
6,100.0	5.02	24.09	6,049.2	672.2	300.5	-234.8	2.00	-2.00	0.00
6,200.0	3.02	24.09	6,148.9	678.6	303.4	-237.0	2.00	-2.00	0.00
6,300.0	1.02	24.09	6,248.9	681.9	304.8	-238.1	2.00	-2.00	0.00
6,351.1	0.00	0.00	6,300.0	682.3	305.0	-238.3	2.00	-2.00	0.00
6,400.0	0.00	0.00	6,348.9	682.3	305.0	-238.3	0.00	0.00	0.00
6,468.9	0.00	0.00	6,417.8	682.3	305.0	-238.3	0.00	0.00	0.00
KOP #2									
6,500.0	2.33	270.00	6,448.9	682.3	304.4	-237.7	7.49	7.49	0.00
6,600.0	9.83	270.00	6,548.2	682.3	293.8	-227.1	7.50	7.50	0.00
6,700.0	17.33	270.00	6,645.4	682.3	270.3	-203.8	7.50	7.50	0.00
6,800.0	24.83	270.00	6,738.6	682.3	234.4	-168.0	7.50	7.50	0.00
6,900.0	32.33	270.00	6,826.3	682.3	186.6	-120.4	7.50	7.50	0.00
6,972.9	37.80	270.00	6,886.0	682.3	144.7	-78.7	7.50	7.50	0.00
Sharon Springs									
7,000.0	39.83	270.00	6,907.1	682.3	127.7	-61.8	7.50	7.50	0.00
7,100.0	47.33	270.00	6,979.5	682.3	58.8	6.8	7.50	7.50	0.00
7,127.9	49.42	270.00	6,998.0	682.3	38.0	27.5	7.50	7.50	0.00
Niobrara A									
7,200.0	54.83	270.00	7,042.3	682.3	-18.9	84.1	7.50	7.50	0.00
7,239.2	57.77	270.00	7,064.0	682.3	-51.5	116.6	7.50	7.50	0.00
Niobrara B									
7,300.0	62.33	270.00	7,094.4	682.3	-104.2	169.0	7.50	7.50	0.00
7,400.0	69.83	270.00	7,134.9	682.3	-195.5	260.0	7.50	7.50	0.00
7,451.5	73.69	270.00	7,151.0	682.3	-244.4	308.6	7.50	7.50	0.00
Niobrara C									
7,500.0	77.33	270.00	7,163.1	682.3	-291.4	355.4	7.50	7.50	0.00
7,600.0	84.83	270.00	7,178.6	682.3	-390.1	453.6	7.50	7.50	0.00
7,672.9	90.30	270.00	7,181.7	682.3	-462.9	526.1	7.50	7.50	0.00
End of Build - 7"									
7,700.0	90.30	270.00	7,181.6	682.3	-490.0	553.1	0.01	0.01	0.00
7,800.0	90.30	270.00	7,181.1	682.3	-590.0	652.6	0.00	0.00	0.00
7,900.0	90.30	270.00	7,180.5	682.3	-690.0	752.2	0.00	0.00	0.00
8,000.0	90.30	270.00	7,180.0	682.3	-790.0	851.7	0.00	0.00	0.00

Database:	landmark	Local Co-ordinate Reference:	Well Tarin 32X-314
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Project:	SEC.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	North Reference:	True
Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (4-14-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,100.0	90.30	270.00	7,179.5	682.3	-890.0	951.2	0.00	0.00	0.00
8,200.0	90.30	270.00	7,179.0	682.3	-990.0	1,050.8	0.00	0.00	0.00
8,300.0	90.30	270.00	7,178.4	682.3	-1,090.0	1,150.3	0.00	0.00	0.00
8,400.0	90.30	270.00	7,177.9	682.3	-1,190.0	1,249.9	0.00	0.00	0.00
8,500.0	90.30	270.00	7,177.4	682.3	-1,290.0	1,349.4	0.00	0.00	0.00
8,600.0	90.30	270.00	7,176.9	682.3	-1,390.0	1,448.9	0.00	0.00	0.00
8,700.0	90.30	270.00	7,176.3	682.3	-1,490.0	1,548.5	0.00	0.00	0.00
8,800.0	90.30	270.00	7,175.8	682.3	-1,590.0	1,648.0	0.00	0.00	0.00
8,900.0	90.30	270.00	7,175.3	682.3	-1,690.0	1,747.6	0.00	0.00	0.00
9,000.0	90.30	270.00	7,174.8	682.3	-1,790.0	1,847.1	0.00	0.00	0.00
9,100.0	90.30	270.00	7,174.2	682.3	-1,890.0	1,946.6	0.00	0.00	0.00
9,200.0	90.30	270.00	7,173.7	682.3	-1,990.0	2,046.2	0.00	0.00	0.00
9,300.0	90.30	270.00	7,173.2	682.3	-2,090.0	2,145.7	0.00	0.00	0.00
9,400.0	90.30	270.00	7,172.7	682.3	-2,190.0	2,245.3	0.00	0.00	0.00
9,500.0	90.30	270.00	7,172.2	682.3	-2,290.0	2,344.8	0.00	0.00	0.00
9,600.0	90.30	270.00	7,171.6	682.3	-2,390.0	2,444.3	0.00	0.00	0.00
9,700.0	90.30	270.00	7,171.1	682.3	-2,490.0	2,543.9	0.00	0.00	0.00
9,800.0	90.30	270.00	7,170.6	682.3	-2,590.0	2,643.4	0.00	0.00	0.00
9,900.0	90.30	270.00	7,170.1	682.3	-2,690.0	2,743.0	0.00	0.00	0.00
10,000.0	90.30	270.00	7,169.5	682.3	-2,790.0	2,842.5	0.00	0.00	0.00
10,100.0	90.30	270.00	7,169.0	682.3	-2,890.0	2,942.0	0.00	0.00	0.00
10,200.0	90.30	270.00	7,168.5	682.3	-2,990.0	3,041.6	0.00	0.00	0.00
10,300.0	90.30	270.00	7,168.0	682.3	-3,090.0	3,141.1	0.00	0.00	0.00
10,400.0	90.30	270.00	7,167.4	682.3	-3,190.0	3,240.6	0.00	0.00	0.00
10,500.0	90.30	270.00	7,166.9	682.3	-3,290.0	3,340.2	0.00	0.00	0.00
10,600.0	90.30	270.00	7,166.4	682.3	-3,390.0	3,439.7	0.00	0.00	0.00
10,700.0	90.30	270.00	7,165.9	682.3	-3,490.0	3,539.3	0.00	0.00	0.00
10,800.0	90.30	270.00	7,165.3	682.3	-3,590.0	3,638.8	0.00	0.00	0.00
10,900.0	90.30	270.00	7,164.8	682.3	-3,690.0	3,738.3	0.00	0.00	0.00
11,000.0	90.30	270.00	7,164.3	682.3	-3,790.0	3,837.9	0.00	0.00	0.00
11,100.0	90.30	270.00	7,163.8	682.3	-3,890.0	3,937.4	0.00	0.00	0.00
11,200.0	90.30	270.00	7,163.3	682.3	-3,990.0	4,037.0	0.00	0.00	0.00
11,300.0	90.30	270.00	7,162.7	682.3	-4,090.0	4,136.5	0.00	0.00	0.00
11,400.0	90.30	270.00	7,162.2	682.3	-4,190.0	4,236.0	0.00	0.00	0.00
11,500.0	90.30	270.00	7,161.7	682.3	-4,290.0	4,335.6	0.00	0.00	0.00
11,600.0	90.30	270.00	7,161.2	682.3	-4,390.0	4,435.1	0.00	0.00	0.00
11,700.0	90.30	270.00	7,160.6	682.3	-4,490.0	4,534.7	0.00	0.00	0.00
11,800.0	90.30	270.00	7,160.1	682.3	-4,590.0	4,634.2	0.00	0.00	0.00
11,900.0	90.30	270.00	7,159.6	682.3	-4,690.0	4,733.7	0.00	0.00	0.00
12,000.0	90.30	270.00	7,159.1	682.3	-4,790.0	4,833.3	0.00	0.00	0.00
12,100.0	90.30	270.00	7,158.5	682.3	-4,890.0	4,932.8	0.00	0.00	0.00
12,200.0	90.30	270.00	7,158.0	682.3	-4,990.0	5,032.4	0.00	0.00	0.00
12,300.0	90.30	270.00	7,157.5	682.3	-5,090.0	5,131.9	0.00	0.00	0.00
12,400.0	90.30	270.00	7,157.0	682.3	-5,190.0	5,231.4	0.00	0.00	0.00
12,500.0	90.30	270.00	7,156.4	682.3	-5,290.0	5,331.0	0.00	0.00	0.00
12,600.0	90.30	270.00	7,155.9	682.3	-5,390.0	5,430.5	0.00	0.00	0.00
12,700.0	90.30	270.00	7,155.4	682.3	-5,490.0	5,530.1	0.00	0.00	0.00
12,800.0	90.30	270.00	7,154.9	682.3	-5,590.0	5,629.6	0.00	0.00	0.00
12,900.0	90.30	270.00	7,154.4	682.3	-5,689.9	5,729.1	0.00	0.00	0.00
13,000.0	90.30	270.00	7,153.8	682.3	-5,789.9	5,828.7	0.00	0.00	0.00
13,100.0	90.30	270.00	7,153.3	682.3	-5,889.9	5,928.2	0.00	0.00	0.00
13,200.0	90.30	270.00	7,152.8	682.3	-5,989.9	6,027.7	0.00	0.00	0.00
13,300.0	90.30	270.00	7,152.3	682.3	-6,089.9	6,127.3	0.00	0.00	0.00

Database:	landmark	Local Co-ordinate Reference:	Well Tarin 32X-314
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Project:	SEC.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	North Reference:	True
Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (4-14-14)		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,400.0	90.30	270.00	7,151.7	682.3	-6,189.9	6,226.8	0.00	0.00	0.00
13,500.0	90.30	270.00	7,151.2	682.3	-6,289.9	6,326.4	0.00	0.00	0.00
13,600.0	90.30	270.00	7,150.7	682.3	-6,389.9	6,425.9	0.00	0.00	0.00
13,700.0	90.30	270.00	7,150.2	682.3	-6,489.9	6,525.4	0.00	0.00	0.00
13,800.0	90.30	270.00	7,149.6	682.3	-6,589.9	6,625.0	0.00	0.00	0.00
13,900.0	90.30	270.00	7,149.1	682.3	-6,689.9	6,724.5	0.00	0.00	0.00
14,000.0	90.30	270.00	7,148.6	682.3	-6,789.9	6,824.1	0.00	0.00	0.00
14,100.0	90.30	270.00	7,148.1	682.3	-6,889.9	6,923.6	0.00	0.00	0.00
14,200.0	90.30	270.00	7,147.5	682.3	-6,989.9	7,023.1	0.00	0.00	0.00
14,300.0	90.30	270.00	7,147.0	682.3	-7,089.9	7,122.7	0.00	0.00	0.00
14,304.2	90.30	270.00	7,147.0	682.3	-7,094.1	7,126.8	0.00	0.00	0.00
BHL 1725'FSL & 2149'FEL, Sec.31									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,672.9	7,181.7	7"	7	7-1/2

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,738.1	3,710.0	Parkman		0.00	
4,424.9	4,390.0	Sussex		0.00	
4,838.9	4,800.0	Shannon		0.00	
6,972.9	6,886.0	Sharon Springs		0.00	
7,127.9	6,998.0	Niobrara A		0.00	
7,239.2	7,064.0	Niobrara B		0.00	
7,451.5	7,151.0	Niobrara C		0.00	
	7,273.0	Ft Hays		0.00	
	7,295.0	Codell		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
600.0	600.0	0.0	0.0	KOP #1
6,468.9	6,417.8	682.3	305.0	KOP #2
7,672.9	7,181.7	682.3	-462.9	End of Build



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.32-T4N-R66W

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

Tarin 32X-314

Wellbore #1

Plan #1 (4-14-14)

Anticollision Report

25 April, 2014



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	Offset Datum

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

Survey Tool Program		Date	4/25/2014		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	14,304.2	Plan #1 (4-14-14) (Wellbore #1)	MWD	MWD - Standard	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Tarin 32X-HZ Pad Sec.32-T4N-R66W						
Tarin 32W-234 - Wellbore #1 - Plan #1 (4-14-14)	200.0	199.0	58.3	57.7	86.813	CC, ES
Tarin 32W-234 - Wellbore #1 - Plan #1 (4-14-14)	14,304.2	14,309.0	665.5	263.2	1.654	SF
Tarin 32W-434 - Wellbore #1 - Plan #1 (4-14-14)	400.0	399.0	29.1	27.6	18.547	CC
Tarin 32X-434 - Wellbore #1 - Plan #1 (4-14-14)	14,304.2	14,441.0	315.8	-43.1	0.880	Level 1, ES, SF
Tarin 32X-234 - Wellbore #1 - Plan #1 (4-14-14)	600.0	600.0	61.9	59.5	25.049	CC, ES
Tarin 32X-234 - Wellbore #1 - Plan #1 (4-14-14)	14,304.2	14,158.7	501.9	103.9	1.261	Level 3, SF
Tarin 32X-404 - Wellbore #1 - Plan #1 (4-14-14)	600.0	600.0	29.1	26.7	11.788	CC, ES
Tarin 32X-404 - Wellbore #1 - Plan #1 (4-14-14)	14,304.2	14,380.0	455.3	69.7	1.181	Level 2, SF
Tarin 32X-434 - Wellbore #1 - Plan #1 (4-14-14)	600.0	600.0	91.1	88.6	36.838	CC, ES
Tarin 32X-434 - Wellbore #1 - Plan #1 (4-14-14)	1,000.0	998.7	117.1	112.8	27.407	SF
Tarin 32Y-314 - Wellbore #1 - Plan #1 (4-14-14)	600.0	601.0	120.2	117.7	48.582	CC, ES
Tarin 32Y-314 - Wellbore #1 - Plan #1 (4-14-14)	1,100.0	1,094.5	160.7	156.0	34.174	SF
Tarin 32Y-404 - Wellbore #1 - Plan #1 (4-14-14)	466.3	467.3	149.4	147.5	79.715	CC
Tarin 32Y-404 - Wellbore #1 - Plan #1 (4-14-14)	500.0	500.0	149.4	147.3	73.841	ES
Tarin 32Y-404 - Wellbore #1 - Plan #1 (4-14-14)	900.0	878.2	188.5	184.8	50.667	SF
Tarin Existing Wells Sec.32-T4N-R66W						
Benjamin 1 (Existing) - Wellbore #1 - Wellbore #1	12,732.7	7,138.1	397.6	226.6	2.325	CC, ES, SF
Benjamin 5 (Existing) - Wellbore #1 - Wellbore #1	12,149.1	7,233.8	216.5	55.2	1.343	Level 3, CC, ES, SF
Cadi 1 (Existing) - Wellbore #1 - Wellbore #1	10,073.3	7,152.2	392.6	164.7	1.723	CC, ES
Cadi 1 (Existing) - Wellbore #1 - Wellbore #1	10,100.0	7,152.0	393.5	164.9	1.721	SF
Floyd 1 (Existing) - Wellbore #1 - Wellbore #1	7,618.3	7,154.8	425.8	389.7	11.798	CC, ES
Floyd 1 (Existing) - Wellbore #1 - Wellbore #1	7,700.0	7,156.2	433.5	395.9	11.528	SF
Glen 44-32 (Existing) - Wellbore #1 - Wellbore #1	600.0	587.0	342.9	329.9	26.426	CC
Glen 44-32 (Existing) - Wellbore #1 - Wellbore #1	700.0	687.0	344.7	329.5	22.687	ES
Glen 44-32 (Existing) - Wellbore #1 - Wellbore #1	5,500.0	5,441.6	998.5	877.6	8.262	SF
Nicholas 1 (Existing) - Wellbore #1 - Wellbore #1	14,114.3	7,134.0	378.8	38.9	1.114	Level 2, CC, ES, SF
Nicholas 5 (Existing) - Wellbore #1 - Wellbore #1	13,664.0	7,174.6	322.7	121.9	1.607	CC, ES, SF
Wolfe 5 (Existing) - Wellbore #1 - Wellbore #1	10,565.1	7,409.7	122.1	3.9	1.033	Level 2, CC, ES, SF
Wolfe 6I (Existing) - Wellbore #1 - Wellbore #1	9,585.9	7,221.8	310.8	221.8	3.491	CC
Wolfe 6I (Existing) - Wellbore #1 - Wellbore #1	9,600.0	7,222.0	311.1	221.7	3.480	ES, SF

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	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		Distance										Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-2.74	58.3	-2.8	58.4					
100.0	100.0	99.0	99.0	0.1	0.1	-2.74	58.3	-2.8	58.3	58.1	0.22	260.874		
200.0	200.0	199.0	199.0	0.3	0.3	-2.74	58.3	-2.8	58.3	57.7	0.67	86.813 CC, ES		
300.0	300.0	297.1	297.0	0.6	0.6	-2.31	59.9	-2.4	60.0	58.8	1.12	53.598		
400.0	400.0	394.9	394.7	0.8	0.8	-1.11	64.7	-1.3	64.9	63.3	1.57	41.251		
500.0	500.0	492.2	491.7	1.0	1.0	0.51	72.8	0.7	73.1	71.1	2.03	35.939		
600.0	600.0	588.9	587.7	1.2	1.3	2.25	83.9	3.3	84.7	82.2	2.51	33.799		
700.0	700.0	685.0	682.7	1.5	1.6	-20.44	98.1	6.7	98.1	95.1	2.95	33.256		
800.0	799.8	780.6	776.7	1.7	1.9	-19.70	115.3	10.8	111.5	108.1	3.41	32.708		
900.0	899.5	875.9	869.6	1.9	2.3	-19.39	135.5	15.6	124.9	121.0	3.88	32.211		
1,000.0	998.7	974.1	964.9	2.2	2.8	-19.46	158.5	21.0	137.3	133.0	4.36	31.483		
1,100.0	1,097.7	1,073.5	1,061.4	2.5	3.2	-19.82	181.8	26.6	148.2	143.4	4.87	30.415		
1,200.0	1,196.7	1,172.9	1,157.8	2.7	3.7	-20.12	205.2	32.1	159.1	153.7	5.39	29.508		
1,300.0	1,295.8	1,272.3	1,254.3	3.1	4.2	-20.39	228.6	37.7	170.0	164.1	5.92	28.743		
1,400.0	1,394.8	1,371.7	1,350.7	3.4	4.7	-20.63	251.9	43.2	180.9	174.5	6.45	28.064		
1,500.0	1,493.8	1,471.1	1,447.2	3.7	5.2	-20.84	275.3	48.8	191.8	184.8	6.98	27.476		
1,600.0	1,592.8	1,570.5	1,543.7	4.0	5.7	-21.02	298.7	54.3	202.7	195.2	7.52	26.961		
1,700.0	1,691.8	1,669.9	1,640.1	4.3	6.1	-21.19	322.1	59.9	213.6	205.6	8.06	26.506		
1,800.0	1,790.9	1,769.3	1,736.6	4.6	6.6	-21.34	345.4	65.5	224.5	215.9	8.60	26.101		
1,900.0	1,889.9	1,868.7	1,833.0	5.0	7.1	-21.48	368.8	71.0	235.4	226.3	9.15	25.739		
2,000.0	1,988.9	1,968.1	1,929.5	5.3	7.6	-21.60	392.2	76.6	246.4	236.7	9.69	25.414		
2,100.0	2,087.9	2,067.5	2,025.9	5.6	8.1	-21.72	415.5	82.1	257.3	247.0	10.24	25.120		
2,200.0	2,186.9	2,166.9	2,122.4	6.0	8.6	-21.82	438.9	87.7	268.2	257.4	10.79	24.853		
2,300.0	2,286.0	2,266.3	2,218.8	6.3	9.1	-21.92	462.3	93.2	279.1	267.7	11.34	24.610		
2,400.0	2,385.0	2,365.7	2,315.3	6.6	9.6	-22.01	485.6	98.8	290.0	278.1	11.89	24.388		
2,500.0	2,484.0	2,465.1	2,411.8	7.0	10.1	-22.09	509.0	104.3	300.9	288.5	12.44	24.183		
2,600.0	2,583.0	2,564.5	2,508.2	7.3	10.6	-22.17	532.4	109.9	311.8	298.8	13.00	23.995		
2,700.0	2,682.0	2,663.9	2,604.7	7.6	11.1	-22.24	555.7	115.4	322.7	309.2	13.55	23.821		
2,800.0	2,781.1	2,763.3	2,701.1	8.0	11.6	-22.31	579.1	121.0	333.7	319.6	14.10	23.660		
2,900.0	2,880.1	2,862.7	2,797.6	8.3	12.1	-22.37	602.5	126.5	344.6	329.9	14.66	23.510		
3,000.0	2,979.1	2,962.1	2,894.0	8.6	12.6	-22.43	625.8	132.1	355.5	340.3	15.21	23.370		
3,100.0	3,078.1	3,061.5	2,990.5	9.0	13.1	-22.48	649.2	137.6	366.4	350.6	15.77	23.240		
3,200.0	3,177.1	3,160.9	3,087.0	9.3	13.6	-22.54	672.6	143.2	377.3	361.0	16.32	23.118		
3,300.0	3,276.2	3,260.3	3,183.4	9.6	14.0	-22.59	695.9	148.8	388.2	371.4	16.88	23.003		
3,400.0	3,375.2	3,359.7	3,279.9	10.0	14.5	-22.63	719.3	154.3	399.2	381.7	17.43	22.895		
3,500.0	3,474.2	3,459.1	3,376.3	10.3	15.0	-22.68	742.7	159.9	410.1	392.1	17.99	22.794		
3,600.0	3,573.2	3,558.5	3,472.8	10.7	15.5	-22.72	766.1	165.4	421.0	402.5	18.55	22.699		
3,700.0	3,672.2	3,657.9	3,569.2	11.0	16.0	-22.76	789.4	171.0	431.9	412.8	19.10	22.608		
3,800.0	3,771.3	3,757.3	3,665.7	11.3	16.5	-22.80	812.8	176.5	442.8	423.2	19.66	22.523		
3,900.0	3,870.3	3,856.7	3,762.1	11.7	17.0	-22.83	836.2	182.1	453.8	433.5	20.22	22.442		
4,000.0	3,969.3	3,956.1	3,858.6	12.0	17.5	-22.87	859.5	187.6	464.7	443.9	20.78	22.365		
4,100.0	4,068.3	4,055.5	3,955.1	12.3	18.0	-22.90	882.9	193.2	475.6	454.3	21.33	22.292		
4,200.0	4,167.3	4,154.9	4,051.5	12.7	18.5	-22.93	906.3	198.7	486.5	464.6	21.89	22.223		
4,300.0	4,266.3	4,254.3	4,148.0	13.0	19.0	-22.96	929.6	204.3	497.4	475.0	22.45	22.156		
4,400.0	4,365.4	4,353.7	4,244.4	13.4	19.5	-22.99	953.0	209.8	508.4	485.3	23.01	22.093		
4,500.0	4,464.4	4,453.1	4,340.9	13.7	20.0	-23.02	976.4	215.4	519.3	495.7	23.57	22.033		
4,600.0	4,563.4	4,552.5	4,437.3	14.0	20.5	-23.04	999.7	221.0	530.2	506.1	24.13	21.976		
4,700.0	4,662.4	4,651.9	4,533.8	14.4	21.0	-23.07	1,023.1	226.5	541.1	516.4	24.69	21.921		
4,800.0	4,761.4	4,751.3	4,630.3	14.7	21.5	-23.09	1,046.5	232.1	552.0	526.8	25.24	21.868		
4,900.0	4,860.5	4,850.7	4,726.7	15.1	22.0	-23.12	1,069.8	237.6	563.0	537.1	25.80	21.817		
5,000.0	4,959.5	4,950.1	4,823.2	15.4	22.5	-23.14	1,093.2	243.2	573.9	547.5	26.36	21.769		

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	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
5,100.0	5,058.5	5,049.5	4,919.6	15.7	23.0	-23.16		1,116.6	248.7	584.8	557.9	26.92	21.722	
5,200.0	5,157.5	5,148.9	5,016.1	16.1	23.5	-23.18		1,139.9	254.3	595.7	568.2	27.48	21.678	
5,300.0	5,256.5	5,248.3	5,112.5	16.4	24.0	-23.20		1,163.3	259.8	606.6	578.6	28.04	21.635	
5,400.0	5,355.6	5,347.7	5,209.0	16.7	24.5	-23.22		1,186.7	265.4	617.6	589.0	28.60	21.593	
5,500.0	5,454.6	5,447.1	5,305.4	17.1	25.0	-23.24		1,210.0	270.9	628.5	599.3	29.16	21.553	
5,600.0	5,553.6	5,546.5	5,401.9	17.4	25.5	-23.26		1,233.4	276.5	639.4	609.7	29.72	21.515	
5,700.0	5,652.6	5,645.9	5,498.4	17.8	26.0	-23.27		1,256.8	282.0	650.3	620.0	30.28	21.478	
5,800.0	5,751.6	5,771.3	5,620.6	18.1	26.4	-23.34		1,284.1	288.5	659.5	628.6	30.86	21.367	
5,900.0	5,850.7	5,900.3	5,747.4	18.4	26.9	-23.52		1,306.6	293.9	664.3	632.8	31.44	21.129	
6,000.0	5,949.7	6,029.4	5,875.3	18.8	27.2	-23.78		1,323.7	297.9	665.1	633.1	31.96	20.808	
6,100.0	6,049.2	6,158.6	6,003.9	19.0	27.5	-24.02		1,335.1	300.7	664.4	632.0	32.36	20.528	
6,200.0	6,148.9	6,287.6	6,132.8	19.2	27.7	-24.20		1,340.9	302.0	662.4	629.7	32.69	20.262	
6,300.0	6,248.9	6,402.7	6,247.9	19.4	27.8	-24.32		1,341.7	302.2	659.8	626.9	32.94	20.032	
6,372.8	6,321.7	6,475.5	6,320.7	19.5	27.8	-24.34		1,341.7	302.2	659.1	625.9	33.14	19.887	
6,400.0	6,348.9	6,502.6	6,347.8	19.5	27.9	-0.28		1,341.7	301.8	659.4	613.3	46.11	14.299	
6,500.0	6,448.9	6,601.2	6,445.8	19.6	27.9	88.93		1,341.7	292.1	659.5	625.8	33.65	19.597	
6,600.0	6,548.2	6,698.1	6,540.3	19.7	28.0	87.90		1,341.7	270.4	659.8	625.8	34.02	19.395	
6,700.0	6,645.4	6,793.7	6,629.9	19.8	28.0	86.91		1,341.7	237.5	660.4	626.1	34.27	19.266	
6,800.0	6,738.6	6,888.0	6,713.7	19.8	28.0	85.97		1,341.7	194.3	661.0	626.6	34.45	19.189	
6,900.0	6,826.3	6,981.2	6,790.6	19.8	27.9	85.11		1,341.7	141.8	661.8	627.2	34.61	19.120	
7,000.0	6,907.1	7,073.4	6,859.8	19.7	27.9	84.32		1,341.7	81.0	662.7	627.8	34.88	19.000	
7,100.0	6,979.5	7,164.7	6,920.7	19.7	27.9	83.63		1,341.7	13.0	663.5	628.1	35.38	18.754	
7,200.0	7,042.3	7,255.3	6,972.7	19.7	27.9	83.05		1,341.7	-61.2	664.3	628.0	36.28	18.312	
7,300.0	7,094.4	7,345.3	7,015.3	19.7	28.0	82.57		1,341.7	-140.4	665.0	627.3	37.69	17.642	
7,400.0	7,134.9	7,434.9	7,048.1	20.1	28.1	82.21		1,341.7	-223.7	665.5	625.8	39.71	16.759	
7,500.0	7,163.1	7,524.1	7,070.9	21.1	28.4	81.96		1,341.7	-309.9	665.9	623.6	42.32	15.734	
7,600.0	7,178.6	7,613.1	7,083.4	22.7	28.9	81.84		1,341.7	-398.0	666.1	620.7	45.46	14.654	
7,700.0	7,181.6	7,704.8	7,086.0	24.5	29.6	81.84		1,341.7	-489.6	666.1	617.1	49.00	13.594	
7,800.0	7,181.1	7,804.8	7,085.5	26.5	30.7	81.84		1,341.7	-589.6	666.1	613.2	52.90	12.592	
7,900.0	7,180.5	7,904.8	7,085.1	28.6	32.2	81.85		1,341.7	-689.6	666.1	609.0	57.08	11.670	
8,000.0	7,180.0	8,004.8	7,084.6	30.8	33.9	81.85		1,341.7	-789.6	666.1	604.6	61.48	10.835	
8,100.0	7,179.5	8,104.8	7,084.2	33.2	35.9	81.86		1,341.7	-889.6	666.1	600.0	66.05	10.085	
8,200.0	7,179.0	8,204.8	7,083.7	35.5	38.0	81.87		1,341.7	-989.6	666.1	595.3	70.77	9.412	
8,300.0	7,178.4	8,304.8	7,083.3	38.0	40.2	81.87		1,341.7	-1,089.6	666.1	590.5	75.60	8.811	
8,400.0	7,177.9	8,404.8	7,082.8	40.5	42.5	81.88		1,341.7	-1,189.6	666.1	585.5	80.52	8.272	
8,500.0	7,177.4	8,504.8	7,082.4	43.0	44.9	81.88		1,341.7	-1,289.6	666.1	580.5	85.53	7.788	
8,600.0	7,176.9	8,604.8	7,081.9	45.6	47.3	81.89		1,341.7	-1,389.6	666.0	575.4	90.60	7.352	
8,700.0	7,176.3	8,704.8	7,081.5	48.1	49.8	81.90		1,341.7	-1,489.6	666.0	570.3	95.72	6.958	
8,800.0	7,175.8	8,804.8	7,081.0	50.8	52.3	81.90		1,341.7	-1,589.6	666.0	565.1	100.89	6.601	
8,900.0	7,175.3	8,904.8	7,080.5	53.4	54.8	81.91		1,341.7	-1,689.6	666.0	559.9	106.10	6.277	
9,000.0	7,174.8	9,004.8	7,080.1	56.0	57.4	81.91		1,341.7	-1,789.6	666.0	554.7	111.35	5.981	
9,100.0	7,174.2	9,104.8	7,079.6	58.7	60.0	81.92		1,341.7	-1,889.6	666.0	549.4	116.62	5.711	
9,200.0	7,173.7	9,204.8	7,079.2	61.4	62.6	81.93		1,341.7	-1,989.6	666.0	544.1	121.92	5.462	
9,300.0	7,173.2	9,304.8	7,078.7	64.0	65.2	81.93		1,341.7	-2,089.6	666.0	538.7	127.25	5.234	
9,400.0	7,172.7	9,404.8	7,078.3	66.7	67.9	81.94		1,341.7	-2,189.6	666.0	533.4	132.59	5.023	
9,500.0	7,172.2	9,504.8	7,077.8	69.4	70.5	81.94		1,341.7	-2,289.6	666.0	528.0	137.95	4.827	
9,600.0	7,171.6	9,604.8	7,077.4	72.2	73.2	81.95		1,341.7	-2,389.6	665.9	522.6	143.33	4.646	
9,700.0	7,171.1	9,704.8	7,076.9	74.9	75.9	81.96		1,341.7	-2,489.6	665.9	517.2	148.72	4.478	
9,800.0	7,170.6	9,804.8	7,076.5	77.6	78.5	81.96		1,341.7	-2,589.6	665.9	511.8	154.12	4.321	
9,900.0	7,170.1	9,904.8	7,076.0	80.3	81.2	81.97		1,341.7	-2,689.6	665.9	506.4	159.54	4.174	
10,000.0	7,169.5	10,004.8	7,075.6	83.1	83.9	81.97		1,341.7	-2,789.6	665.9	500.9	164.96	4.037	

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	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
10,100.0	7,169.0	10,104.8	7,075.1	85.8	86.6	81.98	81.98	1,341.7	-2,889.6	665.9	495.5	170.40	3.908	
10,200.0	7,168.5	10,204.8	7,074.7	88.5	89.4	81.99	81.99	1,341.7	-2,989.6	665.9	490.1	175.84	3.787	
10,300.0	7,168.0	10,304.8	7,074.2	91.3	92.1	81.99	81.99	1,341.7	-3,089.6	665.9	484.6	181.29	3.673	
10,400.0	7,167.4	10,404.8	7,073.7	94.0	94.8	82.00	82.00	1,341.7	-3,189.6	665.9	479.1	186.75	3.566	
10,500.0	7,166.9	10,504.8	7,073.3	96.8	97.5	82.00	82.00	1,341.7	-3,289.6	665.9	473.7	192.21	3.464	
10,600.0	7,166.4	10,604.8	7,072.8	99.6	100.3	82.01	82.01	1,341.7	-3,389.6	665.9	468.2	197.68	3.368	
10,700.0	7,165.9	10,704.8	7,072.4	102.3	103.0	82.02	82.02	1,341.7	-3,489.6	665.8	462.7	203.15	3.278	
10,800.0	7,165.3	10,804.8	7,071.9	105.1	105.7	82.02	82.02	1,341.7	-3,589.6	665.8	457.2	208.63	3.191	
10,900.0	7,164.8	10,904.8	7,071.5	107.8	108.5	82.03	82.03	1,341.7	-3,689.6	665.8	451.7	214.12	3.110	
11,000.0	7,164.3	11,004.8	7,071.0	110.6	111.2	82.03	82.03	1,341.7	-3,789.6	665.8	446.2	219.61	3.032	
11,100.0	7,163.8	11,104.8	7,070.6	113.4	114.0	82.04	82.04	1,341.7	-3,889.6	665.8	440.7	225.10	2.958	
11,200.0	7,163.3	11,204.8	7,070.1	116.1	116.7	82.05	82.05	1,341.7	-3,989.6	665.8	435.2	230.60	2.887	
11,300.0	7,162.7	11,304.8	7,069.7	118.9	119.5	82.05	82.05	1,341.7	-4,089.6	665.8	429.7	236.10	2.820	
11,400.0	7,162.2	11,404.8	7,069.2	121.7	122.3	82.06	82.06	1,341.7	-4,189.6	665.8	424.2	241.60	2.756	
11,500.0	7,161.7	11,504.8	7,068.8	124.5	125.0	82.06	82.06	1,341.7	-4,289.6	665.8	418.7	247.11	2.694	
11,600.0	7,161.2	11,604.8	7,068.3	127.2	127.8	82.07	82.07	1,341.7	-4,389.6	665.8	413.1	252.62	2.635	
11,700.0	7,160.6	11,704.8	7,067.8	130.0	130.5	82.07	82.07	1,341.7	-4,489.6	665.7	407.6	258.13	2.579	
11,800.0	7,160.1	11,804.8	7,067.4	132.8	133.3	82.08	82.08	1,341.7	-4,589.6	665.7	402.1	263.64	2.525	
11,900.0	7,159.6	11,904.8	7,066.9	135.6	136.1	82.09	82.09	1,341.7	-4,689.6	665.7	396.6	269.16	2.473	
12,000.0	7,159.1	12,004.8	7,066.5	138.4	138.8	82.09	82.09	1,341.7	-4,789.6	665.7	391.0	274.68	2.424	
12,100.0	7,158.5	12,104.8	7,066.0	141.1	141.6	82.10	82.10	1,341.7	-4,889.6	665.7	385.5	280.20	2.376	
12,200.0	7,158.0	12,204.8	7,065.6	143.9	144.4	82.10	82.10	1,341.7	-4,989.6	665.7	380.0	285.72	2.330	
12,300.0	7,157.5	12,304.8	7,065.1	146.7	147.2	82.11	82.11	1,341.7	-5,089.6	665.7	374.4	291.25	2.286	
12,400.0	7,157.0	12,404.8	7,064.7	149.5	149.9	82.12	82.12	1,341.7	-5,189.6	665.7	368.9	296.77	2.243	
12,500.0	7,156.4	12,504.8	7,064.2	152.3	152.7	82.12	82.12	1,341.7	-5,289.6	665.7	363.4	302.30	2.202	
12,600.0	7,155.9	12,604.8	7,063.8	155.1	155.5	82.13	82.13	1,341.7	-5,389.6	665.7	357.8	307.83	2.162	
12,700.0	7,155.4	12,704.8	7,063.3	157.9	158.3	82.13	82.13	1,341.7	-5,489.6	665.7	352.3	313.36	2.124	
12,800.0	7,154.9	12,804.8	7,062.9	160.6	161.0	82.14	82.14	1,341.7	-5,589.6	665.6	346.7	318.90	2.087	
12,900.0	7,154.4	12,904.8	7,062.4	163.4	163.8	82.15	82.15	1,341.7	-5,689.6	665.6	341.2	324.43	2.052	
13,000.0	7,153.8	13,004.8	7,061.9	166.2	166.6	82.15	82.15	1,341.7	-5,789.6	665.6	335.7	329.97	2.017	
13,100.0	7,153.3	13,104.8	7,061.5	169.0	169.4	82.16	82.16	1,341.7	-5,889.6	665.6	330.1	335.50	1.984	
13,200.0	7,152.8	13,204.8	7,061.0	171.8	172.2	82.16	82.16	1,341.7	-5,989.6	665.6	324.6	341.04	1.952	
13,300.0	7,152.3	13,304.8	7,060.6	174.6	174.9	82.17	82.17	1,341.7	-6,089.6	665.6	319.0	346.58	1.920	
13,400.0	7,151.7	13,404.8	7,060.1	177.4	177.7	82.18	82.18	1,341.7	-6,189.6	665.6	313.5	352.12	1.890	
13,500.0	7,151.2	13,504.8	7,059.7	180.2	180.5	82.18	82.18	1,341.7	-6,289.6	665.6	307.9	357.66	1.861	
13,600.0	7,150.7	13,604.8	7,059.2	183.0	183.3	82.19	82.19	1,341.7	-6,389.6	665.6	302.4	363.21	1.832	
13,700.0	7,150.2	13,704.8	7,058.8	185.8	186.1	82.19	82.19	1,341.7	-6,489.6	665.6	296.8	368.75	1.805	
13,800.0	7,149.6	13,804.8	7,058.3	188.6	188.9	82.20	82.20	1,341.7	-6,589.6	665.5	291.3	374.30	1.778	
13,900.0	7,149.1	13,904.8	7,057.9	191.3	191.7	82.21	82.21	1,341.7	-6,689.6	665.5	285.7	379.84	1.752	
14,000.0	7,148.6	14,004.8	7,057.4	194.1	194.4	82.21	82.21	1,341.7	-6,789.6	665.5	280.1	385.39	1.727	
14,100.0	7,148.1	14,104.8	7,057.0	196.9	197.2	82.22	82.22	1,341.7	-6,889.6	665.5	274.6	390.93	1.702	
14,200.0	7,147.5	14,204.8	7,056.5	199.7	200.0	82.22	82.22	1,341.7	-6,989.6	665.5	269.0	396.48	1.679	
14,300.0	7,147.0	14,304.8	7,056.0	202.5	202.8	82.23	82.23	1,341.7	-7,089.6	665.5	263.5	402.03	1.655	
14,304.2	7,147.0	14,309.0	7,056.0	202.6	202.9	82.23	82.23	1,341.7	-7,093.7	665.5	263.2	402.26	1.654 SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32W-434 - 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 (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	0.00	29.1	0.0	29.2					
100.0	100.0	99.0	99.0	0.1	0.1	0.00	29.1	0.0	29.1	28.9	0.22	130.297		
200.0	200.0	199.0	199.0	0.3	0.3	0.00	29.1	0.0	29.1	28.5	0.67	43.360		
300.0	300.0	299.0	299.0	0.6	0.6	0.00	29.1	0.0	29.1	28.0	1.12	25.981		
400.0	400.0	399.0	399.0	0.8	0.8	0.00	29.1	0.0	29.1	27.6	1.57	18.547 CC		
500.0	500.0	498.0	498.0	1.0	1.0	0.97	30.7	0.5	30.8	28.7	2.02	15.235		
600.0	600.0	596.8	596.6	1.2	1.2	3.38	35.6	2.1	35.7	33.2	2.47	14.449		
700.0	700.0	695.2	694.7	1.5	1.5	-18.57	43.6	4.7	42.4	39.5	2.92	14.513		
800.0	799.8	793.5	792.2	1.7	1.7	-17.43	54.8	8.4	49.2	45.8	3.37	14.582		
900.0	899.5	891.5	889.1	1.9	2.0	-16.92	69.1	13.1	56.0	52.2	3.83	14.624		
1,000.0	998.7	991.0	987.1	2.2	2.4	-17.08	85.7	18.5	61.6	57.3	4.29	14.345		
1,100.0	1,097.7	1,091.0	1,085.5	2.5	2.7	-17.69	102.4	24.0	65.5	60.7	4.78	13.705		
1,200.0	1,196.7	1,190.9	1,183.8	2.7	3.1	-18.23	119.1	29.4	69.5	64.2	5.28	13.164		
1,300.0	1,295.8	1,290.8	1,282.2	3.1	3.4	-18.72	135.7	34.9	73.4	67.6	5.78	12.702		
1,400.0	1,394.8	1,390.7	1,380.6	3.4	3.8	-19.15	152.4	40.4	77.4	71.1	6.29	12.306		
1,500.0	1,493.8	1,490.6	1,478.9	3.7	4.2	-19.54	169.1	45.8	81.3	74.5	6.80	11.961		
1,600.0	1,592.8	1,590.6	1,577.3	4.0	4.6	-19.90	185.8	51.3	85.3	78.0	7.31	11.658		
1,700.0	1,691.8	1,690.5	1,675.7	4.3	4.9	-20.22	202.5	56.8	89.2	81.4	7.83	11.392		
1,800.0	1,790.9	1,790.4	1,774.0	4.6	5.3	-20.52	219.2	62.2	93.2	84.8	8.36	11.155		
1,900.0	1,889.9	1,890.3	1,872.4	5.0	5.7	-20.79	235.8	67.7	97.2	88.3	8.88	10.944		
2,000.0	1,988.9	1,990.2	1,970.7	5.3	6.1	-21.05	252.5	73.1	101.1	91.7	9.41	10.754		
2,100.0	2,087.9	2,090.2	2,069.1	5.6	6.5	-21.28	269.2	78.6	105.1	95.2	9.93	10.582		
2,200.0	2,186.9	2,190.1	2,167.5	6.0	6.9	-21.49	285.9	84.1	109.1	98.6	10.46	10.426		
2,300.0	2,286.0	2,290.0	2,265.8	6.3	7.3	-21.69	302.6	89.5	113.1	102.1	10.99	10.284		
2,400.0	2,385.0	2,389.9	2,364.2	6.6	7.6	-21.88	319.3	95.0	117.0	105.5	11.52	10.155		
2,500.0	2,484.0	2,489.8	2,462.6	7.0	8.0	-22.06	335.9	100.4	121.0	108.9	12.06	10.035		
2,600.0	2,583.0	2,589.8	2,560.9	7.3	8.4	-22.22	352.6	105.9	125.0	112.4	12.59	9.926		
2,700.0	2,682.0	2,689.7	2,659.3	7.6	8.8	-22.37	369.3	111.4	129.0	115.8	13.13	9.824		
2,800.0	2,781.1	2,789.6	2,757.7	8.0	9.2	-22.52	386.0	116.8	132.9	119.3	13.66	9.730		
2,900.0	2,880.1	2,889.5	2,856.0	8.3	9.6	-22.65	402.7	122.3	136.9	122.7	14.20	9.643		
3,000.0	2,979.1	2,989.4	2,954.4	8.6	10.0	-22.78	419.4	127.8	140.9	126.2	14.74	9.561		
3,100.0	3,078.1	3,089.4	3,052.8	9.0	10.4	-22.90	436.0	133.2	144.9	129.6	15.27	9.485		
3,200.0	3,177.1	3,189.3	3,151.1	9.3	10.8	-23.02	452.7	138.7	148.9	133.0	15.81	9.414		
3,300.0	3,276.2	3,289.2	3,249.5	9.6	11.1	-23.13	469.4	144.1	152.8	136.5	16.35	9.347		
3,400.0	3,375.2	3,389.1	3,347.9	10.0	11.5	-23.23	486.1	149.6	156.8	139.9	16.89	9.285		
3,500.0	3,474.2	3,489.0	3,446.2	10.3	11.9	-23.33	502.8	155.1	160.8	143.4	17.43	9.225		
3,600.0	3,573.2	3,589.0	3,544.6	10.7	12.3	-23.42	519.5	160.5	164.8	146.8	17.97	9.170		
3,700.0	3,672.2	3,688.9	3,643.0	11.0	12.7	-23.51	536.1	166.0	168.8	150.3	18.51	9.117		
3,800.0	3,771.3	3,788.8	3,741.3	11.3	13.1	-23.59	552.8	171.5	172.8	153.7	19.05	9.067		
3,900.0	3,870.3	3,888.7	3,839.7	11.7	13.5	-23.67	569.5	176.9	176.7	157.2	19.59	9.020		
4,000.0	3,969.3	3,988.6	3,938.1	12.0	13.9	-23.75	586.2	182.4	180.7	160.6	20.14	8.975		
4,100.0	4,068.3	4,088.6	4,036.4	12.3	14.3	-23.83	602.9	187.8	184.7	164.0	20.68	8.933		
4,200.0	4,167.3	4,188.5	4,134.8	12.7	14.7	-23.90	619.6	193.3	188.7	167.5	21.22	8.893		
4,300.0	4,266.3	4,288.4	4,233.2	13.0	15.1	-23.96	636.3	198.8	192.7	170.9	21.76	8.854		
4,400.0	4,365.4	4,388.3	4,331.5	13.4	15.4	-24.03	652.9	204.2	196.7	174.4	22.31	8.817		
4,500.0	4,464.4	4,488.2	4,429.9	13.7	15.8	-24.09	669.6	209.7	200.7	177.8	22.85	8.782		
4,600.0	4,563.4	4,588.2	4,528.3	14.0	16.2	-24.15	686.3	215.2	204.6	181.3	23.39	8.749		
4,700.0	4,662.4	4,688.1	4,626.6	14.4	16.6	-24.21	703.0	220.6	208.6	184.7	23.94	8.717		
4,800.0	4,761.4	4,788.0	4,725.0	14.7	17.0	-24.27	719.7	226.1	212.6	188.1	24.48	8.686		
4,900.0	4,860.5	4,887.9	4,823.4	15.1	17.4	-24.32	736.4	231.5	216.6	191.6	25.02	8.657		
5,000.0	4,959.5	4,987.8	4,921.7	15.4	17.8	-24.37	753.0	237.0	220.6	195.0	25.57	8.628		

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	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	Offset Wellbore	Distance	Between	Between	Minimum	Warning	
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	Toolface (°)	Toolface (°)	+N/-S (ft)	+E/-W (ft)	Centres (ft)	Ellipses (ft)	Separation (ft)		
5,100.0	5,058.5	5,087.8	5,020.1	15.7	18.2	-24.42		769.7	242.5	224.6	198.5	26.11	8.601	
5,200.0	5,157.5	5,187.7	5,118.5	16.1	18.6	-24.47		786.4	247.9	228.6	201.9	26.65	8.575	
5,300.0	5,256.5	5,287.6	5,216.8	16.4	19.0	-24.52		803.1	253.4	232.6	205.4	27.20	8.550	
5,400.0	5,355.6	5,387.5	5,315.2	16.7	19.4	-24.56		819.8	258.8	236.6	208.8	27.74	8.526	
5,500.0	5,454.6	5,487.4	5,413.6	17.1	19.8	-24.60		836.5	264.3	240.5	212.3	28.29	8.503	
5,600.0	5,553.6	5,587.4	5,511.9	17.4	20.2	-24.65		853.1	269.8	244.5	215.7	28.83	8.481	
5,700.0	5,652.6	5,687.3	5,610.3	17.8	20.5	-24.69		869.8	275.2	248.5	219.1	29.38	8.459	
5,800.0	5,751.6	5,787.2	5,708.7	18.1	20.9	-24.73		886.5	280.7	252.5	222.6	29.92	8.439	
5,900.0	5,850.7	5,887.1	5,807.0	18.4	21.3	-24.77		903.2	286.2	256.5	226.0	30.47	8.418	
6,000.0	5,949.7	5,987.9	5,906.2	18.8	21.7	-24.78		920.0	291.7	260.9	229.9	30.99	8.419	
6,100.0	6,049.2	6,097.3	6,014.3	19.0	22.0	-24.69		935.9	296.9	265.9	234.5	31.37	8.478	
6,200.0	6,148.9	6,206.9	6,123.2	19.2	22.3	-24.54		948.0	300.8	270.5	238.8	31.68	8.539	
6,300.0	6,248.9	6,316.7	6,232.6	19.4	22.5	-24.35		956.1	303.5	274.7	242.7	31.93	8.601	
6,400.0	6,348.9	6,426.7	6,342.6	19.5	22.7	-0.04		960.2	304.8	278.0	237.1	40.85	6.805	
6,500.0	6,448.9	6,532.0	6,447.9	19.6	22.8	90.13		960.7	305.0	278.5	245.9	32.53	8.561	
6,600.0	6,548.2	6,631.7	6,547.6	19.7	23.0	92.19		960.7	304.5	278.7	246.2	32.51	8.571	
6,700.0	6,645.4	6,733.2	6,648.4	19.8	23.0	94.95		960.7	294.3	279.5	247.2	32.33	8.647	
6,800.0	6,738.6	6,836.5	6,748.8	19.8	23.1	97.63		960.7	270.3	281.0	248.9	32.14	8.742	
6,900.0	6,826.3	6,941.7	6,846.8	19.8	23.1	100.18		960.7	232.1	283.0	251.0	32.02	8.837	
7,000.0	6,907.1	7,048.9	6,940.3	19.7	23.1	102.53		960.7	179.8	285.4	253.3	32.04	8.905	
7,100.0	6,979.5	7,158.0	7,026.9	19.7	23.0	104.65		960.7	113.7	287.9	255.6	32.30	8.915	
7,200.0	7,042.3	7,268.9	7,104.4	19.7	23.0	106.48		960.7	34.5	290.5	257.6	32.90	8.829	
7,300.0	7,094.4	7,381.4	7,170.5	19.7	23.0	108.01		960.7	-56.4	292.9	258.9	33.96	8.624	
7,400.0	7,134.9	7,495.2	7,223.1	20.1	23.1	109.19		960.7	-157.2	294.9	259.3	35.59	8.286	
7,500.0	7,163.1	7,610.0	7,260.3	21.1	23.6	110.02		960.7	-265.7	296.4	258.6	37.83	7.835	
7,600.0	7,178.6	7,725.5	7,281.0	22.7	24.5	110.47		960.7	-379.2	297.2	256.6	40.64	7.313	
7,700.0	7,181.6	7,828.0	7,291.4	24.5	25.9	111.68		960.7	-481.2	299.8	256.4	43.47	6.898	
7,800.0	7,181.1	7,936.9	7,295.0	26.5	27.8	112.43		960.7	-590.0	301.3	254.2	47.06	6.402	
7,900.0	7,180.5	8,036.9	7,295.0	28.6	29.8	112.52		960.7	-690.0	301.5	250.5	50.98	5.913	
8,000.0	7,180.0	8,136.9	7,295.0	30.8	31.9	112.61		960.7	-790.0	301.7	246.6	55.11	5.474	
8,100.0	7,179.5	8,236.9	7,295.0	33.2	34.1	112.70		960.7	-890.0	301.9	242.5	59.39	5.083	
8,200.0	7,179.0	8,336.9	7,295.0	35.5	36.5	112.80		960.7	-990.0	302.1	238.3	63.80	4.735	
8,300.0	7,178.4	8,436.9	7,295.0	38.0	38.8	112.89		960.7	-1,090.0	302.3	234.0	68.31	4.425	
8,400.0	7,177.9	8,536.9	7,295.0	40.5	41.3	112.98		960.7	-1,190.0	302.5	229.6	72.90	4.149	
8,500.0	7,177.4	8,636.9	7,295.0	43.0	43.7	113.07		960.7	-1,290.0	302.7	225.1	77.55	3.903	
8,600.0	7,176.9	8,736.9	7,295.0	45.6	46.3	113.16		960.7	-1,390.0	302.9	220.6	82.26	3.682	
8,700.0	7,176.3	8,836.9	7,295.0	48.1	48.8	113.25		960.7	-1,490.0	303.1	216.1	87.01	3.483	
8,800.0	7,175.8	8,936.9	7,295.0	50.8	51.4	113.34		960.7	-1,590.0	303.3	211.5	91.80	3.304	
8,900.0	7,175.3	9,036.9	7,295.0	53.4	54.0	113.43		960.7	-1,690.0	303.5	206.9	96.61	3.142	
9,000.0	7,174.8	9,136.9	7,295.0	56.0	56.6	113.53		960.7	-1,790.0	303.7	202.3	101.45	2.994	
9,100.0	7,174.2	9,236.9	7,295.0	58.7	59.2	113.62		960.7	-1,890.0	303.9	197.6	106.31	2.859	
9,200.0	7,173.7	9,336.9	7,295.0	61.4	61.9	113.71		960.7	-1,990.0	304.1	193.0	111.18	2.736	
9,300.0	7,173.2	9,436.9	7,295.0	64.0	64.5	113.80		960.7	-2,090.0	304.3	188.3	116.07	2.622	
9,400.0	7,172.7	9,536.9	7,295.0	66.7	67.2	113.89		960.7	-2,190.0	304.6	183.6	120.96	2.518	
9,500.0	7,172.2	9,636.9	7,295.0	69.4	69.9	113.98		960.7	-2,290.0	304.8	178.9	125.87	2.421	
9,600.0	7,171.6	9,736.9	7,295.0	72.2	72.6	114.07		960.7	-2,390.0	305.0	174.2	130.78	2.332	
9,700.0	7,171.1	9,836.9	7,295.0	74.9	75.3	114.16		960.7	-2,490.0	305.2	169.5	135.70	2.249	
9,800.0	7,170.6	9,936.9	7,295.0	77.6	78.0	114.25		960.7	-2,590.0	305.4	164.8	140.62	2.172	
9,900.0	7,170.1	10,036.9	7,295.0	80.3	80.7	114.34		960.7	-2,690.0	305.6	160.1	145.54	2.100	
10,000.0	7,169.5	10,136.9	7,295.0	83.1	83.4	114.42		960.7	-2,790.0	305.8	155.4	150.47	2.033	
10,100.0	7,169.0	10,236.9	7,295.0	85.8	86.2	114.51		960.7	-2,890.0	306.1	150.7	155.40	1.970	

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	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	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)			
10,200.0	7,168.5	10,336.9	7,295.0	88.5	88.9	114.60	960.7	-2,990.0	306.3	146.0	160.32	1.910		
10,300.0	7,168.0	10,436.9	7,295.0	91.3	91.6	114.69	960.7	-3,090.0	306.5	141.2	165.25	1.855		
10,400.0	7,167.4	10,536.9	7,295.0	94.0	94.4	114.78	960.7	-3,190.0	306.7	136.5	170.17	1.802		
10,500.0	7,166.9	10,636.9	7,295.0	96.8	97.1	114.87	960.7	-3,290.0	306.9	131.8	175.10	1.753		
10,600.0	7,166.4	10,736.9	7,295.0	99.6	99.9	114.96	960.7	-3,390.0	307.2	127.1	180.02	1.706		
10,700.0	7,165.9	10,836.9	7,295.0	102.3	102.6	115.05	960.7	-3,490.0	307.4	122.4	184.94	1.662		
10,800.0	7,165.3	10,936.9	7,295.0	105.1	105.4	115.13	960.7	-3,590.0	307.6	117.7	189.86	1.620		
10,900.0	7,164.8	11,036.9	7,295.0	107.8	108.1	115.22	960.7	-3,690.0	307.8	113.0	194.77	1.580		
11,000.0	7,164.3	11,136.9	7,295.0	110.6	110.9	115.31	960.7	-3,790.0	308.0	108.4	199.68	1.543		
11,100.0	7,163.8	11,236.9	7,295.0	113.4	113.6	115.40	960.7	-3,890.0	308.3	103.7	204.58	1.507		
11,200.0	7,163.3	11,336.9	7,295.0	116.1	116.4	115.49	960.7	-3,990.0	308.5	99.0	209.49	1.473	Level 3	
11,300.0	7,162.7	11,436.9	7,295.0	118.9	119.2	115.57	960.7	-4,090.0	308.7	94.3	214.38	1.440	Level 3	
11,400.0	7,162.2	11,536.9	7,295.0	121.7	121.9	115.66	960.7	-4,190.0	308.9	89.7	219.28	1.409	Level 3	
11,500.0	7,161.7	11,636.9	7,295.0	124.5	124.7	115.75	960.7	-4,290.0	309.2	85.0	224.17	1.379	Level 3	
11,600.0	7,161.2	11,736.9	7,295.0	127.2	127.5	115.84	960.7	-4,390.0	309.4	80.3	229.05	1.351	Level 3	
11,700.0	7,160.6	11,836.9	7,295.0	130.0	130.3	115.92	960.7	-4,490.0	309.6	75.7	233.93	1.324	Level 3	
11,800.0	7,160.1	11,936.9	7,295.0	132.8	133.0	116.01	960.7	-4,590.0	309.9	71.1	238.80	1.298	Level 3	
11,900.0	7,159.6	12,036.9	7,295.0	135.6	135.8	116.10	960.7	-4,690.0	310.1	66.4	243.67	1.273	Level 3	
12,000.0	7,159.1	12,136.9	7,295.0	138.4	138.6	116.19	960.7	-4,790.0	310.3	61.8	248.53	1.249	Level 2	
12,100.0	7,158.5	12,236.9	7,295.0	141.1	141.4	116.27	960.7	-4,890.0	310.5	57.2	253.39	1.226	Level 2	
12,200.0	7,158.0	12,336.9	7,295.0	143.9	144.1	116.36	960.7	-4,990.0	310.8	52.5	258.24	1.203	Level 2	
12,300.0	7,157.5	12,436.9	7,295.0	146.7	146.9	116.44	960.7	-5,090.0	311.0	47.9	263.09	1.182	Level 2	
12,400.0	7,157.0	12,536.9	7,295.0	149.5	149.7	116.53	960.7	-5,190.0	311.2	43.3	267.93	1.162	Level 2	
12,500.0	7,156.4	12,636.9	7,295.0	152.3	152.5	116.62	960.7	-5,290.0	311.5	38.7	272.76	1.142	Level 2	
12,600.0	7,155.9	12,736.9	7,295.0	155.1	155.3	116.70	960.7	-5,390.0	311.7	34.1	277.59	1.123	Level 2	
12,700.0	7,155.4	12,836.9	7,295.0	157.9	158.0	116.79	960.7	-5,490.0	311.9	29.5	282.41	1.105	Level 2	
12,800.0	7,154.9	12,936.9	7,295.0	160.6	160.8	116.88	960.7	-5,590.0	312.2	25.0	287.23	1.087	Level 2	
12,900.0	7,154.4	13,036.9	7,295.0	163.4	163.6	116.96	960.7	-5,689.9	312.4	20.4	292.04	1.070	Level 2	
13,000.0	7,153.8	13,136.9	7,295.0	166.2	166.4	117.05	960.7	-5,789.9	312.7	15.8	296.84	1.053	Level 2	
13,100.0	7,153.3	13,236.9	7,295.0	169.0	169.2	117.13	960.7	-5,889.9	312.9	11.3	301.64	1.037	Level 2	
13,200.0	7,152.8	13,336.9	7,295.0	171.8	172.0	117.22	960.7	-5,989.9	313.1	6.7	306.43	1.022	Level 2	
13,300.0	7,152.3	13,436.9	7,295.0	174.6	174.8	117.30	960.7	-6,089.9	313.4	2.2	311.21	1.007	Level 2	
13,400.0	7,151.7	13,536.9	7,295.0	177.4	177.5	117.39	960.7	-6,189.9	313.6	-2.4	315.99	0.992	Level 1	
13,500.0	7,151.2	13,636.9	7,295.0	180.2	180.3	117.47	960.7	-6,289.9	313.9	-6.9	320.76	0.978	Level 1	
13,600.0	7,150.7	13,736.9	7,295.0	183.0	183.1	117.56	960.7	-6,389.9	314.1	-11.4	325.53	0.965	Level 1	
13,700.0	7,150.2	13,836.9	7,295.0	185.8	185.9	117.64	960.7	-6,489.9	314.3	-15.9	330.28	0.952	Level 1	
13,800.0	7,149.6	13,936.9	7,295.0	188.6	188.7	117.73	960.7	-6,589.9	314.6	-20.4	335.03	0.939	Level 1	
13,900.0	7,149.1	14,036.9	7,295.0	191.3	191.5	117.81	960.7	-6,689.9	314.8	-24.9	339.78	0.927	Level 1	
14,000.0	7,148.6	14,136.9	7,295.0	194.1	194.3	117.89	960.7	-6,789.9	315.1	-29.4	344.52	0.915	Level 1	
14,100.0	7,148.1	14,236.9	7,295.0	196.9	197.1	117.98	960.7	-6,889.9	315.3	-33.9	349.25	0.903	Level 1	
14,200.0	7,147.5	14,336.9	7,295.0	199.7	199.9	118.06	960.7	-6,989.9	315.6	-38.4	353.97	0.892	Level 1	
14,300.0	7,147.0	14,436.9	7,295.0	202.5	202.7	118.15	960.7	-7,089.9	315.8	-42.9	358.69	0.880	Level 1	
14,304.2	7,147.0	14,441.0	7,295.0	202.6	202.8	118.15	960.7	-7,094.1	315.8	-43.1	358.88	0.880	Level 1, ES, SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-180.00	-180.00	-61.9	0.0	61.9				
100.0	100.0	100.0	100.0	0.1	0.1	-180.00	-180.00	-61.9	0.0	61.9	61.7	0.22	275.538	
200.0	200.0	200.0	200.0	0.3	0.3	-180.00	-180.00	-61.9	0.0	61.9	61.3	0.67	91.846	
300.0	300.0	300.0	300.0	0.6	0.6	-180.00	-180.00	-61.9	0.0	61.9	60.8	1.12	55.108	
400.0	400.0	400.0	400.0	0.8	0.8	-180.00	-180.00	-61.9	0.0	61.9	60.4	1.57	39.363	
500.0	500.0	500.0	500.0	1.0	1.0	-180.00	-180.00	-61.9	0.0	61.9	59.9	2.02	30.615	
600.0	600.0	600.0	600.0	1.2	1.2	-180.00	-180.00	-61.9	0.0	61.9	59.5	2.47	25.049 CC, ES	
700.0	700.0	700.0	700.0	1.5	1.5	156.54	-180.00	-61.9	0.0	63.5	60.6	2.92	21.739	
800.0	799.8	799.8	799.8	1.7	1.7	158.25	-180.00	-61.9	0.0	68.4	65.0	3.37	20.271	
900.0	899.5	899.5	899.5	1.9	1.9	160.62	-180.00	-61.9	0.0	76.5	72.7	3.82	20.022	
1,000.0	998.7	998.7	998.7	2.2	2.1	163.18	-180.00	-61.9	0.0	88.1	83.9	4.27	20.633	
1,100.0	1,097.7	1,097.7	1,097.7	2.5	2.4	165.46	-180.00	-61.9	0.0	101.6	96.9	4.72	21.504	
1,200.0	1,196.7	1,196.7	1,196.7	2.7	2.6	167.20	-180.00	-61.9	0.0	115.2	110.0	5.18	22.236	
1,300.0	1,295.8	1,295.8	1,295.8	3.1	2.8	168.58	-180.00	-61.9	0.0	128.8	123.2	5.64	22.858	
1,400.0	1,394.8	1,394.8	1,394.8	3.4	3.0	169.69	-180.00	-61.9	0.0	142.6	136.5	6.09	23.392	
1,500.0	1,493.8	1,493.8	1,493.8	3.7	3.2	170.60	-180.00	-61.9	0.0	156.3	149.8	6.55	23.855	
1,600.0	1,592.8	1,592.8	1,592.8	4.0	3.5	171.08	-180.00	-60.9	1.3	168.8	161.8	7.02	24.058	
1,700.0	1,691.8	1,702.2	1,702.1	4.3	3.7	170.79	-180.00	-57.4	5.5	178.4	170.9	7.48	23.836	
1,800.0	1,790.9	1,807.2	1,806.7	4.6	3.9	169.83	-180.00	-51.5	12.7	185.0	177.1	7.96	23.235	
1,900.0	1,889.9	1,907.0	1,905.9	5.0	4.2	168.67	-180.00	-44.7	20.9	190.3	181.9	8.44	22.544	
2,000.0	1,988.9	2,006.8	2,005.1	5.3	4.4	167.56	-180.00	-38.0	29.1	195.7	186.7	8.93	21.916	
2,100.0	2,087.9	2,106.6	2,104.3	5.6	4.7	166.52	-180.00	-31.3	37.3	201.1	191.7	9.42	21.345	
2,200.0	2,186.9	2,206.4	2,203.6	6.0	4.9	165.53	-180.00	-24.5	45.5	206.6	196.6	9.92	20.825	
2,300.0	2,286.0	2,306.2	2,302.8	6.3	5.2	164.59	-180.00	-17.8	53.7	212.1	201.7	10.42	20.350	
2,400.0	2,385.0	2,406.0	2,402.0	6.6	5.4	163.70	-180.00	-11.1	61.9	217.7	206.8	10.93	19.913	
2,500.0	2,484.0	2,505.8	2,501.2	7.0	5.7	162.86	-180.00	-4.3	70.0	223.4	211.9	11.45	19.511	
2,600.0	2,583.0	2,605.5	2,600.4	7.3	6.0	162.06	-180.00	2.4	78.2	229.0	217.1	11.97	19.141	
2,700.0	2,682.0	2,705.3	2,699.7	7.6	6.2	161.29	-180.00	9.1	86.4	234.8	222.3	12.49	18.798	
2,800.0	2,781.1	2,805.1	2,798.9	8.0	6.5	160.57	-180.00	15.9	94.6	240.6	227.5	13.02	18.480	
2,900.0	2,880.1	2,904.9	2,898.1	8.3	6.8	159.87	-180.00	22.6	102.8	246.4	232.8	13.55	18.185	
3,000.0	2,979.1	3,004.7	2,997.3	8.6	7.1	159.21	-180.00	29.3	111.0	252.2	238.1	14.08	17.910	
3,100.0	3,078.1	3,104.5	3,096.6	9.0	7.3	158.58	-180.00	36.1	119.2	258.1	243.5	14.62	17.653	
3,200.0	3,177.1	3,204.3	3,195.8	9.3	7.6	157.98	-180.00	42.8	127.4	264.0	248.8	15.16	17.413	
3,300.0	3,276.2	3,304.1	3,295.0	9.6	7.9	157.40	-180.00	49.6	135.6	269.9	254.2	15.70	17.189	
3,400.0	3,375.2	3,403.8	3,394.2	10.0	8.2	156.85	-180.00	56.3	143.8	275.9	259.7	16.25	16.978	
3,500.0	3,474.2	3,503.6	3,493.4	10.3	8.5	156.32	-180.00	63.0	152.0	281.9	265.1	16.80	16.780	
3,600.0	3,573.2	3,603.4	3,592.7	10.7	8.8	155.81	-180.00	69.8	160.1	287.9	270.6	17.35	16.594	
3,700.0	3,672.2	3,703.2	3,691.9	11.0	9.0	155.33	-180.00	76.5	168.3	293.9	276.0	17.90	16.418	
3,800.0	3,771.3	3,803.0	3,791.1	11.3	9.3	154.86	-180.00	83.2	176.5	300.0	281.5	18.46	16.252	
3,900.0	3,870.3	3,902.8	3,890.3	11.7	9.6	154.42	-180.00	90.0	184.7	306.1	287.0	19.01	16.096	
4,000.0	3,969.3	4,002.6	3,989.6	12.0	9.9	153.99	-180.00	96.7	192.9	312.1	292.6	19.57	15.948	
4,100.0	4,068.3	4,102.4	4,088.8	12.3	10.2	153.57	-180.00	103.4	201.1	318.3	298.1	20.13	15.807	
4,200.0	4,167.3	4,202.2	4,188.0	12.7	10.5	153.17	-180.00	110.2	209.3	324.4	303.7	20.70	15.674	
4,300.0	4,266.3	4,301.9	4,287.2	13.0	10.8	152.79	-180.00	116.9	217.5	330.5	309.3	21.26	15.547	
4,400.0	4,365.4	4,401.7	4,386.4	13.4	11.1	152.42	-180.00	123.6	225.7	336.7	314.8	21.82	15.427	
4,500.0	4,464.4	4,501.5	4,485.7	13.7	11.3	152.07	-180.00	130.4	233.9	342.8	320.4	22.39	15.312	
4,600.0	4,563.4	4,601.3	4,584.9	14.0	11.6	151.72	-180.00	137.1	242.1	349.0	326.0	22.96	15.203	
4,700.0	4,662.4	4,701.1	4,684.1	14.4	11.9	151.39	-180.00	143.8	250.2	355.2	331.7	23.52	15.099	
4,800.0	4,761.4	4,800.9	4,783.3	14.7	12.2	151.07	-180.00	150.6	258.4	361.4	337.3	24.09	15.000	
4,900.0	4,860.5	4,900.7	4,882.6	15.1	12.5	150.76	-180.00	157.3	266.6	367.6	342.9	24.66	14.905	
5,000.0	4,959.5	5,000.5	4,981.8	15.4	12.8	150.46	-180.00	164.1	274.8	373.8	348.6	25.23	14.814	

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32X-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)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,058.5	5,100.2	5,081.0	15.7	13.1	150.17		170.8	283.0	380.1	354.3	25.81	14.727	
5,200.0	5,157.5	5,200.0	5,180.2	16.1	13.4	149.89		177.5	291.2	386.3	359.9	26.38	14.644	
5,300.0	5,256.5	5,293.9	5,273.7	16.4	13.6	149.77		183.2	298.1	393.2	366.3	26.89	14.621	
5,400.0	5,355.6	5,386.4	5,366.0	16.7	13.8	150.01		186.9	302.6	401.8	374.5	27.32	14.708	
5,500.0	5,454.6	5,478.5	5,458.0	17.1	14.0	150.58		188.7	304.8	412.3	384.6	27.70	14.885	
5,600.0	5,553.6	5,574.1	5,553.6	17.4	14.1	151.43		188.9	305.0	424.3	396.3	28.05	15.126	
5,700.0	5,652.6	5,673.1	5,652.6	17.8	14.3	152.31		188.9	305.0	436.7	408.3	28.43	15.358	
5,800.0	5,751.6	5,772.1	5,751.6	18.1	14.5	153.14		188.9	305.0	449.1	420.3	28.82	15.583	
5,900.0	5,850.7	5,871.1	5,850.7	18.4	14.7	153.92		188.9	305.0	461.7	432.4	29.21	15.803	
6,000.0	5,949.7	5,970.2	5,949.7	18.8	14.9	154.69		188.9	305.0	473.9	444.3	29.60	16.007	
6,100.0	6,049.2	6,069.7	6,049.2	19.0	15.1	155.30		188.9	305.0	483.4	453.4	29.95	16.139	
6,200.0	6,148.9	6,169.4	6,148.9	19.2	15.3	155.69		188.9	305.0	489.8	459.5	30.28	16.172	
6,300.0	6,248.9	6,269.3	6,248.9	19.4	15.5	155.89		188.9	305.0	493.0	462.4	30.60	16.110	
6,400.0	6,348.9	6,369.3	6,348.8	19.5	15.6	-179.88		188.9	303.9	493.4	460.0	33.44	14.755	
6,500.0	6,448.9	6,467.9	6,446.7	19.6	15.7	-88.60		188.9	292.4	493.6	462.5	31.10	15.870	
6,600.0	6,548.2	6,564.5	6,540.3	19.7	15.8	-87.00		188.9	269.0	494.1	462.9	31.14	15.865	
6,700.0	6,645.4	6,659.5	6,628.8	19.8	15.8	-85.47		188.9	234.6	495.0	463.8	31.13	15.899	
6,800.0	6,738.6	6,753.1	6,711.2	19.8	15.8	-84.03		188.9	190.2	496.1	465.0	31.14	15.934	
6,900.0	6,826.3	6,845.4	6,786.5	19.8	15.8	-82.69		188.9	136.9	497.5	466.3	31.24	15.925	
7,000.0	6,907.1	6,936.6	6,854.1	19.7	15.9	-81.48		188.9	75.7	499.0	467.4	31.55	15.817	
7,100.0	6,979.5	7,026.9	6,913.3	19.7	16.2	-80.41		188.9	7.7	500.4	468.3	32.17	15.558	
7,200.0	7,042.3	7,116.2	6,963.6	19.7	16.8	-79.50		188.9	-66.1	501.9	468.7	33.20	15.116	
7,300.0	7,094.4	7,205.0	7,004.7	19.7	17.7	-78.74		188.9	-144.7	503.1	468.4	34.72	14.492	
7,400.0	7,134.9	7,293.2	7,036.3	20.1	18.8	-78.16		188.9	-227.0	504.1	467.4	36.76	13.714	
7,500.0	7,163.1	7,381.0	7,058.1	21.1	20.2	-77.76		188.9	-312.0	504.9	465.6	39.30	12.845	
7,600.0	7,178.6	7,468.6	7,070.0	22.7	21.7	-77.54		188.9	-398.7	505.3	463.0	42.27	11.953	
7,700.0	7,181.6	7,559.7	7,072.3	24.5	23.4	-77.51		188.9	-489.7	505.4	459.7	45.69	11.062	
7,800.0	7,181.1	7,659.7	7,072.0	26.5	25.5	-77.54		188.9	-589.7	505.3	455.6	49.68	10.172	
7,900.0	7,180.5	7,759.7	7,071.8	28.6	27.7	-77.57		188.9	-689.7	505.3	451.3	53.93	9.369	
8,000.0	7,180.0	7,859.7	7,071.5	30.8	30.0	-77.60		188.9	-789.7	505.2	446.8	58.39	8.653	
8,100.0	7,179.5	7,959.7	7,071.2	33.2	32.4	-77.63		188.9	-889.7	505.1	442.1	63.01	8.017	
8,200.0	7,179.0	8,059.7	7,071.0	35.5	34.8	-77.65		188.9	-989.7	505.1	437.3	67.76	7.454	
8,300.0	7,178.4	8,159.7	7,070.7	38.0	37.3	-77.68		188.9	-1,089.7	505.0	432.4	72.63	6.954	
8,400.0	7,177.9	8,259.7	7,070.4	40.5	39.8	-77.71		188.9	-1,189.7	505.0	427.4	77.57	6.510	
8,500.0	7,177.4	8,359.7	7,070.2	43.0	42.4	-77.74		188.9	-1,289.7	504.9	422.3	82.59	6.113	
8,600.0	7,176.9	8,459.7	7,069.9	45.6	45.0	-77.77		188.9	-1,389.7	504.9	417.2	87.67	5.759	
8,700.0	7,176.3	8,559.7	7,069.7	48.1	47.6	-77.80		188.9	-1,489.7	504.8	412.0	92.80	5.440	
8,800.0	7,175.8	8,659.7	7,069.4	50.8	50.3	-77.83		188.9	-1,589.7	504.8	406.8	97.96	5.152	
8,900.0	7,175.3	8,759.7	7,069.1	53.4	52.9	-77.86		188.9	-1,689.7	504.7	401.5	103.17	4.892	
9,000.0	7,174.8	8,859.7	7,068.9	56.0	55.6	-77.89		188.9	-1,789.7	504.6	396.2	108.40	4.655	
9,100.0	7,174.2	8,959.7	7,068.6	58.7	58.3	-77.92		188.9	-1,889.7	504.6	390.9	113.67	4.439	
9,200.0	7,173.7	9,059.7	7,068.3	61.4	61.0	-77.94		188.9	-1,989.7	504.5	385.6	118.95	4.242	
9,300.0	7,173.2	9,159.7	7,068.1	64.0	63.7	-77.97		188.9	-2,089.7	504.5	380.2	124.26	4.060	
9,400.0	7,172.7	9,259.7	7,067.8	66.7	66.4	-78.00		188.9	-2,189.7	504.4	374.8	129.58	3.893	
9,500.0	7,172.2	9,359.7	7,067.6	69.4	69.1	-78.03		188.9	-2,289.7	504.4	369.4	134.92	3.738	
9,600.0	7,171.6	9,459.7	7,067.3	72.2	71.8	-78.06		188.9	-2,389.7	504.3	364.0	140.27	3.595	
9,700.0	7,171.1	9,559.7	7,067.0	74.9	74.6	-78.09		188.9	-2,489.7	504.3	358.6	145.64	3.462	
9,800.0	7,170.6	9,659.7	7,066.8	77.6	77.3	-78.12		188.9	-2,589.7	504.2	353.2	151.02	3.339	
9,900.0	7,170.1	9,759.7	7,066.5	80.3	80.0	-78.15		188.9	-2,689.7	504.2	347.7	156.41	3.223	
10,000.0	7,169.5	9,859.7	7,066.3	83.1	82.8	-78.18		188.9	-2,789.7	504.1	342.3	161.81	3.115	
10,100.0	7,169.0	9,959.7	7,066.0	85.8	85.5	-78.21		188.9	-2,889.7	504.0	336.8	167.21	3.014	

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32X-234 - Wellbore #1 - Plan #1 (4-14-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance		Between Centres		Between Ellipses	Minimum Separation	Separation Factor	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)	Centres (ft)	Ellipses (ft)	Separation (ft)	Factor		
10,200.0	7,168.5	10,059.7	7,065.7	88.5	88.3	-78.24	188.9	-2,989.7	504.0	331.4	172.63	2.919		
10,300.0	7,168.0	10,159.7	7,065.5	91.3	91.1	-78.26	188.9	-3,089.7	503.9	325.9	178.05	2.830		
10,400.0	7,167.4	10,259.7	7,065.2	94.0	93.8	-78.29	188.9	-3,189.7	503.9	320.4	183.48	2.746		
10,500.0	7,166.9	10,359.7	7,064.9	96.8	96.6	-78.32	188.9	-3,289.7	503.8	314.9	188.92	2.667		
10,600.0	7,166.4	10,459.7	7,064.7	99.6	99.3	-78.35	188.9	-3,389.7	503.8	309.4	194.36	2.592		
10,700.0	7,165.9	10,559.7	7,064.4	102.3	102.1	-78.38	188.9	-3,489.7	503.7	303.9	199.81	2.521		
10,800.0	7,165.3	10,659.7	7,064.2	105.1	104.9	-78.41	188.9	-3,589.7	503.7	298.4	205.26	2.454		
10,900.0	7,164.8	10,759.7	7,063.9	107.8	107.7	-78.44	188.9	-3,689.7	503.6	292.9	210.72	2.390		
11,000.0	7,164.3	10,859.7	7,063.6	110.6	110.4	-78.47	188.9	-3,789.7	503.6	287.4	216.18	2.329		
11,100.0	7,163.8	10,959.7	7,063.4	113.4	113.2	-78.50	188.9	-3,889.7	503.5	281.9	221.65	2.272		
11,200.0	7,163.3	11,059.7	7,063.1	116.1	116.0	-78.53	188.9	-3,989.7	503.5	276.3	227.12	2.217		
11,300.0	7,162.7	11,159.7	7,062.9	118.9	118.8	-78.56	188.9	-4,089.7	503.4	270.8	232.59	2.164		
11,400.0	7,162.2	11,259.7	7,062.6	121.7	121.5	-78.59	188.9	-4,189.7	503.4	265.3	238.07	2.114		
11,500.0	7,161.7	11,359.7	7,062.3	124.5	124.3	-78.61	188.9	-4,289.7	503.3	259.8	243.55	2.067		
11,600.0	7,161.2	11,459.7	7,062.1	127.2	127.1	-78.64	188.9	-4,389.7	503.3	254.2	249.03	2.021		
11,700.0	7,160.6	11,559.7	7,061.8	130.0	129.9	-78.67	188.9	-4,489.7	503.2	248.7	254.52	1.977		
11,800.0	7,160.1	11,659.7	7,061.5	132.8	132.7	-78.70	188.9	-4,589.7	503.2	243.1	260.01	1.935		
11,900.0	7,159.6	11,759.7	7,061.3	135.6	135.5	-78.73	188.9	-4,689.7	503.1	237.6	265.50	1.895		
12,000.0	7,159.1	11,859.7	7,061.0	138.4	138.2	-78.76	188.9	-4,789.7	503.1	232.1	271.00	1.856		
12,100.0	7,158.5	11,959.7	7,060.8	141.1	141.0	-78.79	188.9	-4,889.7	503.0	226.5	276.50	1.819		
12,200.0	7,158.0	12,059.6	7,060.5	143.9	143.8	-78.82	188.9	-4,989.7	502.9	220.9	282.00	1.784		
12,300.0	7,157.5	12,159.6	7,060.2	146.7	146.6	-78.85	188.9	-5,089.7	502.9	215.4	287.50	1.749		
12,400.0	7,157.0	12,259.6	7,060.0	149.5	149.4	-78.88	188.9	-5,189.7	502.8	209.8	293.01	1.716		
12,500.0	7,156.4	12,359.6	7,059.7	152.3	152.2	-78.91	188.9	-5,289.7	502.8	204.3	298.52	1.684		
12,600.0	7,155.9	12,459.6	7,059.4	155.1	155.0	-78.94	188.9	-5,389.7	502.7	198.7	304.03	1.654		
12,700.0	7,155.4	12,559.6	7,059.2	157.9	157.8	-78.97	188.9	-5,489.7	502.7	193.2	309.54	1.624		
12,800.0	7,154.9	12,659.6	7,058.9	160.6	160.6	-79.00	188.9	-5,589.7	502.6	187.6	315.06	1.595		
12,900.0	7,154.4	12,759.6	7,058.7	163.4	163.3	-79.02	188.9	-5,689.7	502.6	182.0	320.57	1.568		
13,000.0	7,153.8	12,859.6	7,058.4	166.2	166.1	-79.05	188.9	-5,789.7	502.5	176.5	326.09	1.541		
13,100.0	7,153.3	12,959.6	7,058.1	169.0	168.9	-79.08	188.9	-5,889.7	502.5	170.9	331.61	1.515		
13,200.0	7,152.8	13,059.6	7,057.9	171.8	171.7	-79.11	188.9	-5,989.7	502.4	165.3	337.13	1.490 Level 3		
13,300.0	7,152.3	13,159.6	7,057.6	174.6	174.5	-79.14	188.9	-6,089.7	502.4	159.7	342.66	1.466 Level 3		
13,400.0	7,151.7	13,259.6	7,057.4	177.4	177.3	-79.17	188.9	-6,189.7	502.4	154.2	348.18	1.443 Level 3		
13,500.0	7,151.2	13,359.6	7,057.1	180.2	180.1	-79.20	188.9	-6,289.7	502.3	148.6	353.71	1.420 Level 3		
13,600.0	7,150.7	13,459.6	7,056.8	183.0	182.9	-79.23	188.9	-6,389.7	502.3	143.0	359.24	1.398 Level 3		
13,700.0	7,150.2	13,559.6	7,056.6	185.8	185.7	-79.26	188.9	-6,489.7	502.2	137.4	364.77	1.377 Level 3		
13,800.0	7,149.6	13,659.6	7,056.3	188.6	188.5	-79.29	188.9	-6,589.7	502.2	131.8	370.31	1.356 Level 3		
13,900.0	7,149.1	13,759.6	7,056.0	191.3	191.3	-79.32	188.9	-6,689.7	502.1	126.3	375.84	1.336 Level 3		
14,000.0	7,148.6	13,859.6	7,055.8	194.1	194.1	-79.35	188.9	-6,789.7	502.1	120.7	381.38	1.316 Level 3		
14,100.0	7,148.1	13,959.6	7,055.5	196.9	196.9	-79.38	188.9	-6,889.7	502.0	115.1	386.91	1.297 Level 3		
14,200.0	7,147.5	14,059.6	7,055.3	199.7	199.7	-79.41	188.9	-6,989.7	502.0	109.5	392.45	1.279 Level 3		
14,277.0	7,147.1	14,136.7	7,055.1	201.9	201.8	-79.43	188.9	-7,066.7	501.9	105.2	396.72	1.265 Level 3		
14,300.0	7,147.0	14,158.7	7,055.0	202.5	202.4	-79.43	188.9	-7,088.7	501.9	103.9	397.96	1.261 Level 3		
14,304.2	7,147.0	14,158.7	7,055.0	202.6	202.4	-79.43	188.9	-7,088.7	501.9	103.9	398.08	1.261 Level 3, SF		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	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-404 - 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	
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-29.1	0.0	29.1					
100.0	100.0	100.0	100.0	0.1	0.1	180.00	-29.1	0.0	29.1	28.9	0.22	129.665		
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-29.1	0.0	29.1	28.5	0.67	43.222		
300.0	300.0	300.0	300.0	0.6	0.6	180.00	-29.1	0.0	29.1	28.0	1.12	25.933		
400.0	400.0	400.0	400.0	0.8	0.8	180.00	-29.1	0.0	29.1	27.6	1.57	18.524		
500.0	500.0	500.0	500.0	1.0	1.0	180.00	-29.1	0.0	29.1	27.1	2.02	14.407		
600.0	600.0	600.0	600.0	1.2	1.2	180.00	-29.1	0.0	29.1	26.7	2.47	11.788 CC, ES		
700.0	700.0	700.0	700.0	1.5	1.5	157.23	-29.1	0.0	30.7	27.8	2.92	10.521		
800.0	799.8	799.8	799.8	1.7	1.7	160.45	-29.1	0.0	35.6	32.3	3.37	10.565		
900.0	899.5	899.5	899.5	1.9	1.9	164.21	-29.1	0.0	43.9	40.1	3.82	11.498		
1,000.0	998.7	998.7	998.7	2.2	2.1	167.57	-29.1	0.0	55.8	51.5	4.27	13.065		
1,100.0	1,097.7	1,099.8	1,099.8	2.5	2.4	169.36	-27.9	1.2	68.0	63.3	4.72	14.415		
1,200.0	1,196.7	1,201.6	1,201.4	2.7	2.6	169.31	-24.0	4.9	77.2	72.1	5.17	14.934		
1,300.0	1,295.8	1,303.9	1,303.3	3.1	2.8	168.01	-17.5	11.1	83.4	77.8	5.64	14.791		
1,400.0	1,394.8	1,404.7	1,403.5	3.4	3.1	165.86	-9.0	19.3	87.2	81.0	6.12	14.243		
1,500.0	1,493.8	1,504.6	1,502.6	3.7	3.3	163.81	-0.3	27.6	90.8	84.2	6.61	13.734		
1,600.0	1,592.8	1,604.5	1,601.8	4.0	3.6	161.93	8.3	35.8	94.6	87.5	7.12	13.289		
1,700.0	1,691.8	1,704.4	1,701.0	4.3	3.9	160.18	17.0	44.1	98.4	90.8	7.63	12.898		
1,800.0	1,790.9	1,804.3	1,800.1	4.6	4.1	158.57	25.6	52.4	102.4	94.2	8.16	12.552		
1,900.0	1,889.9	1,904.2	1,899.3	5.0	4.4	157.08	34.3	60.7	106.4	97.7	8.69	12.243		
2,000.0	1,988.9	2,004.0	1,998.5	5.3	4.7	155.70	42.9	68.9	110.5	101.2	9.23	11.967		
2,100.0	2,087.9	2,103.9	2,097.6	5.6	5.0	154.42	51.6	77.2	114.6	104.8	9.78	11.719		
2,200.0	2,186.9	2,203.8	2,196.8	6.0	5.3	153.23	60.2	85.5	118.8	108.5	10.33	11.495		
2,300.0	2,286.0	2,303.7	2,295.9	6.3	5.6	152.12	68.9	93.8	123.0	112.1	10.90	11.292		
2,400.0	2,385.0	2,403.6	2,395.1	6.6	5.9	151.08	77.5	102.0	127.3	115.9	11.46	11.107		
2,500.0	2,484.0	2,503.4	2,494.3	7.0	6.2	150.12	86.2	110.3	131.6	119.6	12.03	10.939		
2,600.0	2,583.0	2,603.3	2,593.4	7.3	6.5	149.21	94.8	118.6	136.0	123.4	12.61	10.784		
2,700.0	2,682.0	2,703.2	2,692.6	7.6	6.8	148.36	103.5	126.9	140.4	127.2	13.19	10.643		
2,800.0	2,781.1	2,803.1	2,791.8	8.0	7.1	147.56	112.1	135.1	144.8	131.0	13.77	10.513		
2,900.0	2,880.1	2,903.0	2,890.9	8.3	7.4	146.81	120.8	143.4	149.2	134.9	14.36	10.392		
3,000.0	2,979.1	3,002.9	2,990.1	8.6	7.7	146.10	129.4	151.7	153.7	138.8	14.95	10.281		
3,100.0	3,078.1	3,102.7	3,089.2	9.0	8.0	145.44	138.1	159.9	158.2	142.7	15.54	10.178		
3,200.0	3,177.1	3,202.6	3,188.4	9.3	8.3	144.81	146.7	168.2	162.7	146.6	16.14	10.083		
3,300.0	3,276.2	3,302.5	3,287.6	9.6	8.6	144.21	155.4	176.5	167.2	150.5	16.74	9.994		
3,400.0	3,375.2	3,402.4	3,386.7	10.0	8.9	143.64	164.0	184.8	171.8	154.5	17.33	9.911		
3,500.0	3,474.2	3,502.3	3,485.9	10.3	9.2	143.11	172.7	193.0	176.4	158.4	17.94	9.833		
3,600.0	3,573.2	3,602.2	3,585.1	10.7	9.5	142.60	181.3	201.3	180.9	162.4	18.54	9.760		
3,700.0	3,672.2	3,702.0	3,684.2	11.0	9.9	142.12	190.0	209.6	185.5	166.4	19.14	9.692		
3,800.0	3,771.3	3,801.9	3,783.4	11.3	10.2	141.66	198.6	217.9	190.1	170.4	19.75	9.628		
3,900.0	3,870.3	3,901.8	3,882.5	11.7	10.5	141.22	207.3	226.1	194.7	174.4	20.35	9.568		
4,000.0	3,969.3	4,001.7	3,981.7	12.0	10.8	140.80	216.0	234.4	199.4	178.4	20.96	9.511		
4,100.0	4,068.3	4,101.6	4,080.9	12.3	11.1	140.40	224.6	242.7	204.0	182.4	21.57	9.458		
4,200.0	4,167.3	4,201.5	4,180.0	12.7	11.4	140.02	233.3	251.0	208.6	186.5	22.18	9.407		
4,300.0	4,266.3	4,301.3	4,279.2	13.0	11.7	139.66	241.9	259.2	213.3	190.5	22.79	9.359		
4,400.0	4,365.4	4,401.2	4,378.4	13.4	12.0	139.31	250.6	267.5	218.0	194.6	23.40	9.314		
4,500.0	4,464.4	4,501.1	4,477.5	13.7	12.3	138.97	259.2	275.8	222.6	198.6	24.02	9.271		
4,600.0	4,563.4	4,601.0	4,576.7	14.0	12.6	138.65	267.9	284.1	227.3	202.7	24.63	9.230		
4,700.0	4,662.4	4,700.0	4,675.0	14.4	12.9	138.36	276.4	292.2	232.0	206.8	25.23	9.196		
4,800.0	4,761.4	4,796.2	4,770.7	14.7	13.2	138.55	283.1	298.6	237.8	212.1	25.71	9.250		
4,900.0	4,860.5	4,891.8	4,866.2	15.1	13.4	139.38	287.5	302.8	245.3	219.2	26.11	9.395		
5,000.0	4,959.5	4,987.0	4,961.3	15.4	13.5	140.78	289.6	304.8	254.5	228.1	26.43	9.631		

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	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)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,058.5	5,084.2	5,058.5	15.7	13.7	142.60		289.8	305.0	265.4	238.7	26.70	9.940	
5,200.0	5,157.5	5,183.2	5,157.5	16.1	13.8	144.35		289.8	305.0	276.6	249.6	26.99	10.248	
5,300.0	5,256.5	5,282.3	5,256.5	16.4	14.0	145.96		289.8	305.0	288.1	260.8	27.30	10.554	
5,400.0	5,355.6	5,381.3	5,355.6	16.7	14.2	147.45		289.8	305.0	299.9	272.2	27.62	10.857	
5,500.0	5,454.6	5,480.3	5,454.6	17.1	14.4	148.83		289.8	305.0	311.8	283.8	27.95	11.155	
5,600.0	5,553.6	5,579.3	5,553.6	17.4	14.6	150.11		289.8	305.0	323.8	295.5	28.28	11.449	
5,700.0	5,652.6	5,678.3	5,652.6	17.8	14.7	151.29		289.8	305.0	336.0	307.4	28.63	11.737	
5,800.0	5,751.6	5,777.4	5,751.6	18.1	14.9	152.39		289.8	305.0	348.4	319.4	28.98	12.020	
5,900.0	5,850.7	5,876.4	5,850.7	18.4	15.1	153.42		289.8	305.0	360.8	331.5	29.34	12.298	
6,000.0	5,949.7	5,975.5	5,949.7	18.8	15.3	154.40		289.8	305.0	373.0	343.3	29.70	12.558	
6,100.0	6,049.2	6,074.9	6,049.2	19.0	15.5	155.16		289.8	305.0	382.5	352.5	30.03	12.739	
6,200.0	6,148.9	6,174.6	6,148.9	19.2	15.7	155.64		289.8	305.0	388.9	358.5	30.34	12.817	
6,300.0	6,248.9	6,274.6	6,248.9	19.4	15.8	155.88		289.8	305.0	392.1	361.5	30.65	12.793	
6,400.0	6,348.9	6,374.6	6,348.9	19.5	16.0	180.00		289.8	305.0	392.5	358.7	33.86	11.591	
6,455.0	6,403.8	6,429.6	6,403.8	19.6	16.1	-90.09		289.8	305.0	392.5	361.3	31.21	12.577	
6,500.0	6,448.9	6,474.6	6,448.9	19.6	16.2	-90.09		289.8	305.0	392.5	361.1	31.39	12.506	
6,600.0	6,548.2	6,574.2	6,548.5	19.7	16.4	-91.55		289.8	304.5	392.7	360.8	31.84	12.332	
6,700.0	6,645.4	6,675.4	6,649.1	19.8	16.5	-93.49		289.7	294.2	393.3	361.1	32.21	12.210	
6,800.0	6,738.6	6,778.4	6,749.2	19.8	16.6	-95.38		289.6	270.2	394.5	362.0	32.46	12.153	
6,900.0	6,826.3	6,883.3	6,846.9	19.8	16.6	-97.18		289.4	232.1	396.1	363.4	32.61	12.144	
7,000.0	6,907.1	6,990.2	6,940.0	19.7	16.6	-98.85		289.1	180.0	398.0	365.2	32.77	12.145	
7,100.0	6,979.5	7,098.9	7,026.4	19.7	16.6	-100.36		288.8	114.1	400.1	367.0	33.08	12.096	
7,200.0	7,042.3	7,209.5	7,103.8	19.7	16.6	-101.69		288.4	35.3	402.3	368.6	33.75	11.921	
7,300.0	7,094.4	7,321.6	7,169.8	19.7	17.1	-102.79		287.9	-55.2	404.5	369.5	34.98	11.563	
7,400.0	7,134.9	7,435.1	7,222.4	20.1	18.2	-103.65		287.4	-155.7	406.4	369.5	36.95	11.000	
7,500.0	7,163.1	7,549.6	7,259.8	21.1	19.8	-104.25		286.8	-263.8	408.0	368.3	39.68	10.283	
7,600.0	7,178.6	7,664.9	7,280.8	22.7	21.7	-104.57		286.3	-377.1	409.2	366.1	43.13	9.487	
7,700.0	7,181.6	7,767.4	7,291.2	24.5	23.6	-105.44		285.7	-479.0	411.6	364.8	46.75	8.803	
7,800.0	7,181.1	7,876.5	7,295.0	26.5	25.8	-106.01		285.2	-588.0	413.1	362.4	50.73	8.143	
7,900.0	7,180.5	7,976.5	7,295.0	28.6	28.0	-106.06		284.7	-688.0	413.8	358.9	54.87	7.540	
8,000.0	7,180.0	8,076.5	7,295.0	30.8	30.3	-106.11		284.1	-788.0	414.4	355.2	59.21	6.999	
8,100.0	7,179.5	8,176.5	7,295.0	33.2	32.6	-106.16		283.6	-888.0	415.1	351.3	63.70	6.515	
8,200.0	7,179.0	8,276.5	7,295.0	35.5	35.0	-106.21		283.1	-988.0	415.7	347.4	68.33	6.084	
8,300.0	7,178.4	8,376.4	7,295.0	38.0	37.5	-106.26		282.6	-1,088.0	416.3	343.3	73.06	5.699	
8,400.0	7,177.9	8,476.4	7,295.0	40.5	40.0	-106.31		282.1	-1,188.0	417.0	339.1	77.87	5.355	
8,500.0	7,177.4	8,576.4	7,295.0	43.0	42.6	-106.36		281.6	-1,288.0	417.6	334.9	82.75	5.046	
8,600.0	7,176.9	8,676.4	7,295.0	45.6	45.1	-106.40		281.1	-1,387.9	418.2	330.6	87.69	4.769	
8,700.0	7,176.3	8,776.4	7,295.0	48.1	47.7	-106.45		280.5	-1,487.9	418.9	326.2	92.68	4.520	
8,800.0	7,175.8	8,876.4	7,295.0	50.8	50.4	-106.50		280.0	-1,587.9	419.5	321.8	97.71	4.294	
8,900.0	7,175.3	8,976.4	7,295.0	53.4	53.0	-106.55		279.5	-1,687.9	420.2	317.4	102.77	4.088	
9,000.0	7,174.8	9,076.4	7,295.0	56.0	55.7	-106.60		279.0	-1,787.9	420.8	313.0	107.86	3.902	
9,100.0	7,174.2	9,176.4	7,295.0	58.7	58.4	-106.65		278.5	-1,887.9	421.5	308.5	112.97	3.731	
9,200.0	7,173.7	9,276.4	7,295.0	61.4	61.0	-106.70		278.0	-1,987.9	422.1	304.0	118.11	3.574	
9,300.0	7,173.2	9,376.4	7,295.0	64.0	63.7	-106.74		277.5	-2,087.9	422.7	299.5	123.26	3.430	
9,400.0	7,172.7	9,476.4	7,295.0	66.7	66.4	-106.79		276.9	-2,187.9	423.4	295.0	128.43	3.297	
9,500.0	7,172.2	9,576.4	7,295.0	69.4	69.2	-106.84		276.4	-2,287.9	424.0	290.4	133.61	3.174	
9,600.0	7,171.6	9,676.4	7,295.0	72.2	71.9	-106.89		275.9	-2,387.9	424.7	285.9	138.80	3.060	
9,700.0	7,171.1	9,776.4	7,295.0	74.9	74.6	-106.93		275.4	-2,487.9	425.3	281.3	144.01	2.953	
9,800.0	7,170.6	9,876.4	7,295.0	77.6	77.3	-106.98		274.9	-2,587.9	426.0	276.7	149.22	2.855	
9,900.0	7,170.1	9,976.4	7,295.0	80.3	80.1	-107.03		274.4	-2,687.9	426.6	272.2	154.44	2.762	
10,000.0	7,169.5	10,076.4	7,295.0	83.1	82.8	-107.08		273.9	-2,787.9	427.2	267.6	159.66	2.676	

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	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
10,100.0	7,169.0	10,176.4	7,295.0	85.8	85.6	-107.12		273.4	-2,887.9	427.9	263.0	164.89	2.595	
10,200.0	7,168.5	10,276.4	7,295.0	88.5	88.3	-107.17		272.8	-2,987.9	428.5	258.4	170.13	2.519	
10,300.0	7,168.0	10,376.4	7,295.0	91.3	91.1	-107.22		272.3	-3,087.9	429.2	253.8	175.37	2.447	
10,400.0	7,167.4	10,476.4	7,295.0	94.0	93.8	-107.26		271.8	-3,187.9	429.8	249.2	180.62	2.380	
10,500.0	7,166.9	10,576.4	7,295.0	96.8	96.6	-107.31		271.3	-3,287.9	430.5	244.6	185.86	2.316	
10,600.0	7,166.4	10,676.4	7,295.0	99.6	99.3	-107.35		270.8	-3,387.9	431.1	240.0	191.11	2.256	
10,700.0	7,165.9	10,776.4	7,295.0	102.3	102.1	-107.40		270.3	-3,487.9	431.8	235.4	196.37	2.199	
10,800.0	7,165.3	10,876.4	7,295.0	105.1	104.9	-107.45		269.8	-3,587.9	432.4	230.8	201.62	2.145	
10,900.0	7,164.8	10,976.4	7,295.0	107.8	107.6	-107.49		269.2	-3,687.9	433.1	226.2	206.88	2.093	
11,000.0	7,164.3	11,076.4	7,295.0	110.6	110.4	-107.54		268.7	-3,787.9	433.7	221.6	212.13	2.045	
11,100.0	7,163.8	11,176.4	7,295.0	113.4	113.2	-107.58		268.2	-3,887.8	434.4	217.0	217.39	1.998	
11,200.0	7,163.3	11,276.4	7,295.0	116.1	116.0	-107.63		267.7	-3,987.8	435.0	212.4	222.65	1.954	
11,300.0	7,162.7	11,376.4	7,295.0	118.9	118.7	-107.67		267.2	-4,087.8	435.7	207.7	227.91	1.912	
11,400.0	7,162.2	11,476.4	7,295.0	121.7	121.5	-107.72		266.7	-4,187.8	436.3	203.1	233.17	1.871	
11,500.0	7,161.7	11,576.4	7,295.0	124.5	124.3	-107.76		266.2	-4,287.8	437.0	198.5	238.43	1.833	
11,600.0	7,161.2	11,676.4	7,295.0	127.2	127.1	-107.81		265.6	-4,387.8	437.6	193.9	243.69	1.796	
11,700.0	7,160.6	11,776.4	7,295.0	130.0	129.8	-107.85		265.1	-4,487.8	438.3	189.3	248.95	1.760	
11,800.0	7,160.1	11,876.4	7,295.0	132.8	132.6	-107.90		264.6	-4,587.8	438.9	184.7	254.21	1.727	
11,900.0	7,159.6	11,976.4	7,295.0	135.6	135.4	-107.94		264.1	-4,687.8	439.6	180.1	259.47	1.694	
12,000.0	7,159.1	12,076.4	7,295.0	138.4	138.2	-107.99		263.6	-4,787.8	440.2	175.5	264.73	1.663	
12,100.0	7,158.5	12,176.3	7,295.0	141.1	141.0	-108.03		263.1	-4,887.8	440.9	170.9	269.99	1.633	
12,200.0	7,158.0	12,276.3	7,295.0	143.9	143.8	-108.07		262.6	-4,987.8	441.5	166.3	275.25	1.604	
12,300.0	7,157.5	12,376.3	7,295.0	146.7	146.5	-108.12		262.0	-5,087.8	442.2	161.7	280.50	1.576	
12,400.0	7,157.0	12,476.3	7,295.0	149.5	149.3	-108.16		261.5	-5,187.8	442.8	157.0	285.76	1.550	
12,500.0	7,156.4	12,576.3	7,295.0	152.3	152.1	-108.20		261.0	-5,287.8	443.5	152.4	291.01	1.524	
12,600.0	7,155.9	12,676.3	7,295.0	155.1	154.9	-108.25		260.5	-5,387.8	444.1	147.8	296.27	1.499 Level 3	
12,700.0	7,155.4	12,776.3	7,295.0	157.9	157.7	-108.29		260.0	-5,487.8	444.8	143.2	301.52	1.475 Level 3	
12,800.0	7,154.9	12,876.3	7,295.0	160.6	160.5	-108.33		259.5	-5,587.8	445.4	138.6	306.77	1.452 Level 3	
12,900.0	7,154.4	12,976.3	7,295.0	163.4	163.3	-108.38		259.0	-5,687.8	446.1	134.0	312.02	1.430 Level 3	
13,000.0	7,153.8	13,076.3	7,295.0	166.2	166.1	-108.42		258.5	-5,787.8	446.7	129.5	317.27	1.408 Level 3	
13,100.0	7,153.3	13,176.3	7,295.0	169.0	168.8	-108.46		257.9	-5,887.8	447.4	124.9	322.51	1.387 Level 3	
13,200.0	7,152.8	13,276.3	7,295.0	171.8	171.6	-108.51		257.4	-5,987.8	448.0	120.3	327.76	1.367 Level 3	
13,300.0	7,152.3	13,376.3	7,295.0	174.6	174.4	-108.55		256.9	-6,087.8	448.7	115.7	333.00	1.347 Level 3	
13,400.0	7,151.7	13,476.3	7,295.0	177.4	177.2	-108.59		256.4	-6,187.8	449.3	111.1	338.25	1.328 Level 3	
13,500.0	7,151.2	13,576.3	7,295.0	180.2	180.0	-108.63		255.9	-6,287.8	450.0	106.5	343.49	1.310 Level 3	
13,600.0	7,150.7	13,676.3	7,295.0	183.0	182.8	-108.68		255.4	-6,387.7	450.6	101.9	348.73	1.292 Level 3	
13,700.0	7,150.2	13,776.3	7,295.0	185.8	185.6	-108.72		254.9	-6,487.7	451.3	97.3	353.97	1.275 Level 3	
13,800.0	7,149.6	13,876.3	7,295.0	188.6	188.4	-108.76		254.3	-6,587.7	451.9	92.7	359.20	1.258 Level 3	
13,900.0	7,149.1	13,976.3	7,295.0	191.3	191.2	-108.80		253.8	-6,687.7	452.6	88.2	364.44	1.242 Level 2	
14,000.0	7,148.6	14,076.3	7,295.0	194.1	194.0	-108.84		253.3	-6,787.7	453.3	83.6	369.67	1.226 Level 2	
14,100.0	7,148.1	14,176.3	7,295.0	196.9	196.8	-108.89		252.8	-6,887.7	453.9	79.0	374.90	1.211 Level 2	
14,200.0	7,147.5	14,276.3	7,295.0	199.7	199.6	-108.93		252.3	-6,987.7	454.6	74.4	380.13	1.196 Level 2	
14,300.0	7,147.0	14,376.3	7,295.0	202.5	202.4	-108.97		251.8	-7,087.7	455.2	69.9	385.36	1.181 Level 2	
14,304.2	7,147.0	14,380.0	7,295.0	202.6	202.5	-108.97		251.8	-7,091.4	455.3	69.7	385.56	1.181 Level 2, SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	Offset Datum

Offset Design		Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32X-434 - Wellbore #1 - Plan #1 (4-14-14)											Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
0.0	0.0	0.0	0.0	0.0	0.0	-180.00	-91.1	0.0	91.1					
100.0	100.0	100.0	100.0	0.1	0.1	-180.00	-91.1	0.0	91.1	90.9	0.22	405.221		
200.0	200.0	200.0	200.0	0.3	0.3	-180.00	-91.1	0.0	91.1	90.4	0.67	135.074		
300.0	300.0	300.0	300.0	0.6	0.6	-180.00	-91.1	0.0	91.1	90.0	1.12	81.044		
400.0	400.0	400.0	400.0	0.8	0.8	-180.00	-91.1	0.0	91.1	89.5	1.57	57.889		
500.0	500.0	500.0	500.0	1.0	1.0	-180.00	-91.1	0.0	91.1	89.1	2.02	45.025		
600.0	600.0	600.0	600.0	1.2	1.2	-180.00	-91.1	0.0	91.1	88.6	2.47	36.838	CC, ES	
700.0	700.0	700.0	700.0	1.5	1.5	156.34	-91.1	0.0	92.7	89.8	2.92	31.713		
800.0	799.8	799.8	799.8	1.7	1.7	157.54	-91.1	0.0	97.5	94.1	3.37	28.910		
900.0	899.5	899.5	899.5	1.9	1.9	159.29	-91.1	0.0	105.6	101.8	3.82	27.627		
1,000.0	998.7	998.7	998.7	2.2	2.1	161.32	-91.1	0.0	117.1	112.8	4.27	27.407	SF	
1,100.0	1,097.7	1,097.7	1,097.7	2.5	2.4	163.28	-91.1	0.0	130.4	125.7	4.73	27.592		
1,200.0	1,196.7	1,196.7	1,196.7	2.7	2.6	164.88	-91.1	0.0	143.9	138.7	5.18	27.755		
1,300.0	1,295.8	1,292.7	1,292.6	3.1	2.8	165.73	-92.2	1.0	158.3	152.7	5.62	28.195		
1,400.0	1,394.8	1,387.9	1,387.8	3.4	2.9	165.59	-95.6	4.2	174.8	168.8	6.04	28.956		
1,500.0	1,493.8	1,482.4	1,481.9	3.7	3.1	164.73	-101.3	9.4	193.3	186.9	6.47	29.879		
1,600.0	1,592.8	1,576.1	1,575.0	4.0	3.3	163.37	-109.3	16.6	214.0	207.0	6.92	30.919		
1,700.0	1,691.8	1,673.3	1,671.4	4.3	3.6	161.90	-118.7	25.2	235.7	228.3	7.39	31.901		
1,800.0	1,790.9	1,770.8	1,768.0	4.6	3.8	160.68	-128.1	33.8	257.6	249.7	7.87	32.751		
1,900.0	1,889.9	1,868.2	1,864.6	5.0	4.1	159.65	-137.5	42.4	279.6	271.2	8.35	33.481		
2,000.0	1,988.9	1,965.7	1,961.2	5.3	4.3	158.77	-146.9	51.0	301.7	292.8	8.84	34.112		
2,100.0	2,087.9	2,063.1	2,057.8	5.6	4.6	158.00	-156.3	59.6	323.8	314.4	9.34	34.660		
2,200.0	2,186.9	2,160.5	2,154.4	6.0	4.9	157.34	-165.7	68.3	345.9	336.1	9.84	35.142		
2,300.0	2,286.0	2,258.0	2,251.0	6.3	5.2	156.76	-175.1	76.9	368.1	357.8	10.35	35.568		
2,400.0	2,385.0	2,355.4	2,347.6	6.6	5.5	156.24	-184.6	85.5	390.4	379.5	10.86	35.945		
2,500.0	2,484.0	2,452.8	2,444.2	7.0	5.8	155.78	-194.0	94.1	412.6	401.3	11.37	36.281		
2,600.0	2,583.0	2,550.3	2,540.8	7.3	6.1	155.36	-203.4	102.7	434.9	423.0	11.89	36.583		
2,700.0	2,682.0	2,647.7	2,637.4	7.6	6.4	154.99	-212.8	111.3	457.2	444.8	12.41	36.854		
2,800.0	2,781.1	2,745.2	2,734.0	8.0	6.7	154.65	-222.2	119.9	479.6	466.6	12.93	37.100		
2,900.0	2,880.1	2,842.6	2,830.6	8.3	7.0	154.34	-231.6	128.5	501.9	488.4	13.45	37.323		
3,000.0	2,979.1	2,940.0	2,927.2	8.6	7.3	154.06	-241.0	137.1	524.2	510.3	13.97	37.526		
3,100.0	3,078.1	3,037.5	3,023.8	9.0	7.6	153.80	-250.5	145.7	546.6	532.1	14.49	37.712		
3,200.0	3,177.1	3,134.9	3,120.4	9.3	7.9	153.56	-259.9	154.3	569.0	554.0	15.02	37.883		
3,300.0	3,276.2	3,232.4	3,217.0	9.6	8.2	153.34	-269.3	162.9	591.4	575.8	15.55	38.040		
3,400.0	3,375.2	3,329.8	3,313.6	10.0	8.6	153.13	-278.7	171.5	613.7	597.7	16.07	38.185		
3,500.0	3,474.2	3,427.2	3,410.2	10.3	8.9	152.94	-288.1	180.1	636.1	619.5	16.60	38.320		
3,600.0	3,573.2	3,524.7	3,506.8	10.7	9.2	152.76	-297.5	188.7	658.5	641.4	17.13	38.444		
3,700.0	3,672.2	3,622.1	3,603.4	11.0	9.5	152.60	-306.9	197.4	680.9	663.3	17.66	38.560		
3,800.0	3,771.3	3,719.6	3,700.0	11.3	9.8	152.44	-316.4	206.0	703.3	685.2	18.19	38.668		
3,900.0	3,870.3	3,817.0	3,796.6	11.7	10.1	152.30	-325.8	214.6	725.8	707.0	18.72	38.769		
4,000.0	3,969.3	3,914.4	3,893.2	12.0	10.5	152.16	-335.2	223.2	748.2	728.9	19.25	38.864		
4,100.0	4,068.3	4,011.9	3,989.8	12.3	10.8	152.03	-344.6	231.8	770.6	750.8	19.78	38.953		
4,200.0	4,167.3	4,109.3	4,086.4	12.7	11.1	151.91	-354.0	240.4	793.0	772.7	20.32	39.036		
4,300.0	4,266.3	4,206.8	4,183.0	13.0	11.4	151.79	-363.4	249.0	815.5	794.6	20.85	39.114		
4,400.0	4,365.4	4,304.2	4,279.6	13.4	11.8	151.68	-372.8	257.6	837.9	816.5	21.38	39.188		
4,500.0	4,464.4	4,401.6	4,376.2	13.7	12.1	151.58	-382.2	266.2	860.3	838.4	21.91	39.258		
4,600.0	4,563.4	4,499.1	4,472.8	14.0	12.4	151.48	-391.7	274.8	882.8	860.3	22.45	39.324		
4,700.0	4,662.4	4,596.5	4,569.4	14.4	12.7	151.39	-401.1	283.4	905.2	882.2	22.98	39.386		
4,800.0	4,761.4	4,708.1	4,680.1	14.7	13.1	151.31	-411.5	292.9	927.3	903.8	23.54	39.398		
4,900.0	4,860.5	4,840.1	4,811.6	15.1	13.4	151.41	-420.1	300.8	946.5	922.5	24.08	39.313		
5,000.0	4,959.5	4,973.7	4,945.1	15.4	13.6	151.73	-424.3	304.6	962.1	937.6	24.59	39.126		

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32X-434 - 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)	Semi Major Axis Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,058.5	5,087.1	5,058.5	15.7	13.8	152.16	-424.7	305.0	974.8	949.7	25.06	38.904	
5,200.0	5,157.5	5,186.2	5,157.5	16.1	13.9	152.54	-424.7	305.0	987.2	961.7	25.50	38.720	
5,300.0	5,256.5	5,285.2	5,256.5	16.4	14.1	152.90	-424.7	305.0	999.6	973.7	25.94	38.543	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	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	529.590		
200.0	200.0	201.0	201.0	0.3	0.3	-180.00	-120.2	0.0	120.2	119.5	0.68	177.703		
300.0	300.0	301.0	301.0	0.6	0.6	-180.00	-120.2	0.0	120.2	119.1	1.13	106.764		
400.0	400.0	401.0	401.0	0.8	0.8	-180.00	-120.2	0.0	120.2	118.6	1.58	76.303		
500.0	500.0	501.0	501.0	1.0	1.0	-180.00	-120.2	0.0	120.2	118.2	2.03	59.366		
600.0	600.0	601.0	601.0	1.2	1.2	-180.00	-120.2	0.0	120.2	117.7	2.47	48.582 CC, ES		
700.0	700.0	701.0	701.0	1.5	1.5	156.24	-120.2	0.0	121.8	118.9	2.92	41.654		
800.0	799.8	800.8	800.8	1.7	1.7	157.15	-120.2	0.0	126.6	123.3	3.37	37.524		
900.0	899.5	900.5	900.5	1.9	1.9	158.53	-120.2	0.0	134.7	130.9	3.82	35.219		
1,000.0	998.7	999.7	999.7	2.2	2.1	160.20	-120.2	0.0	146.1	141.8	4.27	34.180		
1,100.0	1,097.7	1,094.5	1,094.5	2.5	2.3	161.50	-121.6	0.8	160.7	156.0	4.70	34.174 SF		
1,200.0	1,196.7	1,188.5	1,188.4	2.7	2.5	161.96	-125.6	3.2	177.9	172.7	5.12	34.752		
1,300.0	1,295.8	1,281.7	1,281.2	3.1	2.7	161.80	-132.1	7.0	197.6	192.1	5.54	35.646		
1,400.0	1,394.8	1,373.7	1,372.7	3.4	2.9	161.19	-141.2	12.4	219.9	214.0	5.98	36.764		
1,500.0	1,493.8	1,469.2	1,467.3	3.7	3.1	160.36	-152.5	19.0	244.1	237.7	6.44	37.909		
1,600.0	1,592.8	1,566.2	1,563.3	4.0	3.4	159.66	-164.0	25.8	268.4	261.5	6.90	38.891		
1,700.0	1,691.8	1,663.2	1,659.3	4.3	3.6	159.07	-175.5	32.7	292.7	285.4	7.37	39.707		
1,800.0	1,790.9	1,760.1	1,755.4	4.6	3.9	158.57	-187.0	39.5	317.1	309.2	7.85	40.394		
1,900.0	1,889.9	1,857.1	1,851.4	5.0	4.2	158.15	-198.5	46.3	341.5	333.1	8.33	40.978		
2,000.0	1,988.9	1,954.0	1,947.4	5.3	4.5	157.78	-210.1	53.1	365.8	357.0	8.82	41.468		
2,100.0	2,087.9	2,051.0	2,043.4	5.6	4.8	157.45	-221.6	59.9	390.2	380.9	9.31	41.898		
2,200.0	2,186.9	2,147.9	2,139.5	6.0	5.1	157.17	-233.1	66.7	414.6	404.8	9.81	42.270		
2,300.0	2,286.0	2,244.9	2,235.5	6.3	5.4	156.92	-244.6	73.5	439.1	428.7	10.31	42.595		
2,400.0	2,385.0	2,341.8	2,331.5	6.6	5.7	156.69	-256.2	80.3	463.5	452.7	10.81	42.881		
2,500.0	2,484.0	2,438.8	2,427.6	7.0	6.0	156.48	-267.7	87.1	487.9	476.6	11.31	43.134		
2,600.0	2,583.0	2,535.8	2,523.6	7.3	6.3	156.30	-279.2	93.9	512.3	500.5	11.82	43.358		
2,700.0	2,682.0	2,632.7	2,619.6	7.6	6.7	156.13	-290.7	100.7	536.8	524.5	12.32	43.560		
2,800.0	2,781.1	2,729.7	2,715.6	8.0	7.0	155.98	-302.3	107.5	561.2	548.4	12.83	43.740		
2,900.0	2,880.1	2,826.6	2,811.7	8.3	7.3	155.84	-313.8	114.3	585.7	572.3	13.34	43.903		
3,000.0	2,979.1	2,923.6	2,907.7	8.6	7.6	155.71	-325.3	121.1	610.1	596.3	13.85	44.051		
3,100.0	3,078.1	3,020.5	3,003.7	9.0	8.0	155.59	-336.8	128.0	634.6	620.2	14.36	44.185		
3,200.0	3,177.1	3,117.5	3,099.8	9.3	8.3	155.48	-348.3	134.8	659.0	644.1	14.87	44.307		
3,300.0	3,276.2	3,214.5	3,195.8	9.6	8.6	155.38	-359.9	141.6	683.5	668.1	15.39	44.419		
3,400.0	3,375.2	3,311.4	3,291.8	10.0	9.0	155.28	-371.4	148.4	707.9	692.0	15.90	44.522		
3,500.0	3,474.2	3,408.4	3,387.8	10.3	9.3	155.19	-382.9	155.2	732.4	716.0	16.42	44.617		
3,600.0	3,573.2	3,505.3	3,483.9	10.7	9.6	155.11	-394.4	162.0	756.9	739.9	16.93	44.704		
3,700.0	3,672.2	3,602.3	3,579.9	11.0	9.9	155.03	-406.0	168.8	781.3	763.9	17.45	44.785		
3,800.0	3,771.3	3,699.2	3,675.9	11.3	10.3	154.96	-417.5	175.6	805.8	787.8	17.96	44.860		
3,900.0	3,870.3	3,796.2	3,772.0	11.7	10.6	154.89	-429.0	182.4	830.2	811.8	18.48	44.929		
4,000.0	3,969.3	3,893.2	3,868.0	12.0	10.9	154.83	-440.5	189.2	854.7	835.7	19.00	44.994		
4,100.0	4,068.3	3,990.1	3,964.0	12.3	11.3	154.76	-452.0	196.0	879.2	859.7	19.51	45.055		
4,200.0	4,167.3	4,087.1	4,060.0	12.7	11.6	154.71	-463.6	202.8	903.6	883.6	20.03	45.111		
4,300.0	4,266.3	4,184.0	4,156.1	13.0	12.0	154.65	-475.1	209.6	928.1	907.6	20.55	45.164		
4,400.0	4,365.4	4,281.0	4,252.1	13.4	12.3	154.60	-486.6	216.4	952.6	931.5	21.07	45.213		
4,500.0	4,464.4	4,377.9	4,348.1	13.7	12.6	154.55	-498.1	223.3	977.0	955.5	21.59	45.260		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32Y-404 - Wellbore #1 - Plan #1 (4-14-14)													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	1.0	1.0	0.0	0.0	180.00	-149.4	0.0	149.4					
100.0	100.0	101.0	101.0	0.1	0.1	180.00	-149.4	0.0	149.4	149.1	0.23	657.972		
200.0	200.0	201.0	201.0	0.3	0.3	180.00	-149.4	0.0	149.4	148.7	0.68	220.781		
300.0	300.0	301.0	301.0	0.6	0.6	180.00	-149.4	0.0	149.4	148.2	1.13	132.645		
400.0	400.0	401.0	401.0	0.8	0.8	180.00	-149.4	0.0	149.4	147.8	1.58	94.800		
466.3	466.3	467.3	467.3	0.9	0.9	180.00	-149.4	0.0	149.4	147.5	1.87	79.715 CC		
500.0	500.0	500.0	500.0	1.0	1.0	180.00	-149.4	0.0	149.4	147.3	2.02	73.841 ES		
600.0	600.0	596.3	596.2	1.2	1.2	179.79	-150.9	0.6	151.0	148.5	2.44	61.873		
700.0	700.0	691.3	691.1	1.5	1.4	155.29	-155.3	2.2	157.3	154.4	2.85	55.143		
800.0	799.8	785.4	784.9	1.7	1.6	154.99	-162.7	5.0	169.8	166.5	3.28	51.769		
900.0	899.5	878.2	877.1	1.9	1.8	154.77	-172.7	8.7	188.5	184.8	3.72	50.667 SF		
1,000.0	998.7	970.0	967.9	2.2	2.1	154.63	-185.4	13.4	213.2	209.1	4.18	51.059		
1,100.0	1,097.7	1,066.2	1,062.9	2.5	2.4	154.78	-199.7	18.7	240.6	235.9	4.63	51.966		
1,200.0	1,196.7	1,162.4	1,157.8	2.7	2.7	154.91	-213.9	24.1	267.9	262.8	5.09	52.634		
1,300.0	1,295.8	1,258.5	1,252.8	3.1	3.0	155.01	-228.2	29.4	295.2	289.7	5.56	53.100		
1,400.0	1,394.8	1,354.7	1,347.8	3.4	3.3	155.10	-242.5	34.7	322.6	316.5	6.04	53.430		
1,500.0	1,493.8	1,450.9	1,442.8	3.7	3.7	155.17	-256.8	40.0	349.9	343.4	6.52	53.675		
1,600.0	1,592.8	1,547.1	1,537.7	4.0	4.0	155.23	-271.1	45.3	377.2	370.2	7.01	53.821		
1,700.0	1,691.8	1,643.3	1,632.7	4.3	4.4	155.28	-285.4	50.7	404.6	397.1	7.50	53.943		
1,800.0	1,790.9	1,739.5	1,727.7	4.6	4.7	155.33	-299.7	56.0	431.9	423.9	7.99	54.027		
1,900.0	1,889.9	1,835.7	1,822.6	5.0	5.1	155.37	-313.9	61.3	459.3	450.8	8.49	54.086		
2,000.0	1,988.9	1,931.9	1,917.6	5.3	5.5	155.41	-328.2	66.6	486.6	477.6	8.99	54.125		
2,100.0	2,087.9	2,028.1	2,012.6	5.6	5.8	155.44	-342.5	72.0	513.9	504.4	9.49	54.150		
2,200.0	2,186.9	2,124.3	2,107.6	6.0	6.2	155.47	-356.8	77.3	541.3	531.3	9.99	54.164		
2,300.0	2,286.0	2,220.4	2,202.5	6.3	6.5	155.50	-371.1	82.6	568.6	558.1	10.50	54.171		
2,400.0	2,385.0	2,316.6	2,297.5	6.6	6.9	155.52	-385.4	87.9	596.0	585.0	11.00	54.171		
2,500.0	2,484.0	2,412.8	2,392.5	7.0	7.2	155.54	-399.6	93.2	623.3	611.8	11.51	54.167		
2,600.0	2,583.0	2,509.0	2,487.5	7.3	7.6	155.56	-413.9	98.6	650.6	638.6	12.01	54.159		
2,700.0	2,682.0	2,605.2	2,582.4	7.6	8.0	155.58	-428.2	103.9	678.0	665.5	12.52	54.148		
2,800.0	2,781.1	2,701.4	2,677.4	8.0	8.3	155.60	-442.5	109.2	705.3	692.3	13.03	54.136		
2,900.0	2,880.1	2,797.6	2,772.4	8.3	8.7	155.61	-456.8	114.5	732.6	719.1	13.54	54.122		
3,000.0	2,979.1	2,893.8	2,867.4	8.6	9.1	155.63	-471.1	119.9	760.0	745.9	14.05	54.107		
3,100.0	3,078.1	2,990.0	2,962.3	9.0	9.4	155.64	-485.4	125.2	787.3	772.8	14.56	54.091		
3,200.0	3,177.1	3,086.2	3,057.3	9.3	9.8	155.65	-499.6	130.5	814.7	799.6	15.07	54.075		
3,300.0	3,276.2	3,182.3	3,152.3	9.6	10.2	155.67	-513.9	135.8	842.0	826.4	15.58	54.058		
3,400.0	3,375.2	3,278.5	3,247.3	10.0	10.5	155.68	-528.2	141.1	869.3	853.3	16.09	54.041		
3,500.0	3,474.2	3,374.7	3,342.2	10.3	10.9	155.69	-542.5	146.5	896.7	880.1	16.60	54.024		
3,600.0	3,573.2	3,470.9	3,437.2	10.7	11.2	155.70	-556.8	151.8	924.0	906.9	17.11	54.007		
3,700.0	3,672.2	3,567.1	3,532.2	11.0	11.6	155.71	-571.1	157.1	951.4	933.7	17.62	53.990		
3,800.0	3,771.3	3,663.3	3,627.2	11.3	12.0	155.72	-585.3	162.4	978.7	960.6	18.13	53.973		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	Offset Datum

Offset Design Tarin 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			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
11,900.0	7,159.6	7,133.4	7,133.0	135.6	12.4	89.40	1,079.9	-5,522.6	922.7	774.9	147.80	6.243	
12,000.0	7,159.1	7,134.0	7,133.6	138.4	12.4	89.48	1,079.9	-5,522.6	833.6	683.0	150.58	5.536	
12,100.0	7,158.5	7,134.6	7,134.2	141.1	12.4	89.56	1,079.9	-5,522.6	747.2	593.9	153.37	4.872	
12,200.0	7,158.0	7,135.2	7,134.8	143.9	12.4	89.65	1,079.9	-5,522.6	664.7	508.6	156.16	4.257	
12,300.0	7,157.5	7,135.7	7,135.3	146.7	12.4	89.73	1,079.9	-5,522.6	587.6	428.7	158.94	3.697	
12,400.0	7,157.0	7,136.3	7,135.9	149.5	12.4	89.81	1,079.9	-5,522.6	518.4	356.7	161.73	3.206	
12,500.0	7,156.4	7,136.8	7,136.5	152.3	12.4	89.89	1,079.9	-5,522.6	460.7	296.2	164.52	2.800	
12,600.0	7,155.9	7,137.4	7,137.0	155.1	12.4	89.97	1,079.9	-5,522.6	419.2	251.9	167.30	2.505	
12,700.0	7,155.4	7,137.9	7,137.5	157.9	12.4	90.05	1,079.9	-5,522.6	399.0	228.9	170.09	2.346	
12,732.7	7,155.2	7,138.1	7,137.7	158.8	12.4	90.07	1,079.9	-5,522.6	397.6	226.6	171.00	2.325 CC, ES, SF	
12,800.0	7,154.9	7,138.5	7,138.1	160.6	12.4	90.12	1,079.9	-5,522.6	403.3	230.4	172.88	2.333	
12,900.0	7,154.4	7,139.0	7,138.6	163.4	12.4	90.20	1,079.9	-5,522.6	431.4	255.7	175.67	2.456	
13,000.0	7,153.8	7,139.5	7,139.1	166.2	12.4	90.27	1,079.9	-5,522.6	479.1	300.7	178.46	2.685	
13,100.0	7,153.3	7,140.0	7,139.6	169.0	12.4	90.35	1,079.9	-5,522.6	541.3	360.1	181.25	2.987	
13,200.0	7,152.8	7,140.5	7,140.1	171.8	12.4	90.42	1,079.9	-5,522.6	613.6	429.6	184.04	3.334	
13,300.0	7,152.3	7,141.0	7,140.6	174.6	12.4	90.49	1,079.9	-5,522.7	692.8	506.0	186.83	3.708	
13,400.0	7,151.7	7,141.5	7,141.1	177.4	12.4	90.56	1,079.9	-5,522.7	776.8	587.2	189.62	4.097	
13,500.0	7,151.2	7,142.0	7,141.6	180.2	12.4	90.63	1,079.9	-5,522.7	864.2	671.8	192.41	4.492	
13,600.0	7,150.7	7,142.5	7,142.1	183.0	12.4	90.70	1,079.9	-5,522.7	954.1	758.9	195.20	4.888	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	Offset Datum

Offset Design Tarin Existing Wells Sec.32-T4N-R66W - Benjamin 5 (Existing) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 464-NS-GYRO-MS												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
11,200.0	7,163.3	7,234.7	7,145.2	116.1	19.5	-90.24	465.7	-4,939.0	973.4	838.6	134.90	7.216	
11,300.0	7,162.7	7,234.6	7,145.1	118.9	19.5	-90.21	465.7	-4,939.0	876.2	738.6	137.67	6.365	
11,400.0	7,162.2	7,234.5	7,145.0	121.7	19.5	-90.19	465.7	-4,939.0	779.7	639.3	140.45	5.552	
11,500.0	7,161.7	7,234.4	7,144.9	124.5	19.5	-90.16	465.7	-4,939.0	684.2	541.0	143.22	4.777	
11,600.0	7,161.2	7,234.3	7,144.8	127.2	19.5	-90.14	465.7	-4,939.0	590.2	444.2	146.00	4.042	
11,700.0	7,160.6	7,234.3	7,144.7	130.0	19.5	-90.11	465.7	-4,939.0	498.5	349.8	148.78	3.351	
11,800.0	7,160.1	7,234.2	7,144.6	132.8	19.5	-90.09	465.7	-4,939.0	410.8	259.2	151.56	2.710	
11,900.0	7,159.6	7,234.1	7,144.5	135.6	19.5	-90.06	465.7	-4,939.0	330.0	175.7	154.35	2.138	
12,000.0	7,159.1	7,234.0	7,144.4	138.4	19.5	-90.04	465.7	-4,939.0	262.9	105.7	157.13	1.673	
12,100.0	7,158.5	7,233.9	7,144.3	141.1	19.5	-90.01	465.7	-4,939.0	222.0	62.1	159.91	1.388	Level 3
12,149.1	7,158.3	7,233.8	7,144.3	142.5	19.5	-90.00	465.7	-4,939.0	216.5	55.2	161.28	1.343	Level 3, CC, ES, SF
12,200.0	7,158.0	7,233.8	7,144.2	143.9	19.5	-89.99	465.7	-4,939.0	222.4	59.7	162.70	1.367	Level 3
12,300.0	7,157.5	7,233.7	7,144.2	146.7	19.5	-89.97	465.7	-4,939.0	263.9	98.5	165.48	1.595	
12,400.0	7,157.0	7,233.6	7,144.1	149.5	19.5	-89.94	465.7	-4,939.0	331.4	163.2	168.27	1.970	
12,500.0	7,156.4	7,233.5	7,144.0	152.3	19.5	-89.92	465.7	-4,939.0	412.4	241.3	171.06	2.411	
12,600.0	7,155.9	7,233.4	7,143.9	155.1	19.5	-89.89	465.7	-4,939.0	500.2	326.4	173.84	2.877	
12,700.0	7,155.4	7,233.3	7,143.8	157.9	19.5	-89.87	465.7	-4,939.0	592.0	415.3	176.63	3.351	
12,800.0	7,154.9	7,233.2	7,143.7	160.6	19.5	-89.85	465.7	-4,939.0	686.0	506.6	179.42	3.823	
12,900.0	7,154.4	7,233.2	7,143.6	163.4	19.5	-89.82	465.7	-4,939.0	781.5	599.3	182.21	4.289	
13,000.0	7,153.8	7,233.1	7,143.5	166.2	19.5	-89.80	465.7	-4,939.0	878.1	693.1	185.00	4.746	
13,100.0	7,153.3	7,233.0	7,143.4	169.0	19.5	-89.77	465.7	-4,939.0	975.3	787.5	187.79	5.193	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	Offset Datum

Offset Design Tarin Existing Wells Sec.32-T4N-R66W - Cadi 1 (Existing) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 7428-UNKNOWN												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
9,200.0	7,173.7	7,156.7	7,156.7	61.4	143.1	90.67	1,074.9	-2,863.3	957.5	753.3	204.12	4.691	
9,300.0	7,173.2	7,156.2	7,156.2	64.0	143.1	90.59	1,074.9	-2,863.3	867.2	660.4	206.82	4.193	
9,400.0	7,172.7	7,155.7	7,155.7	66.7	143.1	90.51	1,074.9	-2,863.3	779.4	569.9	209.52	3.720	
9,500.0	7,172.2	7,155.2	7,155.2	69.4	143.1	90.44	1,074.9	-2,863.3	694.8	482.6	212.22	3.274	
9,600.0	7,171.6	7,154.6	7,154.6	72.2	143.1	90.36	1,074.9	-2,863.3	614.9	400.0	214.94	2.861	
9,700.0	7,171.1	7,154.1	7,154.1	74.9	143.1	90.29	1,074.9	-2,863.3	541.7	324.1	217.66	2.489	
9,800.0	7,170.6	7,153.6	7,153.6	77.6	143.1	90.21	1,074.9	-2,863.3	478.3	258.0	220.39	2.170	
9,900.0	7,170.1	7,153.1	7,153.1	80.3	143.1	90.13	1,074.9	-2,863.3	429.1	206.0	223.12	1.923	
10,000.0	7,169.5	7,152.5	7,152.5	83.1	143.1	90.06	1,074.9	-2,863.3	399.4	173.5	225.85	1.768	
10,073.3	7,169.2	7,152.2	7,152.2	85.1	143.0	90.00	1,074.9	-2,863.3	392.6	164.7	227.86	1.723 CC, ES	
10,100.0	7,169.0	7,152.0	7,152.0	85.8	143.0	89.98	1,074.9	-2,863.3	393.5	164.9	228.59	1.721 SF	
10,200.0	7,168.5	7,151.5	7,151.5	88.5	143.0	89.90	1,074.9	-2,863.3	412.5	181.2	231.33	1.783	
10,300.0	7,168.0	7,151.0	7,151.0	91.3	143.0	89.83	1,074.9	-2,863.3	453.4	219.3	234.08	1.937	
10,400.0	7,167.4	7,150.4	7,150.4	94.0	143.0	89.75	1,074.9	-2,863.3	510.8	273.9	236.83	2.157	
10,500.0	7,166.9	7,149.9	7,149.9	96.8	143.0	89.67	1,074.9	-2,863.3	579.8	340.3	239.58	2.420	
10,600.0	7,166.4	7,149.4	7,149.4	99.6	143.0	89.60	1,074.9	-2,863.3	656.9	414.6	242.33	2.711	
10,700.0	7,165.9	7,148.9	7,148.9	102.3	143.0	89.52	1,074.9	-2,863.3	739.5	494.4	245.08	3.017	
10,800.0	7,165.3	7,148.3	7,148.3	105.1	143.0	89.44	1,074.9	-2,863.3	826.0	578.1	247.84	3.333	
10,900.0	7,164.8	7,147.8	7,147.8	107.8	143.0	89.37	1,074.9	-2,863.3	915.2	664.6	250.60	3.652	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.0 ft
Tarin Existing Wells Sec.32-T4N-R66W - Floyd 1 (Existing) - Wellbore #1 - Wellbore #1														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
2,600.0	2,583.0	2,562.2	2,562.1	7.3	5.5	-51.62	1,116.7	-354.4	998.0	985.6	12.32	81.033		
2,700.0	2,682.0	2,661.7	2,661.7	7.6	5.7	-52.29	1,116.3	-354.8	989.2	976.3	12.87	76.869		
2,800.0	2,781.1	2,761.4	2,761.3	8.0	6.0	-52.98	1,115.8	-355.4	980.4	967.0	13.43	72.989		
2,900.0	2,880.1	2,860.4	2,860.4	8.3	6.2	-53.67	1,115.3	-355.8	971.8	957.9	13.97	69.557		
3,000.0	2,979.1	2,960.0	2,960.0	8.6	6.4	-54.33	1,115.1	-355.7	963.3	948.8	14.50	66.439		
3,100.0	3,078.1	3,058.3	3,058.2	9.0	6.6	-55.02	1,114.7	-355.8	954.9	939.8	15.06	63.403		
3,200.0	3,177.1	3,158.7	3,158.6	9.3	6.9	-55.73	1,114.4	-355.8	946.7	931.0	15.65	60.498		
3,300.0	3,276.2	3,258.4	3,258.3	9.6	7.1	-56.45	1,113.8	-355.8	938.3	922.1	16.23	57.810		
3,400.0	3,375.2	3,353.4	3,353.3	10.0	7.4	-57.18	1,113.2	-356.3	930.3	913.6	16.79	55.394		
3,500.0	3,474.2	3,450.6	3,450.5	10.3	7.6	-57.96	1,112.7	-357.3	923.0	905.6	17.35	53.186		
3,600.0	3,573.2	3,549.5	3,549.4	10.7	7.8	-58.79	1,112.0	-358.6	915.7	897.8	17.92	51.105		
3,700.0	3,672.2	3,647.4	3,647.3	11.0	8.0	-59.64	1,111.2	-360.3	908.8	890.3	18.49	49.160		
3,800.0	3,771.3	3,746.6	3,746.5	11.3	8.3	-60.52	1,110.3	-362.0	902.1	883.1	19.06	47.323		
3,900.0	3,870.3	3,845.2	3,845.0	11.7	8.5	-61.41	1,109.5	-363.7	895.6	876.0	19.64	45.598		
4,000.0	3,969.3	3,944.8	3,944.7	12.0	8.7	-62.31	1,108.7	-365.3	889.4	869.1	20.23	43.970		
4,100.0	4,068.3	4,046.3	4,046.1	12.3	9.0	-63.25	1,107.7	-366.9	883.1	862.2	20.83	42.400		
4,200.0	4,167.3	4,146.4	4,146.2	12.7	9.2	-64.23	1,106.0	-368.8	876.8	855.3	21.44	40.902		
4,300.0	4,266.3	4,245.7	4,245.4	13.0	9.5	-65.24	1,104.1	-370.9	870.7	848.6	22.05	39.488		
4,400.0	4,365.4	4,343.4	4,343.1	13.4	9.7	-66.27	1,101.9	-373.1	864.8	842.1	22.66	38.165		
4,500.0	4,464.4	4,438.6	4,438.2	13.7	10.0	-67.28	1,100.0	-375.6	859.5	836.2	23.26	36.949		
4,600.0	4,563.4	4,532.2	4,531.8	14.0	10.2	-68.29	1,098.5	-378.2	854.9	831.1	23.85	35.846		
4,700.0	4,662.4	4,625.5	4,625.1	14.4	10.4	-69.27	1,097.7	-381.0	851.3	826.9	24.42	34.856		
4,800.0	4,761.4	4,721.8	4,721.3	14.7	10.6	-70.29	1,097.3	-384.1	848.4	823.4	25.00	33.940		
4,900.0	4,860.5	4,817.0	4,816.5	15.1	10.8	-71.31	1,097.0	-387.5	846.2	820.6	25.56	33.101		
5,000.0	4,959.5	4,914.6	4,914.0	15.4	11.0	-72.34	1,097.1	-390.9	844.5	818.4	26.13	32.323		
5,100.0	5,058.5	5,013.5	5,012.9	15.7	11.2	-73.37	1,097.4	-394.3	843.2	816.5	26.69	31.594		
5,200.0	5,157.5	5,110.8	5,110.1	16.1	11.4	-74.35	1,098.2	-397.4	842.2	815.0	27.23	30.927		
5,300.0	5,256.5	5,214.2	5,213.5	16.4	11.6	-75.37	1,099.2	-400.2	841.3	813.5	27.78	30.287		
5,400.0	5,355.6	5,315.1	5,314.3	16.7	11.7	-76.35	1,100.2	-402.6	840.3	812.0	28.32	29.674		
5,500.0	5,454.6	5,415.4	5,414.6	17.1	11.9	-77.32	1,101.0	-404.7	839.3	810.4	28.86	29.082		
5,600.0	5,553.6	5,514.6	5,513.8	17.4	12.1	-78.29	1,101.8	-406.8	838.6	809.1	29.40	28.517		
5,700.0	5,652.6	5,622.2	5,621.3	17.8	12.3	-79.35	1,102.0	-408.7	837.4	807.4	29.99	27.918		
5,800.0	5,751.6	5,724.2	5,723.3	18.1	12.6	-80.37	1,101.9	-409.9	835.8	805.2	30.59	27.319		
5,900.0	5,850.7	5,823.9	5,823.0	18.4	12.8	-81.36	1,101.8	-410.9	834.4	803.2	31.17	26.767		
6,000.0	5,949.7	5,927.3	5,926.4	18.8	12.9	-82.30	1,101.9	-411.3	832.8	801.2	31.65	26.317		
6,100.0	6,049.2	6,028.9	6,028.0	19.0	13.0	-82.97	1,102.2	-411.1	831.5	799.5	31.94	26.033		
6,200.0	6,148.9	6,128.8	6,127.9	19.2	13.0	-83.40	1,102.6	-410.7	830.5	798.3	32.17	25.817		
6,300.0	6,248.9	6,227.4	6,226.5	19.4	13.1	-83.59	1,103.2	-410.4	830.1	797.7	32.37	25.645		
6,329.1	6,278.0	6,256.1	6,255.3	19.4	13.1	-83.60	1,103.4	-410.3	830.0	797.6	32.42	25.602		
6,400.0	6,348.9	6,326.9	6,326.1	19.5	13.1	-59.48	1,103.9	-410.1	830.1	802.1	28.04	29.607		
6,500.0	6,448.9	6,427.6	6,426.7	19.6	13.1	30.62	1,104.5	-409.7	829.6	796.8	32.74	25.340		
6,600.0	6,548.2	6,525.8	6,524.9	19.7	13.2	31.38	1,105.1	-409.5	820.6	788.0	32.59	25.176		
6,700.0	6,645.4	6,624.8	6,623.9	19.8	13.3	33.12	1,105.4	-409.4	800.6	768.6	32.04	24.988		
6,800.0	6,738.6	6,718.8	6,718.0	19.8	13.3	35.98	1,105.8	-409.0	770.2	739.1	31.16	24.717		
6,900.0	6,826.3	6,805.9	6,805.0	19.8	13.4	40.13	1,106.0	-408.7	730.7	700.5	30.15	24.233		
7,000.0	6,907.1	6,884.3	6,883.4	19.7	13.4	45.76	1,106.3	-408.6	683.7	654.3	29.31	23.324		
7,100.0	6,979.5	6,956.4	6,955.5	19.7	13.5	53.13	1,106.6	-408.6	631.3	602.3	29.03	21.747		
7,200.0	7,042.3	7,018.9	7,018.0	19.7	13.6	61.94	1,106.9	-408.6	576.3	546.7	29.59	19.479		
7,300.0	7,094.4	7,069.7	7,068.8	19.7	13.6	71.22	1,107.2	-408.6	522.7	491.9	30.88	16.929		
7,400.0	7,134.9	7,109.6	7,108.7	20.1	13.7	79.68	1,107.6	-408.6	475.7	443.2	32.48	14.645		
7,500.0	7,163.1	7,137.9	7,137.0	21.1	13.7	86.00	1,107.9	-408.6	441.5	407.4	34.10	12.947		

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	Offset Datum

Offset Design Tarin 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
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)			
7,600.0	7,178.6	7,153.4	7,152.5	22.7	13.7	89.22	1,108.0	-408.6	426.2	390.4	35.75	11.919	
7,618.3	7,180.1	7,154.8	7,153.9	23.0	13.7	89.44	1,108.0	-408.6	425.8	389.7	36.09	11.798 CC, ES	
7,700.0	7,181.6	7,156.2	7,155.4	24.5	13.7	89.37	1,108.0	-408.6	433.5	395.9	37.60	11.528 SF	
7,800.0	7,181.1	7,155.7	7,154.8	26.5	13.7	89.29	1,108.0	-408.6	462.8	423.2	39.61	11.683	
7,900.0	7,180.5	7,155.1	7,154.2	28.6	13.7	89.21	1,108.0	-408.6	510.4	468.6	41.76	12.220	
8,000.0	7,180.0	7,154.5	7,153.6	30.8	13.7	89.13	1,108.0	-408.6	571.6	527.6	44.02	12.985	
8,100.0	7,179.5	7,153.9	7,153.0	33.2	13.7	89.06	1,108.0	-408.6	642.7	596.3	46.36	13.862	
8,200.0	7,179.0	7,153.3	7,152.4	35.5	13.7	88.98	1,108.0	-408.6	720.6	671.9	48.77	14.775	
8,300.0	7,178.4	7,152.7	7,151.8	38.0	13.7	88.90	1,108.0	-408.6	803.5	752.2	51.24	15.681	
8,400.0	7,177.9	7,152.1	7,151.2	40.5	13.7	88.82	1,108.0	-408.6	889.9	836.1	53.75	16.556	
8,500.0	7,177.4	7,151.5	7,150.6	43.0	13.7	88.74	1,108.0	-408.6	978.8	922.5	56.30	17.387	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 7404-UNKNOWN													Offset Well Error:	0.0 ft
Tarin Existing Wells Sec.32-T4N-R66W - Glen 44-32 (Existing) - Wellbore #1 - Wellbore #1														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-161.00	-324.2	-111.6	343.2					
100.0	100.0	87.0	87.0	0.1	1.7	-161.00	-324.2	-111.6	342.9	341.1	1.85	185.103		
200.0	200.0	187.0	187.0	0.3	3.7	-161.00	-324.2	-111.6	342.9	338.8	4.08	84.103		
300.0	300.0	287.0	287.0	0.6	5.7	-161.00	-324.2	-111.6	342.9	336.6	6.30	54.413		
400.0	400.0	387.0	387.0	0.8	7.7	-161.00	-324.2	-111.6	342.9	334.4	8.53	40.216		
500.0	500.0	487.0	487.0	1.0	9.7	-161.00	-324.2	-111.6	342.9	332.2	10.75	31.894		
600.0	600.0	587.0	587.0	1.2	11.7	-161.00	-324.2	-111.6	342.9	329.9	12.98	26.426 CC		
700.0	700.0	687.0	687.0	1.5	13.7	174.93	-324.2	-111.6	344.7	329.5	15.19	22.687 ES		
800.0	799.8	786.8	786.8	1.7	15.7	175.00	-324.2	-111.6	349.9	332.5	17.38	20.128		
900.0	899.5	886.5	886.5	1.9	17.7	175.11	-324.2	-111.6	358.6	339.0	19.54	18.351		
1,000.0	998.7	985.7	985.7	2.2	19.7	175.25	-324.2	-111.6	370.7	349.0	21.65	17.120		
1,100.0	1,097.7	1,084.7	1,084.7	2.5	21.7	175.42	-324.2	-111.6	384.6	360.8	23.84	16.130		
1,200.0	1,196.7	1,183.7	1,183.7	2.7	23.7	175.58	-324.2	-111.6	398.5	372.5	26.04	15.305		
1,300.0	1,295.8	1,282.8	1,282.8	3.1	25.7	175.73	-324.2	-111.6	412.5	384.2	28.24	14.607		
1,400.0	1,394.8	1,381.8	1,381.8	3.4	27.6	175.87	-324.2	-111.6	426.4	396.0	30.44	14.009		
1,500.0	1,493.8	1,480.8	1,480.8	3.7	29.6	176.00	-324.2	-111.6	440.3	407.7	32.64	13.492		
1,600.0	1,592.8	1,579.8	1,579.8	4.0	31.6	176.12	-324.2	-111.6	454.3	419.4	34.84	13.039		
1,700.0	1,691.8	1,678.8	1,678.8	4.3	33.6	176.24	-324.2	-111.6	468.2	431.2	37.04	12.640		
1,800.0	1,790.9	1,777.9	1,777.9	4.6	35.6	176.35	-324.2	-111.6	482.2	442.9	39.24	12.286		
1,900.0	1,889.9	1,876.9	1,876.9	5.0	37.5	176.45	-324.2	-111.6	496.1	454.6	41.45	11.970		
2,000.0	1,988.9	1,975.9	1,975.9	5.3	39.5	176.55	-324.2	-111.6	510.0	466.4	43.65	11.685		
2,100.0	2,087.9	2,074.9	2,074.9	5.6	41.5	176.64	-324.2	-111.6	524.0	478.1	45.85	11.427		
2,200.0	2,186.9	2,173.9	2,173.9	6.0	43.5	176.73	-324.2	-111.6	537.9	489.9	48.06	11.193		
2,300.0	2,286.0	2,273.0	2,273.0	6.3	45.5	176.81	-324.2	-111.6	551.9	501.6	50.26	10.980		
2,400.0	2,385.0	2,372.0	2,372.0	6.6	47.4	176.89	-324.2	-111.6	565.8	513.4	52.47	10.784		
2,500.0	2,484.0	2,471.0	2,471.0	7.0	49.4	176.96	-324.2	-111.6	579.8	525.1	54.67	10.605		
2,600.0	2,583.0	2,570.0	2,570.0	7.3	51.4	177.03	-324.2	-111.6	593.7	536.8	56.88	10.439		
2,700.0	2,682.0	2,669.0	2,669.0	7.6	53.4	177.10	-324.2	-111.6	607.7	548.6	59.08	10.285		
2,800.0	2,781.1	2,768.1	2,768.1	8.0	55.4	177.17	-324.2	-111.6	621.6	560.3	61.29	10.143		
2,900.0	2,880.1	2,867.1	2,867.1	8.3	57.3	177.23	-324.2	-111.6	635.6	572.1	63.49	10.010		
3,000.0	2,979.1	2,966.1	2,966.1	8.6	59.3	177.29	-324.2	-111.6	649.5	583.8	65.70	9.887		
3,100.0	3,078.1	3,065.1	3,065.1	9.0	61.3	177.35	-324.2	-111.6	663.5	595.6	67.90	9.771		
3,200.0	3,177.1	3,164.1	3,164.1	9.3	63.3	177.40	-324.2	-111.6	677.4	607.3	70.11	9.663		
3,300.0	3,276.2	3,263.2	3,263.2	9.6	65.3	177.45	-324.2	-111.6	691.4	619.1	72.31	9.561		
3,400.0	3,375.2	3,362.2	3,362.2	10.0	67.2	177.50	-324.2	-111.6	705.3	630.8	74.52	9.465		
3,500.0	3,474.2	3,461.2	3,461.2	10.3	69.2	177.55	-324.2	-111.6	719.3	642.6	76.73	9.375		
3,600.0	3,573.2	3,560.2	3,560.2	10.7	71.2	177.60	-324.2	-111.6	733.2	654.3	78.93	9.290		
3,700.0	3,672.2	3,659.2	3,659.2	11.0	73.2	177.64	-324.2	-111.6	747.2	666.1	81.14	9.209		
3,800.0	3,771.3	3,758.3	3,758.3	11.3	75.2	177.69	-324.2	-111.6	761.2	677.8	83.34	9.133		
3,900.0	3,870.3	3,857.3	3,857.3	11.7	77.1	177.73	-324.2	-111.6	775.1	689.6	85.55	9.061		
4,000.0	3,969.3	3,956.3	3,956.3	12.0	79.1	177.77	-324.2	-111.6	789.1	701.3	87.75	8.992		
4,100.0	4,068.3	4,055.3	4,055.3	12.3	81.1	177.81	-324.2	-111.6	803.0	713.1	89.96	8.927		
4,200.0	4,167.3	4,154.3	4,154.3	12.7	83.1	177.85	-324.2	-111.6	817.0	724.8	92.17	8.864		
4,300.0	4,266.3	4,253.3	4,253.3	13.0	85.1	177.88	-324.2	-111.6	831.0	736.6	94.37	8.805		
4,400.0	4,365.4	4,352.4	4,352.4	13.4	87.0	177.92	-324.2	-111.6	844.9	748.3	96.58	8.748		
4,500.0	4,464.4	4,451.4	4,451.4	13.7	89.0	177.95	-324.2	-111.6	858.9	760.1	98.79	8.694		
4,600.0	4,563.4	4,550.4	4,550.4	14.0	91.0	177.98	-324.2	-111.6	872.8	771.8	100.99	8.643		
4,700.0	4,662.4	4,649.4	4,649.4	14.4	93.0	178.02	-324.2	-111.6	886.8	783.6	103.20	8.593		
4,800.0	4,761.4	4,748.4	4,748.4	14.7	95.0	178.05	-324.2	-111.6	900.8	795.3	105.40	8.546		
4,900.0	4,860.5	4,847.5	4,847.5	15.1	96.9	178.08	-324.2	-111.6	914.7	807.1	107.61	8.500		
5,000.0	4,959.5	4,946.5	4,946.5	15.4	98.9	178.10	-324.2	-111.6	928.7	818.9	109.82	8.457		

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	Offset Datum

Offset Design Tarin Existing Wells Sec.32-T4N-R66W - Glen 44-32 (Existing) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7404-UNKNOWN													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,058.5	5,045.5	5,045.5	15.7	100.9	178.13		-324.2	-111.6	942.6	830.6	112.02	8.415	
5,200.0	5,157.5	5,144.5	5,144.5	16.1	102.9	178.16		-324.2	-111.6	956.6	842.4	114.23	8.374	
5,300.0	5,256.5	5,243.5	5,243.5	16.4	104.9	178.19		-324.2	-111.6	970.6	854.1	116.44	8.336	
5,400.0	5,355.6	5,342.6	5,342.6	16.7	106.9	178.21		-324.2	-111.6	984.5	865.9	118.64	8.298	
5,500.0	5,454.6	5,441.6	5,441.6	17.1	108.8	178.24		-324.2	-111.6	998.5	877.6	120.85	8.262 SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	Offset Datum

Offset Design Tarin 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			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
13,200.0	7,152.8	7,138.8	7,138.8	171.8	142.8	90.72	1,061.1	-6,904.2	989.6	675.2	314.40	3.148		
13,300.0	7,152.3	7,138.3	7,138.3	174.6	142.8	90.64	1,061.1	-6,904.2	898.1	580.9	317.19	2.831		
13,400.0	7,151.7	7,137.7	7,137.7	177.4	142.8	90.57	1,061.1	-6,904.2	808.5	488.5	319.98	2.527		
13,500.0	7,151.2	7,137.2	7,137.2	180.2	142.7	90.49	1,061.1	-6,904.2	721.7	398.9	322.77	2.236		
13,600.0	7,150.7	7,136.7	7,136.7	183.0	142.7	90.41	1,061.1	-6,904.2	638.7	313.2	325.56	1.962		
13,700.0	7,150.2	7,136.2	7,136.2	185.8	142.7	90.33	1,061.1	-6,904.2	561.4	233.0	328.34	1.710		
13,800.0	7,149.6	7,135.6	7,135.6	188.6	142.7	90.25	1,061.1	-6,904.2	492.2	161.1	331.13	1.486	Level 3	
13,900.0	7,149.1	7,135.1	7,135.1	191.3	142.7	90.17	1,061.1	-6,904.2	435.2	101.3	333.92	1.303	Level 3	
14,000.0	7,148.6	7,134.6	7,134.6	194.1	142.7	90.09	1,061.1	-6,904.2	395.7	59.0	336.71	1.175	Level 2	
14,100.0	7,148.1	7,134.1	7,134.1	196.9	142.7	90.01	1,061.1	-6,904.2	379.1	39.6	339.50	1.117	Level 2	
14,114.3	7,148.0	7,134.0	7,134.0	197.3	142.7	90.00	1,061.1	-6,904.2	378.8	38.9	339.90	1.114	Level 2, CC, ES, SF	
14,200.0	7,147.5	7,133.5	7,133.5	199.7	142.7	89.93	1,061.1	-6,904.2	388.4	46.1	342.29	1.135	Level 2	
14,300.0	7,147.0	7,133.0	7,133.0	202.5	142.7	89.85	1,061.1	-6,904.2	421.9	76.8	345.08	1.223	Level 2	
14,304.2	7,147.0	7,133.0	7,133.0	202.6	142.7	89.85	1,061.1	-6,904.2	423.7	78.5	345.19	1.228	Level 2	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	Offset Datum

Offset Design Tarin Existing Wells Sec.32-T4N-R66W - Nicholas 5 (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	
12,800.0	7,154.9	7,190.9	7,140.9	160.6	16.5	-91.16	359.2	-6,453.7	922.2	745.3	176.87	5.214	
12,900.0	7,154.4	7,188.7	7,138.7	163.4	16.5	-90.77	359.3	-6,453.7	829.3	649.6	179.66	4.616	
13,000.0	7,153.8	7,186.6	7,136.6	166.2	16.5	-90.40	359.4	-6,453.7	738.2	555.7	182.44	4.046	
13,100.0	7,153.3	7,184.6	7,134.6	169.0	16.5	-90.04	359.4	-6,453.8	649.7	464.5	185.22	3.508	
13,200.0	7,152.8	7,182.7	7,132.6	171.8	16.5	-89.70	359.5	-6,453.8	565.1	377.1	188.00	3.006	
13,300.0	7,152.3	7,180.8	7,130.8	174.6	16.5	-89.37	359.5	-6,453.8	486.4	295.6	190.77	2.550	
13,400.0	7,151.7	7,179.0	7,129.0	177.4	16.5	-89.05	359.6	-6,453.8	416.9	223.4	193.53	2.154	
13,500.0	7,151.2	7,177.3	7,127.3	180.2	16.5	-88.74	359.6	-6,453.9	362.0	165.7	196.29	1.844	
13,600.0	7,150.7	7,175.7	7,125.6	183.0	16.5	-88.45	359.7	-6,453.9	329.0	129.9	199.05	1.653	
13,664.0	7,150.4	7,174.6	7,124.6	184.8	16.5	-88.27	359.7	-6,453.9	322.7	121.9	200.81	1.607 CC, ES, SF	
13,700.0	7,150.2	7,174.1	7,124.0	185.8	16.5	-88.17	359.7	-6,453.9	324.7	122.9	201.80	1.609	
13,800.0	7,149.6	7,172.5	7,122.5	188.6	16.5	-87.89	359.8	-6,453.9	350.2	145.6	204.55	1.712	
13,900.0	7,149.1	7,171.1	7,121.0	191.3	16.5	-87.63	359.8	-6,453.9	399.8	192.5	207.30	1.928	
14,000.0	7,148.6	7,169.6	7,119.6	194.1	16.5	-87.38	359.9	-6,453.9	465.8	255.8	210.04	2.218	
14,100.0	7,148.1	7,168.2	7,118.2	196.9	16.5	-87.13	359.9	-6,453.9	542.4	329.6	212.78	2.549	
14,200.0	7,147.5	7,166.9	7,116.9	199.7	16.5	-86.90	360.0	-6,454.0	625.6	410.1	215.52	2.903	
14,300.0	7,147.0	7,165.6	7,115.6	202.5	16.5	-86.67	360.0	-6,454.0	713.1	494.9	218.26	3.267	
14,304.2	7,147.0	7,165.6	7,115.5	202.6	16.5	-86.66	360.0	-6,454.0	716.8	498.5	218.37	3.283	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Tarin Existing Wells Sec.32-T4N-R66W - Wolfe 5 (Existing) - Wellbore #1 - Wellbore #1													Offset Well Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS														
Reference				Offset			Semi Major Axis		Distance					
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
9,600.0	7,171.6	7,402.6	7,140.9	72.2	21.7	-86.40	560.2	-3,355.0	972.8	881.5	91.26	10.659		
9,700.0	7,171.1	7,403.3	7,141.7	74.9	21.7	-86.75	560.2	-3,355.0	873.7	779.6	94.04	9.290		
9,800.0	7,170.6	7,404.1	7,142.4	77.6	21.7	-87.11	560.2	-3,355.0	774.8	678.0	96.83	8.002		
9,900.0	7,170.1	7,404.9	7,143.2	80.3	21.7	-87.46	560.2	-3,355.1	676.2	576.6	99.62	6.788		
10,000.0	7,169.5	7,405.6	7,143.9	83.1	21.7	-87.81	560.2	-3,355.1	578.2	475.8	102.41	5.646		
10,100.0	7,169.0	7,406.3	7,144.6	85.8	21.7	-88.16	560.2	-3,355.1	480.9	375.7	105.20	4.571		
10,200.0	7,168.5	7,407.1	7,145.4	88.5	21.7	-88.50	560.2	-3,355.1	385.0	277.0	107.99	3.565		
10,300.0	7,168.0	7,407.8	7,146.1	91.3	21.7	-88.84	560.2	-3,355.1	291.9	181.1	110.78	2.635		
10,400.0	7,167.4	7,408.5	7,146.8	94.0	21.7	-89.18	560.2	-3,355.1	205.4	91.8	113.57	1.808		
10,500.0	7,166.9	7,409.2	7,147.5	96.8	21.7	-89.51	560.2	-3,355.1	138.4	22.0	116.37	1.189 Level 2		
10,565.1	7,166.6	7,409.7	7,148.0	98.6	21.7	-89.73	560.2	-3,355.1	122.1	3.9	118.18	1.033 Level 2, CC, ES, SF		
10,600.0	7,166.4	7,409.9	7,148.2	99.6	21.7	-89.85	560.2	-3,355.1	127.0	7.8	119.16	1.066 Level 2		
10,700.0	7,165.9	7,410.6	7,148.9	102.3	21.7	-90.17	560.2	-3,355.1	181.9	60.0	121.95	1.492 Level 3		
10,800.0	7,165.3	7,411.3	7,149.6	105.1	21.7	-90.50	560.2	-3,355.1	264.7	140.0	124.73	2.122		
10,900.0	7,164.8	7,412.0	7,150.3	107.8	21.7	-90.82	560.2	-3,355.1	356.4	228.9	127.52	2.795		
11,000.0	7,164.3	7,412.7	7,151.0	110.6	21.7	-91.15	560.2	-3,355.2	451.7	321.4	130.30	3.466		
11,100.0	7,163.8	7,413.4	7,151.7	113.4	21.7	-91.46	560.2	-3,355.2	548.6	415.5	133.08	4.122		
11,200.0	7,163.3	7,414.1	7,152.4	116.1	21.7	-91.78	560.1	-3,355.2	646.5	510.6	135.86	4.758		
11,300.0	7,162.7	7,414.7	7,153.0	118.9	21.7	-92.09	560.1	-3,355.2	744.9	606.3	138.63	5.373		
11,400.0	7,162.2	7,415.4	7,153.7	121.7	21.7	-92.40	560.1	-3,355.2	843.7	702.3	141.40	5.967		
11,500.0	7,161.7	7,416.0	7,154.4	124.5	21.7	-92.71	560.1	-3,355.2	942.8	798.6	144.17	6.539		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Tarin Existing Wells Sec.32-T4N-R66W - Wolfe 6I (Existing) - Wellbore #1 - Wellbore #1													Offset Well Error:	0.0 ft
Survey Program: 668-NS-GYRO-MS														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
8,700.0	7,176.3	7,206.0	7,137.7	48.1	18.8	-87.05	371.4	-2,375.5	938.7	873.7	64.98	14.447		
8,800.0	7,175.8	7,207.7	7,139.5	50.8	18.8	-87.38	371.4	-2,375.5	845.0	777.4	67.64	12.492		
8,900.0	7,175.3	7,209.5	7,141.2	53.4	18.8	-87.70	371.4	-2,375.6	752.9	682.6	70.33	10.706		
9,000.0	7,174.8	7,211.2	7,143.0	56.0	18.8	-88.02	371.4	-2,375.6	663.1	590.1	73.02	9.081		
9,100.0	7,174.2	7,213.0	7,144.8	58.7	18.8	-88.35	371.4	-2,375.7	576.7	501.0	75.73	7.615		
9,200.0	7,173.7	7,214.8	7,146.5	61.4	18.8	-88.68	371.4	-2,375.7	495.4	417.0	78.46	6.315		
9,300.0	7,173.2	7,216.6	7,148.3	64.0	18.8	-89.01	371.4	-2,375.7	422.3	341.1	81.19	5.201		
9,400.0	7,172.7	7,218.4	7,150.2	66.7	18.8	-89.34	371.4	-2,375.8	362.2	278.2	83.92	4.315		
9,500.0	7,172.2	7,220.2	7,152.0	69.4	18.8	-89.68	371.4	-2,375.8	322.5	235.8	86.67	3.721		
9,585.9	7,171.7	7,221.8	7,153.5	71.8	18.8	-89.97	371.4	-2,375.9	310.8	221.8	89.03	3.491 CC		
9,600.0	7,171.6	7,222.0	7,153.8	72.2	18.8	-90.02	371.4	-2,375.9	311.1	221.7	89.41	3.480 ES, SF		
9,700.0	7,171.1	7,223.9	7,155.7	74.9	18.8	-90.36	371.4	-2,375.9	331.1	238.9	92.17	3.593		
9,800.0	7,170.6	7,225.8	7,157.5	77.6	18.8	-90.70	371.4	-2,376.0	377.4	282.5	94.92	3.976		
9,900.0	7,170.1	7,227.6	7,159.4	80.3	18.8	-91.04	371.4	-2,376.0	441.9	344.2	97.68	4.524		
10,000.0	7,169.5	7,229.5	7,161.3	83.1	18.8	-91.39	371.4	-2,376.1	517.7	417.3	100.43	5.155		
10,100.0	7,169.0	7,231.4	7,163.1	85.8	18.8	-91.74	371.4	-2,376.1	600.7	497.5	103.19	5.821		
10,200.0	7,168.5	7,233.3	7,165.0	88.5	18.8	-92.09	371.4	-2,376.1	688.2	582.3	105.95	6.496		
10,300.0	7,168.0	7,235.2	7,167.0	91.3	18.8	-92.44	371.4	-2,376.2	778.7	670.0	108.70	7.164		
10,400.0	7,167.4	7,236.0	7,167.8	94.0	18.8	-92.59	371.4	-2,376.2	871.3	759.9	111.46	7.818		
10,500.0	7,166.9	7,239.0	7,170.7	96.8	18.8	-93.13	371.4	-2,376.3	965.4	851.2	114.20	8.453		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	Offset Datum

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

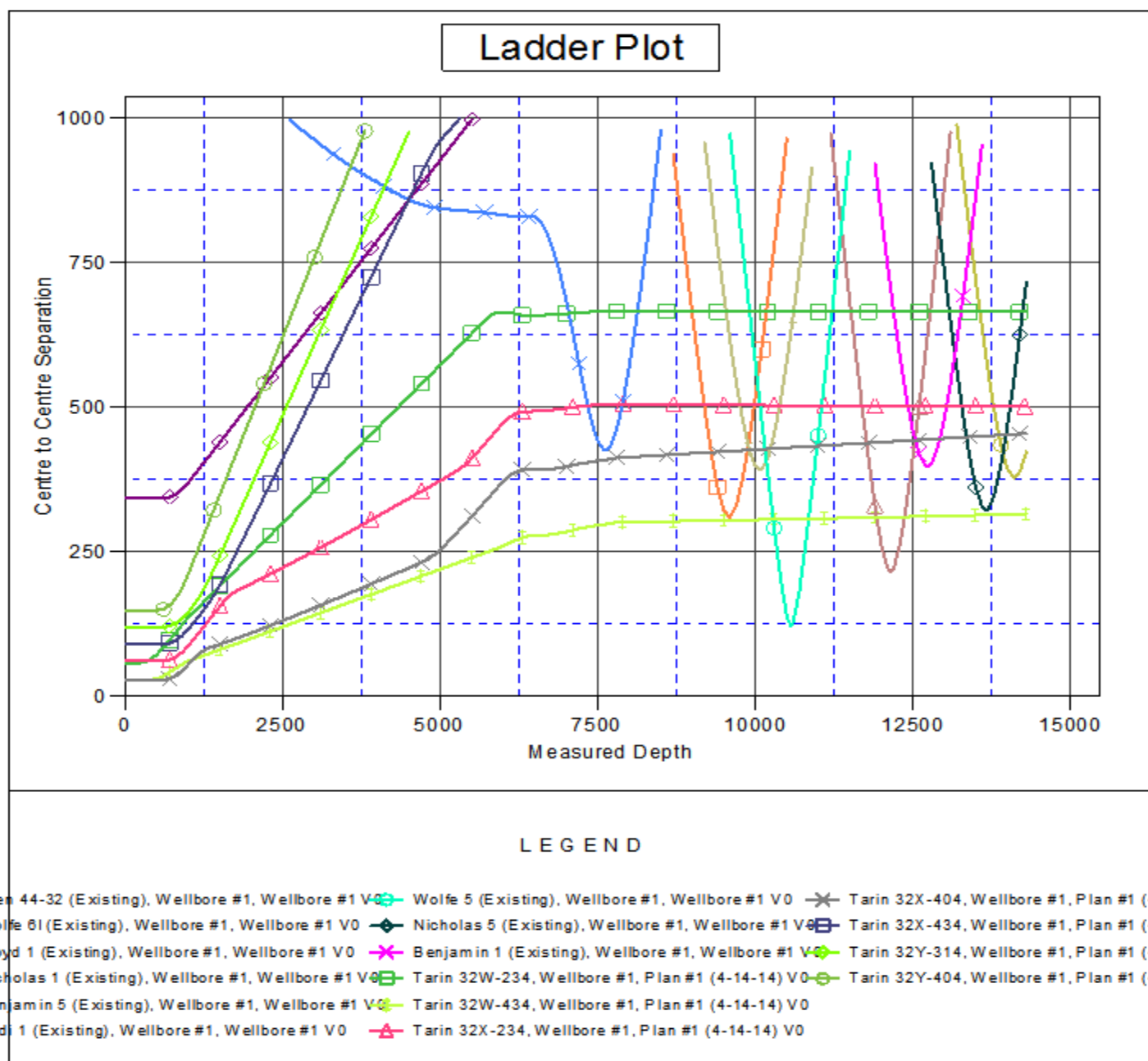
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Tarin 32X-314

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.46°



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-314
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-314	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (4-14-14)	Offset TVD Reference:	Offset Datum

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

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Tarin 32X-314

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.46°

