

# PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Honebein 7K-403**

Surface Location: Honebein 4N64W7K Pad Sec.7-T4N-R64W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

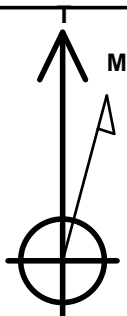
Ground Elevation: 4849.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1362858.15	3251678.85	40.325930	-104.597310	

RKB - 15' WELL @ 4864.0ft (RKB - 15')

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 2352'FSL & 1320'FWL, Sec.7	1.0	0.0	0.0	Point
BHL 2141'FNL & 1297'FWL, Sec.18	7122.0	-4491.9	-36.3	Point



Azimuths to True North  
Magnetic North: 8.34°

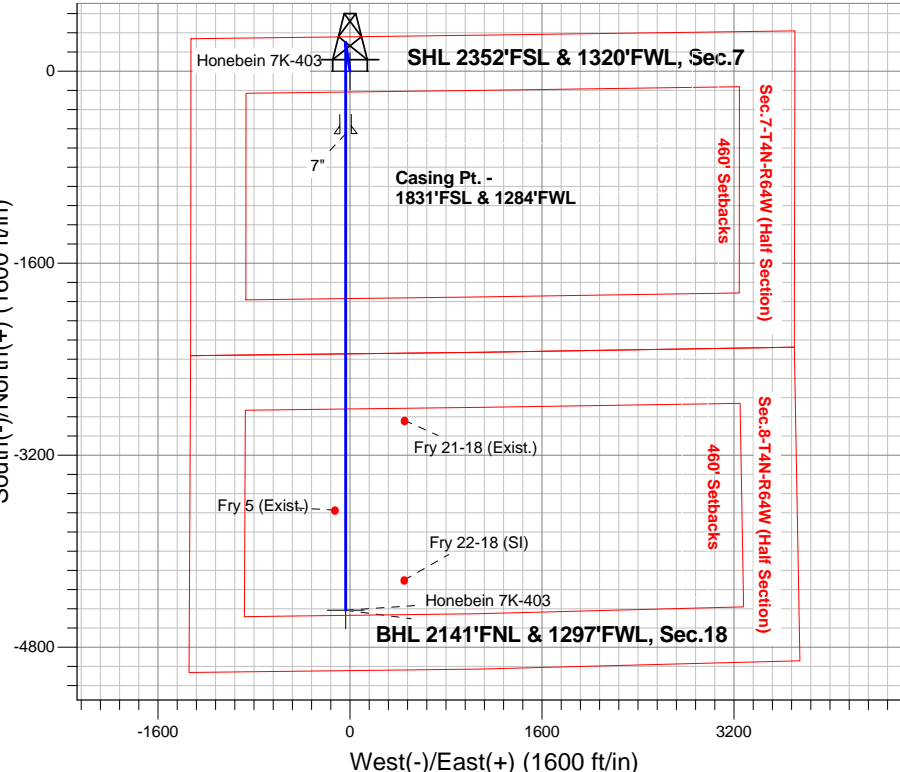
Magnetic Field  
Strength: 52774.6nT  
Dip Angle: 66.91°  
Date: 8/20/2014  
Model: IGRF2010

Honebein 4N64W7K Pad Sec.7-T4N-R64W  
Honebein 7K-403  
Plan #1 (8-15-14)  
14:07, August 21 2014

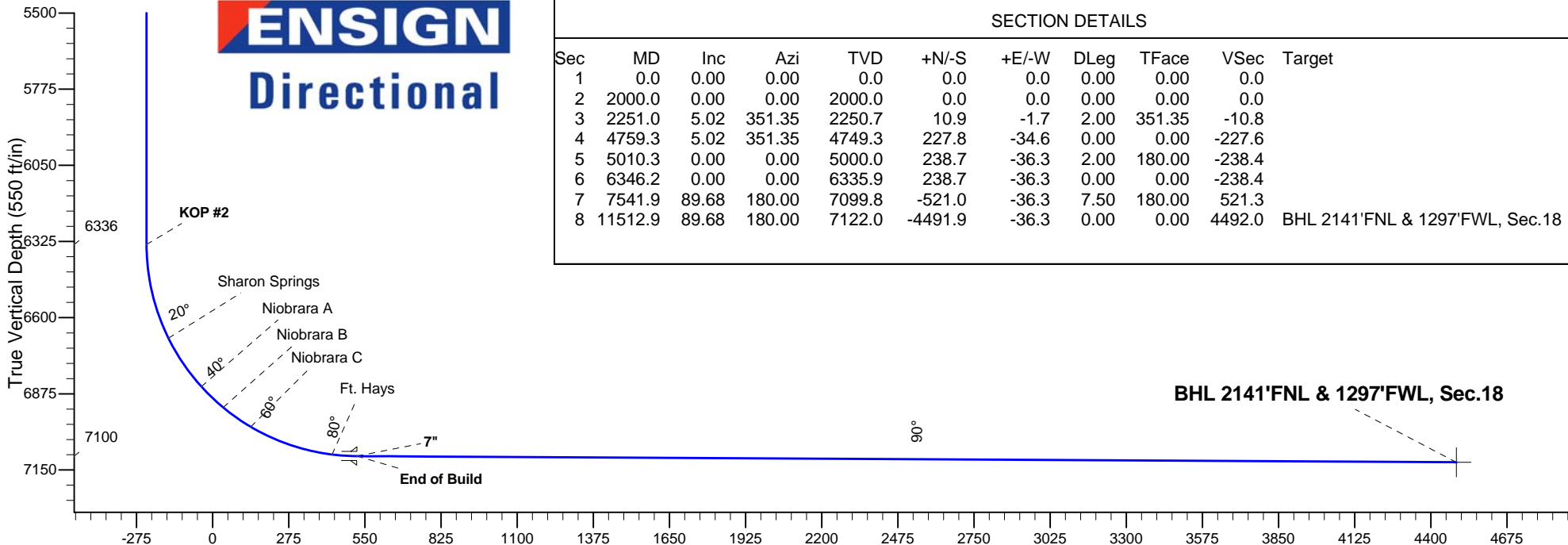
## ANNOTATIONS

TVD	MD	Annotation
2000.0	2000.0	KOP #1
6335.9	6346.2	KOP #2
7099.8	7541.9	End of Build

South(-)/North(+) (1600 ft/in)



**ENSIGN**  
Directional



## 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	2000.0	0.00	0.00	2000.0	0.0	0.0	0.00	0.00	0.0	
3	2251.0	5.02	351.35	2250.7	10.9	-1.7	2.00	351.35	-10.8	
4	4759.3	5.02	351.35	4749.3	227.8	-34.6	0.00	0.00	-227.6	
5	5010.3	0.00	0.00	5000.0	238.7	-36.3	2.00	180.00	-238.4	
6	6346.2	0.00	0.00	6335.9	238.7	-36.3	0.00	0.00	-238.4	
7	7541.9	89.68	180.00	7099.8	-521.0	-36.3	7.50	180.00	521.3	
8	11512.9	89.68	180.00	7122.0	-4491.9	-36.3	0.00	0.00	4492.0	BHL 2141'FNL & 1297'FWL, Sec.18

**BHL 2141'FNL & 1297'FWL, Sec.18**

Vertical Section at 180.46° (550 ft/in)



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.7-T4N-R64W**

**Honebein 4N64W7K Pad Sec.7-T4N-R64W**

**Honebein 7K-403**

**Wellbore #1**

**Plan: Plan #1 (8-15-14)**

## **Standard Planning Report**

**21 August, 2014**

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Project:</b>	SEC.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (8-15-14)		

<b>Project</b>	SEC.7-T4N-R64W, Weld County, Colorado		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

<b>Site</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W		
<b>Site Position:</b>		<b>Northing:</b>	1,362,857.25 ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,251,589.63 ft
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"
		<b>Latitude:</b>	40.325930
		<b>Longitude:</b>	-104.597630
		<b>Grid Convergence:</b>	0.58 °

<b>Well</b>	Honebein 7K-403		
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b> 1,362,858.15 ft
	<b>+E/-W</b>	89.2 ft	<b>Easting:</b> 3,251,678.85 ft
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b> ft
			<b>Latitude:</b> 40.325930
			<b>Longitude:</b> -104.597310
			<b>Ground Level:</b> 4,849.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	8/20/2014	8.34	66.91	52,775

<b>Design</b>	Plan #1 (8-15-14)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	180.46

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,251.0	5.02	351.35	2,250.7	10.9	-1.7	2.00	2.00	0.00	351.35	
4,759.3	5.02	351.35	4,749.3	227.8	-34.6	0.00	0.00	0.00	0.00	
5,010.3	0.00	0.00	5,000.0	238.7	-36.3	2.00	-2.00	0.00	180.00	
6,346.2	0.00	0.00	6,335.9	238.7	-36.3	0.00	0.00	0.00	0.00	
7,541.9	89.68	180.00	7,099.8	-521.0	-36.3	7.50	7.50	0.00	180.00	
11,512.9	89.68	180.00	7,122.0	-4,491.9	-36.3	0.00	0.00	0.00	0.00	BHL 2141'FNL & 12

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Project:</b>	SEC.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (8-15-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>SHL 2352'FSL &amp; 1320'FWL, Sec.7</b>									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP #1</b>									
2,100.0	2.00	351.35	2,100.0	1.7	-0.3	-1.7	2.00	2.00	0.00
2,200.0	4.00	351.35	2,199.8	6.9	-1.0	-6.9	2.00	2.00	0.00
2,251.0	5.02	351.35	2,250.7	10.9	-1.7	-10.8	2.00	2.00	0.00
2,300.0	5.02	351.35	2,299.5	15.1	-2.3	-15.1	0.00	0.00	0.00
2,400.0	5.02	351.35	2,399.1	23.8	-3.6	-23.7	0.00	0.00	0.00
2,500.0	5.02	351.35	2,498.7	32.4	-4.9	-32.4	0.00	0.00	0.00
2,600.0	5.02	351.35	2,598.3	41.1	-6.2	-41.0	0.00	0.00	0.00
2,700.0	5.02	351.35	2,698.0	49.7	-7.6	-49.6	0.00	0.00	0.00
2,800.0	5.02	351.35	2,797.6	58.4	-8.9	-58.3	0.00	0.00	0.00
2,900.0	5.02	351.35	2,897.2	67.0	-10.2	-66.9	0.00	0.00	0.00
3,000.0	5.02	351.35	2,996.8	75.7	-11.5	-75.6	0.00	0.00	0.00
3,100.0	5.02	351.35	3,096.4	84.3	-12.8	-84.2	0.00	0.00	0.00
3,200.0	5.02	351.35	3,196.0	93.0	-14.1	-92.8	0.00	0.00	0.00
3,300.0	5.02	351.35	3,295.7	101.6	-15.5	-101.5	0.00	0.00	0.00
3,400.0	5.02	351.35	3,395.3	110.3	-16.8	-110.1	0.00	0.00	0.00
3,500.0	5.02	351.35	3,494.9	118.9	-18.1	-118.8	0.00	0.00	0.00
3,600.0	5.02	351.35	3,594.5	127.6	-19.4	-127.4	0.00	0.00	0.00
3,700.0	5.02	351.35	3,694.1	136.2	-20.7	-136.0	0.00	0.00	0.00
3,730.0	5.02	351.35	3,724.0	138.8	-21.1	-138.6	0.00	0.00	0.00
<b>Parkman</b>									
3,800.0	5.02	351.35	3,793.7	144.9	-22.0	-144.7	0.00	0.00	0.00
3,900.0	5.02	351.35	3,893.4	153.5	-23.3	-153.3	0.00	0.00	0.00
4,000.0	5.02	351.35	3,993.0	162.2	-24.7	-162.0	0.00	0.00	0.00
4,100.0	5.02	351.35	4,092.6	170.8	-26.0	-170.6	0.00	0.00	0.00
4,200.0	5.02	351.35	4,192.2	179.5	-27.3	-179.2	0.00	0.00	0.00
4,300.0	5.02	351.35	4,291.8	188.1	-28.6	-187.9	0.00	0.00	0.00
4,400.0	5.02	351.35	4,391.4	196.8	-29.9	-196.5	0.00	0.00	0.00
4,458.8	5.02	351.35	4,450.0	201.8	-30.7	-201.6	0.00	0.00	0.00
<b>Sussex</b>									

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<b>Project:</b>	SEC.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (8-15-14)		

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	5.02	351.35	4,491.1	205.4	-31.2	-205.2	0.00	0.00	0.00
4,600.0	5.02	351.35	4,590.7	214.1	-32.6	-213.8	0.00	0.00	0.00
4,700.0	5.02	351.35	4,690.3	222.7	-33.9	-222.4	0.00	0.00	0.00
4,759.3	5.02	351.35	4,749.3	227.8	-34.6	-227.6	0.00	0.00	0.00
4,800.0	4.21	351.35	4,789.9	231.1	-35.1	-230.8	2.00	-2.00	0.00
4,900.0	2.21	351.35	4,889.8	236.6	-36.0	-236.3	2.00	-2.00	0.00
5,000.0	0.21	351.35	4,989.7	238.7	-36.3	-238.4	2.00	-2.00	0.00
5,010.3	0.00	0.00	5,000.0	238.7	-36.3	-238.4	2.00	-2.00	0.00
5,100.0	0.00	0.00	5,089.7	238.7	-36.3	-238.4	0.00	0.00	0.00
5,200.0	0.00	0.00	5,189.7	238.7	-36.3	-238.4	0.00	0.00	0.00
5,250.3	0.00	0.00	5,240.0	238.7	-36.3	-238.4	0.00	0.00	0.00
Shannon									
5,300.0	0.00	0.00	5,289.7	238.7	-36.3	-238.4	0.00	0.00	0.00
5,400.0	0.00	0.00	5,389.7	238.7	-36.3	-238.4	0.00	0.00	0.00
5,500.0	0.00	0.00	5,489.7	238.7	-36.3	-238.4	0.00	0.00	0.00
5,600.0	0.00	0.00	5,589.7	238.7	-36.3	-238.4	0.00	0.00	0.00
5,700.0	0.00	0.00	5,689.7	238.7	-36.3	-238.4	0.00	0.00	0.00
5,800.0	0.00	0.00	5,789.7	238.7	-36.3	-238.4	0.00	0.00	0.00
5,900.0	0.00	0.00	5,889.7	238.7	-36.3	-238.4	0.00	0.00	0.00
6,000.0	0.00	0.00	5,989.7	238.7	-36.3	-238.4	0.00	0.00	0.00
6,100.0	0.00	0.00	6,089.7	238.7	-36.3	-238.4	0.00	0.00	0.00
6,200.0	0.00	0.00	6,189.7	238.7	-36.3	-238.4	0.00	0.00	0.00
6,300.0	0.00	0.00	6,289.7	238.7	-36.3	-238.4	0.00	0.00	0.00
6,346.2	0.00	0.00	6,335.9	238.7	-36.3	-238.4	0.00	0.00	0.00
KOP #2									
6,400.0	4.04	180.00	6,389.7	236.8	-36.3	-236.5	7.51	7.51	0.00
6,500.0	11.54	180.00	6,488.7	223.3	-36.3	-223.0	7.50	7.50	0.00
6,600.0	19.04	180.00	6,585.1	196.9	-36.3	-196.6	7.50	7.50	0.00
6,696.4	26.27	180.00	6,674.0	159.8	-36.3	-159.5	7.50	7.50	0.00
Sharon Springs									
6,700.0	26.54	180.00	6,677.2	158.2	-36.3	-157.9	7.50	7.50	0.00
6,800.0	34.04	180.00	6,763.5	107.8	-36.3	-107.5	7.50	7.50	0.00
6,900.0	41.54	180.00	6,842.5	46.6	-36.3	-46.3	7.50	7.50	0.00
6,908.8	42.20	180.00	6,849.0	40.7	-36.3	-40.4	7.50	7.50	0.00
Niobrara A									
7,000.0	49.04	180.00	6,912.8	-24.4	-36.3	24.7	7.50	7.50	0.00
7,017.3	50.34	180.00	6,924.0	-37.7	-36.3	38.0	7.50	7.50	0.00
Niobrara B									
7,100.0	56.54	180.00	6,973.2	-104.0	-36.3	104.3	7.50	7.50	0.00
7,139.2	59.48	180.00	6,994.0	-137.3	-36.3	137.6	7.50	7.50	0.00
Niobrara C									
7,200.0	64.04	180.00	7,022.7	-190.8	-36.3	191.1	7.50	7.50	0.00
7,300.0	71.54	180.00	7,060.5	-283.3	-36.3	283.6	7.50	7.50	0.00
7,400.0	79.04	180.00	7,085.9	-380.0	-36.3	380.3	7.50	7.50	0.00
7,451.7	82.91	180.00	7,094.0	-431.0	-36.3	431.3	7.50	7.50	0.00
Ft. Hays									
7,500.0	86.54	180.00	7,098.4	-479.1	-36.3	479.4	7.50	7.50	0.00
7,541.9	89.68	180.00	7,099.8	-521.0	-36.3	521.3	7.50	7.50	0.00
End of Build - 7"									
7,600.0	89.68	180.00	7,100.1	-579.1	-36.3	579.4	0.00	0.00	0.00
7,700.0	89.68	180.00	7,100.7	-679.1	-36.3	679.4	0.00	0.00	0.00
7,800.0	89.68	180.00	7,101.3	-779.1	-36.3	779.4	0.00	0.00	0.00

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<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Project:</b>	SEC.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (8-15-14)		

#### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,900.0	89.68	180.00	7,101.8	-879.1	-36.3	879.4	0.00	0.00	0.00
8,000.0	89.68	180.00	7,102.4	-979.1	-36.3	979.3	0.00	0.00	0.00
8,100.0	89.68	180.00	7,102.9	-1,079.1	-36.3	1,079.3	0.00	0.00	0.00
8,200.0	89.68	180.00	7,103.5	-1,179.1	-36.3	1,179.3	0.00	0.00	0.00
8,300.0	89.68	180.00	7,104.1	-1,279.1	-36.3	1,279.3	0.00	0.00	0.00
8,400.0	89.68	180.00	7,104.6	-1,379.1	-36.3	1,379.3	0.00	0.00	0.00
8,500.0	89.68	180.00	7,105.2	-1,479.1	-36.3	1,479.3	0.00	0.00	0.00
8,600.0	89.68	180.00	7,105.7	-1,579.1	-36.3	1,579.3	0.00	0.00	0.00
8,700.0	89.68	180.00	7,106.3	-1,679.1	-36.3	1,679.3	0.00	0.00	0.00
8,800.0	89.68	180.00	7,106.8	-1,779.1	-36.3	1,779.3	0.00	0.00	0.00
8,900.0	89.68	180.00	7,107.4	-1,879.1	-36.3	1,879.3	0.00	0.00	0.00
9,000.0	89.68	180.00	7,108.0	-1,979.1	-36.3	1,979.3	0.00	0.00	0.00
9,100.0	89.68	180.00	7,108.5	-2,079.1	-36.3	2,079.3	0.00	0.00	0.00
9,200.0	89.68	180.00	7,109.1	-2,179.1	-36.3	2,179.3	0.00	0.00	0.00
9,300.0	89.68	180.00	7,109.6	-2,279.1	-36.3	2,279.3	0.00	0.00	0.00
9,400.0	89.68	180.00	7,110.2	-2,379.1	-36.3	2,379.3	0.00	0.00	0.00
9,500.0	89.68	180.00	7,110.8	-2,479.1	-36.3	2,479.3	0.00	0.00	0.00
9,600.0	89.68	180.00	7,111.3	-2,579.1	-36.3	2,579.3	0.00	0.00	0.00
9,700.0	89.68	180.00	7,111.9	-2,679.1	-36.3	2,679.3	0.00	0.00	0.00
9,800.0	89.68	180.00	7,112.4	-2,779.1	-36.3	2,779.3	0.00	0.00	0.00
9,900.0	89.68	180.00	7,113.0	-2,879.1	-36.3	2,879.3	0.00	0.00	0.00
10,000.0	89.68	180.00	7,113.6	-2,979.1	-36.3	2,979.2	0.00	0.00	0.00
10,080.5	89.68	180.00	7,114.0	-3,059.5	-36.3	3,059.7	0.00	0.00	0.00
<b>Codell</b>									
10,100.0	89.68	180.00	7,114.1	-3,079.1	-36.3	3,079.2	0.00	0.00	0.00
10,200.0	89.68	180.00	7,114.7	-3,179.1	-36.3	3,179.2	0.00	0.00	0.00
10,300.0	89.68	180.00	7,115.2	-3,279.0	-36.3	3,279.2	0.00	0.00	0.00
10,400.0	89.68	180.00	7,115.8	-3,379.0	-36.3	3,379.2	0.00	0.00	0.00
10,500.0	89.68	180.00	7,116.3	-3,479.0	-36.3	3,479.2	0.00	0.00	0.00
10,600.0	89.68	180.00	7,116.9	-3,579.0	-36.3	3,579.2	0.00	0.00	0.00
10,700.0	89.68	180.00	7,117.5	-3,679.0	-36.3	3,679.2	0.00	0.00	0.00
10,800.0	89.68	180.00	7,118.0	-3,779.0	-36.3	3,779.2	0.00	0.00	0.00
10,900.0	89.68	180.00	7,118.6	-3,879.0	-36.3	3,879.2	0.00	0.00	0.00
11,000.0	89.68	180.00	7,119.1	-3,979.0	-36.3	3,979.2	0.00	0.00	0.00
11,100.0	89.68	180.00	7,119.7	-4,079.0	-36.3	4,079.2	0.00	0.00	0.00
11,200.0	89.68	180.00	7,120.3	-4,179.0	-36.3	4,179.2	0.00	0.00	0.00
11,300.0	89.68	180.00	7,120.8	-4,279.0	-36.3	4,279.2	0.00	0.00	0.00
11,400.0	89.68	180.00	7,121.4	-4,379.0	-36.3	4,379.2	0.00	0.00	0.00
11,500.0	89.68	180.00	7,121.9	-4,479.0	-36.3	4,479.2	0.00	0.00	0.00
11,512.9	89.68	180.00	7,122.0	-4,491.9	-36.3	4,492.0	0.00	0.00	0.00
<b>BHL 2141'FNL &amp; 1297'FWL, Sec.18</b>									

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Project:</b>	SEC.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (8-15-14)		

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
SHL 2352'FSL & 1320' - plan hits target center - Point	0.00	0.00	1.0	0.0	0.0	1,362,858.16	3,251,678.85	40.325930	-104.597310
BHL 2141'FNL & 1297' - plan hits target center - Point	0.00	0.00	7,122.0	-4,491.9	-36.3	1,358,366.32	3,251,688.32	40.313600	-104.597440

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(")	(")
7,541.9	7,099.8	7"		7	7-1/2

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
3,730.0	3,724.0	Parkman		0.00	
4,458.8	4,450.0	Sussex		0.00	
5,250.3	5,240.0	Shannon		0.00	
6,696.4	6,674.0	Sharon Springs		0.00	
6,908.8	6,849.0	Niobrara A		0.00	
7,017.3	6,924.0	Niobrara B		0.00	
7,139.2	6,994.0	Niobrara C		0.00	
7,451.7	7,094.0	Ft. Hays		0.00	
10,080.5	7,114.0	Codell		0.00	

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S	+E/-W		
(ft)	(ft)	(ft)	(ft)		
2,000.0	2,000.0	0.0	0.0	KOP #1	
6,346.2	6,335.9	238.7	-36.3	KOP #2	
7,541.9	7,099.8	-521.0	-36.3	End of Build	



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.7-T4N-R64W**

**Honebein 4N64W7K Pad Sec.7-T4N-R64W**

**Honebein 7K-403**

**Wellbore #1**

**Plan #1 (8-15-14)**

## **Anticollision Report**

**21 August, 2014**





<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Project:</b>	SEC.7-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Reference Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (8-15-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #1 (8-15-14)		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	Stations	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 1,000.0ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b> 8/21/2014			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	11,512.9	Plan #1 (8-15-14) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Existing Wells Sec. 7-T4N-R64W						
Fry 21-18 (Exist.) - Wellbore #1 - Wellbore #1	9,931.8	7,087.2	490.8	290.3	2.448	CC, ES, SF
Fry 22-18 (SI) - Wellbore #1 - Wellbore #1	11,261.5	7,086.6	488.0	262.7	2.165	CC, ES
Fry 22-18 (SI) - Wellbore #1 - Wellbore #1	11,300.0	7,086.8	489.5	263.4	2.165	SF
Fry 5 (Exist.) - Wellbore #1 - Wellbore #1	10,678.6	7,071.3	89.2	-124.9	0.417	Level 1, CC, ES, SF
Latham 7-4 (Exist.) - Wellbore #1 - Wellbore #1	8,704.0	7,093.3	457.3	279.0	2.564	CC, ES, SF
Honebein 4N64W7K Pad Sec.7-T4N-R64W						
Honebein 7G-203 - Wellbore #1 - Plan #1 (8-14-14)	200.0	197.0	89.2	88.6	133.659	CC, ES
Honebein 7G-203 - Wellbore #1 - Plan #1 (8-14-14)	4,800.0	4,677.0	979.9	956.0	41.040	SF
Honebein 7G-323 - Wellbore #1 - Plan #1 (8-15-14)	400.0	398.0	58.6	57.0	37.322	CC, ES
Honebein 7G-323 - Wellbore #1 - Plan #1 (8-15-14)	11,513.7	11,547.8	968.5	791.8	5.483	SF
Honebein 7K-223 - Wellbore #1 - Plan #1 (8-15-14)	1,466.3	1,467.3	30.7	24.3	4.816	CC
Honebein 7K-223 - Wellbore #1 - Plan #1 (8-15-14)	1,500.0	1,501.0	30.7	24.2	4.704	ES
Honebein 7K-223 - Wellbore #1 - Plan #1 (8-15-14)	11,513.7	11,394.5	329.1	184.4	2.274	SF
Honebein 7K-243 - Wellbore #1 - Plan #1 (8-15-15)	1,000.0	999.0	30.7	26.4	7.186	CC, ES
Honebein 7K-243 - Wellbore #1 - Plan #1 (8-15-15)	11,513.7	11,399.8	413.1	247.1	2.489	SF
Honebein 7K-323 - Wellbore #1 - Plan #1 (8-18-14)	966.0	968.0	61.3	57.2	14.881	CC
Honebein 7K-323 - Wellbore #1 - Plan #1 (8-18-14)	1,000.0	1,002.0	61.3	57.1	14.350	ES
Honebein 7K-323 - Wellbore #1 - Plan #1 (8-18-14)	11,513.7	11,464.7	647.3	473.9	3.733	SF
Honebein 7O-243 - Wellbore #1 - Plan #1 (8-18-14)	765.6	768.6	89.2	86.0	27.677	CC
Honebein 7O-243 - Wellbore #1 - Plan #1 (8-18-14)	800.0	802.9	89.2	85.8	26.416	ES
Honebein 7O-243 - Wellbore #1 - Plan #1 (8-18-14)	11,513.7	11,443.2	921.8	748.5	5.319	SF

<b>Offset Design</b> Existing Wells Sec. 7-T4N-R64W - Fry 21-18 (Exist.) - Wellbore #1 - Wellbore #1											
Survey Program: 7208-UNKNOWN											
Reference											
Offset											
Semi Major Axis											
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)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)
9,100.0	7,108.5	7,082.5	7,082.5	43.5	141.7	-89.46	-2,910.8	454.5	965.8	780.6	185.17
9,200.0	7,109.1	7,083.1	7,083.1	45.3	141.7	-89.52	-2,910.8	454.5	881.1	694.1	186.99
9,300.0	7,109.6	7,083.6	7,083.6	47.1	141.7	-89.59	-2,910.8	454.5	800.0	611.2	188.81
9,400.0	7,110.2	7,084.2	7,084.2	49.0	141.7	-89.65	-2,910.8	454.5	723.6	533.0	190.64
9,500.0	7,110.8	7,084.8	7,084.8	50.8	141.7	-89.72	-2,910.8	454.5	653.7	461.2	192.48
9,600.0	7,111.3	7,085.3	7,085.3	52.6	141.7	-89.78	-2,910.8	454.5	592.4	398.1	194.32
Warning											

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Project:</b>	SEC.7-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Reference Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (8-15-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Existing Wells Sec. 7-T4N-R64W - Fry 21-18 (Exist.) - Wellbore #1 - Wellbore #1													<b>Offset Site Error:</b>	0.0 ft
Survey Program: 7208-UNKNOWN													<b>Offset Well Error:</b>	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis Reference	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
9,700.0	7,111.9	7,085.9	7,085.9	54.5	141.7	-89.85	-2,910.8	454.5	542.8	346.6	196.17	2.767		
9,800.0	7,112.4	7,086.4	7,086.4	56.3	141.7	-89.91	-2,910.8	454.5	508.2	310.2	198.03	2.566		
9,900.0	7,113.0	7,087.0	7,087.0	58.2	141.7	-89.98	-2,910.8	454.5	491.8	291.9	199.89	2.461		
9,931.8	7,113.2	7,087.2	7,087.2	58.7	141.7	-90.00	-2,910.8	454.5	490.8	290.3	200.48	2.448	CC, ES, SF	
10,000.0	7,113.6	7,087.6	7,087.6	60.0	141.8	-90.04	-2,910.8	454.5	495.5	293.8	201.75	2.456		
10,100.0	7,114.1	7,088.1	7,088.1	61.9	141.8	-90.11	-2,910.8	454.5	518.8	315.2	203.62	2.548		
10,200.0	7,114.7	7,088.7	7,088.7	63.7	141.8	-90.17	-2,910.8	454.5	559.3	353.8	205.50	2.722		
10,300.0	7,115.2	7,089.2	7,089.2	65.6	141.8	-90.24	-2,910.8	454.5	613.6	406.2	207.37	2.959		
10,400.0	7,115.8	7,089.8	7,089.8	67.5	141.8	-90.31	-2,910.8	454.5	678.3	469.1	209.25	3.242		
10,500.0	7,116.3	7,090.3	7,090.3	69.3	141.8	-90.37	-2,910.8	454.5	750.9	539.7	211.13	3.556		
10,600.0	7,116.9	7,090.9	7,090.9	71.2	141.8	-90.44	-2,910.8	454.5	829.1	616.1	213.01	3.892		
10,700.0	7,117.5	7,091.5	7,091.5	73.1	141.8	-90.50	-2,910.8	454.5	911.6	696.7	214.90	4.242		
10,800.0	7,118.0	7,092.0	7,092.0	75.0	141.8	-90.57	-2,910.8	454.5	997.3	780.6	216.78	4.601		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Project:</b>	SEC.7-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Reference Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (8-15-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Existing Wells Sec. 7-T4N-R64W - Fry 22-18 (SI) - Wellbore #1 - Wellbore #1													<b>Offset Site Error:</b>	0.0 ft
Survey Program: 7215-UNKNOWN													<b>Offset Well Error:</b>	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,400.0	7,115.8	7,081.8	7,081.8	67.5	141.6	-89.44	-89.44	-4,240.5	451.8	990.1	781.0	209.08	4.736	
10,500.0	7,116.3	7,082.3	7,082.3	69.3	141.6	-89.50	-89.50	-4,240.5	451.8	904.5	693.5	210.96	4.287	
10,600.0	7,116.9	7,082.9	7,082.9	71.2	141.7	-89.57	-89.57	-4,240.5	451.8	822.0	609.2	212.85	3.862	
10,700.0	7,117.5	7,083.5	7,083.5	73.1	141.7	-89.63	-89.63	-4,240.5	451.8	743.9	529.2	214.74	3.464	
10,800.0	7,118.0	7,084.0	7,084.0	75.0	141.7	-89.70	-89.70	-4,240.5	451.8	671.7	455.1	216.63	3.101	
10,900.0	7,118.6	7,084.6	7,084.6	76.8	141.7	-89.76	-89.76	-4,240.5	451.8	607.3	388.8	218.52	2.779	
11,000.0	7,119.1	7,085.1	7,085.1	78.7	141.7	-89.83	-89.83	-4,240.5	451.8	553.7	333.3	220.42	2.512	
11,100.0	7,119.7	7,085.7	7,085.7	80.6	141.7	-89.89	-89.89	-4,240.5	451.8	514.1	291.8	222.31	2.312	
11,200.0	7,120.3	7,086.3	7,086.3	82.5	141.7	-89.96	-89.96	-4,240.5	451.8	491.9	267.7	224.21	2.194	
11,261.5	7,120.6	7,086.6	7,086.6	83.6	141.7	-90.00	-90.00	-4,240.5	451.8	488.0	262.7	225.38	2.165 CC, ES	
11,300.0	7,120.8	7,086.8	7,086.8	84.4	141.7	-90.03	-90.03	-4,240.5	451.8	489.5	263.4	226.11	2.165 SF	
11,400.0	7,121.4	7,087.4	7,087.4	86.3	141.7	-90.09	-90.09	-4,240.5	451.8	507.3	279.3	228.01	2.225	
11,500.0	7,121.9	7,087.9	7,087.9	88.1	141.8	-90.16	-90.16	-4,240.5	451.8	543.2	313.3	229.91	2.363	
11,512.9	7,122.0	7,088.0	7,088.0	88.4	141.8	-90.16	-90.16	-4,240.5	451.8	549.0	318.8	230.15	2.385	
11,513.7	7,122.0	7,088.0	7,088.0	88.4	141.8	-90.17	-90.17	-4,240.5	451.8	549.3	319.2	230.16	2.387	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Project:</b>	SEC.7-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Reference Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (8-15-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec. 7-T4N-R64W - Fry 5 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7422-UNKNOWN													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
9,700.0	7,111.9	7,065.9	7,065.9	54.5	141.3	86.49		-3,657.6	-125.5	982.6	787.2	195.43	5.028	
9,800.0	7,112.4	7,066.4	7,066.4	56.3	141.3	86.85		-3,657.6	-125.5	883.1	685.8	197.35	4.475	
9,900.0	7,113.0	7,067.0	7,067.0	58.2	141.3	87.21		-3,657.6	-125.5	783.7	584.4	199.27	3.933	
10,000.0	7,113.6	7,067.6	7,067.6	60.0	141.4	87.57		-3,657.6	-125.5	684.4	483.2	201.19	3.402	
10,100.0	7,114.1	7,068.1	7,068.1	61.9	141.4	87.93		-3,657.6	-125.5	585.4	382.3	203.10	2.882	
10,200.0	7,114.7	7,068.7	7,068.7	63.7	141.4	88.28		-3,657.6	-125.5	486.8	281.8	205.01	2.375	
10,300.0	7,115.2	7,069.2	7,069.2	65.6	141.4	88.64		-3,657.6	-125.5	389.0	182.1	206.92	1.880	
10,400.0	7,115.8	7,069.8	7,069.8	67.5	141.4	89.00		-3,657.6	-125.5	292.5	83.7	208.82	1.401 Level 3	
10,500.0	7,116.3	7,070.3	7,070.3	69.3	141.4	89.36		-3,657.6	-125.5	199.6	-11.1	210.72	0.947 Level 1	
10,600.0	7,116.9	7,070.9	7,070.9	71.2	141.4	89.72		-3,657.6	-125.5	118.9	-93.7	212.61	0.559 Level 1	
10,678.6	7,117.3	7,071.3	7,071.3	72.7	141.4	90.00		-3,657.6	-125.5	89.2	-124.9	214.10	0.417 Level 1, CC, ES, SF	
10,700.0	7,117.5	7,071.5	7,071.5	73.1	141.4	90.08		-3,657.6	-125.5	91.8	-122.7	214.50	0.428 Level 1	
10,800.0	7,118.0	7,072.0	7,072.0	75.0	141.4	90.44		-3,657.6	-125.5	150.7	-65.7	216.39	0.696 Level 1	
10,900.0	7,118.6	7,072.6	7,072.6	76.8	141.5	90.79		-3,657.6	-125.5	238.7	20.4	218.26	1.094 Level 2	
11,000.0	7,119.1	7,073.1	7,073.1	78.7	141.5	91.15		-3,657.6	-125.5	333.5	113.4	220.13	1.515	
11,100.0	7,119.7	7,073.7	7,073.7	80.6	141.5	91.51		-3,657.6	-125.5	430.7	208.7	222.00	1.940	
11,200.0	7,120.3	7,074.3	7,074.3	82.5	141.5	91.87		-3,657.6	-125.5	529.0	305.1	223.85	2.363	
11,300.0	7,120.8	7,074.8	7,074.8	84.4	141.5	92.23		-3,657.6	-125.5	627.8	402.1	225.70	2.781	
11,400.0	7,121.4	7,075.4	7,075.4	86.3	141.5	92.59		-3,657.6	-125.5	726.9	499.3	227.54	3.194	
11,500.0	7,121.9	7,075.9	7,075.9	88.1	141.5	92.94		-3,657.6	-125.5	826.2	596.8	229.38	3.602	
11,512.9	7,122.0	7,076.0	7,076.0	88.4	141.5	92.99		-3,657.6	-125.5	839.0	609.4	229.61	3.654	
11,513.7	7,122.0	7,076.0	7,076.0	88.4	141.5	92.99		-3,657.6	-125.5	839.8	610.2	229.63	3.657	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Project:</b>	SEC.7-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Reference Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (8-15-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Existing Wells Sec. 7-T4N-R64W - Latham 7-4 (Exist.) - Wellbore #1 - Wellbore #1													<b>Offset Site Error:</b>	0.0 ft
Survey Program: 7312-UNKNOWN													<b>Offset Well Error:</b>	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)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,900.0	7,101.8	7,088.8	7,088.8	23.5	141.8	-89.44	-89.44	-1,683.1	421.1	925.0	759.8	165.22	5.599	
8,000.0	7,102.4	7,089.4	7,089.4	24.9	141.8	-89.51	-89.51	-1,683.1	421.1	839.5	672.8	166.71	5.036	
8,100.0	7,102.9	7,089.9	7,089.9	26.5	141.8	-89.58	-89.58	-1,683.1	421.1	757.6	589.4	168.26	4.503	
8,200.0	7,103.5	7,090.5	7,090.5	28.0	141.8	-89.65	-89.65	-1,683.1	421.1	680.6	510.7	169.85	4.007	
8,300.0	7,104.1	7,091.1	7,091.1	29.7	141.8	-89.72	-89.72	-1,683.1	421.1	610.2	438.8	171.49	3.559	
8,400.0	7,104.6	7,091.6	7,091.6	31.3	141.8	-89.79	-89.79	-1,683.1	421.1	549.2	376.0	173.16	3.172	
8,500.0	7,105.2	7,092.2	7,092.2	33.0	141.8	-89.86	-89.86	-1,683.1	421.1	500.8	325.9	174.85	2.864	
8,600.0	7,105.7	7,092.7	7,092.7	34.7	141.9	-89.93	-89.93	-1,683.1	421.1	469.0	292.4	176.57	2.656	
8,700.0	7,106.3	7,093.3	7,093.3	36.5	141.9	-90.00	-90.00	-1,683.1	421.1	457.4	279.0	178.32	2.565	
8,704.0	7,106.3	7,093.3	7,093.3	36.5	141.9	-90.00	-90.00	-1,683.1	421.1	457.3	279.0	178.39	2.564	CC, ES, SF
8,800.0	7,106.8	7,093.8	7,093.8	38.2	141.9	-90.07	-90.07	-1,683.1	421.1	467.3	287.2	180.08	2.595	
8,900.0	7,107.4	7,094.4	7,094.4	40.0	141.9	-90.14	-90.14	-1,683.1	421.1	497.6	315.7	181.85	2.736	
9,000.0	7,108.0	7,095.0	7,095.0	41.7	141.9	-90.21	-90.21	-1,683.1	421.1	544.8	361.1	183.64	2.966	
9,100.0	7,108.5	7,095.5	7,095.5	43.5	141.9	-90.28	-90.28	-1,683.1	421.1	604.9	419.5	185.44	3.262	
9,200.0	7,109.1	7,096.1	7,096.1	45.3	141.9	-90.35	-90.35	-1,683.1	421.1	674.6	487.4	187.25	3.603	
9,300.0	7,109.6	7,096.6	7,096.6	47.1	141.9	-90.42	-90.42	-1,683.1	421.1	751.2	562.1	189.07	3.973	
9,400.0	7,110.2	7,097.2	7,097.2	49.0	141.9	-90.49	-90.49	-1,683.1	421.1	832.8	641.9	190.90	4.362	
9,500.0	7,110.8	7,097.8	7,097.8	50.8	142.0	-90.56	-90.56	-1,683.1	421.1	918.0	725.3	192.73	4.763	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Project:</b>	SEC.7-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Reference Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (8-15-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Honebein 4N64W7K Pad Sec.7-T4N-R64W - Honebein 7G-203 - Wellbore #1 - Plan #1 (8-14-14)													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
0.0	0.0	0.0	0.0	0.0	0.0	-90.01	-90.01	0.0	-89.2	89.3				
100.0	100.0	97.0	97.0	0.1	0.1	-90.01	-90.01	0.0	-89.2	89.2	89.0	0.22	403.001	
200.0	200.0	197.0	197.0	0.3	0.3	-90.01	-90.01	0.0	-89.2	89.2	88.6	0.67	133.659 CC, ES	
300.0	300.0	294.1	294.1	0.6	0.5	-89.82	-89.82	0.3	-90.7	90.8	89.7	1.10	82.226	
400.0	400.0	390.9	390.7	0.8	0.8	-89.29	-89.29	1.2	-95.5	95.7	94.1	1.55	61.838	
500.0	500.0	487.2	486.7	1.0	1.0	-88.50	-88.50	2.7	-103.4	103.9	101.9	2.00	52.018	
600.0	600.0	582.9	581.8	1.2	1.3	-87.59	-87.59	4.8	-114.3	115.4	113.0	2.45	47.064	
700.0	700.0	677.8	675.6	1.5	1.6	-86.66	-86.66	7.5	-128.3	130.3	127.3	2.91	44.737	
800.0	800.0	771.6	767.8	1.7	1.9	-85.78	-85.78	10.7	-145.0	148.3	145.0	3.38	43.951	
900.0	900.0	865.7	859.8	1.9	2.3	-84.98	-84.98	14.5	-164.7	169.5	165.6	3.85	44.044	
1,000.0	1,000.0	963.3	954.9	2.1	2.8	-84.31	-84.31	18.5	-185.8	191.5	187.1	4.32	44.353	
1,100.0	1,100.0	1,060.8	1,050.1	2.4	3.2	-83.77	-83.77	22.6	-207.0	213.4	208.6	4.79	44.581	
1,200.0	1,200.0	1,158.3	1,145.2	2.6	3.7	-83.34	-83.34	26.6	-228.1	235.4	230.2	5.26	44.735	
1,300.0	1,300.0	1,255.9	1,240.3	2.8	4.1	-82.98	-82.98	30.7	-249.2	257.4	251.7	5.74	44.840	
1,400.0	1,400.0	1,353.4	1,335.5	3.0	4.6	-82.68	-82.68	34.8	-270.4	279.5	273.2	6.22	44.913	
1,500.0	1,500.0	1,451.0	1,430.6	3.3	5.1	-82.42	-82.42	38.8	-291.5	301.5	294.8	6.71	44.963	
1,600.0	1,600.0	1,548.5	1,525.7	3.5	5.5	-82.19	-82.19	42.9	-312.6	323.5	316.3	7.19	44.997	
1,700.0	1,700.0	1,646.0	1,620.9	3.7	6.0	-82.00	-82.00	46.9	-333.8	345.6	337.9	7.68	45.020	
1,800.0	1,800.0	1,743.6	1,716.0	3.9	6.5	-81.83	-81.83	51.0	-354.9	367.6	359.4	8.16	45.035	
1,900.0	1,900.0	1,841.1	1,811.1	4.2	6.9	-81.68	-81.68	55.0	-376.0	389.6	381.0	8.65	45.044	
2,000.0	2,000.0	1,938.6	1,906.3	4.4	7.4	-81.54	-81.54	59.1	-397.2	411.7	402.5	9.14	45.048	
2,100.0	2,100.0	2,036.3	2,001.5	4.6	7.9	-72.57	-72.57	63.1	-418.3	433.2	423.7	9.56	45.310	
2,200.0	2,199.8	2,134.1	2,096.9	4.8	8.3	-72.70	-72.70	67.2	-439.5	453.8	443.7	10.05	45.157	
2,251.0	2,250.7	2,183.9	2,145.5	5.0	8.6	-72.91	-72.91	69.3	-450.3	463.9	453.6	10.30	45.044	
2,300.0	2,299.5	2,231.9	2,192.3	5.1	8.8	-73.34	-73.34	71.3	-460.7	473.5	462.9	10.54	44.935	
2,400.0	2,399.1	2,329.7	2,287.7	5.3	9.3	-74.16	-74.16	75.3	-481.9	493.1	482.1	11.03	44.712	
2,500.0	2,498.7	2,427.5	2,383.1	5.5	9.8	-74.92	-74.92	79.4	-503.1	512.9	501.4	11.53	44.493	
2,600.0	2,598.3	2,525.3	2,478.5	5.8	10.2	-75.63	-75.63	83.5	-524.3	532.8	520.7	12.03	44.278	
2,700.0	2,698.0	2,623.1	2,573.8	6.0	10.7	-76.28	-76.28	87.5	-545.5	552.7	540.1	12.54	44.068	
2,800.0	2,797.6	2,720.9	2,669.2	6.2	11.2	-76.89	-76.89	91.6	-566.7	572.7	559.6	13.06	43.864	
2,900.0	2,897.2	2,818.7	2,764.6	6.5	11.6	-77.46	-77.46	95.7	-587.9	592.7	579.1	13.57	43.666	
3,000.0	2,996.8	2,916.5	2,860.0	6.7	12.1	-77.99	-77.99	99.7	-609.1	612.8	598.7	14.10	43.475	
3,100.0	3,096.4	3,014.3	2,955.4	7.0	12.6	-78.49	-78.49	103.8	-630.3	633.0	618.3	14.62	43.290	
3,200.0	3,196.0	3,112.1	3,050.8	7.2	13.1	-78.95	-78.95	107.9	-651.4	653.2	638.0	15.15	43.112	
3,300.0	3,295.7	3,209.9	3,146.2	7.5	13.5	-79.39	-79.39	111.9	-672.6	673.4	657.7	15.68	42.941	
3,400.0	3,395.3	3,307.7	3,241.6	7.7	14.0	-79.80	-79.80	116.0	-693.8	693.6	677.4	16.22	42.776	
3,500.0	3,494.9	3,405.5	3,337.0	8.0	14.5	-80.19	-80.19	120.1	-715.0	713.9	697.2	16.75	42.617	
3,600.0	3,594.5	3,503.4	3,432.4	8.3	15.0	-80.56	-80.56	124.1	-736.2	734.3	717.0	17.29	42.465	
3,700.0	3,694.1	3,601.2	3,527.8	8.5	15.4	-80.91	-80.91	128.2	-757.4	754.6	736.8	17.83	42.318	
3,800.0	3,793.7	3,699.0	3,623.2	8.8	15.9	-81.24	-81.24	132.3	-778.6	775.0	756.6	18.37	42.177	
3,900.0	3,893.4	3,796.8	3,718.6	9.0	16.4	-81.55	-81.55	136.3	-799.8	795.4	776.5	18.92	42.042	
4,000.0	3,993.0	3,894.6	3,814.0	9.3	16.9	-81.85	-81.85	140.4	-821.0	815.8	796.4	19.47	41.912	
4,100.0	4,092.6	3,992.4	3,909.4	9.6	17.3	-82.13	-82.13	144.5	-842.2	836.3	816.3	20.01	41.786	
4,200.0	4,192.2	4,090.2	4,004.8	9.8	17.8	-82.40	-82.40	148.5	-863.4	856.7	836.2	20.56	41.666	
4,300.0	4,291.8	4,188.0	4,100.2	10.1	18.3	-82.66	-82.66	152.6	-884.6	877.2	856.1	21.11	41.550	
4,400.0	4,391.4	4,285.8	4,195.6	10.3	18.8	-82.90	-82.90	156.7	-905.7	897.7	876.0	21.66	41.439	
4,500.0	4,491.1	4,383.6	4,291.0	10.6	19.2	-83.14	-83.14	160.7	-926.9	918.2	896.0	22.22	41.331	
4,600.0	4,590.7	4,481.4	4,386.4	10.9	19.7	-83.36	-83.36	164.8	-948.1	938.7	916.0	22.77	41.228	
4,700.0	4,690.3	4,579.2	4,481.8	11.1	20.2	-83.58	-83.58	168.9	-969.3	959.3	935.9	23.32	41.128	
4,759.3	4,749.3	4,637.2	4,538.3	11.3	20.5	-83.70	-83.70	171.3	-981.9	971.5	947.8	23.65	41.071	
4,800.0	4,789.9	4,677.0	4,577.2	11.4	20.6	-83.93	-83.93	172.9	-990.5	979.9	956.0	23.88	41.040 SF	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Project:</b>	SEC.7-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Reference Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (8-15-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Project:</b>	SEC.7-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Reference Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (8-15-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Honebein 4N64W7K Pad Sec.7-T4N-R64W - Honebein 7G-323 - Wellbore #1 - Plan #1 (8-15-14)													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
0.0	0.0	0.0	0.0	0.0	0.0	-90.00	-90.00	0.0	-58.6	58.6				
100.0	100.0	98.0	98.0	0.1	0.1	-90.00	-90.00	0.0	-58.6	58.6	58.3	0.22	263.136	
200.0	200.0	198.0	198.0	0.3	0.3	-90.00	-90.00	0.0	-58.6	58.6	57.9	0.67	87.419	
300.0	300.0	298.0	298.0	0.6	0.6	-90.00	-90.00	0.0	-58.6	58.6	57.4	1.12	52.311	
400.0	400.0	398.0	398.0	0.8	0.8	-90.00	-90.00	0.0	-58.6	58.6	57.0	1.57	37.322 CC, ES	
500.0	500.0	496.1	496.0	1.0	1.0	-89.64	-89.64	0.4	-60.1	60.2	58.1	2.01	29.989	
600.0	600.0	593.8	593.7	1.2	1.2	-88.64	-88.64	1.5	-64.9	65.1	62.6	2.44	26.637	
700.0	700.0	691.2	690.7	1.5	1.4	-87.28	-87.28	3.5	-72.9	73.4	70.5	2.89	25.408	
800.0	800.0	787.9	786.7	1.7	1.7	-85.81	-85.81	6.2	-84.0	85.0	81.7	3.34	25.474	
900.0	900.0	883.7	881.4	1.9	2.0	-84.43	-84.43	9.6	-98.1	100.0	96.2	3.79	26.376	
1,000.0	1,000.0	980.7	976.9	2.1	2.3	-83.24	-83.24	13.6	-115.0	117.7	113.4	4.25	27.674	
1,100.0	1,100.0	1,079.1	1,073.6	2.4	2.7	-82.33	-82.33	17.8	-132.2	135.6	130.9	4.71	28.808	
1,200.0	1,200.0	1,177.4	1,170.3	2.6	3.1	-81.64	-81.64	22.0	-149.5	153.6	148.5	5.17	29.723	
1,300.0	1,300.0	1,275.8	1,267.1	2.8	3.4	-81.09	-81.09	26.2	-166.8	171.6	166.0	5.63	30.472	
1,400.0	1,400.0	1,374.1	1,363.8	3.0	3.8	-80.64	-80.64	30.3	-184.1	189.7	183.6	6.10	31.095	
1,500.0	1,500.0	1,472.5	1,460.6	3.3	4.2	-80.28	-80.28	34.5	-201.3	207.7	201.1	6.57	31.621	
1,600.0	1,600.0	1,570.9	1,557.3	3.5	4.6	-79.97	-79.97	38.7	-218.6	225.7	218.7	7.04	32.069	
1,700.0	1,700.0	1,669.2	1,654.0	3.7	5.0	-79.70	-79.70	42.9	-235.9	243.8	236.3	7.51	32.456	
1,800.0	1,800.0	1,767.6	1,750.8	3.9	5.4	-79.48	-79.48	47.0	-253.2	261.8	253.8	7.98	32.792	
1,900.0	1,900.0	1,865.9	1,847.5	4.2	5.8	-79.28	-79.28	51.2	-270.5	279.9	271.4	8.46	33.088	
2,000.0	2,000.0	1,964.3	1,944.2	4.4	6.2	-79.11	-79.11	55.4	-287.7	297.9	289.0	8.93	33.349	
2,100.0	2,100.0	2,062.7	2,041.1	4.6	6.6	-70.27	-70.27	59.6	-305.0	315.4	306.0	9.37	33.663	
2,200.0	2,199.8	2,161.3	2,138.0	4.8	7.0	-70.67	-70.67	63.7	-322.3	331.7	321.9	9.84	33.702	
2,251.0	2,250.7	2,211.6	2,187.4	5.0	7.2	-71.07	-71.07	65.9	-331.2	339.6	329.6	10.09	33.676	
2,300.0	2,299.5	2,259.9	2,235.0	5.1	7.4	-71.64	-71.64	67.9	-339.7	347.1	336.8	10.32	33.641	
2,400.0	2,399.1	2,358.4	2,331.9	5.3	7.8	-72.74	-72.74	72.1	-357.0	362.6	351.8	10.80	33.566	
2,500.0	2,498.7	2,457.0	2,428.9	5.5	8.2	-73.75	-73.75	76.3	-374.3	378.1	366.8	11.29	33.490	
2,600.0	2,598.3	2,555.6	2,525.8	5.8	8.6	-74.68	-74.68	80.5	-391.6	393.7	381.9	11.78	33.413	
2,700.0	2,698.0	2,654.2	2,622.8	6.0	9.0	-75.54	-75.54	84.7	-408.9	409.5	397.2	12.28	33.335	
2,800.0	2,797.6	2,752.7	2,719.7	6.2	9.4	-76.34	-76.34	88.9	-426.2	425.3	412.5	12.79	33.257	
2,900.0	2,897.2	2,851.3	2,816.7	6.5	9.8	-77.08	-77.08	93.0	-443.5	441.2	427.9	13.30	33.179	
3,000.0	2,996.8	2,949.9	2,913.6	6.7	10.2	-77.76	-77.76	97.2	-460.9	457.1	443.3	13.81	33.103	
3,100.0	3,096.4	3,048.5	3,010.6	7.0	10.6	-78.40	-78.40	101.4	-478.2	473.2	458.8	14.33	33.028	
3,200.0	3,196.0	3,147.0	3,107.5	7.2	11.1	-79.00	-79.00	105.6	-495.5	489.2	474.4	14.85	32.955	
3,300.0	3,295.7	3,245.6	3,204.5	7.5	11.5	-79.56	-79.56	109.8	-512.8	505.3	490.0	15.37	32.883	
3,400.0	3,395.3	3,344.2	3,301.4	7.7	11.9	-80.09	-80.09	114.0	-530.1	521.5	505.6	15.89	32.813	
3,500.0	3,494.9	3,442.8	3,398.4	8.0	12.3	-80.59	-80.59	118.1	-547.4	537.7	521.3	16.42	32.745	
3,600.0	3,594.5	3,541.3	3,495.3	8.3	12.7	-81.05	-81.05	122.3	-564.7	554.0	537.0	16.95	32.679	
3,700.0	3,694.1	3,639.9	3,592.3	8.5	13.1	-81.49	-81.49	126.5	-582.1	570.2	552.8	17.48	32.615	
3,800.0	3,793.7	3,738.5	3,689.2	8.8	13.5	-81.90	-81.90	130.7	-599.4	586.5	568.5	18.02	32.554	
3,900.0	3,893.4	3,837.1	3,786.2	9.0	13.9	-82.30	-82.30	134.9	-616.7	602.9	584.3	18.55	32.494	
4,000.0	3,993.0	3,935.6	3,883.1	9.3	14.3	-82.67	-82.67	139.1	-634.0	619.2	600.1	19.09	32.436	
4,100.0	4,092.6	4,034.2	3,980.1	9.6	14.7	-83.02	-83.02	143.2	-651.3	635.6	616.0	19.63	32.380	
4,200.0	4,192.2	4,132.8	4,077.0	9.8	15.1	-83.36	-83.36	147.4	-668.6	652.0	631.9	20.17	32.326	
4,300.0	4,291.8	4,231.4	4,174.0	10.1	15.5	-83.67	-83.67	151.6	-685.9	668.5	647.7	20.71	32.274	
4,400.0	4,391.4	4,329.9	4,271.0	10.3	15.9	-83.98	-83.98	155.8	-703.3	684.9	663.7	21.26	32.223	
4,500.0	4,491.1	4,428.5	4,367.9	10.6	16.3	-84.27	-84.27	160.0	-720.6	701.4	679.6	21.80	32.175	
4,600.0	4,590.7	4,527.1	4,464.9	10.9	16.7	-84.54	-84.54	164.2	-737.9	717.9	695.5	22.34	32.127	
4,700.0	4,690.3	4,625.7	4,561.8	11.1	17.2	-84.81	-84.81	168.4	-755.2	734.4	711.5	22.89	32.082	
4,759.3	4,749.3	4,684.1	4,619.3	11.3	17.4	-84.96	-84.96	170.8	-765.5	744.1	720.9	23.21	32.056	
4,800.0	4,789.9	4,724.2	4,658.8	11.4	17.6	-85.17	-85.17	172.5	-772.5	750.9	727.5	23.43	32.049	

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



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Project:</b>	SEC.7-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Reference Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (8-15-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Honebein 4N64W7K Pad Sec.7-T4N-R64W - Honebein 7G-323 - Wellbore #1 - Plan #1 (8-15-14)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,900.0	4,889.8	4,822.8	4,755.7	11.6	18.0	-85.51	176.7	-789.8	767.7	743.8	23.91	32.110	
5,000.0	4,989.7	4,921.3	4,852.6	11.8	18.4	-85.60	180.9	-807.1	784.7	760.4	24.35	32.228	
5,010.3	5,000.0	4,931.4	4,862.5	11.8	18.4	-94.25	181.3	-808.9	786.5	762.1	24.39	32.243	
5,100.0	5,089.7	5,019.6	4,949.3	11.9	18.8	-93.89	185.1	-824.4	802.0	777.2	24.77	32.376	
5,200.0	5,189.7	5,118.0	5,046.0	12.1	19.2	-93.51	189.3	-841.7	819.2	794.0	25.22	32.490	
5,300.0	5,289.7	5,216.4	5,142.8	12.4	19.6	-93.15	193.4	-859.0	836.6	810.9	25.66	32.600	
5,400.0	5,389.7	5,314.7	5,239.5	12.6	20.0	-92.80	197.6	-876.2	853.9	827.8	26.11	32.707	
5,500.0	5,489.7	5,413.1	5,336.2	12.8	20.4	-92.47	201.8	-893.5	871.3	844.7	26.56	32.810	
5,600.0	5,589.7	5,511.4	5,433.0	13.0	20.8	-92.14	206.0	-910.8	888.7	861.7	27.00	32.909	
5,700.0	5,689.7	5,609.8	5,529.7	13.2	21.2	-91.83	210.1	-928.1	906.1	878.7	27.45	33.005	
5,800.0	5,789.7	5,708.1	5,626.4	13.4	21.6	-91.54	214.3	-945.3	923.6	895.7	27.90	33.098	
5,900.0	5,889.7	5,825.8	5,742.3	13.6	22.1	-91.21	219.2	-965.4	940.6	912.2	28.38	33.144	
6,000.0	5,989.7	5,971.6	5,886.7	13.8	22.4	-90.90	223.8	-984.5	953.6	924.8	28.86	33.038	
6,100.0	6,089.7	6,119.0	6,033.6	14.0	22.7	-90.72	226.7	-996.5	961.8	932.4	29.33	32.785	
6,200.0	6,189.7	6,267.3	6,181.8	14.2	22.9	-90.65	227.8	-1,001.1	964.9	935.1	29.79	32.388	
6,300.0	6,289.7	6,373.2	6,287.7	14.5	23.1	-90.65	227.8	-1,001.2	964.9	934.7	30.19	31.963	
6,309.1	6,298.8	6,382.3	6,296.8	14.5	23.1	-90.65	227.8	-1,001.2	964.9	934.7	30.22	31.925	
6,346.2	6,335.9	6,419.0	6,333.5	14.6	23.1	-90.68	227.3	-1,001.2	964.9	934.6	30.36	31.779	
6,350.0	6,339.7	6,422.8	6,337.3	14.6	23.1	89.32	227.2	-1,001.2	964.9	934.6	30.38	31.765	
6,400.0	6,389.7	6,471.9	6,386.3	14.6	23.2	89.21	223.6	-1,001.2	965.0	934.4	30.53	31.611	
6,450.0	6,439.4	6,521.0	6,434.9	14.7	23.2	89.11	216.9	-1,001.2	965.0	934.3	30.64	31.490	
6,500.0	6,488.7	6,569.9	6,482.9	14.7	23.2	89.02	207.1	-1,001.2	965.0	934.3	30.74	31.397	
6,550.0	6,537.3	6,618.8	6,530.0	14.8	23.3	88.92	194.3	-1,001.2	965.0	934.2	30.80	31.328	
6,600.0	6,585.1	6,667.6	6,576.2	14.8	23.3	88.84	178.5	-1,001.2	965.1	934.2	30.85	31.279	
6,650.0	6,631.8	6,716.3	6,621.1	14.8	23.3	88.75	159.9	-1,001.2	965.1	934.2	30.89	31.241	
6,700.0	6,677.2	6,764.9	6,664.7	14.8	23.3	88.67	138.5	-1,001.2	965.1	934.2	30.93	31.208	
6,750.0	6,721.2	6,813.4	6,706.8	14.9	23.3	88.60	114.4	-1,001.2	965.1	934.2	30.96	31.170	
6,800.0	6,763.5	6,861.9	6,747.3	14.9	23.3	88.54	87.7	-1,001.2	965.2	934.2	31.02	31.119	
6,850.0	6,804.0	6,910.3	6,785.9	14.9	23.3	88.48	58.5	-1,001.2	965.2	934.1	31.09	31.045	
6,900.0	6,842.5	6,958.6	6,822.5	15.0	23.3	88.42	27.0	-1,001.2	965.2	934.0	31.20	30.938	
6,950.0	6,878.8	7,006.9	6,857.1	15.0	23.4	88.38	-6.7	-1,001.2	965.3	933.9	31.35	30.790	
7,000.0	6,912.8	7,055.1	6,889.4	15.1	23.4	88.34	-42.6	-1,001.2	965.3	933.7	31.56	30.588	
7,050.0	6,944.3	7,103.3	6,919.3	15.3	23.4	88.30	-80.3	-1,001.2	965.3	933.5	31.83	30.330	
7,100.0	6,973.2	7,151.5	6,946.8	15.4	23.5	88.28	-119.9	-1,001.2	965.3	933.1	32.17	30.011	
7,150.0	6,999.4	7,200.0	6,972.0	15.6	23.6	88.26	-161.3	-1,001.2	965.3	932.7	32.58	29.626	
7,152.2	7,000.5	7,201.7	6,972.8	15.7	23.6	88.26	-162.8	-1,001.2	965.3	932.7	32.60	29.608	
7,200.0	7,022.7	7,247.8	6,994.1	15.9	23.7	88.24	-203.7	-1,001.2	965.3	932.2	33.08	29.179	
7,250.0	7,043.1	7,295.9	7,013.7	16.2	23.8	88.24	-247.7	-1,001.2	965.3	931.7	33.67	28.672	
7,300.0	7,060.5	7,344.1	7,030.4	16.6	23.9	88.24	-292.8	-1,001.2	965.3	931.0	34.34	28.111	
7,350.0	7,074.8	7,392.2	7,044.3	17.0	24.1	88.25	-338.9	-1,001.2	965.3	930.2	35.10	27.505	
7,400.0	7,085.9	7,440.4	7,055.3	17.4	24.3	88.27	-385.7	-1,001.2	965.3	929.4	35.93	26.864	
7,450.0	7,093.8	7,488.5	7,063.3	17.9	24.5	88.29	-433.2	-1,001.2	965.3	928.4	36.85	26.198	
7,500.0	7,098.4	7,536.7	7,068.3	18.4	24.8	88.32	-481.2	-1,001.2	965.3	927.5	37.83	25.516	
7,541.9	7,099.8	7,577.1	7,070.1	18.8	25.1	88.35	-521.5	-1,001.2	965.3	926.6	38.70	24.941	
7,552.4	7,099.9	7,587.3	7,070.2	18.9	25.1	88.36	-531.6	-1,001.2	965.3	926.3	38.93	24.797	
7,600.0	7,100.1	7,634.5	7,069.9	19.5	25.5	88.32	-578.9	-1,001.2	965.3	925.3	39.99	24.136	
7,700.0	7,100.7	7,734.5	7,069.1	20.7	26.3	88.24	-678.8	-1,001.2	965.3	922.9	42.40	22.770	
7,800.0	7,101.3	7,834.5	7,068.2	22.0	27.3	88.16	-778.8	-1,001.2	965.4	920.4	45.00	21.454	
7,900.0	7,101.8	7,934.4	7,067.4	23.5	28.3	88.08	-878.8	-1,001.2	965.4	917.7	47.76	20.212	
8,000.0	7,102.4	8,034.4	7,066.6	24.9	29.5	87.99	-978.8	-1,001.2	965.5	914.8	50.67	19.053	
8,100.0	7,102.9	8,134.4	7,065.7	26.5	30.8	87.91	-1,078.8	-1,001.2	965.5	911.8	53.70	17.981	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Project:</b>	SEC.7-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Reference Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (8-15-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Honebein 4N64W7K Pad Sec.7-T4N-R64W - Honebein 7G-323 - Wellbore #1 - Plan #1 (8-15-14)													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)	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	
8,200.0	7,103.5	8,234.4	7,064.9	28.0	32.1	87.83	-1,178.8	-1,001.2	965.6	908.7	56.82	16.994		
8,300.0	7,104.1	8,334.4	7,064.0	29.7	33.5	87.74	-1,278.8	-1,001.2	965.6	905.6	60.03	16.087		
8,400.0	7,104.6	8,434.4	7,063.2	31.3	35.0	87.66	-1,378.7	-1,001.2	965.7	902.4	63.30	15.255		
8,500.0	7,105.2	8,534.4	7,062.4	33.0	36.5	87.58	-1,478.7	-1,001.2	965.7	899.1	66.64	14.493		
8,600.0	7,105.7	8,634.4	7,061.5	34.7	38.1	87.50	-1,578.7	-1,001.2	965.8	895.8	70.02	13.793		
8,700.0	7,106.3	8,734.4	7,060.7	36.5	39.6	87.41	-1,678.7	-1,001.2	965.9	892.4	73.45	13.150		
8,800.0	7,106.8	8,834.4	7,059.9	38.2	41.2	87.33	-1,778.7	-1,001.2	965.9	889.0	76.92	12.558		
8,900.0	7,107.4	8,934.3	7,059.0	40.0	42.9	87.25	-1,878.7	-1,001.2	966.0	885.6	80.42	12.012		
9,000.0	7,108.0	9,034.3	7,058.2	41.7	44.5	87.16	-1,978.7	-1,001.2	966.1	882.1	83.95	11.508		
9,100.0	7,108.5	9,134.3	7,057.3	43.5	46.2	87.08	-2,078.7	-1,001.2	966.1	878.6	87.50	11.041		
9,200.0	7,109.1	9,234.3	7,056.5	45.3	47.9	87.00	-2,178.6	-1,001.2	966.2	875.1	91.08	10.608		
9,300.0	7,109.6	9,334.3	7,055.7	47.1	49.6	86.92	-2,278.6	-1,001.2	966.3	871.6	94.68	10.206		
9,400.0	7,110.2	9,434.3	7,054.8	49.0	51.4	86.83	-2,378.6	-1,001.2	966.4	868.1	98.29	9.832		
9,500.0	7,110.8	9,534.3	7,054.0	50.8	53.1	86.75	-2,478.6	-1,001.2	966.4	864.5	101.92	9.482		
9,600.0	7,111.3	9,634.3	7,053.2	52.6	54.8	86.67	-2,578.6	-1,001.2	966.5	861.0	105.56	9.156		
9,700.0	7,111.9	9,734.3	7,052.3	54.5	56.6	86.59	-2,678.6	-1,001.2	966.6	857.4	109.22	8.850		
9,800.0	7,112.4	9,834.3	7,051.5	56.3	58.4	86.50	-2,778.6	-1,001.2	966.7	853.8	112.88	8.564		
9,900.0	7,113.0	9,934.2	7,050.6	58.2	60.2	86.42	-2,878.5	-1,001.2	966.8	850.2	116.56	8.294		
10,000.0	7,113.6	10,034.2	7,049.8	60.0	62.0	86.34	-2,978.5	-1,001.2	966.9	846.6	120.24	8.041		
10,100.0	7,114.1	10,134.2	7,049.0	61.9	63.8	86.26	-3,078.5	-1,001.2	967.0	843.0	123.93	7.802		
10,200.0	7,114.7	10,234.2	7,048.1	63.7	65.6	86.17	-3,178.5	-1,001.2	967.1	839.4	127.63	7.577		
10,300.0	7,115.2	10,334.2	7,047.3	65.6	67.4	86.09	-3,278.5	-1,001.2	967.1	835.8	131.34	7.364		
10,400.0	7,115.8	10,434.2	7,046.4	67.5	69.2	86.01	-3,378.5	-1,001.2	967.2	832.2	135.05	7.162		
10,500.0	7,116.3	10,534.2	7,045.6	69.3	71.0	85.93	-3,478.5	-1,001.2	967.3	828.6	138.77	6.971		
10,600.0	7,116.9	10,634.2	7,044.8	71.2	72.8	85.84	-3,578.5	-1,001.2	967.4	825.0	142.49	6.790		
10,700.0	7,117.5	10,734.2	7,043.9	73.1	74.7	85.76	-3,678.4	-1,001.2	967.5	821.3	146.21	6.617		
10,800.0	7,118.0	10,834.2	7,043.1	75.0	76.5	85.68	-3,778.4	-1,001.2	967.7	817.7	149.94	6.454		
10,900.0	7,118.6	10,934.2	7,042.3	76.8	78.4	85.60	-3,878.4	-1,001.2	967.8	814.1	153.68	6.297		
11,000.0	7,119.1	11,034.1	7,041.4	78.7	80.2	85.51	-3,978.4	-1,001.2	967.9	810.5	157.41	6.149		
11,100.0	7,119.7	11,134.1	7,040.6	80.6	82.0	85.43	-4,078.4	-1,001.2	968.0	806.8	161.15	6.007		
11,200.0	7,120.3	11,234.1	7,039.7	82.5	83.9	85.35	-4,178.4	-1,001.2	968.1	803.2	164.89	5.871		
11,300.0	7,120.8	11,334.1	7,038.9	84.4	85.8	85.27	-4,278.4	-1,001.2	968.2	799.6	168.64	5.741		
11,400.0	7,121.4	11,434.1	7,038.1	86.3	87.6	85.18	-4,378.4	-1,001.2	968.3	795.9	172.38	5.617		
11,500.0	7,121.9	11,534.1	7,037.2	88.1	89.5	85.10	-4,478.3	-1,001.2	968.4	792.3	176.13	5.498		
11,512.9	7,122.0	11,547.0	7,037.1	88.4	89.7	85.09	-4,491.2	-1,001.2	968.5	791.8	176.61	5.484		
11,513.7	7,122.0	11,547.8	7,037.1	88.4	89.7	85.09	-4,492.0	-1,001.2	968.5	791.8	176.64	5.483 SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Project:</b>	SEC.7-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Reference Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (8-15-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Honebein 4N64W7K Pad Sec.7-T4N-R64W - Honebein 7K-223 - Wellbore #1 - Plan #1 (8-15-14)													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)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	1.0	1.0	0.0	0.0	90.01	0.0	30.7	30.7	30.7	0.00	N/A		
100.0	100.0	101.0	101.0	0.1	0.1	90.01	0.0	30.7	30.7	30.4	0.23	135.106		
200.0	200.0	201.0	201.0	0.3	0.3	90.01	0.0	30.7	30.7	30.0	0.68	45.335		
300.0	300.0	301.0	301.0	0.6	0.6	90.01	0.0	30.7	30.7	29.5	1.13	27.237		
400.0	400.0	401.0	401.0	0.8	0.8	90.01	0.0	30.7	30.7	29.1	1.58	19.466		
500.0	500.0	501.0	501.0	1.0	1.0	90.01	0.0	30.7	30.7	28.6	2.03	15.145		
600.0	600.0	601.0	601.0	1.2	1.2	90.01	0.0	30.7	30.7	28.2	2.47	12.394		
700.0	700.0	701.0	701.0	1.5	1.5	90.01	0.0	30.7	30.7	27.7	2.92	10.489		
800.0	800.0	801.0	801.0	1.7	1.7	90.01	0.0	30.7	30.7	27.3	3.37	9.091		
900.0	900.0	901.0	901.0	1.9	1.9	90.01	0.0	30.7	30.7	26.8	3.82	8.022		
1,000.0	1,000.0	1,001.0	1,001.0	2.1	2.1	90.01	0.0	30.7	30.7	26.4	4.27	7.178		
1,100.0	1,100.0	1,101.0	1,101.0	2.4	2.4	90.01	0.0	30.7	30.7	25.9	4.72	6.495		
1,200.0	1,200.0	1,201.0	1,201.0	2.6	2.6	90.01	0.0	30.7	30.7	25.5	5.17	5.930		
1,300.0	1,300.0	1,301.0	1,301.0	2.8	2.8	90.01	0.0	30.7	30.7	25.0	5.62	5.456		
1,400.0	1,400.0	1,401.0	1,401.0	3.0	3.0	90.01	0.0	30.7	30.7	24.6	6.07	5.052		
1,466.3	1,466.3	1,467.3	1,467.3	3.2	3.2	90.01	0.0	30.7	30.7	24.3	6.37	4.816 CC		
1,500.0	1,500.0	1,501.0	1,501.0	3.3	3.3	90.01	0.0	30.7	30.7	24.2	6.52	4.704 ES		
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	87.53	1.4	31.7	31.8	24.8	6.96	4.565		
1,700.0	1,700.0	1,699.4	1,699.2	3.7	3.7	81.12	5.5	34.9	35.4	28.0	7.41	4.782		
1,800.0	1,800.0	1,797.9	1,797.4	3.9	3.9	73.14	12.2	40.2	42.2	34.3	7.85	5.372		
1,900.0	1,900.0	1,896.9	1,895.8	4.2	4.2	65.98	21.0	47.1	51.8	43.5	8.30	6.245		
2,000.0	2,000.0	1,996.3	1,994.4	4.4	4.4	61.04	29.9	54.1	62.2	53.4	8.75	7.109		
2,100.0	2,100.0	2,095.7	2,093.2	4.6	4.6	67.25	38.9	61.1	72.2	63.0	9.19	7.853		
2,200.0	2,199.8	2,195.3	2,192.2	4.8	4.9	67.66	47.9	68.1	80.9	71.2	9.64	8.391		
2,251.0	2,250.7	2,246.1	2,242.7	5.0	5.0	68.67	52.5	71.7	84.8	75.0	9.87	8.595		
2,300.0	2,299.5	2,295.0	2,291.2	5.1	5.2	69.89	56.9	75.2	88.5	78.4	10.09	8.766		
2,400.0	2,399.1	2,394.6	2,390.2	5.3	5.4	72.08	65.9	82.2	96.1	85.5	10.56	9.099		
2,500.0	2,498.7	2,494.3	2,489.2	5.5	5.7	73.95	74.8	89.2	103.8	92.8	11.03	9.409		
2,600.0	2,598.3	2,593.9	2,588.2	5.8	6.0	75.56	83.8	96.3	111.6	100.1	11.51	9.696		
2,700.0	2,698.0	2,693.6	2,687.2	6.0	6.3	76.96	92.8	103.3	119.5	107.5	12.00	9.962		
2,800.0	2,797.6	2,793.2	2,786.2	6.2	6.5	78.19	101.8	110.3	127.5	115.0	12.49	10.208		
2,900.0	2,897.2	2,892.9	2,885.2	6.5	6.8	79.27	110.8	117.3	135.5	122.5	12.98	10.435		
3,000.0	2,996.8	2,992.5	2,984.2	6.7	7.1	80.23	119.8	124.4	143.5	130.0	13.48	10.645		
3,100.0	3,096.4	3,092.2	3,083.2	7.0	7.4	81.08	128.7	131.4	151.6	137.6	13.98	10.840		
3,200.0	3,196.0	3,191.8	3,182.1	7.2	7.7	81.86	137.7	138.4	159.7	145.2	14.49	11.021		
3,300.0	3,295.7	3,291.5	3,281.1	7.5	8.0	82.55	146.7	145.4	167.8	152.8	15.00	11.189		
3,400.0	3,395.3	3,391.1	3,380.1	7.7	8.3	83.18	155.7	152.5	176.0	160.5	15.51	11.345		
3,500.0	3,494.9	3,490.8	3,479.1	8.0	8.5	83.76	164.7	159.5	184.2	168.1	16.03	11.491		
3,600.0	3,594.5	3,590.4	3,578.1	8.3	8.8	84.29	173.7	166.5	192.4	175.8	16.54	11.627		
3,700.0	3,694.1	3,690.1	3,677.1	8.5	9.1	84.77	182.6	173.6	200.6	183.5	17.06	11.754		
3,800.0	3,793.7	3,789.7	3,776.1	8.8	9.4	85.22	191.6	180.6	208.8	191.2	17.58	11.873		
3,900.0	3,893.4	3,889.4	3,875.1	9.0	9.7	85.63	200.6	187.6	217.0	198.9	18.11	11.985		
4,000.0	3,993.0	3,989.0	3,974.1	9.3	10.0	86.01	209.6	194.6	225.3	206.6	18.63	12.090		
4,100.0	4,092.6	4,088.7	4,073.1	9.6	10.3	86.37	218.6	201.7	233.5	214.4	19.16	12.188		
4,200.0	4,192.2	4,188.3	4,172.1	9.8	10.6	86.70	227.6	208.7	241.8	222.1	19.69	12.281		
4,300.0	4,291.8	4,295.0	4,278.3	10.1	10.9	87.33	235.6	215.0	248.6	228.5	20.18	12.320		
4,400.0	4,391.4	4,401.8	4,384.9	10.3	11.1	88.51	240.6	218.9	252.7	232.1	20.67	12.227		
4,500.0	4,491.1	4,508.5	4,491.5	10.6	11.2	90.27	242.4	220.3	254.2	233.1	21.16	12.017		
4,600.0	4,590.7	4,608.6	4,591.7	10.9	11.4	92.24	242.4	220.3	254.4	232.8	21.65	11.755		
4,700.0	4,690.3	4,708.2	4,691.3	11.1	11.6	94.20	242.4	220.3	254.9	232.8	22.15	11.510		
4,759.3	4,749.3	4,767.3	4,750.3	11.3	11.7	95.36	242.4	220.3	255.4	232.9	22.45	11.377		

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Project:</b>	SEC.7-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Reference Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (8-15-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Honebein 4N64W7K Pad Sec.7-T4N-R64W - Honebein 7K-223 - Wellbore #1 - Plan #1 (8-15-14)													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
4,800.0	4,789.9	4,807.9	4,790.9	11.4	11.8	96.09	96.09	242.4	220.3	255.7	233.1	22.64	11.296	
4,900.0	4,889.8	4,907.7	4,890.8	11.6	12.0	97.35	97.35	242.4	220.3	256.4	233.3	23.05	11.120	
5,000.0	4,989.7	5,007.7	4,990.7	11.8	12.2	97.82	97.82	242.4	220.3	256.6	233.2	23.44	10.948	
5,010.3	5,000.0	5,018.0	5,001.0	11.8	12.2	89.17	89.17	242.4	220.3	256.6	233.2	23.48	10.931	
5,100.0	5,089.7	5,107.7	5,090.7	11.9	12.4	89.17	89.17	242.4	220.3	256.6	232.8	23.83	10.771	
5,200.0	5,189.7	5,207.7	5,190.7	12.1	12.6	89.17	89.17	242.4	220.3	256.6	232.4	24.24	10.587	
5,300.0	5,289.7	5,307.7	5,290.7	12.4	12.8	89.17	89.17	242.4	220.3	256.6	232.0	24.65	10.410	
5,400.0	5,389.7	5,407.7	5,390.7	12.6	13.0	89.17	89.17	242.4	220.3	256.6	231.6	25.07	10.237	
5,500.0	5,489.7	5,507.7	5,490.7	12.8	13.2	89.17	89.17	242.4	220.3	256.6	231.1	25.49	10.070	
5,600.0	5,589.7	5,607.7	5,590.7	13.0	13.4	89.17	89.17	242.4	220.3	256.6	230.7	25.90	9.908	
5,700.0	5,689.7	5,707.7	5,690.7	13.2	13.6	89.17	89.17	242.4	220.3	256.6	230.3	26.32	9.750	
5,800.0	5,789.7	5,807.7	5,790.7	13.4	13.8	89.17	89.17	242.4	220.3	256.6	229.9	26.74	9.597	
5,900.0	5,889.7	5,907.7	5,890.7	13.6	14.0	89.17	89.17	242.4	220.3	256.6	229.5	27.16	9.449	
6,000.0	5,989.7	6,007.7	5,990.7	13.8	14.2	89.17	89.17	242.4	220.3	256.6	229.1	27.58	9.304	
6,100.0	6,089.7	6,107.7	6,090.7	14.0	14.4	89.17	89.17	242.4	220.3	256.6	228.6	28.00	9.164	
6,200.0	6,189.7	6,207.7	6,190.7	14.2	14.6	89.17	89.17	242.4	220.3	256.6	228.2	28.43	9.028	
6,295.1	6,284.9	6,302.9	6,285.9	14.5	14.8	90.01	90.01	238.7	220.3	256.6	227.8	28.80	8.911	
6,300.0	6,289.7	6,307.8	6,290.7	14.5	14.8	90.12	90.12	238.2	220.3	256.6	227.8	28.81	8.906	
6,346.2	6,335.9	6,353.3	6,335.8	14.6	14.8	91.49	91.49	232.0	220.3	256.7	227.7	28.97	8.860	
6,350.0	6,339.7	6,357.1	6,339.5	14.6	14.8	-88.37	-88.37	231.4	220.3	256.7	227.7	28.99	8.857	
6,400.0	6,389.7	6,405.7	6,387.1	14.6	14.9	-86.58	-86.58	221.7	220.3	257.1	228.0	29.11	8.830	
6,450.0	6,439.4	6,453.8	6,433.5	14.7	14.9	-84.82	-84.82	209.1	220.3	257.7	228.5	29.21	8.821	
6,500.0	6,488.7	6,501.4	6,478.6	14.7	14.9	-83.09	-83.09	193.8	220.3	258.5	229.3	29.28	8.829	
6,550.0	6,537.3	6,548.6	6,522.3	14.8	14.9	-81.41	-81.41	175.8	220.3	259.6	230.3	29.32	8.853	
6,600.0	6,585.1	6,595.4	6,564.4	14.8	14.9	-79.78	-79.78	155.4	220.3	260.8	231.5	29.34	8.890	
6,650.0	6,631.8	6,641.8	6,604.8	14.8	14.9	-78.21	-78.21	132.7	220.3	262.3	232.9	29.34	8.939	
6,700.0	6,677.2	6,687.8	6,643.5	14.8	15.0	-76.71	-76.71	107.8	220.3	263.8	234.5	29.32	8.997	
6,750.0	6,721.2	6,733.5	6,680.3	14.9	15.0	-75.28	-75.28	80.8	220.3	265.5	236.2	29.30	9.061	
6,800.0	6,763.5	6,778.9	6,715.2	14.9	15.0	-73.92	-73.92	51.8	220.3	267.2	237.9	29.27	9.129	
6,850.0	6,804.0	6,823.9	6,748.1	14.9	15.0	-72.65	-72.65	21.1	220.3	269.0	239.8	29.25	9.197	
6,900.0	6,842.5	6,868.6	6,779.0	15.0	15.0	-71.46	-71.46	-11.3	220.3	270.8	241.6	29.24	9.261	
6,950.0	6,878.8	6,913.1	6,807.7	15.0	15.1	-70.35	-70.35	-45.3	220.3	272.7	243.4	29.27	9.315	
7,000.0	6,912.8	6,957.4	6,834.3	15.1	15.1	-69.32	-69.32	-80.6	220.3	274.4	245.1	29.33	9.359	
7,050.0	6,944.3	7,000.0	6,857.9	15.3	15.3	-68.41	-68.41	-116.1	220.3	276.2	246.8	29.43	9.386	
7,100.0	6,973.2	7,045.2	6,880.8	15.4	15.5	-67.53	-67.53	-155.1	220.3	277.8	248.2	29.59	9.389	
7,150.0	6,999.4	7,088.9	6,900.6	15.6	15.7	-66.77	-66.77	-194.0	220.3	279.4	249.6	29.82	9.368	
7,200.0	7,022.7	7,132.3	6,918.1	15.9	16.0	-66.09	-66.09	-233.8	220.3	280.8	250.7	30.13	9.319	
7,250.0	7,043.1	7,175.7	6,933.3	16.2	16.3	-65.50	-65.50	-274.4	220.3	282.1	251.6	30.52	9.242	
7,300.0	7,060.5	7,218.9	6,946.1	16.6	16.7	-64.99	-64.99	-315.6	220.3	283.2	252.2	31.00	9.136	
7,350.0	7,074.8	7,262.0	6,956.6	17.0	17.0	-64.57	-64.57	-357.5	220.3	284.2	252.6	31.57	9.002	
7,400.0	7,085.9	7,305.1	6,964.6	17.4	17.4	-64.24	-64.24	-399.7	220.3	284.9	252.7	32.23	8.841	
7,450.0	7,093.8	7,350.0	6,970.5	17.9	17.9	-63.99	-63.99	-444.3	220.3	285.5	252.5	33.00	8.652	
7,500.0	7,098.4	7,391.0	6,973.5	18.4	18.3	-63.84	-63.84	-485.1	220.3	285.9	252.1	33.83	8.451	
7,541.9	7,099.8	7,426.9	6,974.4	18.8	18.7	-63.77	-63.77	-521.1	220.3	286.1	251.5	34.60	8.267	
7,600.0	7,100.1	7,483.1	6,973.7	19.5	19.3	-63.58	-63.58	-577.2	220.3	286.5	250.8	35.76	8.013	
7,700.0	7,100.7	7,583.1	6,972.2	20.7	20.6	-63.22	-63.22	-677.2	220.3	287.4	249.5	37.92	7.580	
7,800.0	7,101.3	7,683.1	6,970.8	22.0	21.9	-62.87	-62.87	-777.2	220.3	288.3	248.1	40.25	7.164	
7,900.0	7,101.8	7,783.0	6,969.3	23.5	23.3	-62.51	-62.51	-877.2	220.3	289.3	246.6	42.70	6.773	
8,000.0	7,102.4	7,883.0	6,967.9	24.9	24.8	-62.16	-62.16	-977.1	220.3	290.2	244.9	45.27	6.410	
8,100.0	7,102.9	7,983.0	6,966.4	26.5	26.4	-61.81	-61.81	-1,077.1	220.3	291.1	243.2	47.92	6.075	
8,200.0	7,103.5	8,083.0	6,965.0	28.0	27.9	-61.47	-61.47	-1,177.1	220.3	292.1	241.4	50.65	5.767	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Project:</b>	SEC.7-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Reference Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (8-15-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Honebein 4N64W7K Pad Sec.7-T4N-R64W - Honebein 7K-223 - Wellbore #1 - Plan #1 (8-15-14)												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)			
8,300.0	7,104.1	8,183.0	6,963.5	29.7	29.6	-61.12	-1,277.0	220.3	293.0	239.6	53.42	5.485		
8,400.0	7,104.6	8,282.9	6,962.1	31.3	31.2	-60.78	-1,377.0	220.3	294.0	237.8	56.24	5.228		
8,500.0	7,105.2	8,382.9	6,960.6	33.0	32.9	-60.44	-1,477.0	220.3	295.0	235.9	59.10	4.992		
8,600.0	7,105.7	8,482.9	6,959.2	34.7	34.6	-60.10	-1,576.9	220.3	296.0	234.0	61.98	4.776		
8,700.0	7,106.3	8,582.9	6,957.7	36.5	36.4	-59.77	-1,676.9	220.3	297.0	232.1	64.88	4.578		
8,800.0	7,106.8	8,682.9	6,956.3	38.2	38.1	-59.43	-1,776.9	220.3	298.0	230.2	67.79	4.396		
8,900.0	7,107.4	8,782.8	6,954.8	40.0	39.9	-59.10	-1,876.8	220.3	299.0	228.3	70.71	4.229		
9,000.0	7,108.0	8,882.8	6,953.4	41.7	41.6	-58.77	-1,976.8	220.3	300.1	226.4	73.64	4.075		
9,100.0	7,108.5	8,982.8	6,951.9	43.5	43.4	-58.45	-2,076.8	220.3	301.1	224.5	76.58	3.932		
9,200.0	7,109.1	9,082.8	6,950.5	45.3	45.2	-58.12	-2,176.8	220.3	302.2	222.7	79.51	3.801		
9,300.0	7,109.6	9,182.8	6,949.0	47.1	47.0	-57.80	-2,276.7	220.3	303.2	220.8	82.44	3.678		
9,400.0	7,110.2	9,282.7	6,947.6	49.0	48.9	-57.48	-2,376.7	220.3	304.3	218.9	85.37	3.565		
9,500.0	7,110.8	9,382.7	6,946.1	50.8	50.7	-57.16	-2,476.7	220.3	305.4	217.1	88.29	3.459		
9,600.0	7,111.3	9,482.7	6,944.7	52.6	52.5	-56.85	-2,576.6	220.3	306.5	215.3	91.21	3.360		
9,700.0	7,111.9	9,582.7	6,943.2	54.5	54.4	-56.53	-2,676.6	220.3	307.6	213.5	94.12	3.268		
9,800.0	7,112.4	9,682.7	6,941.8	56.3	56.2	-56.22	-2,776.6	220.3	308.7	211.7	97.01	3.182		
9,900.0	7,113.0	9,782.6	6,940.3	58.2	58.1	-55.91	-2,876.5	220.3	309.8	209.9	99.90	3.101		
10,000.0	7,113.6	9,882.6	6,938.9	60.0	59.9	-55.61	-2,976.5	220.3	311.0	208.2	102.78	3.025		
10,100.0	7,114.1	9,982.6	6,937.5	61.9	61.8	-55.30	-3,076.5	220.3	312.1	206.4	105.65	2.954		
10,200.0	7,114.7	10,082.6	6,936.0	63.7	63.6	-55.00	-3,176.4	220.3	313.2	204.7	108.50	2.887		
10,300.0	7,115.2	10,182.6	6,934.6	65.6	65.5	-54.70	-3,276.4	220.3	314.4	203.0	111.34	2.824		
10,400.0	7,115.8	10,282.5	6,933.1	67.5	67.4	-54.40	-3,376.4	220.3	315.6	201.4	114.17	2.764		
10,500.0	7,116.3	10,382.5	6,931.7	69.3	69.2	-54.11	-3,476.4	220.3	316.7	199.7	116.99	2.707		
10,600.0	7,116.9	10,482.5	6,930.2	71.2	71.1	-53.82	-3,576.3	220.3	317.9	198.1	119.79	2.654		
10,700.0	7,117.5	10,582.5	6,928.8	73.1	73.0	-53.52	-3,676.3	220.3	319.1	196.5	122.58	2.603		
10,800.0	7,118.0	10,682.5	6,927.3	75.0	74.9	-53.24	-3,776.3	220.3	320.3	194.9	125.35	2.555		
10,900.0	7,118.6	10,782.4	6,925.9	76.8	76.7	-52.95	-3,876.2	220.3	321.5	193.4	128.11	2.510		
11,000.0	7,119.1	10,882.4	6,924.4	78.7	78.6	-52.67	-3,976.2	220.3	322.7	191.9	130.85	2.466		
11,100.0	7,119.7	10,982.4	6,923.0	80.6	80.5	-52.38	-4,076.2	220.3	323.9	190.3	133.58	2.425		
11,200.0	7,120.3	11,082.4	6,921.5	82.5	82.4	-52.10	-4,176.1	220.3	325.2	188.9	136.29	2.386		
11,300.0	7,120.8	11,182.3	6,920.1	84.4	84.3	-51.82	-4,276.1	220.3	326.4	187.4	138.99	2.348		
11,400.0	7,121.4	11,282.3	6,918.6	86.3	86.2	-51.55	-4,376.1	220.3	327.6	186.0	141.68	2.313		
11,500.0	7,121.9	11,382.3	6,917.2	88.1	88.0	-51.27	-4,476.0	220.3	328.9	184.5	144.35	2.278		
11,512.9	7,122.0	11,394.5	6,917.0	88.4	88.3	-51.24	-4,488.3	220.3	329.0	184.4	144.68	2.274		
11,513.7	7,122.0	11,394.5	6,917.0	88.4	88.3	-51.24	-4,488.3	220.3	329.1	184.4	144.69	2.274 SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Project:</b>	SEC.7-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Reference Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (8-15-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Honebein 4N64W7K Pad Sec.7-T4N-R64W - Honebein 7K-243 - Wellbore #1 - Plan #1 (8-15-15)												Offset Site Error: 0.0 ft	
Survey Program: 0-MWD												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	Offset		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
0.0	0.0	0.0	0.0	0.0	0.0	-90.01	0.0	-30.7	30.7				
100.0	100.0	99.0	99.0	0.1	0.1	-90.01	0.0	-30.7	30.7	30.4	0.22	137.142	
200.0	200.0	199.0	199.0	0.3	0.3	-90.01	0.0	-30.7	30.7	30.0	0.67	45.638	
300.0	300.0	299.0	299.0	0.6	0.6	-90.01	0.0	-30.7	30.7	29.5	1.12	27.346	
400.0	400.0	399.0	399.0	0.8	0.8	-90.01	0.0	-30.7	30.7	29.1	1.57	19.522	
500.0	500.0	499.0	499.0	1.0	1.0	-90.01	0.0	-30.7	30.7	28.7	2.02	15.179	
600.0	600.0	599.0	599.0	1.2	1.2	-90.01	0.0	-30.7	30.7	28.2	2.47	12.416	
700.0	700.0	699.0	699.0	1.5	1.5	-90.01	0.0	-30.7	30.7	27.8	2.92	10.505	
800.0	800.0	799.0	799.0	1.7	1.7	-90.01	0.0	-30.7	30.7	27.3	3.37	9.103	
900.0	900.0	899.0	899.0	1.9	1.9	-90.01	0.0	-30.7	30.7	26.9	3.82	8.032	
1,000.0	1,000.0	999.0	999.0	2.1	2.1	-90.01	0.0	-30.7	30.7	26.4	4.27	7.186 CC, ES	
1,100.0	1,100.0	1,098.1	1,098.0	2.4	2.4	-88.45	0.9	-32.1	32.1	27.4	4.71	6.823	
1,200.0	1,200.0	1,196.9	1,196.7	2.6	2.6	-84.51	3.5	-36.5	36.7	31.5	5.15	7.128	
1,300.0	1,300.0	1,295.2	1,294.7	2.8	2.8	-79.77	7.9	-43.7	44.6	39.0	5.59	7.977	
1,400.0	1,400.0	1,393.6	1,392.4	3.0	3.0	-75.48	13.9	-53.5	55.7	49.7	6.03	9.229	
1,500.0	1,500.0	1,492.9	1,490.9	3.3	3.3	-72.47	20.2	-64.0	67.6	61.1	6.48	10.438	
1,600.0	1,600.0	1,592.1	1,589.4	3.5	3.6	-70.37	26.6	-74.5	79.7	72.7	6.92	11.507	
1,700.0	1,700.0	1,691.3	1,687.8	3.7	3.8	-68.82	32.9	-84.9	91.8	84.4	7.37	12.453	
1,800.0	1,800.0	1,790.6	1,786.3	3.9	4.1	-67.63	39.3	-95.4	104.0	96.1	7.82	13.294	
1,900.0	1,900.0	1,889.8	1,884.8	4.2	4.4	-66.69	45.6	-105.9	116.2	107.9	8.27	14.045	
2,000.0	2,000.0	1,989.0	1,983.3	4.4	4.7	-65.93	52.0	-116.4	128.4	119.7	8.72	14.718	
2,100.0	2,100.0	2,088.4	2,081.9	4.6	5.0	-57.07	58.3	-126.8	139.7	130.5	9.17	15.230	
2,200.0	2,199.8	2,187.9	2,180.6	4.8	5.3	-58.02	64.7	-137.3	149.2	139.5	9.63	15.495	
2,251.0	2,250.7	2,238.6	2,231.0	5.0	5.4	-58.89	67.9	-142.7	153.3	143.4	9.86	15.551	
2,300.0	2,299.5	2,287.4	2,279.4	5.1	5.6	-59.88	71.1	-147.8	157.1	147.0	10.08	15.579	
2,400.0	2,399.1	2,387.0	2,378.2	5.3	5.9	-61.77	77.4	-158.4	165.0	154.4	10.55	15.638	
2,500.0	2,498.7	2,486.5	2,477.0	5.5	6.2	-63.49	83.8	-168.9	173.0	162.0	11.02	15.697	
2,600.0	2,598.3	2,586.1	2,575.8	5.8	6.5	-65.05	90.2	-179.4	181.2	169.7	11.50	15.755	
2,700.0	2,698.0	2,685.6	2,674.5	6.0	6.8	-66.47	96.6	-189.9	189.6	177.6	11.99	15.812	
2,800.0	2,797.6	2,785.2	2,773.3	6.2	7.1	-67.78	102.9	-200.4	198.0	185.5	12.48	15.866	
2,900.0	2,897.2	2,884.7	2,872.1	6.5	7.4	-68.98	109.3	-210.9	206.5	193.5	12.97	15.917	
3,000.0	2,996.8	2,984.3	2,970.9	6.7	7.7	-70.08	115.7	-221.4	215.1	201.6	13.47	15.965	
3,100.0	3,096.4	3,083.8	3,069.7	7.0	8.1	-71.10	122.0	-231.9	223.8	209.8	13.98	16.011	
3,200.0	3,196.0	3,183.4	3,168.5	7.2	8.4	-72.04	128.4	-242.4	232.5	218.0	14.48	16.054	
3,300.0	3,295.7	3,282.9	3,267.3	7.5	8.7	-72.91	134.8	-252.9	241.3	226.3	14.99	16.094	
3,400.0	3,395.3	3,382.5	3,366.1	7.7	9.0	-73.72	141.2	-263.4	250.2	234.6	15.51	16.132	
3,500.0	3,494.9	3,482.0	3,464.8	8.0	9.3	-74.48	147.5	-273.9	259.0	243.0	16.02	16.167	
3,600.0	3,594.5	3,581.6	3,563.6	8.3	9.6	-75.19	153.9	-284.4	268.0	251.4	16.54	16.201	
3,700.0	3,694.1	3,681.1	3,662.4	8.5	9.9	-75.85	160.3	-294.9	277.0	259.9	17.06	16.232	
3,800.0	3,793.7	3,780.7	3,761.2	8.8	10.3	-76.46	166.6	-305.4	286.0	268.4	17.59	16.261	
3,900.0	3,893.4	3,880.2	3,860.0	9.0	10.6	-77.05	173.0	-315.9	295.0	276.9	18.11	16.289	
4,000.0	3,993.0	3,979.7	3,958.8	9.3	10.9	-77.59	179.4	-326.4	304.1	285.4	18.64	16.315	
4,100.0	4,092.6	4,079.3	4,057.6	9.6	11.2	-78.11	185.8	-336.9	313.2	294.0	19.17	16.340	
4,200.0	4,192.2	4,178.8	4,156.3	9.8	11.5	-78.59	192.1	-347.4	322.3	302.6	19.69	16.364	
4,300.0	4,291.8	4,278.4	4,255.1	10.1	11.8	-79.05	198.5	-357.9	331.4	311.2	20.23	16.386	
4,400.0	4,391.4	4,377.9	4,353.9	10.3	12.2	-79.49	204.9	-368.4	340.6	319.8	20.76	16.407	
4,500.0	4,491.1	4,477.5	4,452.7	10.6	12.5	-79.90	211.2	-378.9	349.8	328.5	21.29	16.427	
4,600.0	4,590.7	4,577.0	4,551.5	10.9	12.8	-80.29	217.6	-389.4	358.9	337.1	21.83	16.446	
4,700.0	4,690.3	4,677.1	4,650.8	11.1	13.1	-80.66	224.0	-400.0	368.2	345.8	22.36	16.463	
4,759.3	4,749.3	4,743.5	4,716.8	11.3	13.3	-80.97	227.8	-406.3	373.0	350.3	22.67	16.450	
4,800.0	4,789.9	4,789.2	4,762.3	11.4	13.4	-81.25	230.0	-409.8	375.6	352.8	22.87	16.426	

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



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Project:</b>	SEC.7-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Reference Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (8-15-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Honebein 4N64W7K Pad Sec.7-T4N-R64W - Honebein 7K-243 - Wellbore #1 - Plan #1 (8-15-15)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	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
4,900.0	4,889.8	4,901.7	4,874.6	11.6	13.6	-81.72		233.7	-415.9	380.2	356.9	23.29	16.326	
5,000.0	4,989.7	5,014.5	4,987.3	11.8	13.8	-81.89		235.1	-418.2	382.0	358.3	23.66	16.143	
5,010.3	5,000.0	5,026.0	4,998.9	11.8	13.8	-90.54		235.1	-418.3	382.0	358.3	23.70	16.120	
5,100.0	5,089.7	5,115.9	5,088.7	11.9	13.9	-90.54		235.1	-418.3	382.0	358.0	24.03	15.898	
5,200.0	5,189.7	5,215.9	5,188.7	12.1	14.1	-90.54		235.1	-418.3	382.0	357.6	24.43	15.635	
5,300.0	5,289.7	5,315.9	5,288.7	12.4	14.3	-90.54		235.1	-418.3	382.0	357.2	24.84	15.379	
5,400.0	5,389.7	5,415.9	5,388.7	12.6	14.5	-90.54		235.1	-418.3	382.0	356.7	25.24	15.131	
5,500.0	5,489.7	5,515.9	5,488.7	12.8	14.6	-90.54		235.1	-418.3	382.0	356.3	25.65	14.890	
5,600.0	5,589.7	5,615.9	5,588.7	13.0	14.8	-90.54		235.1	-418.3	382.0	355.9	26.06	14.656	
5,700.0	5,689.7	5,715.9	5,688.7	13.2	15.0	-90.54		235.1	-418.3	382.0	355.5	26.47	14.429	
5,800.0	5,789.7	5,815.9	5,788.7	13.4	15.2	-90.54		235.1	-418.3	382.0	355.1	26.89	14.207	
5,900.0	5,889.7	5,915.9	5,888.7	13.6	15.4	-90.54		235.1	-418.3	382.0	354.7	27.30	13.992	
6,000.0	5,989.7	6,015.9	5,988.7	13.8	15.6	-90.54		235.1	-418.3	382.0	354.3	27.71	13.783	
6,100.0	6,089.7	6,115.9	6,088.7	14.0	15.7	-90.54		235.1	-418.3	382.0	353.9	28.13	13.579	
6,200.0	6,189.7	6,215.9	6,188.7	14.2	15.9	-90.54		235.1	-418.3	382.0	353.4	28.55	13.381	
6,214.5	6,204.2	6,230.4	6,203.2	14.3	16.0	-90.54		235.1	-418.3	382.0	353.4	28.61	13.353	
6,300.0	6,289.7	6,315.3	6,287.9	14.5	16.1	-91.15		231.0	-418.3	382.0	353.1	28.94	13.202	
6,346.2	6,335.9	6,360.4	6,332.6	14.6	16.1	-92.05		225.0	-418.3	382.2	353.1	29.12	13.128	
6,350.0	6,339.7	6,364.1	6,336.3	14.6	16.1	87.86		224.4	-418.3	382.2	353.1	29.13	13.122	
6,400.0	6,389.7	6,412.3	6,383.6	14.6	16.2	86.67		214.9	-418.3	382.6	353.4	29.28	13.067	
6,450.0	6,439.4	6,460.0	6,429.6	14.7	16.2	85.51		202.6	-418.3	383.2	353.8	29.40	13.032	
6,500.0	6,488.7	6,507.3	6,474.5	14.7	16.2	84.37		187.5	-418.3	383.9	354.4	29.50	13.014	
6,550.0	6,537.3	6,554.1	6,517.9	14.8	16.2	83.26		169.9	-418.3	384.7	355.1	29.56	13.012	
6,600.0	6,585.1	6,600.0	6,559.2	14.8	16.2	82.20		150.1	-418.3	385.6	356.0	29.61	13.025	
6,650.0	6,631.8	6,646.7	6,600.0	14.8	16.2	81.15		127.5	-418.3	386.7	357.0	29.63	13.048	
6,700.0	6,677.2	6,692.4	6,638.6	14.8	16.3	80.16		102.9	-418.3	387.8	358.1	29.65	13.078	
6,750.0	6,721.2	6,737.8	6,675.4	14.9	16.3	79.21		76.3	-418.3	389.0	359.3	29.66	13.112	
6,800.0	6,763.5	6,782.9	6,710.3	14.9	16.3	78.31		47.7	-418.3	390.2	360.5	29.68	13.146	
6,850.0	6,804.0	6,827.7	6,743.2	14.9	16.3	77.46		17.3	-418.3	391.4	361.7	29.71	13.174	
6,900.0	6,842.5	6,872.3	6,774.1	15.0	16.3	76.66		-14.7	-418.3	392.7	362.9	29.76	13.193	
6,950.0	6,878.8	6,916.6	6,803.0	15.0	16.4	75.92		-48.3	-418.3	393.9	364.1	29.86	13.191	
7,000.0	6,912.8	6,960.6	6,829.7	15.1	16.4	75.24		-83.4	-418.3	395.1	365.1	29.99	13.174	
7,050.0	6,944.3	7,004.5	6,854.2	15.3	16.5	74.62		-119.7	-418.3	396.3	366.1	30.18	13.130	
7,100.0	6,973.2	7,050.0	6,877.4	15.4	16.6	74.03		-158.9	-418.3	397.4	366.9	30.44	13.054	
7,150.0	6,999.4	7,091.7	6,896.6	15.6	16.7	73.55		-195.9	-418.3	398.4	367.6	30.77	12.947	
7,200.0	7,022.7	7,135.1	6,914.4	15.9	16.9	73.10		-235.5	-418.3	399.3	368.1	31.18	12.805	
7,250.0	7,043.1	7,178.4	6,929.9	16.2	17.1	72.72		-275.8	-418.3	400.1	368.4	31.68	12.628	
7,300.0	7,060.5	7,221.5	6,943.0	16.6	17.4	72.40		-317.0	-418.3	400.8	368.5	32.27	12.418	
7,350.0	7,074.8	7,264.6	6,953.8	17.0	17.7	72.15		-358.7	-418.3	401.3	368.4	32.95	12.178	
7,400.0	7,085.9	7,307.6	6,962.2	17.4	18.1	71.96		-400.8	-418.3	401.7	368.0	33.73	11.912	
7,450.0	7,093.8	7,350.0	6,968.1	17.9	18.5	71.83		-442.8	-418.3	402.0	367.5	34.58	11.626	
7,500.0	7,098.4	7,393.5	6,971.8	18.4	18.9	71.77		-486.1	-418.3	402.2	366.6	35.53	11.319	
7,541.9	7,099.8	7,429.5	6,973.0	18.8	19.3	71.76		-522.1	-418.3	402.2	365.8	36.38	11.055	
7,544.7	7,099.8	7,431.9	6,973.0	18.9	19.3	71.77		-524.5	-418.3	402.2	365.7	36.44	11.037	
7,600.0	7,100.1	7,486.2	6,972.9	19.5	20.0	71.71		-578.8	-418.3	402.3	364.7	37.63	10.691	
7,700.0	7,100.7	7,586.2	6,972.7	20.7	21.2	71.61		-678.8	-418.3	402.6	362.6	39.97	10.070	
7,800.0	7,101.3	7,686.2	6,972.4	22.0	22.5	71.50		-778.8	-418.3	402.8	360.3	42.50	9.478	
7,900.0	7,101.8	7,786.2	6,972.2	23.5	23.9	71.39		-878.8	-418.3	403.1	357.9	45.18	8.922	
8,000.0	7,102.4	7,886.2	6,972.0	24.9	25.3	71.29		-978.8	-418.3	403.3	355.3	47.98	8.406	
8,100.0	7,102.9	7,986.2	6,971.8	26.5	26.8	71.18		-1,078.8	-418.3	403.6	352.7	50.89	7.930	
8,200.0	7,103.5	8,086.2	6,971.5	28.0	28.4	71.08		-1,178.8	-418.3	403.8	349.9	53.88	7.494	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Project:</b>	SEC.7-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Reference Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (8-15-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Honebein 4N64W7K Pad Sec.7-T4N-R64W - Honebein 7K-243 - Wellbore #1 - Plan #1 (8-15-15)											Offset Site Error:		0.0 ft	
Survey Program: 0-MWD														Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)					
8,300.0	7,104.1	8,186.2	6,971.3	29.7	30.0	70.97	-1,278.8	-418.3	404.1	347.1	56.95	7.095				
8,400.0	7,104.6	8,286.2	6,971.1	31.3	31.6	70.87	-1,378.8	-418.3	404.3	344.3	60.08	6.730				
8,500.0	7,105.2	8,386.2	6,970.9	33.0	33.3	70.76	-1,478.8	-418.3	404.6	341.3	63.26	6.396				
8,600.0	7,105.7	8,486.2	6,970.6	34.7	35.0	70.66	-1,578.8	-418.3	404.9	338.4	66.48	6.090				
8,700.0	7,106.3	8,586.2	6,970.4	36.5	36.7	70.55	-1,678.8	-418.3	405.1	335.4	69.73	5.810				
8,800.0	7,106.8	8,686.2	6,970.2	38.2	38.4	70.45	-1,778.8	-418.3	405.4	332.4	73.02	5.552				
8,900.0	7,107.4	8,786.2	6,969.9	40.0	40.2	70.34	-1,878.8	-418.3	405.7	329.3	76.34	5.314				
9,000.0	7,108.0	8,886.1	6,969.7	41.7	41.9	70.24	-1,978.8	-418.3	405.9	326.2	79.67	5.095				
9,100.0	7,108.5	8,986.1	6,969.5	43.5	43.7	70.13	-2,078.8	-418.3	406.2	323.2	83.03	4.892				
9,200.0	7,109.1	9,086.1	6,969.3	45.3	45.5	70.03	-2,178.7	-418.3	406.5	320.1	86.40	4.704				
9,300.0	7,109.6	9,186.1	6,969.0	47.1	47.3	69.93	-2,278.7	-418.3	406.7	316.9	89.78	4.530				
9,400.0	7,110.2	9,286.1	6,968.8	49.0	49.1	69.82	-2,378.7	-418.3	407.0	313.8	93.18	4.368				
9,500.0	7,110.8	9,386.1	6,968.6	50.8	50.9	69.72	-2,478.7	-418.3	407.3	310.7	96.59	4.216				
9,600.0	7,111.3	9,486.1	6,968.4	52.6	52.8	69.62	-2,578.7	-418.3	407.5	307.5	100.01	4.075				
9,700.0	7,111.9	9,586.1	6,968.1	54.5	54.6	69.51	-2,678.7	-418.3	407.8	304.4	103.43	3.943				
9,800.0	7,112.4	9,686.1	6,967.9	56.3	56.4	69.41	-2,778.7	-418.3	408.1	301.2	106.86	3.819				
9,900.0	7,113.0	9,786.1	6,967.7	58.2	58.3	69.31	-2,878.7	-418.3	408.4	298.1	110.30	3.703				
10,000.0	7,113.6	9,886.1	6,967.4	60.0	60.1	69.20	-2,978.7	-418.3	408.7	294.9	113.74	3.593				
10,100.0	7,114.1	9,986.1	6,967.2	61.9	62.0	69.10	-3,078.7	-418.3	408.9	291.8	117.18	3.490				
10,200.0	7,114.7	10,086.1	6,967.0	63.7	63.8	69.00	-3,178.7	-418.3	409.2	288.6	120.62	3.393				
10,300.0	7,115.2	10,186.1	6,966.8	65.6	65.7	68.90	-3,278.7	-418.3	409.5	285.4	124.07	3.301				
10,400.0	7,115.8	10,286.1	6,966.5	67.5	67.5	68.79	-3,378.7	-418.3	409.8	282.3	127.52	3.214				
10,500.0	7,116.3	10,386.1	6,966.3	69.3	69.4	68.69	-3,478.7	-418.3	410.1	279.1	130.97	3.131				
10,600.0	7,116.9	10,486.1	6,966.1	71.2	71.3	68.59	-3,578.7	-418.3	410.4	275.9	134.42	3.053				
10,700.0	7,117.5	10,586.1	6,965.9	73.1	73.1	68.49	-3,678.7	-418.3	410.7	272.8	137.87	2.978				
10,800.0	7,118.0	10,686.1	6,965.6	75.0	75.0	68.38	-3,778.7	-418.3	410.9	269.6	141.33	2.908				
10,900.0	7,118.6	10,786.1	6,965.4	76.8	76.9	68.28	-3,878.7	-418.3	411.2	266.5	144.78	2.840				
11,000.0	7,119.1	10,886.1	6,965.2	78.7	78.8	68.18	-3,978.7	-418.3	411.5	263.3	148.23	2.776				
11,100.0	7,119.7	10,986.1	6,965.0	80.6	80.6	68.08	-4,078.7	-418.3	411.8	260.1	151.68	2.715				
11,200.0	7,120.3	11,086.1	6,964.7	82.5	82.5	67.98	-4,178.7	-418.3	412.1	257.0	155.12	2.657				
11,300.0	7,120.8	11,186.1	6,964.5	84.4	84.4	67.88	-4,278.7	-418.3	412.4	253.8	158.57	2.601				
11,400.0	7,121.4	11,286.1	6,964.3	86.3	86.3	67.78	-4,378.7	-418.3	412.7	250.7	162.01	2.547				
11,500.0	7,121.9	11,386.1	6,964.0	88.1	88.2	67.68	-4,478.7	-418.3	413.0	247.6	165.46	2.496				
11,512.9	7,122.0	11,398.9	6,964.0	88.4	88.4	67.66	-4,491.5	-418.3	413.1	247.2	165.90	2.490				
11,513.7	7,122.0	11,399.8	6,964.0	88.4	88.4	67.66	-4,492.4	-418.3	413.1	247.1	165.93	2.489 SF				



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Project:</b>	SEC.7-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Reference Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (8-15-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Honebein 4N64W7K Pad Sec.7-T4N-R64W - Honebein 7K-323 - Wellbore #1 - Plan #1 (8-18-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	2.0	2.0	0.0	0.0	90.01	0.0	61.3	61.3	61.3	0.00	N/A		
100.0	100.0	102.0	102.0	0.1	0.1	90.01	0.0	61.3	61.3	61.1	0.23	267.563		
200.0	200.0	202.0	202.0	0.3	0.3	90.01	0.0	61.3	61.3	60.7	0.68	90.369		
300.0	300.0	302.0	302.0	0.6	0.6	90.01	0.0	61.3	61.3	60.2	1.13	54.365		
400.0	400.0	402.0	402.0	0.8	0.8	90.01	0.0	61.3	61.3	59.8	1.58	38.877		
500.0	500.0	502.0	502.0	1.0	1.0	90.01	0.0	61.3	61.3	59.3	2.03	30.257		
600.0	600.0	602.0	602.0	1.2	1.2	90.01	0.0	61.3	61.3	58.9	2.48	24.765		
700.0	700.0	702.0	702.0	1.5	1.5	90.01	0.0	61.3	61.3	58.4	2.93	20.961		
800.0	800.0	802.0	802.0	1.7	1.7	90.01	0.0	61.3	61.3	58.0	3.38	18.170		
900.0	900.0	902.0	902.0	1.9	1.9	90.01	0.0	61.3	61.3	57.5	3.83	16.035		
966.0	966.0	968.0	968.0	2.1	2.1	90.01	0.0	61.3	61.3	57.2	4.12	14.881 CC		
1,000.0	1,000.0	1,002.0	1,002.0	2.1	2.1	90.01	0.0	61.3	61.3	57.1	4.27	14.350 ES		
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	89.37	0.7	62.9	63.0	58.3	4.71	13.365		
1,200.0	1,200.0	1,197.8	1,197.6	2.6	2.6	87.68	2.7	67.6	67.8	62.6	5.14	13.176		
1,300.0	1,300.0	1,295.1	1,294.6	2.8	2.8	85.35	6.1	75.2	75.8	70.3	5.58	13.590		
1,400.0	1,400.0	1,392.1	1,390.9	3.0	3.0	82.84	10.8	85.8	87.2	81.2	6.02	14.481		
1,500.0	1,500.0	1,491.2	1,489.1	3.3	3.3	80.66	16.1	97.9	100.0	93.6	6.47	15.463		
1,600.0	1,600.0	1,590.3	1,587.4	3.5	3.6	78.98	21.4	109.9	112.9	106.0	6.92	16.330		
1,700.0	1,700.0	1,689.5	1,685.6	3.7	3.8	77.64	26.7	122.0	125.9	118.6	7.37	17.096		
1,800.0	1,800.0	1,788.6	1,783.8	3.9	4.1	76.56	32.0	134.0	139.0	131.2	7.82	17.777		
1,900.0	1,900.0	1,887.7	1,882.1	4.2	4.4	75.66	37.3	146.1	152.1	143.8	8.27	18.385		
2,000.0	2,000.0	1,986.8	1,980.3	4.4	4.7	74.90	42.6	158.1	165.2	156.5	8.73	18.931		
2,100.0	2,100.0	2,086.0	2,078.6	4.6	5.0	83.21	48.0	170.1	178.1	168.9	9.16	19.445		
2,200.0	2,199.8	2,185.1	2,176.9	4.8	5.3	83.93	53.3	182.2	190.7	181.0	9.61	19.831		
2,251.0	2,250.7	2,235.6	2,226.9	5.0	5.5	84.65	56.0	188.3	197.0	187.1	9.85	19.999		
2,300.0	2,299.5	2,284.2	2,275.0	5.1	5.6	85.53	58.6	194.2	203.0	192.9	10.07	20.150		
2,400.0	2,399.1	2,383.2	2,373.2	5.3	5.9	87.18	63.9	206.3	215.5	204.9	10.54	20.440		
2,500.0	2,498.7	2,482.2	2,471.4	5.5	6.3	88.64	69.2	218.3	228.1	217.1	11.02	20.706		
2,600.0	2,598.3	2,581.3	2,569.5	5.8	6.6	89.95	74.5	230.3	240.9	229.4	11.50	20.952		
2,700.0	2,698.0	2,680.3	2,667.7	6.0	6.9	91.13	79.8	242.4	253.8	241.8	11.98	21.178		
2,800.0	2,797.6	2,779.4	2,765.9	6.2	7.2	92.20	85.1	254.4	266.8	254.3	12.47	21.385		
2,900.0	2,897.2	2,878.4	2,864.0	6.5	7.5	93.16	90.4	266.4	279.8	266.9	12.97	21.576		
3,000.0	2,996.8	2,977.4	2,962.2	6.7	7.9	94.04	95.7	278.5	293.0	279.5	13.47	21.753		
3,100.0	3,096.4	3,076.5	3,060.3	7.0	8.2	94.84	101.0	290.5	306.2	292.2	13.97	21.916		
3,200.0	3,196.0	3,175.5	3,158.5	7.2	8.5	95.58	106.3	302.5	319.4	304.9	14.47	22.066		
3,300.0	3,295.7	3,274.5	3,256.7	7.5	8.8	96.26	111.6	314.6	332.7	317.7	14.98	22.206		
3,400.0	3,395.3	3,373.6	3,354.8	7.7	9.1	96.89	116.9	326.6	346.0	330.5	15.49	22.336		
3,500.0	3,494.9	3,472.6	3,453.0	8.0	9.5	97.47	122.2	338.6	359.4	343.4	16.00	22.457		
3,600.0	3,594.5	3,571.7	3,551.1	8.3	9.8	98.01	127.6	350.7	372.8	356.3	16.52	22.570		
3,700.0	3,694.1	3,670.7	3,649.3	8.5	10.1	98.51	132.9	362.7	386.3	369.2	17.04	22.675		
3,800.0	3,793.7	3,769.7	3,747.5	8.8	10.4	98.97	138.2	374.7	399.7	382.2	17.55	22.773		
3,900.0	3,893.4	3,868.8	3,845.6	9.0	10.8	99.41	143.5	386.8	413.2	395.2	18.07	22.865		
4,000.0	3,993.0	3,967.8	3,943.8	9.3	11.1	99.82	148.8	398.8	426.7	408.2	18.59	22.952		
4,100.0	4,092.6	4,066.9	4,041.9	9.6	11.4	100.21	154.1	410.8	440.3	421.2	19.11	23.034		
4,200.0	4,192.2	4,165.9	4,140.1	9.8	11.8	100.57	159.4	422.9	453.8	434.2	19.64	23.110		
4,300.0	4,291.8	4,264.9	4,238.3	10.1	12.1	100.91	164.7	434.9	467.4	447.2	20.16	23.183		
4,400.0	4,391.4	4,364.0	4,336.4	10.3	12.4	101.23	170.0	446.9	481.0	460.3	20.69	23.251		
4,500.0	4,491.1	4,463.0	4,434.6	10.6	12.7	101.53	175.3	459.0	494.6	473.4	21.21	23.315		
4,600.0	4,590.7	4,562.0	4,532.7	10.9	13.1	101.82	180.6	471.0	508.2	486.5	21.74	23.377		
4,700.0	4,690.3	4,661.1	4,630.9	11.1	13.4	102.09	185.9	483.0	521.8	499.6	22.27	23.435		
4,759.3	4,749.3	4,719.8	4,689.1	11.3	13.6	102.25	189.1	490.2	529.9	507.3	22.58	23.468		

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Project:</b>	SEC.7-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Reference Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (8-15-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Honebein 4N64W7K Pad Sec.7-T4N-R64W - Honebein 7K-323 - Wellbore #1 - Plan #1 (8-18-14)												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)		
4,800.0	4,789.9	4,760.1	4,729.1	11.4	13.7	102.43	191.2	495.1	535.4	512.6	22.79	23.494	
4,900.0	4,889.8	4,859.3	4,827.4	11.6	14.1	102.60	196.5	507.1	548.4	525.1	23.25	23.583	
5,000.0	4,989.7	4,958.4	4,925.6	11.8	14.4	102.42	201.8	519.2	560.6	536.9	23.68	23.670	
5,010.3	5,000.0	4,968.6	4,935.7	11.8	14.4	93.73	202.4	520.4	561.8	538.1	23.73	23.679	
5,100.0	5,089.7	5,057.6	5,023.9	11.9	14.7	93.18	207.2	531.2	572.4	548.3	24.10	23.750	
5,200.0	5,189.7	5,156.7	5,122.1	12.1	15.0	92.59	212.5	543.2	584.3	559.8	24.54	23.808	
5,300.0	5,289.7	5,255.8	5,220.3	12.4	15.4	92.03	217.8	555.3	596.2	571.3	24.98	23.865	
5,400.0	5,389.7	5,354.9	5,318.6	12.6	15.7	91.48	223.1	567.3	608.2	582.8	25.43	23.922	
5,500.0	5,489.7	5,454.0	5,416.8	12.8	16.0	90.96	228.4	579.4	620.3	594.4	25.87	23.979	
5,600.0	5,589.7	5,553.1	5,515.1	13.0	16.4	90.46	233.7	591.4	632.4	606.1	26.31	24.035	
5,700.0	5,689.7	5,652.2	5,613.3	13.2	16.7	89.97	239.0	603.5	644.5	617.8	26.75	24.091	
5,800.0	5,789.7	5,776.1	5,736.3	13.4	17.0	89.47	244.7	616.3	655.0	627.8	27.21	24.076	
5,900.0	5,889.7	5,902.6	5,862.5	13.6	17.3	89.17	248.3	624.4	661.4	633.8	27.64	23.930	
6,000.0	5,989.7	6,029.6	5,989.5	13.8	17.5	89.06	249.6	627.4	663.8	635.8	28.07	23.651	
6,100.0	6,089.7	6,131.9	6,091.7	14.0	17.6	89.06	249.6	627.4	663.8	635.4	28.47	23.318	
6,200.0	6,189.7	6,231.9	6,191.7	14.2	17.8	89.06	249.6	627.4	663.8	635.0	28.87	22.990	
6,300.0	6,289.7	6,332.6	6,292.5	14.5	17.9	89.14	248.6	627.4	663.8	634.5	29.27	22.677	
6,346.2	6,335.9	6,379.4	6,339.1	14.6	18.0	89.47	244.9	627.4	663.7	634.3	29.45	22.541	
6,350.0	6,339.7	6,383.2	6,342.9	14.6	18.0	-90.49	244.4	627.4	663.7	634.3	29.46	22.530	
6,400.0	6,389.7	6,433.4	6,392.5	14.6	18.0	-90.02	237.0	627.4	663.7	634.1	29.60	22.418	
6,450.0	6,439.4	6,483.2	6,441.2	14.7	18.1	-89.54	226.3	627.3	663.6	633.9	29.72	22.331	
6,500.0	6,488.7	6,532.7	6,488.7	14.7	18.1	-89.07	212.7	627.2	663.6	633.8	29.80	22.265	
6,520.5	6,508.8	6,552.9	6,507.8	14.8	18.1	-88.88	206.2	627.2	663.6	633.8	29.83	22.244	
6,550.0	6,537.3	6,581.8	6,534.9	14.8	18.1	-88.60	196.1	627.1	663.6	633.7	29.87	22.217	
6,600.0	6,585.1	6,630.5	6,579.6	14.8	18.1	-88.15	176.8	627.0	663.6	633.7	29.92	22.182	
6,650.0	6,631.8	6,679.0	6,622.8	14.8	18.1	-87.70	154.8	626.8	663.7	633.7	29.95	22.157	
6,700.0	6,677.2	6,727.1	6,664.2	14.8	18.1	-87.26	130.2	626.7	663.7	633.7	29.99	22.134	
6,750.0	6,721.2	6,774.9	6,703.7	14.9	18.1	-86.83	103.3	626.5	663.8	633.8	30.03	22.108	
6,800.0	6,763.5	6,822.4	6,741.2	14.9	18.1	-86.42	74.2	626.3	663.9	633.8	30.08	22.072	
6,850.0	6,804.0	6,869.7	6,776.7	14.9	18.1	-86.02	42.9	626.1	664.0	633.8	30.16	22.018	
6,900.0	6,842.5	6,916.7	6,810.0	15.0	18.1	-85.64	9.7	625.9	664.1	633.8	30.27	21.940	
6,950.0	6,878.8	6,963.5	6,841.0	15.0	18.2	-85.28	-25.2	625.7	664.2	633.8	30.43	21.828	
7,000.0	6,912.8	7,010.0	6,869.7	15.1	18.2	-84.94	-61.9	625.4	664.3	633.7	30.64	21.681	
7,050.0	6,944.3	7,056.3	6,896.0	15.3	18.3	-84.62	-100.0	625.2	664.4	633.5	30.91	21.492	
7,100.0	6,973.2	7,102.5	6,919.8	15.4	18.4	-84.32	-139.5	624.9	664.5	633.2	31.26	21.258	
7,150.0	6,999.4	7,150.0	6,941.8	15.6	18.5	-84.03	-181.6	624.6	664.5	632.9	31.69	20.972	
7,154.2	7,001.5	7,152.3	6,942.8	15.7	18.5	-84.02	-183.7	624.6	664.6	632.8	31.72	20.949	
7,200.0	7,022.7	7,194.2	6,959.9	15.9	18.6	-83.79	-222.0	624.4	664.6	632.4	32.19	20.648	
7,250.0	7,043.1	7,239.9	6,976.1	16.2	18.8	-83.56	-264.6	624.1	664.6	631.8	32.78	20.276	
7,300.0	7,060.5	7,285.4	6,989.7	16.6	19.0	-83.36	-308.0	623.8	664.6	631.1	33.45	19.866	
7,350.0	7,074.8	7,330.7	7,000.6	17.0	19.3	-83.18	-352.1	623.5	664.5	630.3	34.21	19.425	
7,400.0	7,085.9	7,376.0	7,009.0	17.4	19.6	-83.03	-396.6	623.3	664.5	629.4	35.05	18.958	
7,450.0	7,093.8	7,421.2	7,014.6	17.9	20.0	-82.90	-441.4	623.0	664.4	628.4	35.96	18.472	
7,500.0	7,098.4	7,466.3	7,017.6	18.4	20.4	-82.81	-486.4	622.7	664.2	627.3	36.95	17.977	
7,541.9	7,099.8	7,504.6	7,018.0	18.8	20.7	-82.75	-524.6	622.4	664.0	626.2	37.82	17.556	
7,600.0	7,100.1	7,562.7	7,017.6	19.5	21.3	-82.68	-582.7	622.1	663.8	624.6	39.14	16.957	
7,700.0	7,100.7	7,662.7	7,016.9	20.7	22.5	-82.56	-682.7	621.4	663.3	621.7	41.57	15.956	
7,800.0	7,101.3	7,762.6	7,016.1	22.0	23.7	-82.44	-782.7	620.8	662.8	618.6	44.19	14.999	
7,900.0	7,101.8	7,862.6	7,015.4	23.5	25.0	-82.33	-882.7	620.1	662.3	615.4	46.97	14.101	
8,000.0	7,102.4	7,962.6	7,014.7	24.9	26.4	-82.21	-982.7	619.5	661.9	612.0	49.89	13.268	
8,100.0	7,102.9	8,062.6	7,013.9	26.5	27.9	-82.09	-1,082.7	618.8	661.4	608.5	52.91	12.500	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Project:</b>	SEC.7-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Reference Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (8-15-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Honebein 4N64W7K Pad Sec.7-T4N-R64W - Honebein 7K-323 - Wellbore #1 - Plan #1 (8-18-14)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
8,200.0	7,103.5	8,162.6	7,013.2	28.0	29.4	-81.97	-1,182.6	618.2	660.9	604.9	56.03	11.796	
8,300.0	7,104.1	8,262.6	7,012.5	29.7	30.9	-81.85	-1,282.6	617.5	660.5	601.3	59.23	11.152	
8,400.0	7,104.6	8,362.6	7,011.7	31.3	32.5	-81.73	-1,382.6	616.9	660.0	597.5	62.49	10.562	
8,500.0	7,105.2	8,462.6	7,011.0	33.0	34.1	-81.61	-1,482.6	616.2	659.6	593.8	65.81	10.023	
8,600.0	7,105.7	8,562.6	7,010.3	34.7	35.8	-81.50	-1,582.6	615.6	659.1	589.9	69.17	9.529	
8,700.0	7,106.3	8,662.6	7,009.5	36.5	37.5	-81.38	-1,682.6	614.9	658.7	586.1	72.57	9.076	
8,800.0	7,106.8	8,762.5	7,008.8	38.2	39.2	-81.26	-1,782.6	614.3	658.2	582.2	76.01	8.659	
8,900.0	7,107.4	8,862.5	7,008.1	40.0	40.9	-81.14	-1,882.5	613.6	657.8	578.3	79.48	8.276	
9,000.0	7,108.0	8,962.5	7,007.3	41.7	42.6	-81.02	-1,982.5	613.0	657.3	574.4	82.97	7.922	
9,100.0	7,108.5	9,062.5	7,006.6	43.5	44.4	-80.90	-2,082.5	612.3	656.9	570.4	86.49	7.595	
9,200.0	7,109.1	9,162.5	7,005.9	45.3	46.1	-80.78	-2,182.5	611.7	656.5	566.4	90.02	7.292	
9,300.0	7,109.6	9,262.5	7,005.1	47.1	47.9	-80.66	-2,282.5	611.0	656.0	562.5	93.57	7.011	
9,400.0	7,110.2	9,362.5	7,004.4	49.0	49.7	-80.54	-2,382.5	610.4	655.6	558.5	97.14	6.749	
9,500.0	7,110.8	9,462.5	7,003.7	50.8	51.5	-80.41	-2,482.4	609.8	655.2	554.5	100.71	6.505	
9,600.0	7,111.3	9,562.5	7,002.9	52.6	53.3	-80.29	-2,582.4	609.1	654.8	550.5	104.30	6.278	
9,700.0	7,111.9	9,662.4	7,002.2	54.5	55.1	-80.17	-2,682.4	608.5	654.3	546.4	107.90	6.064	
9,800.0	7,112.4	9,762.4	7,001.5	56.3	56.9	-80.05	-2,782.4	607.8	653.9	542.4	111.50	5.865	
9,900.0	7,113.0	9,862.4	7,000.7	58.2	58.7	-79.93	-2,882.4	607.2	653.5	538.4	115.12	5.677	
10,000.0	7,113.6	9,962.4	7,000.0	60.0	60.6	-79.81	-2,982.4	606.5	653.1	534.4	118.73	5.500	
10,100.0	7,114.1	10,062.4	6,999.3	61.9	62.4	-79.69	-3,082.4	605.9	652.7	530.3	122.36	5.334	
10,200.0	7,114.7	10,162.4	6,998.5	63.7	64.3	-79.57	-3,182.3	605.2	652.3	526.3	125.99	5.177	
10,300.0	7,115.2	10,262.4	6,997.8	65.6	66.1	-79.44	-3,282.3	604.6	651.9	522.3	129.62	5.029	
10,400.0	7,115.8	10,362.4	6,997.1	67.5	67.9	-79.32	-3,382.3	603.9	651.5	518.2	133.26	4.889	
10,500.0	7,116.3	10,462.4	6,996.3	69.3	69.8	-79.20	-3,482.3	603.3	651.1	514.2	136.89	4.756	
10,600.0	7,116.9	10,562.4	6,995.6	71.2	71.7	-79.08	-3,582.3	602.6	650.7	510.2	140.53	4.630	
10,700.0	7,117.5	10,662.3	6,994.9	73.1	73.5	-78.95	-3,682.3	602.0	650.3	506.1	144.18	4.510	
10,800.0	7,118.0	10,762.3	6,994.1	75.0	75.4	-78.83	-3,782.2	601.3	649.9	502.1	147.82	4.397	
10,900.0	7,118.6	10,862.3	6,993.4	76.8	77.2	-78.71	-3,882.2	600.7	649.5	498.1	151.46	4.288	
11,000.0	7,119.1	10,962.3	6,992.7	78.7	79.1	-78.59	-3,982.2	600.0	649.1	494.0	155.11	4.185	
11,100.0	7,119.7	11,062.3	6,991.9	80.6	81.0	-78.46	-4,082.2	599.4	648.8	490.0	158.75	4.087	
11,200.0	7,120.3	11,162.3	6,991.2	82.5	82.8	-78.34	-4,182.2	598.7	648.4	486.0	162.40	3.993	
11,300.0	7,120.8	11,262.3	6,990.5	84.4	84.7	-78.22	-4,282.2	598.1	648.0	482.0	166.04	3.903	
11,400.0	7,121.4	11,362.3	6,989.8	86.3	86.6	-78.09	-4,382.2	597.5	647.6	478.0	169.69	3.817	
11,500.0	7,121.9	11,462.3	6,989.0	88.1	88.3	-77.97	-4,482.1	596.8	647.3	474.2	173.11	3.739	
11,504.8	7,122.0	11,464.7	6,989.0	88.2	88.3	-77.97	-4,484.6	596.8	647.3	474.0	173.23	3.736	
11,512.9	7,122.0	11,464.7	6,989.0	88.4	88.3	-77.97	-4,484.6	596.8	647.3	473.9	173.38	3.733	
11,513.7	7,122.0	11,464.7	6,989.0	88.4	88.3	-77.97	-4,484.6	596.8	647.3	473.9	173.39	3.733 SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Project:</b>	SEC.7-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Reference Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (8-15-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Honebein 4N64W7K Pad Sec.7-T4N-R64W - Honebein 7O-243 - Wellbore #1 - Plan #1 (8-18-14)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	3.0	3.0	0.0	0.0	90.00	0.0	89.2	89.2	89.2	0.00	N/A	
100.0	100.0	103.0	103.0	0.1	0.1	90.00	0.0	89.2	89.2	89.0	0.23	385.405	
200.0	200.0	203.0	203.0	0.3	0.3	90.00	0.0	89.2	89.2	88.5	0.68	131.012	
300.0	300.0	303.0	303.0	0.6	0.6	90.00	0.0	89.2	89.2	88.1	1.13	78.920	
400.0	400.0	403.0	403.0	0.8	0.8	90.00	0.0	89.2	89.2	87.6	1.58	56.468	
500.0	500.0	503.0	503.0	1.0	1.0	90.00	0.0	89.2	89.2	87.2	2.03	43.961	
600.0	600.0	603.0	603.0	1.2	1.2	90.00	0.0	89.2	89.2	86.7	2.48	35.990	
700.0	700.0	703.0	703.0	1.5	1.5	90.00	0.0	89.2	89.2	86.3	2.93	30.466	
765.6	765.6	768.6	768.6	1.6	1.6	90.00	0.0	89.2	89.2	86.0	3.22	27.677 CC	
800.0	800.0	802.9	802.9	1.7	1.7	90.00	0.0	89.2	89.2	85.8	3.38	26.416 ES	
900.0	900.0	900.0	900.0	1.9	1.9	89.66	0.5	90.9	90.9	87.1	3.81	23.857	
1,000.0	1,000.0	996.8	996.7	2.1	2.1	88.76	2.1	95.7	95.9	91.6	4.24	22.605	
1,100.0	1,100.0	1,093.3	1,092.7	2.4	2.3	87.45	4.6	103.5	104.1	99.4	4.68	22.259	
1,200.0	1,200.0	1,189.0	1,187.8	2.6	2.6	85.94	8.1	114.3	115.6	110.5	5.12	22.593	
1,300.0	1,300.0	1,284.1	1,281.8	2.8	2.8	84.40	12.5	128.1	130.4	124.8	5.56	23.438	
1,400.0	1,400.0	1,382.7	1,379.1	3.0	3.1	83.02	17.6	143.6	146.7	140.7	6.02	24.380	
1,500.0	1,500.0	1,481.4	1,476.3	3.3	3.4	81.91	22.6	159.2	163.0	156.5	6.47	25.196	
1,600.0	1,600.0	1,580.0	1,573.6	3.5	3.8	81.01	27.7	174.8	179.4	172.5	6.93	25.902	
1,700.0	1,700.0	1,678.6	1,670.8	3.7	4.1	80.26	32.7	190.4	195.8	188.4	7.39	26.516	
1,800.0	1,800.0	1,777.2	1,768.0	3.9	4.5	79.62	37.7	206.0	212.3	204.4	7.85	27.056	
1,900.0	1,900.0	1,875.8	1,865.3	4.2	4.8	79.07	42.8	221.5	228.8	220.5	8.31	27.533	
2,000.0	2,000.0	1,974.4	1,962.5	4.4	5.2	78.60	47.8	237.1	245.3	236.5	8.77	27.957	
2,100.0	2,100.0	2,073.1	2,059.8	4.6	5.5	86.89	52.8	252.7	261.7	252.5	9.20	28.455	
2,200.0	2,199.8	2,171.7	2,157.0	4.8	5.9	87.27	57.9	268.3	277.9	268.3	9.66	28.777	
2,251.0	2,250.7	2,221.9	2,206.6	5.0	6.1	87.70	60.4	276.2	286.2	276.3	9.90	28.920	
2,300.0	2,299.5	2,270.2	2,254.2	5.1	6.2	88.33	62.9	283.9	294.1	284.0	10.13	29.047	
2,400.0	2,399.1	2,368.6	2,351.3	5.3	6.6	89.52	67.9	299.4	310.4	299.8	10.60	29.284	
2,500.0	2,498.7	2,467.1	2,448.4	5.5	7.0	90.59	73.0	315.0	326.8	315.8	11.08	29.494	
2,600.0	2,598.3	2,565.6	2,545.5	5.8	7.3	91.55	78.0	330.5	343.4	331.8	11.57	29.680	
2,700.0	2,698.0	2,664.0	2,642.6	6.0	7.7	92.43	83.0	346.1	360.0	347.9	12.06	29.846	
2,800.0	2,797.6	2,762.5	2,739.7	6.2	8.1	93.23	88.1	361.7	376.7	364.1	12.56	29.993	
2,900.0	2,897.2	2,861.0	2,836.8	6.5	8.5	93.96	93.1	377.2	393.4	380.4	13.06	30.125	
3,000.0	2,996.8	2,959.4	2,933.9	6.7	8.8	94.63	98.1	392.8	410.2	396.7	13.56	30.243	
3,100.0	3,096.4	3,057.9	3,031.0	7.0	9.2	95.25	103.1	408.3	427.1	413.0	14.07	30.348	
3,200.0	3,196.0	3,156.4	3,128.1	7.2	9.6	95.82	108.2	423.9	444.0	429.4	14.58	30.443	
3,300.0	3,295.7	3,254.8	3,225.2	7.5	9.9	96.35	113.2	439.4	460.9	445.8	15.10	30.529	
3,400.0	3,395.3	3,353.3	3,322.3	7.7	10.3	96.85	118.2	455.0	477.9	462.3	15.61	30.607	
3,500.0	3,494.9	3,451.8	3,419.4	8.0	10.7	97.31	123.3	470.6	494.9	478.8	16.13	30.677	
3,600.0	3,594.5	3,550.2	3,516.5	8.3	11.1	97.74	128.3	486.1	512.0	495.3	16.65	30.741	
3,700.0	3,694.1	3,648.7	3,613.6	8.5	11.4	98.14	133.3	501.7	529.0	511.9	17.18	30.800	
3,800.0	3,793.7	3,747.2	3,710.7	8.8	11.8	98.51	138.3	517.2	546.1	528.4	17.70	30.853	
3,900.0	3,893.4	3,845.6	3,807.8	9.0	12.2	98.87	143.4	532.8	563.2	545.0	18.23	30.902	
4,000.0	3,993.0	3,944.1	3,904.9	9.3	12.6	99.20	148.4	548.4	580.4	561.6	18.75	30.947	
4,100.0	4,092.6	4,042.6	4,002.0	9.6	13.0	99.51	153.4	563.9	597.5	578.2	19.28	30.988	
4,200.0	4,192.2	4,141.0	4,099.1	9.8	13.3	99.81	158.5	579.5	614.7	594.9	19.81	31.026	
4,300.0	4,291.8	4,239.5	4,196.2	10.1	13.7	100.09	163.5	595.0	631.9	611.5	20.34	31.061	
4,400.0	4,391.4	4,338.0	4,293.3	10.3	14.1	100.35	168.5	610.6	649.1	628.2	20.88	31.093	
4,500.0	4,491.1	4,436.4	4,390.4	10.6	14.5	100.60	173.6	626.2	666.3	644.9	21.41	31.123	
4,600.0	4,590.7	4,534.9	4,487.5	10.9	14.8	100.84	178.6	641.7	683.5	661.6	21.94	31.151	
4,700.0	4,690.3	4,633.4	4,584.6	11.1	15.2	101.07	183.6	657.3	700.7	678.3	22.48	31.177	
4,759.3	4,749.3	4,691.7	4,642.1	11.3	15.4	101.20	186.6	666.5	711.0	688.2	22.79	31.192	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Project:</b>	SEC.7-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Reference Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (8-15-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Honebein 4N64W7K Pad Sec.7-T4N-R64W - Honebein 7O-243 - Wellbore #1 - Plan #1 (8-18-14)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,800.0	4,789.9	4,731.9	4,681.7	11.4	15.6	101.40	188.6	672.8	717.9	694.9	23.01	31.203	
4,900.0	4,889.8	4,830.5	4,778.9	11.6	16.0	101.69	193.7	688.4	734.5	711.1	23.49	31.274	
5,000.0	4,989.7	4,929.1	4,876.2	11.8	16.4	101.71	198.7	704.0	750.5	726.6	23.93	31.356	
5,010.3	5,000.0	4,939.2	4,886.2	11.8	16.4	93.05	199.2	705.6	752.1	728.1	23.98	31.365	
5,100.0	5,089.7	5,027.7	4,973.4	11.9	16.7	92.65	203.8	719.6	766.0	741.7	24.36	31.447	
5,200.0	5,189.7	5,126.3	5,070.7	12.1	17.1	92.22	208.8	735.2	781.6	756.8	24.81	31.508	
5,300.0	5,289.7	5,224.9	5,167.9	12.4	17.5	91.81	213.8	750.8	797.3	772.0	25.26	31.568	
5,400.0	5,389.7	5,323.5	5,265.2	12.6	17.9	91.42	218.9	766.3	813.0	787.2	25.70	31.627	
5,500.0	5,489.7	5,422.2	5,362.4	12.8	18.2	91.04	223.9	781.9	828.7	802.5	26.15	31.684	
5,600.0	5,589.7	5,520.8	5,459.6	13.0	18.6	90.67	228.9	797.5	844.4	817.8	26.60	31.740	
5,700.0	5,689.7	5,619.4	5,556.9	13.2	19.0	90.32	234.0	813.1	860.2	833.1	27.05	31.795	
5,800.0	5,789.7	5,730.4	5,666.4	13.4	19.4	89.94	239.5	830.3	875.8	848.3	27.52	31.827	
5,900.0	5,889.7	5,870.8	5,805.7	13.6	19.8	89.59	245.0	847.3	887.9	859.9	27.99	31.717	
6,000.0	5,989.7	6,012.7	5,947.1	13.8	20.0	89.38	248.4	857.8	895.4	866.9	28.46	31.641	
6,100.0	6,089.7	6,155.3	6,089.6	14.0	20.3	89.30	249.7	861.7	898.1	869.2	28.91	31.064	
6,200.0	6,189.7	6,258.4	6,192.7	14.2	20.4	89.30	249.7	861.7	898.1	868.8	29.31	30.642	
6,300.0	6,289.7	6,359.3	6,293.4	14.5	20.5	89.59	245.2	861.7	898.0	868.4	29.69	30.246	
6,346.2	6,335.9	6,405.2	6,338.9	14.6	20.5	89.99	238.8	861.7	898.0	868.2	29.86	30.074	
6,346.9	6,336.6	6,405.9	6,339.6	14.6	20.5	-90.00	238.7	861.7	898.0	868.2	29.86	30.072	
6,350.0	6,339.7	6,409.0	6,342.6	14.6	20.5	-89.97	238.2	861.7	898.0	868.2	29.87	30.062	
6,400.0	6,389.7	6,458.0	6,390.6	14.6	20.6	-89.44	228.2	861.7	898.1	868.1	30.01	29.923	
6,450.0	6,439.4	6,506.4	6,437.3	14.7	20.6	-88.92	215.2	861.7	898.2	868.1	30.13	29.815	
6,500.0	6,488.7	6,554.4	6,482.7	14.7	20.6	-88.40	199.6	861.7	898.4	868.2	30.21	29.736	
6,550.0	6,537.3	6,602.0	6,526.5	14.8	20.6	-87.90	181.2	861.7	898.6	868.4	30.28	29.680	
6,600.0	6,585.1	6,650.0	6,569.6	14.8	20.6	-87.39	160.0	861.7	899.0	868.6	30.33	29.641	
6,650.0	6,631.8	6,695.7	6,609.2	14.8	20.6	-86.92	137.3	861.7	899.4	869.0	30.37	29.616	
6,700.0	6,677.2	6,741.9	6,647.9	14.8	20.6	-86.45	112.0	861.7	899.8	869.4	30.40	29.594	
6,750.0	6,721.2	6,787.8	6,684.7	14.9	20.6	-85.99	84.6	861.7	900.3	869.8	30.45	29.568	
6,800.0	6,763.5	6,833.4	6,719.6	14.9	20.6	-85.56	55.3	861.7	900.8	870.3	30.50	29.530	
6,850.0	6,804.0	6,878.6	6,752.4	14.9	20.6	-85.14	24.2	861.7	901.3	870.7	30.58	29.470	
6,900.0	6,842.5	6,923.5	6,783.1	15.0	20.7	-84.74	-8.6	861.7	901.9	871.2	30.69	29.387	
6,950.0	6,878.8	6,968.1	6,811.6	15.0	20.7	-84.36	-42.8	861.7	902.4	871.6	30.86	29.244	
7,000.0	6,912.8	7,012.4	6,837.9	15.1	20.7	-84.01	-78.5	861.7	903.0	871.9	31.06	29.069	
7,050.0	6,944.3	7,056.5	6,862.0	15.3	20.8	-83.68	-115.4	861.7	903.6	872.2	31.33	28.839	
7,100.0	6,973.2	7,100.0	6,883.7	15.4	20.9	-83.37	-153.2	861.7	904.1	872.4	31.67	28.552	
7,150.0	6,999.4	7,144.1	6,903.4	15.6	21.0	-83.09	-192.6	861.7	904.6	872.6	32.08	28.197	
7,200.0	7,022.7	7,187.6	6,920.6	15.9	21.1	-82.84	-232.5	861.7	905.1	872.5	32.58	27.784	
7,250.0	7,043.1	7,230.9	6,935.4	16.2	21.3	-82.61	-273.3	861.7	905.6	872.4	33.15	27.314	
7,300.0	7,060.5	7,274.1	6,947.8	16.6	21.4	-82.41	-314.6	861.7	906.0	872.2	33.81	26.793	
7,350.0	7,074.8	7,317.2	6,957.9	17.0	21.7	-82.24	-356.5	861.7	906.3	871.8	34.56	26.227	
7,400.0	7,085.9	7,360.2	6,965.6	17.4	21.9	-82.10	-398.8	861.7	906.6	871.3	35.38	25.626	
7,450.0	7,093.8	7,400.0	6,970.6	17.9	22.2	-81.99	-438.3	861.7	906.9	870.6	36.25	25.021	
7,500.0	7,098.4	7,446.0	6,973.8	18.4	22.5	-81.91	-484.2	861.7	907.1	869.8	37.25	24.354	
7,541.9	7,099.8	7,481.9	6,974.4	18.8	22.8	-81.86	-520.0	861.7	907.2	869.1	38.11	23.806	
7,600.0	7,100.1	7,539.1	6,973.6	19.5	23.3	-81.79	-577.2	861.7	907.3	867.9	39.40	23.027	
7,700.0	7,100.7	7,639.1	6,972.1	20.7	24.3	-81.66	-677.2	861.7	907.6	865.8	41.81	21.710	
7,800.0	7,101.3	7,739.0	6,970.7	22.0	25.4	-81.54	-777.2	861.7	907.9	863.5	44.40	20.446	
7,900.0	7,101.8	7,839.0	6,969.2	23.5	26.6	-81.41	-877.1	861.7	908.2	861.0	47.16	19.256	
8,000.0	7,102.4	7,939.0	6,967.8	24.9	27.9	-81.29	-977.1	861.7	908.5	858.4	50.06	18.149	
8,100.0	7,102.9	8,039.0	6,966.3	26.5	29.3	-81.16	-1,077.1	861.7	908.8	855.7	53.06	17.126	
8,200.0	7,103.5	8,139.0	6,964.9	28.0	30.7	-81.04	-1,177.0	861.7	909.1	852.9	56.16	16.187	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Project:</b>	SEC.7-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Reference Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (8-15-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Honebein 4N64W7K Pad Sec.7-T4N-R64W - Honebein 7O-243 - Wellbore #1 - Plan #1 (8-18-14)												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)			
8,300.0	7,104.1	8,238.9	6,963.4	29.7	32.2	-80.91	-1,277.0	861.7	909.4	850.1	59.34	15.325		
8,400.0	7,104.6	8,338.9	6,962.0	31.3	33.7	-80.79	-1,377.0	861.7	909.7	847.2	62.59	14.536		
8,500.0	7,105.2	8,438.9	6,960.5	33.0	35.3	-80.66	-1,476.9	861.7	910.1	844.2	65.89	13.813		
8,600.0	7,105.7	8,538.9	6,959.1	34.7	36.9	-80.54	-1,576.9	861.7	910.4	841.2	69.23	13.149		
8,700.0	7,106.3	8,638.9	6,957.6	36.5	38.5	-80.41	-1,676.9	861.7	910.7	838.1	72.62	12.541		
8,800.0	7,106.8	8,738.8	6,956.2	38.2	40.1	-80.29	-1,776.8	861.7	911.1	835.0	76.04	11.981		
8,900.0	7,107.4	8,838.8	6,954.7	40.0	41.8	-80.17	-1,876.8	861.7	911.4	831.9	79.50	11.465		
9,000.0	7,108.0	8,938.8	6,953.3	41.7	43.5	-80.04	-1,976.8	861.7	911.7	828.8	82.97	10.988		
9,100.0	7,108.5	9,038.8	6,951.8	43.5	45.2	-79.92	-2,076.8	861.7	912.1	825.6	86.47	10.548		
9,200.0	7,109.1	9,138.8	6,950.4	45.3	47.0	-79.79	-2,176.7	861.7	912.4	822.4	89.99	10.139		
9,300.0	7,109.6	9,238.7	6,948.9	47.1	48.7	-79.67	-2,276.7	861.7	912.8	819.3	93.53	9.760		
9,400.0	7,110.2	9,338.7	6,947.5	49.0	50.5	-79.55	-2,376.7	861.7	913.2	816.1	97.08	9.407		
9,500.0	7,110.8	9,438.7	6,946.0	50.8	52.2	-79.42	-2,476.6	861.7	913.5	812.9	100.64	9.077		
9,600.0	7,111.3	9,538.7	6,944.6	52.6	54.0	-79.30	-2,576.6	861.7	913.9	809.7	104.21	8.770		
9,700.0	7,111.9	9,638.7	6,943.1	54.5	55.8	-79.17	-2,676.6	861.7	914.3	806.5	107.79	8.482		
9,800.0	7,112.4	9,738.6	6,941.7	56.3	57.6	-79.05	-2,776.5	861.7	914.6	803.3	111.39	8.212		
9,900.0	7,113.0	9,838.6	6,940.2	58.2	59.4	-78.93	-2,876.5	861.7	915.0	800.0	114.98	7.958		
10,000.0	7,113.6	9,938.6	6,938.8	60.0	61.2	-78.80	-2,976.5	861.7	915.4	796.8	118.59	7.719		
10,100.0	7,114.1	10,038.6	6,937.3	61.9	63.1	-78.68	-3,076.4	861.7	915.8	793.6	122.20	7.495		
10,200.0	7,114.7	10,138.5	6,935.9	63.7	64.9	-78.56	-3,176.4	861.7	916.2	790.4	125.81	7.282		
10,300.0	7,115.2	10,238.5	6,934.5	65.6	66.7	-78.44	-3,276.4	861.7	916.6	787.2	129.43	7.082		
10,400.0	7,115.8	10,338.5	6,933.0	67.5	68.5	-78.31	-3,376.4	861.7	917.0	784.0	133.05	6.892		
10,500.0	7,116.3	10,438.5	6,931.6	69.3	70.4	-78.19	-3,476.3	861.7	917.4	780.7	136.67	6.712		
10,600.0	7,116.9	10,538.5	6,930.1	71.2	72.2	-78.07	-3,576.3	861.7	917.8	777.5	140.30	6.542		
10,700.0	7,117.5	10,638.4	6,928.7	73.1	74.1	-77.94	-3,676.3	861.7	918.2	774.3	143.93	6.380		
10,800.0	7,118.0	10,738.4	6,927.2	75.0	75.9	-77.82	-3,776.2	861.7	918.7	771.1	147.55	6.226		
10,900.0	7,118.6	10,838.4	6,925.8	76.8	77.8	-77.70	-3,876.2	861.7	919.1	767.9	151.18	6.079		
11,000.0	7,119.1	10,938.4	6,924.3	78.7	79.6	-77.58	-3,976.2	861.7	919.5	764.7	154.81	5.939		
11,100.0	7,119.7	11,038.4	6,922.9	80.6	81.5	-77.46	-4,076.1	861.7	919.9	761.5	158.44	5.806		
11,200.0	7,120.3	11,138.3	6,921.4	82.5	83.3	-77.33	-4,176.1	861.7	920.4	758.3	162.07	5.679		
11,300.0	7,120.8	11,238.3	6,920.0	84.4	85.2	-77.21	-4,276.1	861.7	920.8	755.1	165.70	5.557		
11,400.0	7,121.4	11,338.3	6,918.5	86.3	87.1	-77.09	-4,376.1	861.7	921.3	751.9	169.33	5.441		
11,500.0	7,121.9	11,438.3	6,917.1	88.1	88.9	-76.97	-4,476.0	861.7	921.7	748.8	172.96	5.329		
11,512.9	7,122.0	11,443.2	6,917.0	88.4	89.0	-76.96	-4,481.0	861.7	921.8	748.5	173.29	5.320		
11,513.7	7,122.0	11,443.2	6,917.0	88.4	89.0	-76.96	-4,481.0	861.7	921.8	748.5	173.30	5.319 SF		



Reference Depths are relative to WELL @ 4864.0ft (RKB - 15')	Coordinates are relative to: Honebein 7K-403
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000 °	Grid Convergence at Surface is: 0.58°



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Honebein 7K-403
<b>Project:</b>	SEC.7-T4N-R64W	<b>TVD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Reference Site:</b>	Honebein 4N64W7K Pad Sec.7-T4N-R64W	<b>MD Reference:</b>	WELL @ 4864.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Honebein 7K-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (8-15-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4864.0ft (RKB - 15')

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Honebein 7K-403

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.58°

