

# PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Harvesters Resources 15R-403**

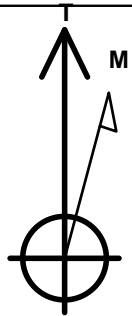
Surface Location: Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
Ground Elevation: 4815.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1423919.45	3206803.08	40.494680	-104.756420	

RKB - 15' WELL @ 4830.0ft (RKB - 15')

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
BHL 500'FSL, 1374'FEL	7270.0	-4451.9	-734.4	Point



Azimuths to True North  
Magnetic North: 8.60°

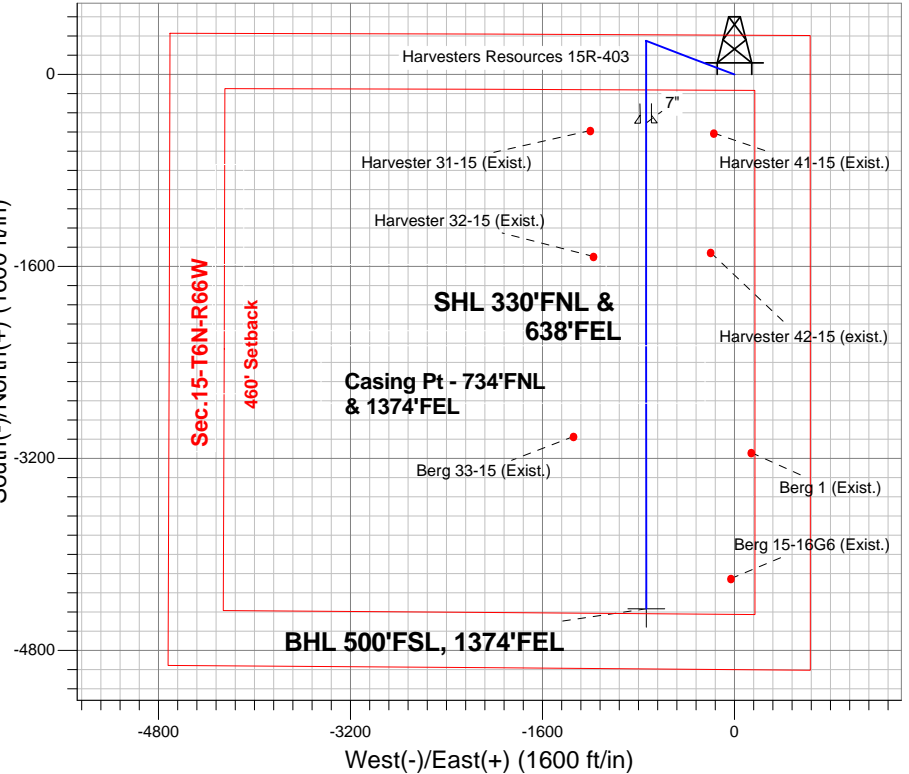
Magnetic Field  
Strength: 52972.2snT  
Dip Angle: 67.06°  
Date: 6/11/2013  
Model: IGRF2010

Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W  
Harvesters Resources 15R-403  
Plan #1 (6-11-13)  
9:04, June 11 2013

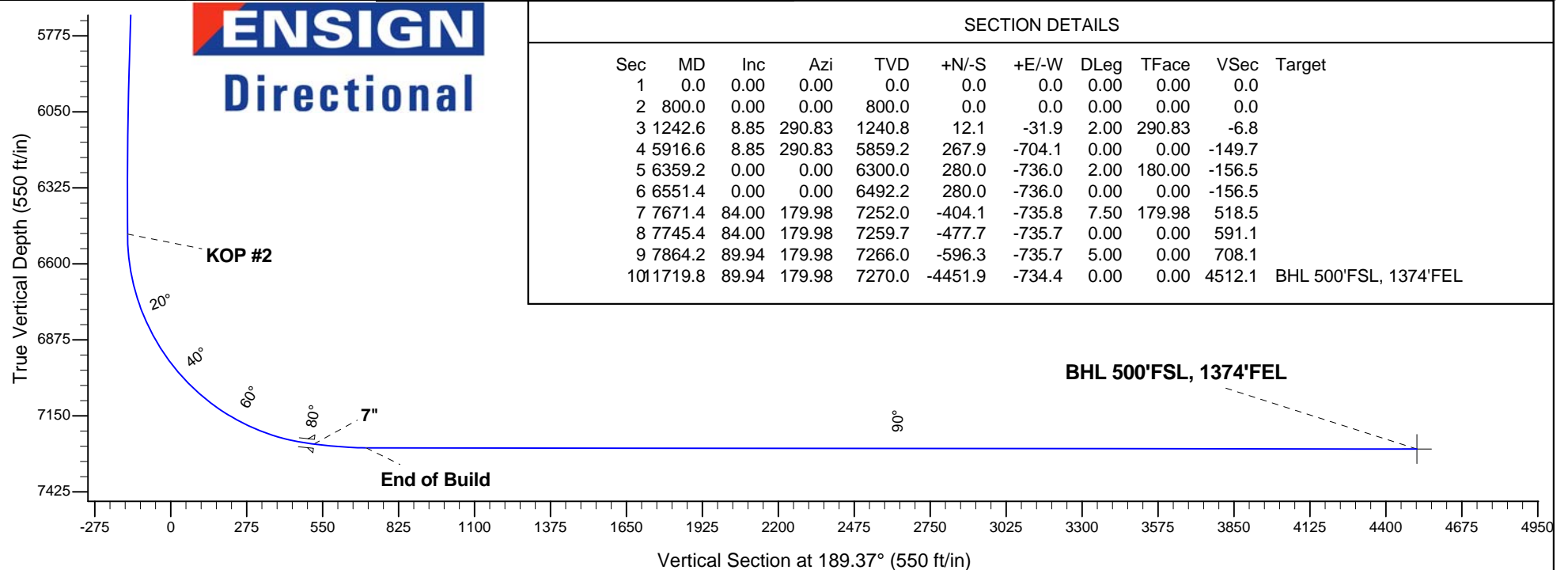
## ANNOTATIONS

TVD	MD	Annotation
800.0	800.0	KOP #1
6492.2	6551.4	KOP #2
7266.0	7864.2	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	800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.0	
3	1242.6	8.85	290.83	1240.8	12.1	-31.9	2.00	290.83	-6.8	
4	5916.6	8.85	290.83	5859.2	267.9	-704.1	0.00	0.00	-149.7	
5	6359.2	0.00	0.00	6300.0	280.0	-736.0	2.00	180.00	-156.5	
6	6551.4	0.00	0.00	6492.2	280.0	-736.0	0.00	0.00	-156.5	
7	7671.4	84.00	179.98	7252.0	-404.1	-735.8	7.50	179.98	518.5	
8	7745.4	84.00	179.98	7259.7	-477.7	-735.7	0.00	0.00	591.1	
9	7864.2	89.94	179.98	7266.0	-596.3	-735.7	5.00	0.00	708.1	
10	1719.8	89.94	179.98	7270.0	-4451.9	-734.4	0.00	0.00	4512.1	BHL 500'FSL, 1374'FEL



## **Directional**

# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.15-T6N-R66W**

**Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W**

**Harvesters Resources 15R-403**

**Wellbore #1**

**Plan: Plan #1 (6-11-13)**

## **Standard Planning Report**

**11 June, 2013**

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Harvesters Resources 15R-403
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Project:</b>	SEC.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Harvesters Resources 15R-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (6-11-13)		

<b>Project</b>	SEC.15-T6N-R66W, Weld County, CO		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W					
Site Position:		Northing:		1,423,919.73ft	
From:		Easting:		3,206,833.67ft	
Position Uncertainty:		Slot Radius:		Grid Convergence:	
Lat/Long		"		°	
0.0 ft				0.48	

Well	Harvesters Resources 15R-403					
Well Position	+N-S	0.0 ft	Northing:	1,423,919.45 ft	Latitude:	40.494680
	+E-W	-30.6 ft	Easting:	3,206,803.08 ft	Longitude:	-104.756420
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,815.0 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	6/11/2013	8.60	67.06	52,972

<b>Design</b>	Plan #1 (6-11-13)			
<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	189.37

<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	
800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,242.6	8.85	290.83	1,240.8	12.1	-31.9	2.00	2.00	0.00	290.83	
5,916.6	8.85	290.83	5,859.2	267.9	-704.1	0.00	0.00	0.00	0.00	
6,359.2	0.00	0.00	6,300.0	280.0	-736.0	2.00	-2.00	0.00	180.00	
6,551.4	0.00	0.00	6,492.2	280.0	-736.0	0.00	0.00	0.00	0.00	
7,671.4	84.00	179.98	7,252.0	-404.1	-735.8	7.50	7.50	0.00	179.98	
7,745.4	84.00	179.98	7,259.7	-477.7	-735.7	0.00	0.00	0.00	0.00	
7,864.2	89.94	179.98	7,266.0	-596.3	-735.7	5.00	5.00	0.00	0.00	
11,719.8	89.94	179.98	7,270.0	-4,451.9	-734.4	0.00	0.00	0.00	0.00	BHL 500'FSL, 1374

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Harvesters Resources 15R-403
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Project:</b>	SEC.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Harvesters Resources 15R-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (6-11-13)		

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
40.0	0.00	0.00	40.0	0.0	0.0	0.0	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
160.0	0.00	0.00	160.0	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
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	0.00
280.0	0.00	0.00	280.0	0.0	0.0	0.0	0.00	0.00	0.00
320.0	0.00	0.00	320.0	0.0	0.0	0.0	0.00	0.00	0.00
360.0	0.00	0.00	360.0	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
440.0	0.00	0.00	440.0	0.0	0.0	0.0	0.00	0.00	0.00
480.0	0.00	0.00	480.0	0.0	0.0	0.0	0.00	0.00	0.00
520.0	0.00	0.00	520.0	0.0	0.0	0.0	0.00	0.00	0.00
560.0	0.00	0.00	560.0	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
640.0	0.00	0.00	640.0	0.0	0.0	0.0	0.00	0.00	0.00
680.0	0.00	0.00	680.0	0.0	0.0	0.0	0.00	0.00	0.00
720.0	0.00	0.00	720.0	0.0	0.0	0.0	0.00	0.00	0.00
760.0	0.00	0.00	760.0	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
<b>KOP #1</b>									
840.0	0.80	290.83	840.0	0.1	-0.3	-0.1	2.00	2.00	0.00
880.0	1.60	290.83	880.0	0.4	-1.0	-0.2	2.00	2.00	0.00
920.0	2.40	290.83	920.0	0.9	-2.3	-0.5	2.00	2.00	0.00
960.0	3.20	290.83	959.9	1.6	-4.2	-0.9	2.00	2.00	0.00
1,000.0	4.00	290.83	999.8	2.5	-6.5	-1.4	2.00	2.00	0.00
1,040.0	4.80	290.83	1,039.7	3.6	-9.4	-2.0	2.00	2.00	0.00
1,080.0	5.60	290.83	1,079.6	4.9	-12.8	-2.7	2.00	2.00	0.00
1,120.0	6.40	290.83	1,119.3	6.3	-16.7	-3.5	2.00	2.00	0.00
1,160.0	7.20	290.83	1,159.1	8.0	-21.1	-4.5	2.00	2.00	0.00
1,200.0	8.00	290.83	1,198.7	9.9	-26.1	-5.5	2.00	2.00	0.00
1,240.0	8.80	290.83	1,238.3	12.0	-31.5	-6.7	2.00	2.00	0.00
1,242.6	8.85	290.83	1,240.8	12.1	-31.9	-6.8	2.00	2.00	0.00
1,280.0	8.85	290.83	1,277.8	14.2	-37.3	-7.9	0.00	0.00	0.00
1,320.0	8.85	290.83	1,317.3	16.4	-43.0	-9.1	0.00	0.00	0.00
1,360.0	8.85	290.83	1,356.8	18.6	-48.8	-10.4	0.00	0.00	0.00
1,400.0	8.85	290.83	1,396.4	20.7	-54.5	-11.6	0.00	0.00	0.00
1,440.0	8.85	290.83	1,435.9	22.9	-60.3	-12.8	0.00	0.00	0.00
1,480.0	8.85	290.83	1,475.4	25.1	-66.0	-14.0	0.00	0.00	0.00
1,520.0	8.85	290.83	1,514.9	27.3	-71.8	-15.3	0.00	0.00	0.00
1,560.0	8.85	290.83	1,554.5	29.5	-77.5	-16.5	0.00	0.00	0.00
1,600.0	8.85	290.83	1,594.0	31.7	-83.3	-17.7	0.00	0.00	0.00
1,640.0	8.85	290.83	1,633.5	33.9	-89.0	-18.9	0.00	0.00	0.00
1,680.0	8.85	290.83	1,673.0	36.1	-94.8	-20.2	0.00	0.00	0.00
1,720.0	8.85	290.83	1,712.6	38.3	-100.6	-21.4	0.00	0.00	0.00
1,760.0	8.85	290.83	1,752.1	40.4	-106.3	-22.6	0.00	0.00	0.00
1,800.0	8.85	290.83	1,791.6	42.6	-112.1	-23.8	0.00	0.00	0.00
1,840.0	8.85	290.83	1,831.1	44.8	-117.8	-25.0	0.00	0.00	0.00
1,880.0	8.85	290.83	1,870.6	47.0	-123.6	-26.3	0.00	0.00	0.00
1,920.0	8.85	290.83	1,910.2	49.2	-129.3	-27.5	0.00	0.00	0.00
1,960.0	8.85	290.83	1,949.7	51.4	-135.1	-28.7	0.00	0.00	0.00

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<b>Project:</b>	SEC.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Harvesters Resources 15R-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (6-11-13)		

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)
2,000.0	8.85	290.83	1,989.2	53.6	-140.8	-29.9	0.00	0.00	0.00
2,040.0	8.85	290.83	2,028.7	55.8	-146.6	-31.2	0.00	0.00	0.00
2,080.0	8.85	290.83	2,068.3	58.0	-152.3	-32.4	0.00	0.00	0.00
2,120.0	8.85	290.83	2,107.8	60.1	-158.1	-33.6	0.00	0.00	0.00
2,160.0	8.85	290.83	2,147.3	62.3	-163.8	-34.8	0.00	0.00	0.00
2,200.0	8.85	290.83	2,186.8	64.5	-169.6	-36.1	0.00	0.00	0.00
2,240.0	8.85	290.83	2,226.4	66.7	-175.3	-37.3	0.00	0.00	0.00
2,280.0	8.85	290.83	2,265.9	68.9	-181.1	-38.5	0.00	0.00	0.00
2,320.0	8.85	290.83	2,305.4	71.1	-186.8	-39.7	0.00	0.00	0.00
2,360.0	8.85	290.83	2,344.9	73.3	-192.6	-40.9	0.00	0.00	0.00
2,400.0	8.85	290.83	2,384.5	75.5	-198.4	-42.2	0.00	0.00	0.00
2,440.0	8.85	290.83	2,424.0	77.6	-204.1	-43.4	0.00	0.00	0.00
2,480.0	8.85	290.83	2,463.5	79.8	-209.9	-44.6	0.00	0.00	0.00
2,520.0	8.85	290.83	2,503.0	82.0	-215.6	-45.8	0.00	0.00	0.00
2,560.0	8.85	290.83	2,542.6	84.2	-221.4	-47.1	0.00	0.00	0.00
2,600.0	8.85	290.83	2,582.1	86.4	-227.1	-48.3	0.00	0.00	0.00
2,640.0	8.85	290.83	2,621.6	88.6	-232.9	-49.5	0.00	0.00	0.00
2,680.0	8.85	290.83	2,661.1	90.8	-238.6	-50.7	0.00	0.00	0.00
2,720.0	8.85	290.83	2,700.6	93.0	-244.4	-52.0	0.00	0.00	0.00
2,760.0	8.85	290.83	2,740.2	95.2	-250.1	-53.2	0.00	0.00	0.00
2,800.0	8.85	290.83	2,779.7	97.3	-255.9	-54.4	0.00	0.00	0.00
2,840.0	8.85	290.83	2,819.2	99.5	-261.6	-55.6	0.00	0.00	0.00
2,880.0	8.85	290.83	2,858.7	101.7	-267.4	-56.8	0.00	0.00	0.00
2,920.0	8.85	290.83	2,898.3	103.9	-273.1	-58.1	0.00	0.00	0.00
2,960.0	8.85	290.83	2,937.8	106.1	-278.9	-59.3	0.00	0.00	0.00
3,000.0	8.85	290.83	2,977.3	108.3	-284.6	-60.5	0.00	0.00	0.00
3,040.0	8.85	290.83	3,016.8	110.5	-290.4	-61.7	0.00	0.00	0.00
3,080.0	8.85	290.83	3,056.4	112.7	-296.1	-63.0	0.00	0.00	0.00
3,120.0	8.85	290.83	3,095.9	114.9	-301.9	-64.2	0.00	0.00	0.00
3,160.0	8.85	290.83	3,135.4	117.0	-307.7	-65.4	0.00	0.00	0.00
3,200.0	8.85	290.83	3,174.9	119.2	-313.4	-66.6	0.00	0.00	0.00
3,240.0	8.85	290.83	3,214.5	121.4	-319.2	-67.9	0.00	0.00	0.00
3,280.0	8.85	290.83	3,254.0	123.6	-324.9	-69.1	0.00	0.00	0.00
3,320.0	8.85	290.83	3,293.5	125.8	-330.7	-70.3	0.00	0.00	0.00
3,360.0	8.85	290.83	3,333.0	128.0	-336.4	-71.5	0.00	0.00	0.00
3,400.0	8.85	290.83	3,372.5	130.2	-342.2	-72.7	0.00	0.00	0.00
3,440.0	8.85	290.83	3,412.1	132.4	-347.9	-74.0	0.00	0.00	0.00
3,480.0	8.85	290.83	3,451.6	134.6	-353.7	-75.2	0.00	0.00	0.00
3,520.0	8.85	290.83	3,491.1	136.7	-359.4	-76.4	0.00	0.00	0.00
3,560.0	8.85	290.83	3,530.6	138.9	-365.2	-77.6	0.00	0.00	0.00
3,600.0	8.85	290.83	3,570.2	141.1	-370.9	-78.9	0.00	0.00	0.00
3,640.0	8.85	290.83	3,609.7	143.3	-376.7	-80.1	0.00	0.00	0.00
3,680.0	8.85	290.83	3,649.2	145.5	-382.4	-81.3	0.00	0.00	0.00
3,720.0	8.85	290.83	3,688.7	147.7	-388.2	-82.5	0.00	0.00	0.00
3,760.0	8.85	290.83	3,728.3	149.9	-393.9	-83.8	0.00	0.00	0.00
3,800.0	8.85	290.83	3,767.8	152.1	-399.7	-85.0	0.00	0.00	0.00
3,840.0	8.85	290.83	3,807.3	154.2	-405.5	-86.2	0.00	0.00	0.00
3,880.0	8.85	290.83	3,846.8	156.4	-411.2	-87.4	0.00	0.00	0.00
3,920.0	8.85	290.83	3,886.4	158.6	-417.0	-88.6	0.00	0.00	0.00
3,960.0	8.85	290.83	3,925.9	160.8	-422.7	-89.9	0.00	0.00	0.00
4,000.0	8.85	290.83	3,965.4	163.0	-428.5	-91.1	0.00	0.00	0.00
4,040.0	8.85	290.83	4,004.9	165.2	-434.2	-92.3	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Harvesters Resources 15R-403
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Project:</b>	SEC.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Harvesters Resources 15R-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (6-11-13)		

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)
4,080.0	8.85	290.83	4,044.4	167.4	-440.0	-93.5	0.00	0.00	0.00
4,120.0	8.85	290.83	4,084.0	169.6	-445.7	-94.8	0.00	0.00	0.00
4,160.0	8.85	290.83	4,123.5	171.8	-451.5	-96.0	0.00	0.00	0.00
4,200.0	8.85	290.83	4,163.0	173.9	-457.2	-97.2	0.00	0.00	0.00
4,240.0	8.85	290.83	4,202.5	176.1	-463.0	-98.4	0.00	0.00	0.00
4,280.0	8.85	290.83	4,242.1	178.3	-468.7	-99.7	0.00	0.00	0.00
4,320.0	8.85	290.83	4,281.6	180.5	-474.5	-100.9	0.00	0.00	0.00
4,360.0	8.85	290.83	4,321.1	182.7	-480.2	-102.1	0.00	0.00	0.00
4,400.0	8.85	290.83	4,360.6	184.9	-486.0	-103.3	0.00	0.00	0.00
4,440.0	8.85	290.83	4,400.2	187.1	-491.7	-104.5	0.00	0.00	0.00
4,480.0	8.85	290.83	4,439.7	189.3	-497.5	-105.8	0.00	0.00	0.00
4,520.0	8.85	290.83	4,479.2	191.5	-503.3	-107.0	0.00	0.00	0.00
4,560.0	8.85	290.83	4,518.7	193.6	-509.0	-108.2	0.00	0.00	0.00
4,600.0	8.85	290.83	4,558.3	195.8	-514.8	-109.4	0.00	0.00	0.00
4,640.0	8.85	290.83	4,597.8	198.0	-520.5	-110.7	0.00	0.00	0.00
4,680.0	8.85	290.83	4,637.3	200.2	-526.3	-111.9	0.00	0.00	0.00
4,720.0	8.85	290.83	4,676.8	202.4	-532.0	-113.1	0.00	0.00	0.00
4,760.0	8.85	290.83	4,716.3	204.6	-537.8	-114.3	0.00	0.00	0.00
4,800.0	8.85	290.83	4,755.9	206.8	-543.5	-115.6	0.00	0.00	0.00
4,840.0	8.85	290.83	4,795.4	209.0	-549.3	-116.8	0.00	0.00	0.00
4,880.0	8.85	290.83	4,834.9	211.2	-555.0	-118.0	0.00	0.00	0.00
4,920.0	8.85	290.83	4,874.4	213.3	-560.8	-119.2	0.00	0.00	0.00
4,960.0	8.85	290.83	4,914.0	215.5	-566.5	-120.4	0.00	0.00	0.00
5,000.0	8.85	290.83	4,953.5	217.7	-572.3	-121.7	0.00	0.00	0.00
5,040.0	8.85	290.83	4,993.0	219.9	-578.0	-122.9	0.00	0.00	0.00
5,080.0	8.85	290.83	5,032.5	222.1	-583.8	-124.1	0.00	0.00	0.00
5,120.0	8.85	290.83	5,072.1	224.3	-589.5	-125.3	0.00	0.00	0.00
5,160.0	8.85	290.83	5,111.6	226.5	-595.3	-126.6	0.00	0.00	0.00
5,200.0	8.85	290.83	5,151.1	228.7	-601.0	-127.8	0.00	0.00	0.00
5,240.0	8.85	290.83	5,190.6	230.8	-606.8	-129.0	0.00	0.00	0.00
5,280.0	8.85	290.83	5,230.2	233.0	-612.6	-130.2	0.00	0.00	0.00
5,320.0	8.85	290.83	5,269.7	235.2	-618.3	-131.5	0.00	0.00	0.00
5,360.0	8.85	290.83	5,309.2	237.4	-624.1	-132.7	0.00	0.00	0.00
5,400.0	8.85	290.83	5,348.7	239.6	-629.8	-133.9	0.00	0.00	0.00
5,440.0	8.85	290.83	5,388.3	241.8	-635.6	-135.1	0.00	0.00	0.00
5,480.0	8.85	290.83	5,427.8	244.0	-641.3	-136.3	0.00	0.00	0.00
5,520.0	8.85	290.83	5,467.3	246.2	-647.1	-137.6	0.00	0.00	0.00
5,560.0	8.85	290.83	5,506.8	248.4	-652.8	-138.8	0.00	0.00	0.00
5,600.0	8.85	290.83	5,546.3	250.5	-658.6	-140.0	0.00	0.00	0.00
5,640.0	8.85	290.83	5,585.9	252.7	-664.3	-141.2	0.00	0.00	0.00
5,680.0	8.85	290.83	5,625.4	254.9	-670.1	-142.5	0.00	0.00	0.00
5,720.0	8.85	290.83	5,664.9	257.1	-675.8	-143.7	0.00	0.00	0.00
5,760.0	8.85	290.83	5,704.4	259.3	-681.6	-144.9	0.00	0.00	0.00
5,800.0	8.85	290.83	5,744.0	261.5	-687.3	-146.1	0.00	0.00	0.00
5,840.0	8.85	290.83	5,783.5	263.7	-693.1	-147.4	0.00	0.00	0.00
5,880.0	8.85	290.83	5,823.0	265.9	-698.8	-148.6	0.00	0.00	0.00
5,916.6	8.85	290.83	5,859.2	267.9	-704.1	-149.7	0.00	0.00	0.00
5,920.0	8.78	290.83	5,862.5	268.1	-704.6	-149.8	2.00	-2.00	0.00
5,960.0	7.98	290.83	5,902.1	270.1	-710.0	-151.0	2.00	-2.00	0.00
6,000.0	7.18	290.83	5,941.8	272.0	-715.0	-152.0	2.00	-2.00	0.00
6,040.0	6.38	290.83	5,981.5	273.7	-719.4	-152.9	2.00	-2.00	0.00
6,080.0	5.58	290.83	6,021.3	275.2	-723.3	-153.8	2.00	-2.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Harvesters Resources 15R-403
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Project:</b>	SEC.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Harvesters Resources 15R-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (6-11-13)		

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)
6,120.0	4.78	290.83	6,061.1	276.5	-726.7	-154.5	2.00	-2.00	0.00
6,160.0	3.98	290.83	6,101.0	277.5	-729.5	-155.1	2.00	-2.00	0.00
6,200.0	3.18	290.83	6,140.9	278.4	-731.9	-155.6	2.00	-2.00	0.00
6,240.0	2.38	290.83	6,180.9	279.1	-733.7	-156.0	2.00	-2.00	0.00
6,280.0	1.58	290.83	6,220.8	279.6	-735.0	-156.3	2.00	-2.00	0.00
6,320.0	0.78	290.83	6,260.8	279.9	-735.7	-156.4	2.00	-2.00	0.00
6,359.2	0.00	0.00	6,300.0	280.0	-736.0	-156.5	2.00	-2.00	0.00
6,360.0	0.00	0.00	6,300.8	280.0	-736.0	-156.5	0.00	0.00	0.00
6,400.0	0.00	0.00	6,340.8	280.0	-736.0	-156.5	0.00	0.00	0.00
6,440.0	0.00	0.00	6,380.8	280.0	-736.0	-156.5	0.00	0.00	0.00
6,480.0	0.00	0.00	6,420.8	280.0	-736.0	-156.5	0.00	0.00	0.00
6,520.0	0.00	0.00	6,460.8	280.0	-736.0	-156.5	0.00	0.00	0.00
6,551.4	0.00	0.00	6,492.2	280.0	-736.0	-156.5	0.00	0.00	0.00
KOP #2									
6,560.0	0.65	179.98	6,500.8	280.0	-736.0	-156.4	7.52	7.52	0.00
6,600.0	3.65	179.98	6,540.8	278.5	-736.0	-154.9	7.50	7.50	0.00
6,640.0	6.65	179.98	6,580.6	274.9	-736.0	-151.4	7.50	7.50	0.00
6,680.0	9.65	179.98	6,620.2	269.2	-736.0	-145.8	7.50	7.50	0.00
6,720.0	12.65	179.98	6,659.4	261.5	-736.0	-138.2	7.50	7.50	0.00
6,760.0	15.65	179.98	6,698.2	251.7	-736.0	-128.5	7.50	7.50	0.00
6,800.0	18.65	179.98	6,736.4	239.9	-736.0	-116.9	7.50	7.50	0.00
6,840.0	21.65	179.98	6,774.0	226.1	-736.0	-103.3	7.50	7.50	0.00
6,880.0	24.65	179.98	6,810.8	210.4	-736.0	-87.8	7.50	7.50	0.00
6,920.0	27.65	179.98	6,846.7	192.8	-736.0	-70.4	7.50	7.50	0.00
6,960.0	30.65	179.98	6,881.6	173.3	-736.0	-51.2	7.50	7.50	0.00
7,000.0	33.65	179.98	6,915.5	152.0	-736.0	-30.2	7.50	7.50	0.00
7,040.0	36.65	179.98	6,948.2	129.0	-735.9	-7.5	7.50	7.50	0.00
7,080.0	39.65	179.98	6,979.6	104.3	-735.9	16.9	7.50	7.50	0.00
7,120.0	42.65	179.98	7,009.7	78.0	-735.9	42.9	7.50	7.50	0.00
7,160.0	45.65	179.98	7,038.4	50.1	-735.9	70.3	7.50	7.50	0.00
7,200.0	48.65	179.98	7,065.6	20.8	-735.9	99.3	7.50	7.50	0.00
7,240.0	51.65	179.98	7,091.3	-9.9	-735.9	129.6	7.50	7.50	0.00
7,280.0	54.65	179.98	7,115.3	-41.9	-735.9	161.1	7.50	7.50	0.00
7,320.0	57.65	179.98	7,137.5	-75.1	-735.9	193.9	7.50	7.50	0.00
7,360.0	60.65	179.98	7,158.1	-109.5	-735.9	227.8	7.50	7.50	0.00
7,400.0	63.65	179.98	7,176.7	-144.8	-735.9	262.7	7.50	7.50	0.00
7,440.0	66.65	179.98	7,193.6	-181.1	-735.8	298.5	7.50	7.50	0.00
7,480.0	69.65	179.98	7,208.4	-218.2	-735.8	335.1	7.50	7.50	0.00
7,520.0	72.65	179.98	7,221.4	-256.1	-735.8	372.4	7.50	7.50	0.00
7,560.0	75.65	179.98	7,232.3	-294.6	-735.8	410.4	7.50	7.50	0.00
7,600.0	78.65	179.98	7,241.2	-333.6	-735.8	448.9	7.50	7.50	0.00
7,640.0	81.65	179.98	7,248.0	-373.0	-735.8	487.7	7.50	7.50	0.00
7,671.4	84.00	179.98	7,252.0	-404.1	-735.8	518.5	7.49	7.49	0.00
7"									
7,680.0	84.00	179.98	7,252.9	-412.7	-735.8	526.9	0.00	0.00	0.00
7,720.0	84.00	179.98	7,257.0	-452.4	-735.8	566.2	0.00	0.00	0.00
7,745.4	84.00	179.98	7,259.7	-477.7	-735.7	591.1	0.00	0.00	0.00
7,760.0	84.73	179.98	7,261.1	-492.2	-735.7	605.4	5.00	5.00	0.00
7,800.0	86.73	179.98	7,264.1	-532.1	-735.7	644.8	5.00	5.00	0.00
7,840.0	88.73	179.98	7,265.7	-572.1	-735.7	684.2	5.00	5.00	0.00
7,864.2	89.94	179.98	7,266.0	-596.3	-735.7	708.1	5.00	5.00	0.00
End of Build									



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Harvesters Resources 15R-403
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Project:</b>	SEC.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Harvesters Resources 15R-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (6-11-13)		

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)
7,880.0	89.94	179.98	7,266.0	-612.1	-735.7	723.7	0.00	0.00	0.00
7,920.0	89.94	179.98	7,266.0	-652.1	-735.7	763.1	0.00	0.00	0.00
7,960.0	89.94	179.98	7,266.1	-692.1	-735.7	802.6	0.00	0.00	0.00
8,000.0	89.94	179.98	7,266.1	-732.1	-735.7	842.1	0.00	0.00	0.00
8,040.0	89.94	179.98	7,266.1	-772.1	-735.6	881.5	0.00	0.00	0.00
8,080.0	89.94	179.98	7,266.2	-812.1	-735.6	921.0	0.00	0.00	0.00
8,120.0	89.94	179.98	7,266.2	-852.1	-735.6	960.5	0.00	0.00	0.00
8,160.0	89.94	179.98	7,266.3	-892.1	-735.6	999.9	0.00	0.00	0.00
8,200.0	89.94	179.98	7,266.3	-932.1	-735.6	1,039.4	0.00	0.00	0.00
8,240.0	89.94	179.98	7,266.4	-972.1	-735.6	1,078.9	0.00	0.00	0.00
8,280.0	89.94	179.98	7,266.4	-1,012.1	-735.6	1,118.3	0.00	0.00	0.00
8,320.0	89.94	179.98	7,266.4	-1,052.1	-735.5	1,157.8	0.00	0.00	0.00
8,360.0	89.94	179.98	7,266.5	-1,092.1	-735.5	1,197.2	0.00	0.00	0.00
8,400.0	89.94	179.98	7,266.5	-1,132.1	-735.5	1,236.7	0.00	0.00	0.00
8,440.0	89.94	179.98	7,266.6	-1,172.1	-735.5	1,276.2	0.00	0.00	0.00
8,480.0	89.94	179.98	7,266.6	-1,212.1	-735.5	1,315.6	0.00	0.00	0.00
8,520.0	89.94	179.98	7,266.6	-1,252.1	-735.5	1,355.1	0.00	0.00	0.00
8,560.0	89.94	179.98	7,266.7	-1,292.1	-735.5	1,394.6	0.00	0.00	0.00
8,600.0	89.94	179.98	7,266.7	-1,332.1	-735.5	1,434.0	0.00	0.00	0.00
8,640.0	89.94	179.98	7,266.8	-1,372.1	-735.4	1,473.5	0.00	0.00	0.00
8,680.0	89.94	179.98	7,266.8	-1,412.1	-735.4	1,513.0	0.00	0.00	0.00
8,720.0	89.94	179.98	7,266.9	-1,452.1	-735.4	1,552.4	0.00	0.00	0.00
8,760.0	89.94	179.98	7,266.9	-1,492.1	-735.4	1,591.9	0.00	0.00	0.00
8,800.0	89.94	179.98	7,266.9	-1,532.1	-735.4	1,631.4	0.00	0.00	0.00
8,840.0	89.94	179.98	7,267.0	-1,572.1	-735.4	1,670.8	0.00	0.00	0.00
8,880.0	89.94	179.98	7,267.0	-1,612.1	-735.4	1,710.3	0.00	0.00	0.00
8,920.0	89.94	179.98	7,267.1	-1,652.1	-735.3	1,749.7	0.00	0.00	0.00
8,960.0	89.94	179.98	7,267.1	-1,692.1	-735.3	1,789.2	0.00	0.00	0.00
9,000.0	89.94	179.98	7,267.2	-1,732.1	-735.3	1,828.7	0.00	0.00	0.00
9,040.0	89.94	179.98	7,267.2	-1,772.1	-735.3	1,868.1	0.00	0.00	0.00
9,080.0	89.94	179.98	7,267.2	-1,812.1	-735.3	1,907.6	0.00	0.00	0.00
9,120.0	89.94	179.98	7,267.3	-1,852.1	-735.3	1,947.1	0.00	0.00	0.00
9,160.0	89.94	179.98	7,267.3	-1,892.1	-735.3	1,986.5	0.00	0.00	0.00
9,200.0	89.94	179.98	7,267.4	-1,932.1	-735.3	2,026.0	0.00	0.00	0.00
9,240.0	89.94	179.98	7,267.4	-1,972.1	-735.2	2,065.5	0.00	0.00	0.00
9,280.0	89.94	179.98	7,267.4	-2,012.1	-735.2	2,104.9	0.00	0.00	0.00
9,320.0	89.94	179.98	7,267.5	-2,052.1	-735.2	2,144.4	0.00	0.00	0.00
9,360.0	89.94	179.98	7,267.5	-2,092.1	-735.2	2,183.9	0.00	0.00	0.00
9,400.0	89.94	179.98	7,267.6	-2,132.1	-735.2	2,223.3	0.00	0.00	0.00
9,440.0	89.94	179.98	7,267.6	-2,172.1	-735.2	2,262.8	0.00	0.00	0.00
9,480.0	89.94	179.98	7,267.7	-2,212.1	-735.2	2,302.2	0.00	0.00	0.00
9,520.0	89.94	179.98	7,267.7	-2,252.1	-735.1	2,341.7	0.00	0.00	0.00
9,560.0	89.94	179.98	7,267.7	-2,292.1	-735.1	2,381.2	0.00	0.00	0.00
9,600.0	89.94	179.98	7,267.8	-2,332.1	-735.1	2,420.6	0.00	0.00	0.00
9,640.0	89.94	179.98	7,267.8	-2,372.1	-735.1	2,460.1	0.00	0.00	0.00
9,680.0	89.94	179.98	7,267.9	-2,412.1	-735.1	2,499.6	0.00	0.00	0.00
9,720.0	89.94	179.98	7,267.9	-2,452.1	-735.1	2,539.0	0.00	0.00	0.00
9,760.0	89.94	179.98	7,267.9	-2,492.1	-735.1	2,578.5	0.00	0.00	0.00
9,800.0	89.94	179.98	7,268.0	-2,532.1	-735.0	2,618.0	0.00	0.00	0.00
9,840.0	89.94	179.98	7,268.0	-2,572.1	-735.0	2,657.4	0.00	0.00	0.00
9,880.0	89.94	179.98	7,268.1	-2,612.1	-735.0	2,696.9	0.00	0.00	0.00
9,920.0	89.94	179.98	7,268.1	-2,652.1	-735.0	2,736.4	0.00	0.00	0.00



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Harvesters Resources 15R-403
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Project:</b>	SEC.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Harvesters Resources 15R-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (6-11-13)		

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)
9,960.0	89.94	179.98	7,268.2	-2,692.1	-735.0	2,775.8	0.00	0.00	0.00
10,000.0	89.94	179.98	7,268.2	-2,732.1	-735.0	2,815.3	0.00	0.00	0.00
10,040.0	89.94	179.98	7,268.2	-2,772.1	-735.0	2,854.7	0.00	0.00	0.00
10,080.0	89.94	179.98	7,268.3	-2,812.1	-735.0	2,894.2	0.00	0.00	0.00
10,120.0	89.94	179.98	7,268.3	-2,852.1	-734.9	2,933.7	0.00	0.00	0.00
10,160.0	89.94	179.98	7,268.4	-2,892.1	-734.9	2,973.1	0.00	0.00	0.00
10,200.0	89.94	179.98	7,268.4	-2,932.1	-734.9	3,012.6	0.00	0.00	0.00
10,240.0	89.94	179.98	7,268.5	-2,972.1	-734.9	3,052.1	0.00	0.00	0.00
10,280.0	89.94	179.98	7,268.5	-3,012.1	-734.9	3,091.5	0.00	0.00	0.00
10,320.0	89.94	179.98	7,268.5	-3,052.1	-734.9	3,131.0	0.00	0.00	0.00
10,360.0	89.94	179.98	7,268.6	-3,092.1	-734.9	3,170.5	0.00	0.00	0.00
10,400.0	89.94	179.98	7,268.6	-3,132.1	-734.8	3,209.9	0.00	0.00	0.00
10,440.0	89.94	179.98	7,268.7	-3,172.1	-734.8	3,249.4	0.00	0.00	0.00
10,480.0	89.94	179.98	7,268.7	-3,212.1	-734.8	3,288.9	0.00	0.00	0.00
10,520.0	89.94	179.98	7,268.7	-3,252.1	-734.8	3,328.3	0.00	0.00	0.00
10,560.0	89.94	179.98	7,268.8	-3,292.1	-734.8	3,367.8	0.00	0.00	0.00
10,600.0	89.94	179.98	7,268.8	-3,332.1	-734.8	3,407.3	0.00	0.00	0.00
10,640.0	89.94	179.98	7,268.9	-3,372.1	-734.8	3,446.7	0.00	0.00	0.00
10,680.0	89.94	179.98	7,268.9	-3,412.1	-734.8	3,486.2	0.00	0.00	0.00
10,720.0	89.94	179.98	7,269.0	-3,452.1	-734.7	3,525.6	0.00	0.00	0.00
10,760.0	89.94	179.98	7,269.0	-3,492.1	-734.7	3,565.1	0.00	0.00	0.00
10,800.0	89.94	179.98	7,269.0	-3,532.1	-734.7	3,604.6	0.00	0.00	0.00
10,840.0	89.94	179.98	7,269.1	-3,572.1	-734.7	3,644.0	0.00	0.00	0.00
10,880.0	89.94	179.98	7,269.1	-3,612.1	-734.7	3,683.5	0.00	0.00	0.00
10,920.0	89.94	179.98	7,269.2	-3,652.1	-734.7	3,723.0	0.00	0.00	0.00
10,960.0	89.94	179.98	7,269.2	-3,692.1	-734.7	3,762.4	0.00	0.00	0.00
11,000.0	89.94	179.98	7,269.2	-3,732.1	-734.6	3,801.9	0.00	0.00	0.00
11,040.0	89.94	179.98	7,269.3	-3,772.1	-734.6	3,841.4	0.00	0.00	0.00
11,080.0	89.94	179.98	7,269.3	-3,812.1	-734.6	3,880.8	0.00	0.00	0.00
11,120.0	89.94	179.98	7,269.4	-3,852.1	-734.6	3,920.3	0.00	0.00	0.00
11,160.0	89.94	179.98	7,269.4	-3,892.1	-734.6	3,959.8	0.00	0.00	0.00
11,200.0	89.94	179.98	7,269.5	-3,932.1	-734.6	3,999.2	0.00	0.00	0.00
11,240.0	89.94	179.98	7,269.5	-3,972.1	-734.6	4,038.7	0.00	0.00	0.00
11,280.0	89.94	179.98	7,269.5	-4,012.1	-734.5	4,078.1	0.00	0.00	0.00
11,320.0	89.94	179.98	7,269.6	-4,052.1	-734.5	4,117.6	0.00	0.00	0.00
11,360.0	89.94	179.98	7,269.6	-4,092.1	-734.5	4,157.1	0.00	0.00	0.00
11,400.0	89.94	179.98	7,269.7	-4,132.1	-734.5	4,196.5	0.00	0.00	0.00
11,440.0	89.94	179.98	7,269.7	-4,172.1	-734.5	4,236.0	0.00	0.00	0.00
11,480.0	89.94	179.98	7,269.7	-4,212.1	-734.5	4,275.5	0.00	0.00	0.00
11,520.0	89.94	179.98	7,269.8	-4,252.1	-734.5	4,314.9	0.00	0.00	0.00
11,560.0	89.94	179.98	7,269.8	-4,292.1	-734.5	4,354.4	0.00	0.00	0.00
11,600.0	89.94	179.98	7,269.9	-4,332.1	-734.4	4,393.9	0.00	0.00	0.00
11,640.0	89.94	179.98	7,269.9	-4,372.1	-734.4	4,433.3	0.00	0.00	0.00
11,680.0	89.94	179.98	7,270.0	-4,412.1	-734.4	4,472.8	0.00	0.00	0.00
11,719.8	89.94	179.98	7,270.0	-4,451.9	-734.4	4,512.1	0.00	0.00	0.00
BHL 500'FSL, 1374'FEL									

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Harvesters Resources 15R-403
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Project:</b>	SEC.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Harvesters Resources 15R-403	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (6-11-13)		

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
BHL 500'FSL, 1374'FI	0.00	0.00	7,270.0	-4,451.9	-734.4	1,419,461.68	3,206,106.06	40.482460	-104.759060
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
7,671.4	7,252.0	7"	7	7-1/2	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
800.0	800.0	0.0	0.0	KOP #1
6,551.4	6,492.2	280.0	-736.0	KOP #2
7,864.2	7,266.0	-596.3	-735.7	End of Build



## **Directional**

# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.15-T6N-R66W**

**Harvesters Resources 15UR-HZ Pad**

**Sec.15-T6N-R66W**

**Harvesters Resources 15R-403**

**Wellbore #1**

**Plan #1 (6-11-13)**

## **Anticollision Report**

**11 June, 2013**



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Reference	Plan #1 (6-11-13)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date	6/11/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	11,719.8	Plan #1 (6-11-13) (Wellbore #1)	MWD	MWD - Standard	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Existing Wells						
Berg 1 (Exist.) - Wellbore #1 - Wellbore #1	10,419.6	7,215.6	876.7	668.7	4.215	CC, ES
Berg 1 (Exist.) - Wellbore #1 - Wellbore #1	10,500.0	7,215.7	880.4	670.9	4.202	SF
Berg 15-16G6 (Exist.) - Wellbore #1 - Wellbore #1	11,468.7	7,216.7	706.7	479.0	3.104	CC, ES
Berg 15-16G6 (Exist.) - Wellbore #1 - Wellbore #1	11,500.0	7,216.8	707.4	479.1	3.099	SF
Berg 33-15 (Exist.) - Wellbore #1 - Wellbore #1	10,284.2	7,221.5	605.9	400.3	2.947	CC
Berg 33-15 (Exist.) - Wellbore #1 - Wellbore #1	10,300.0	7,221.5	606.1	400.2	2.943	ES, SF
Harvester 31-15 (Exist.) - Wellbore #1 - Wellbore #1	7,733.8	7,238.5	465.8	301.8	2.840	CC, ES
Harvester 31-15 (Exist.) - Wellbore #1 - Wellbore #1	7,745.4	7,239.7	465.9	301.8	2.838	SF
Harvester 32-15 (Exist.) - Wellbore #1 - Wellbore #1	8,783.3	7,236.9	438.4	259.4	2.449	CC, ES
Harvester 32-15 (Exist.) - Wellbore #1 - Wellbore #1	8,800.0	7,236.9	438.7	259.4	2.447	SF
Harvester 41-15 (Exist.) - Wellbore #1 - Wellbore #1	800.0	780.0	516.8	499.6	29.928	CC
Harvester 41-15 (Exist.) - Wellbore #1 - Wellbore #1	7,756.1	7,240.8	566.1	401.8	3.445	ES
Harvester 41-15 (Exist.) - Wellbore #1 - Wellbore #1	7,800.0	7,244.1	567.8	402.9	3.444	SF
Harvester 42-15 (exist.) - Wellbore #1 - Wellbore #1	8,750.9	7,226.9	537.9	359.6	3.017	CC, ES
Harvester 42-15 (exist.) - Wellbore #1 - Wellbore #1	8,800.0	7,226.9	540.2	361.0	3.016	SF
Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W						
Harvesters Resources 15R-323 - Wellbore #1 - Plan #1 (	800.0	800.0	30.6	27.3	9.166	CC, ES
Harvesters Resources 15R-323 - Wellbore #1 - Plan #1 (	11,719.8	11,618.4	347.0	178.8	2.063	SF
Harvesters Resources 15U-203 - Wellbore #1 - Plan #1 (	800.0	800.0	91.8	88.4	27.498	CC, ES
Harvesters Resources 15U-203 - Wellbore #1 - Plan #1 (	11,719.8	11,531.0	1,217.6	1,043.3	6.986	SF
Harvesters Resources 15U-443 - Wellbore #1 - Plan #1 (	800.0	800.0	61.2	57.9	18.332	CC, ES
Harvesters Resources 15U-443 - Wellbore #1 - Plan #1 (	11,719.8	11,673.8	745.5	569.4	4.232	SF

<b>Offset Design</b>	Existing Wells - Berg 1 (Exist.) - Wellbore #1 - Wellbore #1											<b>Offset Site Error:</b>	0.0 ft
<b>Survey Program:</b>	7300-UNKNOWN											<b>Offset Well Error:</b>	0.0 ft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Warning					
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	177.42	-3,151.3	141.9	3,155.0				
100.0	100.0	47.0	47.0	0.1	0.9	177.42	-3,151.3	141.9	3,154.5	3,153.5	1.04	3,045.728	
200.0	200.0	147.0	147.0	0.3	2.9	177.42	-3,151.3	141.9	3,154.5	3,151.3	3.26	967.504	
300.0	300.0	247.0	247.0	0.5	4.9	177.42	-3,151.3	141.9	3,154.5	3,149.0	5.49	575.094	

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 Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Existing Wells - Berg 1 (Exist.) - Wellbore #1 - Wellbore #1											Offset Site Error:		0.0 ft		
Survey Program: 7300-UNKNOWN														Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor					
400.0	400.0	347.0	347.0	0.8	6.9	177.42	-3,151.3	141.9	3,154.5	3,146.8	7.71	409.148					
500.0	500.0	447.0	447.0	1.0	8.9	177.42	-3,151.3	141.9	3,154.5	3,144.6	9.93	317.524					
600.0	600.0	547.0	547.0	1.2	10.9	177.42	-3,151.3	141.9	3,154.5	3,142.4	12.16	259.429					
700.0	700.0	647.0	647.0	1.4	12.9	177.42	-3,151.3	141.9	3,154.5	3,140.2	14.38	219.304					
800.0	800.0	747.0	747.0	1.7	14.9	177.42	-3,151.3	141.9	3,154.5	3,137.9	16.61	189.928					
900.0	900.0	847.0	847.0	1.9	16.9	-113.42	-3,151.3	141.9	3,155.2	3,136.4	18.82	167.617					
1,000.0	999.8	946.8	946.8	2.1	18.9	-113.47	-3,151.3	141.9	3,157.3	3,136.3	21.03	150.129					
1,100.0	1,099.5	1,046.5	1,046.5	2.3	20.9	-113.55	-3,151.3	141.9	3,160.8	3,137.6	23.24	136.006					
1,200.0	1,198.7	1,145.7	1,145.7	2.6	22.9	-113.66	-3,151.3	141.9	3,165.7	3,140.3	25.46	124.360					
1,242.6	1,240.8	1,187.8	1,187.8	2.7	23.8	-113.72	-3,151.3	141.9	3,168.2	3,141.8	26.40	119.996					
1,300.0	1,297.6	1,244.6	1,244.6	2.9	24.9	-113.86	-3,151.3	141.9	3,171.8	3,144.1	27.70	114.524					
1,400.0	1,396.4	1,343.4	1,343.4	3.2	26.9	-114.11	-3,151.3	141.9	3,178.2	3,148.2	29.96	106.082					
1,500.0	1,495.2	1,442.2	1,442.2	3.5	28.8	-114.36	-3,151.3	141.9	3,184.5	3,152.3	32.23	98.794					
1,600.0	1,594.0	1,541.0	1,541.0	3.8	30.8	-114.61	-3,151.3	141.9	3,191.0	3,156.5	34.52	92.447					
1,700.0	1,692.8	1,639.8	1,639.8	4.1	32.8	-114.86	-3,151.3	141.9	3,197.5	3,160.7	36.81	86.874					
1,800.0	1,791.6	1,738.6	1,738.6	4.5	34.8	-115.11	-3,151.3	141.9	3,204.1	3,165.0	39.10	81.946					
1,900.0	1,890.4	1,837.4	1,837.4	4.8	36.7	-115.36	-3,151.3	141.9	3,210.7	3,169.3	41.40	77.559					
2,000.0	1,989.2	1,936.2	1,936.2	5.2	38.7	-115.60	-3,151.3	141.9	3,217.4	3,173.7	43.70	73.631					
2,100.0	2,088.0	2,035.0	2,035.0	5.5	40.7	-115.84	-3,151.3	141.9	3,224.1	3,178.1	46.00	70.093					
2,200.0	2,186.8	2,133.8	2,133.8	5.9	42.7	-116.09	-3,151.3	141.9	3,230.9	3,182.6	48.30	66.892					
2,300.0	2,285.6	2,232.6	2,232.6	6.2	44.7	-116.33	-3,151.3	141.9	3,237.8	3,187.2	50.60	63.982					
2,400.0	2,384.5	2,331.5	2,331.5	6.6	46.6	-116.57	-3,151.3	141.9	3,244.7	3,191.8	52.91	61.325					
2,500.0	2,483.3	2,430.3	2,430.3	6.9	48.6	-116.81	-3,151.3	141.9	3,251.7	3,196.5	55.22	58.891					
2,600.0	2,582.1	2,529.1	2,529.1	7.3	50.6	-117.05	-3,151.3	141.9	3,258.7	3,201.2	57.52	56.653					
2,700.0	2,680.9	2,627.9	2,627.9	7.7	52.6	-117.29	-3,151.3	141.9	3,265.8	3,206.0	59.83	54.588					
2,800.0	2,779.7	2,726.7	2,726.7	8.0	54.5	-117.53	-3,151.3	141.9	3,272.9	3,210.8	62.13	52.677					
2,900.0	2,878.5	2,825.5	2,825.5	8.4	56.5	-117.76	-3,151.3	141.9	3,280.2	3,215.7	64.44	50.904					
3,000.0	2,977.3	2,924.3	2,924.3	8.7	58.5	-118.00	-3,151.3	141.9	3,287.4	3,220.7	66.74	49.254					
3,100.0	3,076.1	3,023.1	3,023.1	9.1	60.5	-118.23	-3,151.3	141.9	3,294.7	3,225.7	69.05	47.716					
3,200.0	3,174.9	3,121.9	3,121.9	9.5	62.4	-118.46	-3,151.3	141.9	3,302.1	3,230.8	71.35	46.278					
3,300.0	3,273.7	3,220.7	3,220.7	9.8	64.4	-118.70	-3,151.3	141.9	3,309.5	3,235.9	73.66	44.931					
3,400.0	3,372.5	3,319.5	3,319.5	10.2	66.4	-118.93	-3,151.3	141.9	3,317.0	3,241.1	75.96	43.666					
3,500.0	3,471.4	3,418.4	3,418.4	10.5	68.4	-119.16	-3,151.3	141.9	3,324.6	3,246.3	78.27	42.477					
3,600.0	3,570.2	3,517.2	3,517.2	10.9	70.3	-119.39	-3,151.3	141.9	3,332.2	3,251.6	80.57	41.357					
3,700.0	3,669.0	3,616.0	3,616.0	11.3	72.3	-119.61	-3,151.3	141.9	3,339.8	3,256.9	82.87	40.300					
3,800.0	3,767.8	3,714.8	3,714.8	11.6	74.3	-119.84	-3,151.3	141.9	3,347.5	3,262.3	85.17	39.302					
3,900.0	3,866.6	3,813.6	3,813.6	12.0	76.3	-120.07	-3,151.3	141.9	3,355.3	3,267.8	87.48	38.356					
4,000.0	3,965.4	3,912.4	3,912.4	12.4	78.2	-120.29	-3,151.3	141.9	3,363.1	3,273.3	89.78	37.460					
4,100.0	4,064.2	4,011.2	4,011.2	12.7	80.2	-120.52	-3,151.3	141.9	3,370.9	3,278.8	92.08	36.610					
4,200.0	4,163.0	4,110.0	4,110.0	13.1	82.2	-120.74	-3,151.3	141.9	3,378.8	3,284.4	94.38	35.802					
4,300.0	4,261.8	4,208.8	4,208.8	13.5	84.2	-120.96	-3,151.3	141.9	3,386.8	3,290.1	96.67	35.033					
4,400.0	4,360.6	4,307.6	4,307.6	13.8	86.2	-121.18	-3,151.3	141.9	3,394.8	3,295.8	98.97	34.300					
4,500.0	4,459.4	4,406.4	4,406.4	14.2	88.1	-121.40	-3,151.3	141.9	3,402.9	3,301.6	101.27	33.602					
4,600.0	4,558.3	4,505.3	4,505.3	14.6	90.1	-121.62	-3,151.3	141.9	3,411.0	3,307.4	103.57	32.935					
4,700.0	4,657.1	4,604.1	4,604.1	14.9	92.1	-121.84	-3,151.3	141.9	3,419.1	3,313.3	105.86	32.298					
4,800.0	4,755.9	4,702.9	4,702.9	15.3	94.1	-122.05	-3,151.3	141.9	3,427.3	3,319.2	108.16	31.689					
4,900.0	4,854.7	4,801.7	4,801.7	15.7	96.0	-122.27	-3,151.3	141.9	3,435.6	3,325.2	110.45	31.105					
5,000.0	4,953.5	4,900.5	4,900.5	16.0	98.0	-122.48	-3,151.3	141.9	3,443.9	3,331.2	112.75	30.546					
5,100.0	5,052.3	4,999.3	4,999.3	16.4	100.0	-122.70	-3,151.3	141.9	3,452.3	3,337.2	115.04	30.010					
5,200.0	5,151.1	5,098.1	5,098.1	16.8	102.0	-122.91	-3,151.3	141.9	3,460.7	3,343.4	117.33	29.495					
5,300.0	5,249.9	5,196.9	5,196.9	17.1	103.9	-123.12	-3,151.3	141.9	3,469.1	3,349.5	119.62	29.001					

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 Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Existing Wells - Berg 1 (Exist.) - Wellbore #1 - Wellbore #1											Offset Site Error:		0.0 ft		
Survey Program: 7300-UNKNOWN														Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre		Between	Between	Minimum	Separation					
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	Toolface (°)	+N/-S (ft)	+E/-W (ft)	Centres (ft)	Ellipses (ft)	Separation (ft)	Factor					
5,400.0	5,348.7	5,295.7	5,295.7	17.5	105.9	-123.33	-3,151.3	141.9	3,477.6	3,355.7	121.91	28.526					
5,500.0	5,447.5	5,394.5	5,394.5	17.9	107.9	-123.54	-3,151.3	141.9	3,486.2	3,362.0	124.20	28.069					
5,600.0	5,546.3	5,493.3	5,493.3	18.2	109.9	-123.75	-3,151.3	141.9	3,494.8	3,368.3	126.49	27.629					
5,700.0	5,645.2	5,592.2	5,592.2	18.6	111.8	-123.96	-3,151.3	141.9	3,503.4	3,374.7	128.78	27.205					
5,800.0	5,744.0	5,691.0	5,691.0	19.0	113.8	-124.17	-3,151.3	141.9	3,512.1	3,381.1	131.07	26.797					
5,900.0	5,842.8	5,789.8	5,789.8	19.3	115.8	-124.37	-3,151.3	141.9	3,520.9	3,387.5	133.35	26.403					
5,916.6	5,859.2	5,806.2	5,806.2	19.4	116.1	-124.40	-3,151.3	141.9	3,522.3	3,388.6	133.73	26.339					
6,000.0	5,941.8	5,888.8	5,888.8	19.7	117.8	-124.67	-3,151.3	141.9	3,529.0	3,393.2	135.74	25.998					
6,100.0	6,041.2	5,988.2	5,988.2	19.9	119.8	-124.91	-3,151.3	141.9	3,535.1	3,397.1	138.05	25.607					
6,200.0	6,140.9	6,087.9	6,087.9	20.1	121.8	-125.08	-3,151.3	141.9	3,539.3	3,399.0	140.30	25.226					
6,300.0	6,240.8	6,187.8	6,187.8	20.2	123.8	-125.17	-3,151.3	141.9	3,541.5	3,399.0	142.49	24.854					
6,359.2	6,300.0	6,247.0	6,247.0	20.3	124.9	165.65	-3,151.3	141.9	3,541.9	3,398.1	143.76	24.638					
6,400.0	6,340.8	6,287.8	6,287.8	20.4	125.8	165.65	-3,151.3	141.9	3,541.9	3,397.2	144.63	24.488					
6,500.0	6,440.8	6,387.8	6,387.8	20.5	127.8	165.65	-3,151.3	141.9	3,541.9	3,395.1	146.79	24.128					
6,551.4	6,492.2	6,439.2	6,439.2	20.6	128.8	165.65	-3,151.3	141.9	3,541.9	3,394.0	147.90	23.947					
6,600.0	6,540.8	6,487.8	6,487.8	20.7	129.8	-14.37	-3,151.3	141.9	3,540.4	3,391.7	148.62	23.822					
6,650.0	6,590.5	6,537.5	6,537.5	20.7	130.8	-14.47	-3,151.3	141.9	3,535.7	3,387.0	148.75	23.770					
6,700.0	6,639.9	6,586.9	6,586.9	20.7	131.7	-14.65	-3,151.3	141.9	3,527.9	3,379.6	148.27	23.794					
6,750.0	6,688.6	6,635.6	6,635.6	20.8	132.7	-14.91	-3,151.3	141.9	3,517.0	3,369.8	147.17	23.897					
6,800.0	6,736.4	6,683.4	6,683.4	20.8	133.7	-15.26	-3,151.3	141.9	3,503.0	3,357.6	145.47	24.081					
6,850.0	6,783.3	6,730.3	6,730.3	20.8	134.6	-15.70	-3,151.3	141.9	3,486.1	3,342.9	143.17	24.349					
6,900.0	6,828.8	6,775.8	6,775.8	20.8	135.5	-16.24	-3,151.3	141.9	3,466.2	3,325.9	140.31	24.703					
6,950.0	6,873.0	6,820.0	6,820.0	20.8	136.4	-16.89	-3,151.3	141.9	3,443.5	3,306.5	136.93	25.148					
7,000.0	6,915.5	6,862.5	6,862.5	20.8	137.2	-17.68	-3,151.3	141.9	3,418.0	3,284.9	133.08	25.683					
7,050.0	6,956.2	6,903.2	6,903.2	20.8	138.1	-18.62	-3,151.3	141.9	3,389.9	3,261.1	128.86	26.307					
7,100.0	6,994.9	6,941.9	6,941.9	20.8	138.8	-19.75	-3,151.3	141.9	3,359.4	3,235.0	124.38	27.010					
7,150.0	7,031.4	6,978.4	6,978.4	20.8	139.6	-21.09	-3,151.3	141.9	3,326.5	3,206.7	119.80	27.767					
7,200.0	7,065.6	7,012.6	7,012.6	20.8	140.3	-22.70	-3,151.3	141.9	3,291.3	3,176.0	115.37	28.530					
7,250.0	7,097.4	7,044.4	7,044.4	20.8	140.9	-24.63	-3,151.3	141.9	3,254.2	3,142.8	111.39	29.214					
7,300.0	7,126.6	7,073.6	7,073.6	20.8	141.5	-26.97	-3,151.3	141.9	3,215.1	3,106.8	108.31	29.685					
7,350.0	7,153.1	7,100.1	7,100.1	20.8	142.0	-29.81	-3,151.3	141.9	3,174.3	3,067.7	106.66	29.761					
7,400.0	7,176.7	7,123.7	7,123.7	20.9	142.5	-33.30	-3,151.3	141.9	3,132.0	3,024.9	107.09	29.245					
7,450.0	7,197.5	7,144.5	7,144.5	21.0	142.9	-37.61	-3,151.3	141.9	3,088.4	2,978.1	110.24	28.014					
7,500.0	7,215.1	7,162.1	7,162.1	21.1	143.2	-42.95	-3,151.3	141.9	3,043.6	2,927.0	116.55	26.114					
7,550.0	7,229.7	7,176.7	7,176.7	21.3	143.5	-49.57	-3,151.3	141.9	2,997.8	2,871.8	125.98	23.796					
7,600.0	7,241.2	7,188.2	7,188.2	21.5	143.8	-57.68	-3,151.3	141.9	2,951.3	2,813.6	137.69	21.434					
7,650.0	7,249.4	7,196.4	7,196.4	21.8	143.9	-67.32	-3,151.3	141.9	2,904.3	2,754.5	149.73	19.397					
7,671.4	7,252.0	7,199.0	7,199.0	21.9	144.0	-71.86	-3,151.3	141.9	2,884.0	2,729.8	154.28	18.694					
7,700.0	7,254.9	7,201.9	7,201.9	22.1	144.0	-72.04	-3,151.3	141.9	2,856.9	2,702.2	154.74	18.462					
7,745.4	7,259.7	7,206.7	7,206.7	22.4	144.1	-72.32	-3,151.3	141.9	2,814.0	2,658.5	155.50	18.096					
7,800.0	7,264.1	7,211.1	7,211.1	22.8	144.2	-80.33	-3,151.3	141.9	2,762.3	2,600.8	161.55	17.099					
7,864.2	7,266.0	7,213.0	7,213.0	23.4	144.3	-89.83	-3,151.3	141.9	2,701.6	2,536.7	164.92	16.381					
7,900.0	7,266.0	7,213.0	7,213.0	23.8	144.3	-89.83	-3,151.3	141.9	2,667.7	2,502.4	165.34	16.135					
8,000.0	7,266.1	7,213.1	7,213.1	24.8	144.3	-89.83	-3,151.3	141.9	2,573.5	2,406.9	166.58	15.449					
8,100.0	7,266.2	7,213.2	7,213.2	26.0	144.3	-89.84	-3,151.3	141.9	2,479.7	2,311.8	167.92	14.767					
8,200.0	7,266.3	7,213.3	7,213.3	27.3	144.3	-89.85	-3,151.3	141.9	2,386.4	2,217.1	169.33	14.093					
8,300.0	7,266.4	7,213.4	7,213.4	28.7	144.3	-89.85	-3,151.3	141.9	2,293.7	2,122.9	170.81	13.429					
8,400.0	7,266.5	7,213.5	7,213.5	30.1	144.3	-89.86	-3,151.3	141.9	2,201.6	2,029.3	172.34	12.775					
8,500.0	7,266.6	7,213.6	7,213.6	31.6	144.3	-89.87	-3,151.3	141.9	2,110.3	1,936.4	173.91	12.134					
8,600.0	7,266.7	7,213.7	7,213.7	33.1	144.3	-89.88	-3,151.3	141.9	2,019.7	1,844.2	175.53	11.507					

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 Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells - Berg 1 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7300-UNKNOWN													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
8,700.0	7,266.8	7,213.8	7,213.8	34.7	144.3	-89.88	-3,151.3	141.9	1,930.1	1,753.0	177.18	10.894		
8,800.0	7,266.9	7,213.9	7,213.9	36.3	144.3	-89.89	-3,151.3	141.9	1,841.6	1,662.8	178.86	10.297		
8,900.0	7,267.0	7,214.0	7,214.0	37.9	144.3	-89.90	-3,151.3	141.9	1,754.3	1,573.8	180.56	9.716		
9,000.0	7,267.2	7,214.2	7,214.2	39.5	144.3	-89.90	-3,151.3	141.9	1,668.5	1,486.2	182.28	9.153		
9,100.0	7,267.3	7,214.3	7,214.3	41.2	144.3	-89.91	-3,151.3	141.9	1,584.2	1,400.2	184.02	8.609		
9,200.0	7,267.4	7,214.4	7,214.4	42.9	144.3	-89.92	-3,151.3	141.9	1,502.0	1,316.2	185.78	8.085		
9,300.0	7,267.5	7,214.5	7,214.5	44.6	144.3	-89.92	-3,151.3	141.9	1,422.0	1,234.4	187.56	7.582		
9,400.0	7,267.6	7,214.6	7,214.6	46.4	144.3	-89.93	-3,151.3	141.9	1,344.7	1,155.3	189.34	7.102		
9,500.0	7,267.7	7,214.7	7,214.7	48.1	144.3	-89.94	-3,151.3	141.9	1,270.5	1,079.4	191.14	6.647		
9,600.0	7,267.8	7,214.8	7,214.8	49.9	144.3	-89.94	-3,151.3	141.9	1,200.1	1,007.2	192.94	6.220		
9,700.0	7,267.9	7,214.9	7,214.9	51.6	144.3	-89.95	-3,151.3	141.9	1,134.2	939.4	194.76	5.824		
9,800.0	7,268.0	7,215.0	7,215.0	53.4	144.3	-89.96	-3,151.3	141.9	1,073.5	876.9	196.58	5.461		
9,900.0	7,268.1	7,215.1	7,215.1	55.2	144.3	-89.96	-3,151.3	141.9	1,019.1	820.7	198.41	5.136		
10,000.0	7,268.2	7,215.2	7,215.2	57.0	144.3	-89.97	-3,151.3	141.9	971.9	771.7	200.25	4.854		
10,100.0	7,268.3	7,215.3	7,215.3	58.8	144.3	-89.98	-3,151.3	141.9	933.1	731.0	202.09	4.617		
10,200.0	7,268.4	7,215.4	7,215.4	60.6	144.3	-89.98	-3,151.3	141.9	903.8	699.8	203.94	4.432		
10,300.0	7,268.5	7,215.5	7,215.5	62.5	144.3	-89.99	-3,151.3	141.9	884.8	679.0	205.79	4.300		
10,400.0	7,268.6	7,215.6	7,215.6	64.3	144.3	-90.00	-3,151.3	141.9	876.9	669.3	207.65	4.223		
10,419.6	7,268.6	7,215.6	7,215.6	64.7	144.3	-90.00	-3,151.3	141.9	876.7	668.7	208.01	4.215 CC, ES		
10,500.0	7,268.7	7,215.7	7,215.7	66.1	144.3	-90.01	-3,151.3	141.9	880.4	670.9	209.51	4.202 SF		
10,600.0	7,268.8	7,215.8	7,215.8	68.0	144.3	-90.01	-3,151.3	141.9	895.1	683.7	211.37	4.235		
10,700.0	7,268.9	7,215.9	7,215.9	69.8	144.3	-90.02	-3,151.3	141.9	920.5	707.2	213.24	4.317		
10,800.0	7,269.0	7,216.0	7,216.0	71.7	144.3	-90.03	-3,151.3	141.9	955.7	740.6	215.11	4.443		
10,900.0	7,269.1	7,216.1	7,216.1	73.5	144.3	-90.03	-3,151.3	141.9	999.7	782.7	216.98	4.607		
11,000.0	7,269.2	7,216.2	7,216.2	75.4	144.3	-90.04	-3,151.3	141.9	1,051.4	832.6	218.86	4.804		
11,100.0	7,269.4	7,216.4	7,216.4	77.2	144.3	-90.05	-3,151.3	141.9	1,109.8	889.0	220.74	5.028		
11,200.0	7,269.5	7,216.5	7,216.5	79.1	144.3	-90.05	-3,151.3	141.9	1,173.8	951.1	222.62	5.273		
11,300.0	7,269.6	7,216.6	7,216.6	80.9	144.3	-90.06	-3,151.3	141.9	1,242.5	1,018.0	224.50	5.534		
11,400.0	7,269.7	7,216.7	7,216.7	82.8	144.3	-90.07	-3,151.3	141.9	1,315.3	1,088.9	226.39	5.810		
11,500.0	7,269.8	7,216.8	7,216.8	84.7	144.3	-90.07	-3,151.3	141.9	1,391.4	1,163.1	228.27	6.095		
11,600.0	7,269.9	7,216.9	7,216.9	86.5	144.3	-90.08	-3,151.3	141.9	1,470.4	1,240.2	230.16	6.389		
11,700.0	7,270.0	7,217.0	7,217.0	88.4	144.3	-90.09	-3,151.3	141.9	1,551.8	1,319.8	232.05	6.687		
11,719.8	7,270.0	7,217.0	7,217.0	88.8	144.3	-90.09	-3,151.3	141.9	1,568.2	1,335.8	232.43	6.747		



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Existing Wells - Berg 15-16G6 (Exist.) - Wellbore #1 - Wellbore #1											Offset Site Error: 0.0 ft	
Survey Program: 7300-UNKNOWN													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-179.62	-4,200.6	-27.8	4,201.0					
100.0	100.0	47.0	47.0	0.1	0.9	-179.62	-4,200.6	-27.8	4,200.7	4,199.6	1.04	4,055.779		
200.0	200.0	147.0	147.0	0.3	2.9	-179.62	-4,200.6	-27.8	4,200.7	4,197.4	3.26	1,288.356		
300.0	300.0	247.0	247.0	0.5	4.9	-179.62	-4,200.6	-27.8	4,200.7	4,195.2	5.49	765.812		
400.0	400.0	347.0	347.0	0.8	6.9	-179.62	-4,200.6	-27.8	4,200.7	4,193.0	7.71	544.833		
500.0	500.0	447.0	447.0	1.0	8.9	-179.62	-4,200.6	-27.8	4,200.7	4,190.7	9.93	422.825		
600.0	600.0	547.0	547.0	1.2	10.9	-179.62	-4,200.6	-27.8	4,200.7	4,188.5	12.16	345.463		
700.0	700.0	647.0	647.0	1.4	12.9	-179.62	-4,200.6	-27.8	4,200.7	4,186.3	14.38	292.031		
800.0	800.0	747.0	747.0	1.7	14.9	-179.62	-4,200.6	-27.8	4,200.7	4,184.1	16.61	252.914		
900.0	900.0	847.0	847.0	1.9	16.9	-110.46	-4,200.6	-27.8	4,201.3	4,182.5	18.82	223.183		
1,000.0	999.8	946.8	946.8	2.1	18.9	-110.49	-4,200.6	-27.8	4,203.1	4,182.1	21.03	199.839		
1,100.0	1,099.5	1,046.5	1,046.5	2.3	20.9	-110.55	-4,200.6	-27.8	4,206.2	4,182.9	23.25	180.949		
1,200.0	1,198.7	1,145.7	1,145.7	2.6	22.9	-110.62	-4,200.6	-27.8	4,210.5	4,185.0	25.47	165.335		
1,242.6	1,240.8	1,187.8	1,187.8	2.7	23.8	-110.66	-4,200.6	-27.8	4,212.7	4,186.3	26.42	159.474		
1,300.0	1,297.6	1,244.6	1,244.6	2.9	24.9	-110.77	-4,200.6	-27.8	4,215.9	4,188.2	27.71	152.135		
1,400.0	1,396.4	1,343.4	1,343.4	3.2	26.9	-110.96	-4,200.6	-27.8	4,221.4	4,191.4	29.98	140.814		
1,500.0	1,495.2	1,442.2	1,442.2	3.5	28.8	-111.15	-4,200.6	-27.8	4,227.0	4,194.7	32.26	131.039		
1,600.0	1,594.0	1,541.0	1,541.0	3.8	30.8	-111.35	-4,200.6	-27.8	4,232.6	4,198.1	34.55	122.524		
1,700.0	1,692.8	1,639.8	1,639.8	4.1	32.8	-111.54	-4,200.6	-27.8	4,238.3	4,201.5	36.84	115.049		
1,800.0	1,791.6	1,738.6	1,738.6	4.5	34.8	-111.73	-4,200.6	-27.8	4,244.0	4,204.9	39.14	108.437		
1,900.0	1,890.4	1,837.4	1,837.4	4.8	36.7	-111.92	-4,200.6	-27.8	4,249.8	4,208.4	41.44	102.551		
2,000.0	1,989.2	1,936.2	1,936.2	5.2	38.7	-112.11	-4,200.6	-27.8	4,255.7	4,211.9	43.75	97.279		
2,100.0	2,088.0	2,035.0	2,035.0	5.5	40.7	-112.30	-4,200.6	-27.8	4,261.5	4,215.5	46.05	92.531		
2,200.0	2,186.8	2,133.8	2,133.8	5.9	42.7	-112.49	-4,200.6	-27.8	4,267.4	4,219.1	48.36	88.235		
2,300.0	2,285.6	2,232.6	2,232.6	6.2	44.7	-112.68	-4,200.6	-27.8	4,273.4	4,222.7	50.68	84.328		
2,400.0	2,384.5	2,331.5	2,331.5	6.6	46.6	-112.87	-4,200.6	-27.8	4,279.4	4,226.4	52.99	80.762		
2,500.0	2,483.3	2,430.3	2,430.3	6.9	48.6	-113.05	-4,200.6	-27.8	4,285.5	4,230.2	55.30	77.494		
2,600.0	2,582.1	2,529.1	2,529.1	7.3	50.6	-113.24	-4,200.6	-27.8	4,291.6	4,234.0	57.61	74.488		
2,700.0	2,680.9	2,627.9	2,627.9	7.7	52.6	-113.43	-4,200.6	-27.8	4,297.8	4,237.8	59.93	71.714		
2,800.0	2,779.7	2,726.7	2,726.7	8.0	54.5	-113.61	-4,200.6	-27.8	4,304.0	4,241.7	62.24	69.147		
2,900.0	2,878.5	2,825.5	2,825.5	8.4	56.5	-113.80	-4,200.6	-27.8	4,310.2	4,245.7	64.56	66.765		
3,000.0	2,977.3	2,924.3	2,924.3	8.7	58.5	-113.98	-4,200.6	-27.8	4,316.5	4,249.6	66.87	64.548		
3,100.0	3,076.1	3,023.1	3,023.1	9.1	60.5	-114.17	-4,200.6	-27.8	4,322.9	4,253.7	69.19	62.480		
3,200.0	3,174.9	3,121.9	3,121.9	9.5	62.4	-114.35	-4,200.6	-27.8	4,329.2	4,257.7	71.50	60.547		
3,300.0	3,273.7	3,220.7	3,220.7	9.8	64.4	-114.54	-4,200.6	-27.8	4,335.7	4,261.9	73.82	58.736		
3,400.0	3,372.5	3,319.5	3,319.5	10.2	66.4	-114.72	-4,200.6	-27.8	4,342.1	4,266.0	76.13	57.036		
3,500.0	3,471.4	3,418.4	3,418.4	10.5	68.4	-114.90	-4,200.6	-27.8	4,348.7	4,270.2	78.44	55.436		
3,600.0	3,570.2	3,517.2	3,517.2	10.9	70.3	-115.08	-4,200.6	-27.8	4,355.2	4,274.5	80.76	53.929		
3,700.0	3,669.0	3,616.0	3,616.0	11.3	72.3	-115.26	-4,200.6	-27.8	4,361.8	4,278.8	83.07	52.507		
3,800.0	3,767.8	3,714.8	3,714.8	11.6	74.3	-115.44	-4,200.6	-27.8	4,368.5	4,283.1	85.38	51.162		
3,900.0	3,866.6	3,813.6	3,813.6	12.0	76.3	-115.62	-4,200.6	-27.8	4,375.2	4,287.5	87.70	49.890		
4,000.0	3,965.4	3,912.4	3,912.4	12.4	78.2	-115.80	-4,200.6	-27.8	4,381.9	4,291.9	90.01	48.683		
4,100.0	4,064.2	4,011.2	4,011.2	12.7	80.2	-115.98	-4,200.6	-27.8	4,388.7	4,296.4	92.32	47.537		
4,200.0	4,163.0	4,110.0	4,110.0	13.1	82.2	-116.16	-4,200.6	-27.8	4,395.5	4,300.9	94.63	46.448		
4,300.0	4,261.8	4,208.8	4,208.8	13.5	84.2	-116.34	-4,200.6	-27.8	4,402.4	4,305.5	96.94	45.412		
4,400.0	4,360.6	4,307.6	4,307.6	13.8	86.2	-116.52	-4,200.6	-27.8	4,409.3	4,310.1	99.25	44.424		
4,500.0	4,459.4	4,406.4	4,406.4	14.2	88.1	-116.69	-4,200.6	-27.8	4,416.3	4,314.7	101.56	43.483		
4,600.0	4,558.3	4,505.3	4,505.3	14.6	90.1	-116.87	-4,200.6	-27.8	4,423.3	4,319.4	103.87	42.583		
4,700.0	4,657.1	4,604.1	4,604.1	14.9	92.1	-117.05	-4,200.6	-27.8	4,430.3	4,324.2	106.18	41.723		
4,800.0	4,755.9	4,702.9	4,702.9	15.3	94.1	-117.22	-4,200.6	-27.8	4,437.4	4,328.9	108.49	40.901		
4,900.0	4,854.7	4,801.7	4,801.7	15.7	96.0	-117.40	-4,200.6	-27.8	4,444.5	4,333.7	110.80	40.113		

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 Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells - Berg 15-16G6 (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error: 0.0 ft	
Survey Program: 7300-UNKNOWN												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.0	4,953.5	4,900.5	4,900.5	16.0	98.0	-117.57	-4,200.6	-27.8	4,451.7	4,338.6	113.11	39.358	
5,100.0	5,052.3	4,999.3	4,999.3	16.4	100.0	-117.74	-4,200.6	-27.8	4,458.9	4,343.5	115.41	38.634	
5,200.0	5,151.1	5,098.1	5,098.1	16.8	102.0	-117.92	-4,200.6	-27.8	4,466.2	4,348.5	117.72	37.939	
5,300.0	5,249.9	5,196.9	5,196.9	17.1	103.9	-118.09	-4,200.6	-27.8	4,473.5	4,353.4	120.03	37.271	
5,400.0	5,348.7	5,295.7	5,295.7	17.5	105.9	-118.26	-4,200.6	-27.8	4,480.8	4,358.5	122.33	36.628	
5,500.0	5,447.5	5,394.5	5,394.5	17.9	107.9	-118.43	-4,200.6	-27.8	4,488.2	4,363.5	124.64	36.010	
5,600.0	5,546.3	5,493.3	5,493.3	18.2	109.9	-118.60	-4,200.6	-27.8	4,495.6	4,368.7	126.94	35.415	
5,700.0	5,645.2	5,592.2	5,592.2	18.6	111.8	-118.77	-4,200.6	-27.8	4,503.0	4,373.8	129.24	34.841	
5,800.0	5,744.0	5,691.0	5,691.0	19.0	113.8	-118.94	-4,200.6	-27.8	4,510.5	4,379.0	131.55	34.288	
5,900.0	5,842.8	5,789.8	5,789.8	19.3	115.8	-119.11	-4,200.6	-27.8	4,518.1	4,384.2	133.85	33.755	
5,916.6	5,859.2	5,806.2	5,806.2	19.4	116.1	-119.14	-4,200.6	-27.8	4,519.3	4,385.1	134.23	33.668	
6,000.0	5,941.8	5,888.8	5,888.8	19.7	117.8	-119.37	-4,200.6	-27.8	4,525.1	4,388.8	136.21	33.221	
6,100.0	6,041.2	5,988.2	5,988.2	19.9	119.8	-119.58	-4,200.6	-27.8	4,530.4	4,391.9	138.50	32.711	
6,200.0	6,140.9	6,087.9	6,087.9	20.1	121.8	-119.72	-4,200.6	-27.8	4,534.0	4,393.3	140.73	32.217	
6,300.0	6,240.8	6,187.8	6,187.8	20.2	123.8	-119.80	-4,200.6	-27.8	4,535.9	4,393.0	142.91	31.739	
6,359.2	6,300.0	6,247.0	6,247.0	20.3	124.9	171.02	-4,200.6	-27.8	4,536.2	4,392.0	144.18	31.462	
6,400.0	6,340.8	6,287.8	6,287.8	20.4	125.8	171.02	-4,200.6	-27.8	4,536.2	4,391.1	145.05	31.273	
6,500.0	6,440.8	6,387.8	6,387.8	20.5	127.8	171.02	-4,200.6	-27.8	4,536.2	4,389.0	147.21	30.815	
6,551.4	6,492.2	6,439.2	6,439.2	20.6	128.8	171.02	-4,200.6	-27.8	4,536.2	4,387.9	148.32	30.584	
6,600.0	6,540.8	6,487.8	6,487.8	20.7	129.8	-8.98	-4,200.6	-27.8	4,534.7	4,385.6	149.02	30.429	
6,650.0	6,590.5	6,537.5	6,537.5	20.7	130.8	-9.05	-4,200.6	-27.8	4,529.9	4,380.8	149.13	30.377	
6,700.0	6,639.9	6,586.9	6,586.9	20.7	131.7	-9.16	-4,200.6	-27.8	4,522.0	4,373.4	148.59	30.433	
6,750.0	6,688.6	6,635.6	6,635.6	20.8	132.7	-9.32	-4,200.6	-27.8	4,510.8	4,363.4	147.41	30.601	
6,800.0	6,736.4	6,683.4	6,683.4	20.8	133.7	-9.53	-4,200.6	-27.8	4,496.6	4,351.0	145.58	30.888	
6,850.0	6,783.3	6,730.3	6,730.3	20.8	134.6	-9.80	-4,200.6	-27.8	4,479.3	4,336.2	143.11	31.300	
6,900.0	6,828.8	6,775.8	6,775.8	20.8	135.5	-10.14	-4,200.6	-27.8	4,459.0	4,319.0	140.02	31.846	
6,950.0	6,873.0	6,820.0	6,820.0	20.8	136.4	-10.54	-4,200.6	-27.8	4,435.8	4,299.5	136.31	32.541	
7,000.0	6,915.5	6,862.5	6,862.5	20.8	137.2	-11.04	-4,200.6	-27.8	4,409.8	4,277.8	132.04	33.397	
7,050.0	6,956.2	6,903.2	6,903.2	20.8	138.1	-11.62	-4,200.6	-27.8	4,381.2	4,253.9	127.24	34.432	
7,100.0	6,994.9	6,941.9	6,941.9	20.8	138.8	-12.33	-4,200.6	-27.8	4,349.9	4,227.9	121.98	35.661	
7,150.0	7,031.4	6,978.4	6,978.4	20.8	139.6	-13.19	-4,200.6	-27.8	4,316.3	4,199.9	116.35	37.097	
7,200.0	7,065.6	7,012.6	7,012.6	20.8	140.3	-14.22	-4,200.6	-27.8	4,280.3	4,169.9	110.49	38.739	
7,250.0	7,097.4	7,044.4	7,044.4	20.8	140.9	-15.48	-4,200.6	-27.8	4,242.3	4,137.7	104.60	40.559	
7,300.0	7,126.6	7,073.6	7,073.6	20.8	141.5	-17.03	-4,200.6	-27.8	4,202.3	4,103.3	98.96	42.464	
7,350.0	7,153.1	7,100.1	7,100.1	20.8	142.0	-18.96	-4,200.6	-27.8	4,160.5	4,066.5	94.04	44.243	
7,400.0	7,176.7	7,123.7	7,123.7	20.9	142.5	-21.43	-4,200.6	-27.8	4,117.1	4,026.6	90.50	45.493	
7,450.0	7,197.5	7,144.5	7,144.5	21.0	142.9	-24.63	-4,200.6	-27.8	4,072.3	3,983.0	89.32	45.590	
7,500.0	7,215.1	7,162.1	7,162.1	21.1	143.2	-28.89	-4,200.6	-27.8	4,026.2	3,934.4	91.80	43.859	
7,550.0	7,229.7	7,176.7	7,176.7	21.3	143.5	-34.71	-4,200.6	-27.8	3,979.2	3,879.8	99.35	40.050	
7,600.0	7,241.2	7,188.2	7,188.2	21.5	143.8	-42.87	-4,200.6	-27.8	3,931.3	3,818.2	113.09	34.763	
7,650.0	7,249.4	7,196.4	7,196.4	21.8	143.9	-54.44	-4,200.6	-27.8	3,882.8	3,750.2	132.57	29.288	
7,671.4	7,252.0	7,199.0	7,199.0	21.9	144.0	-60.68	-4,200.6	-27.8	3,861.9	3,720.2	141.72	27.250	
7,700.0	7,254.9	7,201.9	7,201.9	22.1	144.0	-60.87	-4,200.6	-27.8	3,833.9	3,691.7	142.26	26.950	
7,745.4	7,259.7	7,206.7	7,206.7	22.4	144.1	-61.16	-4,200.6	-27.8	3,789.6	3,646.5	143.14	26.475	
7,800.0	7,264.1	7,211.1	7,211.1	22.8	144.2	-73.51	-4,200.6	-27.8	3,736.1	3,579.1	157.02	23.794	
7,864.2	7,266.0	7,213.0	7,213.0	23.4	144.3	-89.69	-4,200.6	-27.8	3,673.2	3,508.3	164.91	22.273	
7,900.0	7,266.0	7,213.0	7,213.0	23.8	144.3	-89.70	-4,200.6	-27.8	3,638.0	3,472.7	165.33	22.004	
8,000.0	7,266.1	7,213.1	7,213.1	24.8	144.3	-89.71	-4,200.6	-27.8	3,540.0	3,373.4	166.58	21.251	
8,100.0	7,266.2	7,213.2	7,213.2	26.0	144.3	-89.71	-4,200.6	-27.8	3,442.0	3,274.1	167.91	20.499	
8,200.0	7,266.3	7,213.3	7,213.3	27.3	144.3	-89.72	-4,200.6	-27.8	3,344.2	3,174.9	169.32	19.751	

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 Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells - Berg 15-16G6 (Exist.) - Wellbore #1 - Wellbore #1														Offset Site Error: 0.0 ft
Survey Program: 7300-UNKNOWN														Offset Well Error: 0.0 ft
Reference	Offset	Semi Major Axis			Distance									Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
8,300.0	7,266.4	7,213.4	7,213.4	28.7	144.3	-89.73	-4,200.6	-27.8	3,246.6	3,075.8	170.80	19.008		
8,400.0	7,266.5	7,213.5	7,213.5	30.1	144.3	-89.74	-4,200.6	-27.8	3,149.0	2,976.7	172.33	18.273		
8,500.0	7,266.6	7,213.6	7,213.6	31.6	144.3	-89.75	-4,200.6	-27.8	3,051.7	2,877.8	173.91	17.548		
8,600.0	7,266.7	7,213.7	7,213.7	33.1	144.3	-89.76	-4,200.6	-27.8	2,954.5	2,779.0	175.52	16.832		
8,700.0	7,266.8	7,213.8	7,213.8	34.7	144.3	-89.76	-4,200.6	-27.8	2,857.5	2,680.3	177.17	16.128		
8,800.0	7,266.9	7,213.9	7,213.9	36.3	144.3	-89.77	-4,200.6	-27.8	2,760.7	2,581.9	178.85	15.436		
8,900.0	7,267.0	7,214.0	7,214.0	37.9	144.3	-89.78	-4,200.6	-27.8	2,664.2	2,483.6	180.55	14.756		
9,000.0	7,267.2	7,214.2	7,214.2	39.5	144.3	-89.79	-4,200.6	-27.8	2,567.9	2,385.6	182.28	14.088		
9,100.0	7,267.3	7,214.3	7,214.3	41.2	144.3	-89.80	-4,200.6	-27.8	2,471.9	2,287.9	184.02	13.433		
9,200.0	7,267.4	7,214.4	7,214.4	42.9	144.3	-89.81	-4,200.6	-27.8	2,376.2	2,190.5	185.78	12.791		
9,300.0	7,267.5	7,214.5	7,214.5	44.6	144.3	-89.82	-4,200.6	-27.8	2,281.0	2,093.4	187.55	12.162		
9,400.0	7,267.6	7,214.6	7,214.6	46.4	144.3	-89.82	-4,200.6	-27.8	2,186.1	1,996.8	189.34	11.546		
9,500.0	7,267.7	7,214.7	7,214.7	48.1	144.3	-89.83	-4,200.6	-27.8	2,091.7	1,900.6	191.13	10.944		
9,600.0	7,267.8	7,214.8	7,214.8	49.9	144.3	-89.84	-4,200.6	-27.8	1,997.9	1,804.9	192.94	10.355		
9,700.0	7,267.9	7,214.9	7,214.9	51.6	144.3	-89.85	-4,200.6	-27.8	1,904.7	1,709.9	194.75	9.780		
9,800.0	7,268.0	7,215.0	7,215.0	53.4	144.3	-89.86	-4,200.6	-27.8	1,812.2	1,615.6	196.58	9.219		
9,900.0	7,268.1	7,215.1	7,215.1	55.2	144.3	-89.87	-4,200.6	-27.8	1,720.5	1,522.1	198.41	8.672		
10,000.0	7,268.2	7,215.2	7,215.2	57.0	144.3	-89.88	-4,200.6	-27.8	1,629.9	1,429.6	200.24	8.140		
10,100.0	7,268.3	7,215.3	7,215.3	58.8	144.3	-89.88	-4,200.6	-27.8	1,540.4	1,338.3	202.09	7.622		
10,200.0	7,268.4	7,215.4	7,215.4	60.6	144.3	-89.89	-4,200.6	-27.8	1,452.3	1,248.3	203.93	7.121		
10,300.0	7,268.5	7,215.5	7,215.5	62.5	144.3	-89.90	-4,200.6	-27.8	1,365.8	1,160.0	205.79	6.637		
10,400.0	7,268.6	7,215.6	7,215.6	64.3	144.3	-89.91	-4,200.6	-27.8	1,281.2	1,073.6	207.64	6.170		
10,500.0	7,268.7	7,215.7	7,215.7	66.1	144.3	-89.92	-4,200.6	-27.8	1,199.1	989.6	209.50	5.724		
10,600.0	7,268.8	7,215.8	7,215.8	68.0	144.3	-89.93	-4,200.6	-27.8	1,119.9	908.5	211.37	5.298		
10,700.0	7,268.9	7,215.9	7,215.9	69.8	144.3	-89.93	-4,200.6	-27.8	1,044.2	830.9	213.23	4.897		
10,800.0	7,269.0	7,216.0	7,216.0	71.7	144.3	-89.94	-4,200.6	-27.8	972.9	757.8	215.11	4.523		
10,900.0	7,269.1	7,216.1	7,216.1	73.5	144.3	-89.95	-4,200.6	-27.8	907.1	690.1	216.98	4.181		
11,000.0	7,269.2	7,216.2	7,216.2	75.4	144.3	-89.96	-4,200.6	-27.8	848.0	629.1	218.86	3.875		
11,100.0	7,269.4	7,216.4	7,216.4	77.2	144.3	-89.97	-4,200.6	-27.8	797.1	576.3	220.73	3.611		
11,200.0	7,269.5	7,216.5	7,216.5	79.1	144.3	-89.98	-4,200.6	-27.8	756.0	533.4	222.62	3.396		
11,300.0	7,269.6	7,216.6	7,216.6	80.9	144.3	-89.99	-4,200.6	-27.8	726.5	502.0	224.50	3.236		
11,400.0	7,269.7	7,216.7	7,216.7	82.8	144.3	-89.99	-4,200.6	-27.8	710.0	483.6	226.38	3.136		
11,468.7	7,269.7	7,216.7	7,216.7	84.1	144.3	-90.00	-4,200.6	-27.8	706.7	479.0	227.68	3.104 CC, ES		
11,500.0	7,269.8	7,216.8	7,216.8	84.7	144.3	-90.00	-4,200.6	-27.8	707.4	479.1	228.27	3.099 SF		
11,600.0	7,269.9	7,216.9	7,216.9	86.5	144.3	-90.01	-4,200.6	-27.8	718.8	488.6	230.16	3.123		
11,700.0	7,270.0	7,217.0	7,217.0	88.4	144.3	-90.02	-4,200.6	-27.8	743.5	511.5	232.05	3.204		
11,719.8	7,270.0	7,217.0	7,217.0	88.8	144.3	-90.02	-4,200.6	-27.8	750.0	517.5	232.43	3.227		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells - Berg 33-15 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error: 0.0 ft	
Survey Program: 7300-UNKNOWN													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-156.04	-3,016.5	-1,340.8	3,301.4					
100.0	100.0	53.0	53.0	0.1	1.1	-156.04	-3,016.5	-1,340.8	3,301.1	3,299.9	1.16	2,856.262		
200.0	200.0	153.0	153.0	0.3	3.1	-156.04	-3,016.5	-1,340.8	3,301.1	3,297.7	3.38	976.502		
300.0	300.0	253.0	253.0	0.5	5.1	-156.04	-3,016.5	-1,340.8	3,301.1	3,295.4	5.61	588.921		
400.0	400.0	353.0	353.0	0.8	7.1	-156.04	-3,016.5	-1,340.8	3,301.1	3,293.2	7.83	421.589		
500.0	500.0	453.0	453.0	1.0	9.1	-156.04	-3,016.5	-1,340.8	3,301.1	3,291.0	10.05	328.307		
600.0	600.0	553.0	553.0	1.2	11.1	-156.04	-3,016.5	-1,340.8	3,301.1	3,288.8	12.28	268.825		
700.0	700.0	653.0	653.0	1.4	13.1	-156.04	-3,016.5	-1,340.8	3,301.1	3,286.5	14.50	227.591		
800.0	800.0	753.0	753.0	1.7	15.1	-156.04	-3,016.5	-1,340.8	3,301.1	3,284.3	16.73	197.324		
900.0	900.0	853.0	853.0	1.9	17.1	-86.90	-3,016.5	-1,340.8	3,301.0	3,282.0	18.95	174.234		
1,000.0	999.8	952.8	952.8	2.1	19.1	-86.99	-3,016.5	-1,340.8	3,300.7	3,279.5	21.16	156.002		
1,100.0	1,099.5	1,052.5	1,052.5	2.3	21.0	-87.15	-3,016.5	-1,340.8	3,300.2	3,276.9	23.38	141.158		
1,200.0	1,198.7	1,151.7	1,151.7	2.6	23.0	-87.37	-3,016.5	-1,340.8	3,299.6	3,274.0	25.62	128.807		
1,242.6	1,240.8	1,193.8	1,193.8	2.7	23.9	-87.49	-3,016.5	-1,340.8	3,299.4	3,272.8	26.58	124.147		
1,300.0	1,297.6	1,250.6	1,250.6	2.9	25.0	-87.64	-3,016.5	-1,340.8	3,299.0	3,271.1	27.88	118.344		
1,400.0	1,396.4	1,349.4	1,349.4	3.2	27.0	-87.90	-3,016.5	-1,340.8	3,298.4	3,268.2	30.15	109.386		
1,500.0	1,495.2	1,448.2	1,448.2	3.5	29.0	-88.17	-3,016.5	-1,340.8	3,297.8	3,265.4	32.44	101.647		
1,600.0	1,594.0	1,547.0	1,547.0	3.8	30.9	-88.43	-3,016.5	-1,340.8	3,297.4	3,262.6	34.74	94.903		
1,700.0	1,692.8	1,645.8	1,645.8	4.1	32.9	-88.69	-3,016.5	-1,340.8	3,297.0	3,259.9	37.05	88.981		
1,800.0	1,791.6	1,744.6	1,744.6	4.5	34.9	-88.96	-3,016.5	-1,340.8	3,296.7	3,257.3	39.37	83.742		
1,900.0	1,890.4	1,843.4	1,843.4	4.8	36.9	-89.22	-3,016.5	-1,340.8	3,296.4	3,254.7	41.69	79.078		
2,000.0	1,989.2	1,942.2	1,942.2	5.2	38.8	-89.49	-3,016.5	-1,340.8	3,296.2	3,252.2	44.01	74.900		
2,100.0	2,088.0	2,041.0	2,041.0	5.5	40.8	-89.75	-3,016.5	-1,340.8	3,296.1	3,249.8	46.33	71.139		
2,194.2	2,181.1	2,134.1	2,134.1	5.8	42.7	-90.00	-3,016.5	-1,340.8	3,296.1	3,247.6	48.53	67.923		
2,200.0	2,186.8	2,139.8	2,139.8	5.9	42.8	-90.02	-3,016.5	-1,340.8	3,296.1	3,247.4	48.66	67.735		
2,300.0	2,285.6	2,238.6	2,238.6	6.2	44.8	-90.28	-3,016.5	-1,340.8	3,296.2	3,245.2	50.99	64.640		
2,400.0	2,384.5	2,337.5	2,337.5	6.6	46.7	-90.54	-3,016.5	-1,340.8	3,296.3	3,242.9	53.32	61.815		
2,500.0	2,483.3	2,436.3	2,436.3	6.9	48.7	-90.81	-3,016.5	-1,340.8	3,296.4	3,240.8	55.66	59.227		
2,600.0	2,582.1	2,535.1	2,535.1	7.3	50.7	-91.07	-3,016.5	-1,340.8	3,296.7	3,238.7	57.99	56.847		
2,700.0	2,680.9	2,633.9	2,633.9	7.7	52.7	-91.34	-3,016.5	-1,340.8	3,297.0	3,236.7	60.33	54.652		
2,800.0	2,779.7	2,732.7	2,732.7	8.0	54.7	-91.60	-3,016.5	-1,340.8	3,297.4	3,234.8	62.66	52.621		
2,900.0	2,878.5	2,831.5	2,831.5	8.4	56.6	-91.86	-3,016.5	-1,340.8	3,297.9	3,232.9	65.00	50.736		
3,000.0	2,977.3	2,930.3	2,930.3	8.7	58.6	-92.13	-3,016.5	-1,340.8	3,298.4	3,231.1	67.34	48.983		
3,100.0	3,076.1	3,029.1	3,029.1	9.1	60.6	-92.39	-3,016.5	-1,340.8	3,299.1	3,229.4	69.68	47.348		
3,200.0	3,174.9	3,127.9	3,127.9	9.5	62.6	-92.66	-3,016.5	-1,340.8	3,299.7	3,227.7	72.02	45.820		
3,300.0	3,273.7	3,226.7	3,226.7	9.8	64.5	-92.92	-3,016.5	-1,340.8	3,300.5	3,226.1	74.35	44.389		
3,400.0	3,372.5	3,325.5	3,325.5	10.2	66.5	-93.18	-3,016.5	-1,340.8	3,301.3	3,224.6	76.69	43.046		
3,500.0	3,471.4	3,424.4	3,424.4	10.5	68.5	-93.45	-3,016.5	-1,340.8	3,302.2	3,223.2	79.03	41.783		
3,600.0	3,570.2	3,523.2	3,523.2	10.9	70.5	-93.71	-3,016.5	-1,340.8	3,303.2	3,221.8	81.37	40.594		
3,700.0	3,669.0	3,622.0	3,622.0	11.3	72.4	-93.97	-3,016.5	-1,340.8	3,304.2	3,220.5	83.71	39.471		
3,800.0	3,767.8	3,720.8	3,720.8	11.6	74.4	-94.24	-3,016.5	-1,340.8	3,305.4	3,219.3	86.05	38.411		
3,900.0	3,866.6	3,819.6	3,819.6	12.0	76.4	-94.50	-3,016.5	-1,340.8	3,306.5	3,218.2	88.39	37.408		
4,000.0	3,965.4	3,918.4	3,918.4	12.4	78.4	-94.76	-3,016.5	-1,340.8	3,307.8	3,217.1	90.73	36.457		
4,100.0	4,064.2	4,017.2	4,017.2	12.7	80.3	-95.02	-3,016.5	-1,340.8	3,309.1	3,216.1	93.07	35.555		
4,200.0	4,163.0	4,116.0	4,116.0	13.1	82.3	-95.29	-3,016.5	-1,340.8	3,310.5	3,215.1	95.41	34.698		
4,300.0	4,261.8	4,214.8	4,214.8	13.5	84.3	-95.55	-3,016.5	-1,340.8	3,312.0	3,214.2	97.75	33.882		
4,400.0	4,360.6	4,313.6	4,313.6	13.8	86.3	-95.81	-3,016.5	-1,340.8	3,313.5	3,213.5	100.09	33.106		
4,500.0	4,459.4	4,412.4	4,412.4	14.2	88.2	-96.07	-3,016.5	-1,340.8	3,315.2	3,212.7	102.43	32.365		
4,600.0	4,558.3	4,511.3	4,511.3	14.6	90.2	-96.33	-3,016.5	-1,340.8	3,316.8	3,212.1	104.77	31.659		
4,700.0	4,657.1	4,610.1	4,610.1	14.9	92.2	-96.59	-3,016.5	-1,340.8	3,318.6	3,211.5	107.11	30.984		
4,800.0	4,755.9	4,708.9	4,708.9	15.3	94.2	-96.85	-3,016.5	-1,340.8	3,320.4	3,211.0	109.44	30.339		

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 Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells - Berg 33-15 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7300-UNKNOWN													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,900.0	4,854.7	4,807.7	4,807.7	15.7	96.2	-97.11	-3,016.5	-1,340.8	3,322.3	3,210.5	111.78	29.721		
5,000.0	4,953.5	4,906.5	4,906.5	16.0	98.1	-97.37	-3,016.5	-1,340.8	3,324.3	3,210.1	114.12	29.129		
5,100.0	5,052.3	5,005.3	5,005.3	16.4	100.1	-97.63	-3,016.5	-1,340.8	3,326.3	3,209.8	116.46	28.562		
5,200.0	5,151.1	5,104.1	5,104.1	16.8	102.1	-97.89	-3,016.5	-1,340.8	3,328.4	3,209.6	118.80	28.018		
5,300.0	5,249.9	5,202.9	5,202.9	17.1	104.1	-98.15	-3,016.5	-1,340.8	3,330.6	3,209.4	121.13	27.495		
5,400.0	5,348.7	5,301.7	5,301.7	17.5	106.0	-98.41	-3,016.5	-1,340.8	3,332.8	3,209.4	123.47	26.993		
5,500.0	5,447.5	5,400.5	5,400.5	17.9	108.0	-98.67	-3,016.5	-1,340.8	3,335.1	3,209.3	125.81	26.510		
5,600.0	5,546.3	5,499.3	5,499.3	18.2	110.0	-98.93	-3,016.5	-1,340.8	3,337.5	3,209.4	128.14	26.046		
5,700.0	5,645.2	5,598.2	5,598.2	18.6	112.0	-99.19	-3,016.5	-1,340.8	3,340.0	3,209.5	130.48	25.598		
5,800.0	5,744.0	5,697.0	5,697.0	19.0	113.9	-99.44	-3,016.5	-1,340.8	3,342.5	3,209.7	132.81	25.167		
5,900.0	5,842.8	5,795.8	5,795.8	19.3	115.9	-99.70	-3,016.5	-1,340.8	3,345.1	3,209.9	135.15	24.752		
5,916.6	5,859.2	5,812.2	5,812.2	19.4	116.2	-99.74	-3,016.5	-1,340.8	3,345.5	3,210.0	135.53	24.684		
6,000.0	5,941.8	5,894.8	5,894.8	19.7	117.9	-99.98	-3,016.5	-1,340.8	3,347.5	3,210.1	137.44	24.355		
6,100.0	6,041.2	5,994.2	5,994.2	19.9	119.9	-100.19	-3,016.5	-1,340.8	3,349.4	3,209.8	139.67	23.982		
6,200.0	6,140.9	6,093.9	6,093.9	20.1	121.9	-100.34	-3,016.5	-1,340.8	3,350.7	3,208.9	141.86	23.621		
6,300.0	6,240.8	6,193.8	6,193.8	20.2	123.9	-100.42	-3,016.5	-1,340.8	3,351.4	3,207.4	144.01	23.272		
6,359.2	6,300.0	6,253.0	6,253.0	20.3	125.1	-169.60	-3,016.5	-1,340.8	3,351.5	3,206.2	145.27	23.070		
6,400.0	6,340.8	6,293.8	6,293.8	20.4	125.9	-169.60	-3,016.5	-1,340.8	3,351.5	3,205.4	146.14	22.933		
6,500.0	6,440.8	6,393.8	6,393.8	20.5	127.9	-169.60	-3,016.5	-1,340.8	3,351.5	3,203.2	148.29	22.600		
6,551.4	6,492.2	6,445.2	6,445.2	20.6	128.9	-169.60	-3,016.5	-1,340.8	3,351.5	3,202.1	149.40	22.433		
6,600.0	6,540.8	6,493.8	6,493.8	20.7	129.9	10.44	-3,016.5	-1,340.8	3,350.0	3,199.9	150.13	22.314		
6,650.0	6,590.5	6,543.5	6,543.5	20.7	130.9	10.52	-3,016.5	-1,340.8	3,345.3	3,195.0	150.25	22.264		
6,700.0	6,639.9	6,592.9	6,592.9	20.7	131.9	10.66	-3,016.5	-1,340.8	3,337.3	3,187.6	149.74	22.288		
6,750.0	6,688.6	6,641.6	6,641.6	20.8	132.8	10.85	-3,016.5	-1,340.8	3,326.3	3,177.7	148.58	22.387		
6,800.0	6,736.4	6,689.4	6,689.4	20.8	133.8	11.11	-3,016.5	-1,340.8	3,312.1	3,165.3	146.78	22.565		
6,850.0	6,783.3	6,736.3	6,736.3	20.8	134.7	11.44	-3,016.5	-1,340.8	3,294.9	3,150.5	144.35	22.825		
6,900.0	6,828.8	6,781.8	6,781.8	20.8	135.6	11.85	-3,016.5	-1,340.8	3,274.7	3,133.4	141.31	23.174		
6,950.0	6,873.0	6,826.0	6,826.0	20.8	136.5	12.34	-3,016.5	-1,340.8	3,251.6	3,113.9	137.68	23.617		
7,000.0	6,915.5	6,868.5	6,868.5	20.8	137.4	12.94	-3,016.5	-1,340.8	3,225.7	3,092.2	133.50	24.163		
7,050.0	6,956.2	6,909.2	6,909.2	20.8	138.2	13.65	-3,016.5	-1,340.8	3,197.2	3,068.4	128.84	24.816		
7,100.0	6,994.9	6,947.9	6,947.9	20.8	139.0	14.52	-3,016.5	-1,340.8	3,166.1	3,042.4	123.77	25.581		
7,150.0	7,031.4	6,984.4	6,984.4	20.8	139.7	15.55	-3,016.5	-1,340.8	3,132.7	3,014.2	118.42	26.453		
7,200.0	7,065.6	7,018.6	7,018.6	20.8	140.4	16.80	-3,016.5	-1,340.8	3,096.9	2,984.0	112.97	27.414		
7,250.0	7,097.4	7,050.4	7,050.4	20.8	141.0	18.32	-3,016.5	-1,340.8	3,059.1	2,951.4	107.66	28.413		
7,300.0	7,126.6	7,079.6	7,079.6	20.8	141.6	20.19	-3,016.5	-1,340.8	3,019.3	2,916.5	102.88	29.349		
7,350.0	7,153.1	7,106.1	7,106.1	20.8	142.1	22.51	-3,016.5	-1,340.8	2,977.8	2,878.7	99.15	30.034		
7,400.0	7,176.7	7,129.7	7,129.7	20.9	142.6	25.42	-3,016.5	-1,340.8	2,934.7	2,837.5	97.23	30.184		
7,450.0	7,197.5	7,150.5	7,150.5	21.0	143.0	29.15	-3,016.5	-1,340.8	2,890.2	2,792.1	98.07	29.469		
7,500.0	7,215.1	7,168.1	7,168.1	21.1	143.4	34.00	-3,016.5	-1,340.8	2,844.5	2,741.8	102.74	27.686		
7,550.0	7,229.7	7,182.7	7,182.7	21.3	143.7	40.41	-3,016.5	-1,340.8	2,797.8	2,685.7	112.05	24.969		
7,600.0	7,241.2	7,194.2	7,194.2	21.5	143.9	48.92	-3,016.5	-1,340.8	2,750.3	2,624.3	126.01	21.826		
7,650.0	7,249.4	7,202.4	7,202.4	21.8	144.0	60.10	-3,016.5	-1,340.8	2,702.2	2,559.4	142.80	18.924		
7,671.4	7,252.0	7,205.0	7,205.0	21.9	144.1	65.74	-3,016.5	-1,340.8	2,681.6	2,531.8	149.75	17.907		
7,700.0	7,254.9	7,207.9	7,207.9	22.1	144.2	65.97	-3,016.5	-1,340.8	2,653.8	2,503.5	150.30	17.657		
7,745.4	7,259.7	7,212.7	7,212.7	22.4	144.3	66.35	-3,016.5	-1,340.8	2,609.9	2,458.7	151.20	17.261		
7,800.0	7,264.1	7,217.1	7,217.1	22.8	144.3	76.84	-3,016.5	-1,340.8	2,557.0	2,396.4	160.61	15.920		
7,864.2	7,266.0	7,219.0	7,219.0	23.4	144.4	89.76	-3,016.5	-1,340.8	2,494.7	2,329.7	165.06	15.114		
7,900.0	7,266.0	7,219.0	7,219.0	23.8	144.4	89.76	-3,016.5	-1,340.8	2,460.0	2,294.5	165.48	14.866		
8,000.0	7,266.1	7,219.1	7,219.1	24.8	144.4	89.77	-3,016.5	-1,340.8	2,363.2	2,196.5	166.72	14.175		
8,100.0	7,266.2	7,219.2	7,219.2	26.0	144.4	89.78	-3,016.5	-1,340.8	2,266.7	2,098.6	168.05	13.488		

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 Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells - Berg 33-15 (Exist.) - Wellbore #1 - Wellbore #1														Offset Site Error: 0.0ft
Survey Program: 7300-UNKNOWN														Offset Well Error: 0.0ft
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
8,200.0	7,266.3	7,219.3	7,219.3	27.3	144.4	89.79	-3,016.5	-1,340.8	2,170.5	2,001.0	169.47	12.808		
8,300.0	7,266.4	7,219.4	7,219.4	28.7	144.4	89.80	-3,016.5	-1,340.8	2,074.7	1,903.7	170.94	12.137		
8,400.0	7,266.5	7,219.5	7,219.5	30.1	144.4	89.81	-3,016.5	-1,340.8	1,979.2	1,806.8	172.47	11.476		
8,500.0	7,266.6	7,219.6	7,219.6	31.6	144.4	89.82	-3,016.5	-1,340.8	1,884.3	1,710.2	174.05	10.826		
8,600.0	7,266.7	7,219.7	7,219.7	33.1	144.4	89.83	-3,016.5	-1,340.8	1,789.9	1,614.2	175.66	10.189		
8,700.0	7,266.8	7,219.8	7,219.8	34.7	144.4	89.84	-3,016.5	-1,340.8	1,696.1	1,518.8	177.31	9.566		
8,800.0	7,266.9	7,219.9	7,219.9	36.3	144.4	89.85	-3,016.5	-1,340.8	1,603.1	1,424.1	178.99	8.957		
8,900.0	7,267.0	7,220.0	7,220.0	37.9	144.4	89.86	-3,016.5	-1,340.8	1,511.0	1,330.3	180.69	8.362		
9,000.0	7,267.2	7,220.2	7,220.2	39.5	144.4	89.87	-3,016.5	-1,340.8	1,420.0	1,237.5	182.41	7.784		
9,100.0	7,267.3	7,220.3	7,220.3	41.2	144.4	89.88	-3,016.5	-1,340.8	1,330.2	1,146.0	184.15	7.223		
9,200.0	7,267.4	7,220.4	7,220.4	42.9	144.4	89.89	-3,016.5	-1,340.8	1,242.0	1,056.1	185.91	6.681		
9,300.0	7,267.5	7,220.5	7,220.5	44.6	144.4	89.90	-3,016.5	-1,340.8	1,155.7	968.1	187.68	6.158		
9,400.0	7,267.6	7,220.6	7,220.6	46.4	144.4	89.91	-3,016.5	-1,340.8	1,071.9	882.4	189.47	5.657		
9,500.0	7,267.7	7,220.7	7,220.7	48.1	144.4	89.92	-3,016.5	-1,340.8	991.0	799.7	191.26	5.181		
9,600.0	7,267.8	7,220.8	7,220.8	49.9	144.4	89.93	-3,016.5	-1,340.8	913.9	720.8	193.07	4.734		
9,700.0	7,267.9	7,220.9	7,220.9	51.6	144.4	89.94	-3,016.5	-1,340.8	841.7	646.8	194.88	4.319		
9,800.0	7,268.0	7,221.0	7,221.0	53.4	144.4	89.95	-3,016.5	-1,340.8	775.6	578.9	196.70	3.943		
9,900.0	7,268.1	7,221.1	7,221.1	55.2	144.4	89.96	-3,016.5	-1,340.8	717.4	518.9	198.53	3.614		
10,000.0	7,268.2	7,221.2	7,221.2	57.0	144.4	89.97	-3,016.5	-1,340.8	669.2	468.9	200.37	3.340		
10,100.0	7,268.3	7,221.3	7,221.3	58.8	144.4	89.98	-3,016.5	-1,340.8	633.3	431.0	202.21	3.132		
10,200.0	7,268.4	7,221.4	7,221.4	60.6	144.4	89.99	-3,016.5	-1,340.8	611.7	407.6	204.06	2.998		
10,284.2	7,268.5	7,221.5	7,221.5	62.2	144.4	90.00	-3,016.5	-1,340.8	605.9	400.3	205.62	2.947 CC		
10,300.0	7,268.5	7,221.5	7,221.5	62.5	144.4	90.00	-3,016.5	-1,340.8	606.1	400.2	205.91	2.943 ES, SF		
10,400.0	7,268.6	7,221.6	7,221.6	64.3	144.4	90.01	-3,016.5	-1,340.8	616.8	409.1	207.77	2.969		
10,500.0	7,268.7	7,221.7	7,221.7	66.1	144.4	90.02	-3,016.5	-1,340.8	643.2	433.5	209.63	3.068		
10,600.0	7,268.8	7,221.8	7,221.8	68.0	144.4	90.03	-3,016.5	-1,340.8	683.2	471.7	211.49	3.231		
10,700.0	7,268.9	7,221.9	7,221.9	69.8	144.4	90.04	-3,016.5	-1,340.8	734.8	521.5	213.36	3.444		
10,800.0	7,269.0	7,222.0	7,222.0	71.7	144.4	90.05	-3,016.5	-1,340.8	795.7	580.5	215.23	3.697		
10,900.0	7,269.1	7,222.1	7,222.1	73.5	144.4	90.06	-3,016.5	-1,340.8	863.9	646.8	217.10	3.979		
11,000.0	7,269.2	7,222.2	7,222.2	75.4	144.4	90.07	-3,016.5	-1,340.8	937.8	718.8	218.97	4.283		
11,100.0	7,269.4	7,222.4	7,222.4	77.2	144.4	90.08	-3,016.5	-1,340.8	1,016.2	795.3	220.85	4.601		
11,200.0	7,269.5	7,222.5	7,222.5	79.1	144.4	90.09	-3,016.5	-1,340.8	1,098.1	875.3	222.73	4.930		
11,300.0	7,269.6	7,222.6	7,222.6	80.9	144.5	90.10	-3,016.5	-1,340.8	1,182.8	958.1	224.62	5.266		
11,400.0	7,269.7	7,222.7	7,222.7	82.8	144.5	90.11	-3,016.5	-1,340.8	1,269.7	1,043.2	226.50	5.606		
11,500.0	7,269.8	7,222.8	7,222.8	84.7	144.5	90.12	-3,016.5	-1,340.8	1,358.4	1,130.0	228.39	5.948		
11,600.0	7,269.9	7,222.9	7,222.9	86.5	144.5	90.13	-3,016.5	-1,340.8	1,448.6	1,218.3	230.27	6.291		
11,700.0	7,270.0	7,223.0	7,223.0	88.4	144.5	90.14	-3,016.5	-1,340.8	1,540.0	1,307.8	232.16	6.633		
11,719.8	7,270.0	7,223.0	7,223.0	88.8	144.5	90.14	-3,016.5	-1,340.8	1,558.2	1,325.7	232.54	6.701		



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells - Harvester 31-15 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7300-UNKNOWN													Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis			Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-111.21	-466.3	-1,201.6	1,289.0					
100.0	100.0	80.0	80.0	0.1	1.6	-111.21	-466.3	-1,201.6	1,288.9	1,287.2	1.70	760.063		
200.0	200.0	180.0	180.0	0.3	3.6	-111.21	-466.3	-1,201.6	1,288.9	1,284.9	3.92	328.749		
300.0	300.0	280.0	280.0	0.5	5.6	-111.21	-466.3	-1,201.6	1,288.9	1,282.7	6.15	209.732		
400.0	400.0	380.0	380.0	0.8	7.6	-111.21	-466.3	-1,201.6	1,288.9	1,280.5	8.37	153.985		
500.0	500.0	480.0	480.0	1.0	9.6	-111.21	-466.3	-1,201.6	1,288.9	1,278.3	10.59	121.650		
600.0	600.0	580.0	580.0	1.2	11.6	-111.21	-466.3	-1,201.6	1,288.9	1,276.0	12.82	100.538		
700.0	700.0	680.0	680.0	1.4	13.6	-111.21	-466.3	-1,201.6	1,288.9	1,273.8	15.04	85.671		
800.0	800.0	780.0	780.0	1.7	15.6	-111.21	-466.3	-1,201.6	1,288.9	1,271.6	17.27	74.634		
900.0	900.0	880.0	880.0	1.9	17.6	-42.11	-466.3	-1,201.6	1,287.6	1,268.1	19.48	66.101		
1,000.0	999.8	979.8	979.8	2.1	19.6	-42.32	-466.3	-1,201.6	1,283.7	1,262.0	21.67	59.249		
1,100.0	1,099.5	1,079.5	1,079.5	2.3	21.6	-42.67	-466.3	-1,201.6	1,277.2	1,253.4	23.84	53.582		
1,200.0	1,198.7	1,178.7	1,178.7	2.6	23.6	-43.16	-466.3	-1,201.6	1,268.3	1,242.3	25.99	48.795		
1,242.6	1,240.8	1,220.8	1,220.8	2.7	24.4	-43.42	-466.3	-1,201.6	1,263.7	1,236.8	26.91	46.969		
1,300.0	1,297.6	1,277.6	1,277.6	2.9	25.6	-43.69	-466.3	-1,201.6	1,257.3	1,229.1	28.18	44.618		
1,400.0	1,396.4	1,376.4	1,376.4	3.2	27.5	-44.18	-466.3	-1,201.6	1,246.1	1,215.7	30.41	40.982		
1,500.0	1,495.2	1,475.2	1,475.2	3.5	29.5	-44.67	-466.3	-1,201.6	1,235.1	1,202.4	32.65	37.833		
1,600.0	1,594.0	1,574.0	1,574.0	3.8	31.5	-45.18	-466.3	-1,201.6	1,224.1	1,189.2	34.89	35.082		
1,700.0	1,692.8	1,672.8	1,672.8	4.1	33.5	-45.69	-466.3	-1,201.6	1,213.3	1,176.1	37.15	32.661		
1,800.0	1,791.6	1,771.6	1,771.6	4.5	35.4	-46.21	-466.3	-1,201.6	1,202.5	1,163.1	39.41	30.514		
1,900.0	1,890.4	1,870.4	1,870.4	4.8	37.4	-46.74	-466.3	-1,201.6	1,191.8	1,150.2	41.68	28.598		
2,000.0	1,989.2	1,969.2	1,969.2	5.2	39.4	-47.28	-466.3	-1,201.6	1,181.3	1,137.3	43.95	26.879		
2,100.0	2,088.0	2,068.0	2,068.0	5.5	41.4	-47.83	-466.3	-1,201.6	1,170.8	1,124.6	46.23	25.328		
2,200.0	2,186.8	2,166.8	2,166.8	5.9	43.3	-48.39	-466.3	-1,201.6	1,160.5	1,112.0	48.51	23.924		
2,300.0	2,285.6	2,265.6	2,265.6	6.2	45.3	-48.96	-466.3	-1,201.6	1,150.2	1,099.5	50.79	22.645		
2,400.0	2,384.5	2,364.5	2,364.5	6.6	47.3	-49.54	-466.3	-1,201.6	1,140.1	1,087.0	53.09	21.477		
2,500.0	2,483.3	2,463.3	2,463.3	6.9	49.3	-50.13	-466.3	-1,201.6	1,130.1	1,074.8	55.38	20.407		
2,600.0	2,582.1	2,562.1	2,562.1	7.3	51.2	-50.73	-466.3	-1,201.6	1,120.3	1,062.6	57.68	19.422		
2,700.0	2,680.9	2,660.9	2,660.9	7.7	53.2	-51.34	-466.3	-1,201.6	1,110.5	1,050.5	59.98	18.514		
2,800.0	2,779.7	2,759.7	2,759.7	8.0	55.2	-51.96	-466.3	-1,201.6	1,100.9	1,038.6	62.29	17.674		
2,900.0	2,878.5	2,858.5	2,858.5	8.4	57.2	-52.59	-466.3	-1,201.6	1,091.4	1,026.8	64.60	16.894		
3,000.0	2,977.3	2,957.3	2,957.3	8.7	59.1	-53.23	-466.3	-1,201.6	1,082.1	1,015.1	66.92	16.170		
3,100.0	3,076.1	3,056.1	3,056.1	9.1	61.1	-53.88	-466.3	-1,201.6	1,072.9	1,003.6	69.24	15.496		
3,200.0	3,174.9	3,154.9	3,154.9	9.5	63.1	-54.55	-466.3	-1,201.6	1,063.8	992.2	71.56	14.866		
3,300.0	3,273.7	3,253.7	3,253.7	9.8	65.1	-55.22	-466.3	-1,201.6	1,054.9	981.0	73.88	14.277		
3,400.0	3,372.5	3,352.5	3,352.5	10.2	67.1	-55.91	-466.3	-1,201.6	1,046.1	969.9	76.21	13.726		
3,500.0	3,471.4	3,451.4	3,451.4	10.5	69.0	-56.61	-466.3	-1,201.6	1,037.5	958.9	78.55	13.208		
3,600.0	3,570.2	3,550.2	3,550.2	10.9	71.0	-57.32	-466.3	-1,201.6	1,029.0	948.1	80.88	12.722		
3,700.0	3,669.0	3,649.0	3,649.0	11.3	73.0	-58.04	-466.3	-1,201.6	1,020.7	937.5	83.23	12.264		
3,800.0	3,767.8	3,747.8	3,747.8	11.6	75.0	-58.77	-466.3	-1,201.6	1,012.6	927.0	85.57	11.833		
3,900.0	3,866.6	3,846.6	3,846.6	12.0	76.9	-59.52	-466.3	-1,201.6	1,004.6	916.7	87.92	11.427		
4,000.0	3,965.4	3,945.4	3,945.4	12.4	78.9	-60.27	-466.3	-1,201.6	996.8	906.6	90.27	11.043		
4,100.0	4,064.2	4,044.2	4,044.2	12.7	80.9	-61.04	-466.3	-1,201.6	989.2	896.6	92.62	10.680		
4,200.0	4,163.0	4,143.0	4,143.0	13.1	82.9	-61.82	-466.3	-1,201.6	981.8	886.8	94.98	10.337		
4,300.0	4,261.8	4,241.8	4,241.8	13.5	84.8	-62.61	-466.3	-1,201.6	974.6	877.2	97.34	10.012		
4,400.0	4,360.6	4,340.6	4,340.6	13.8	86.8	-63.41	-466.3	-1,201.6	967.5	867.8	99.70	9.704		
4,500.0	4,459.4	4,439.4	4,439.4	14.2	88.8	-64.22	-466.3	-1,201.6	960.6	858.6	102.07	9.412		
4,600.0	4,558.3	4,538.3	4,538.3	14.6	90.8	-65.04	-466.3	-1,201.6	954.0	849.5	104.44	9.134		
4,700.0	4,657.1	4,637.1	4,637.1	14.9	92.7	-65.88	-466.3	-1,201.6	947.5	840.7	106.81	8.871		
4,800.0	4,755.9	4,735.9	4,735.9	15.3	94.7	-66.73	-466.3	-1,201.6	941.3	832.1	109.18	8.621		
4,900.0	4,854.7	4,834.7	4,834.7	15.7	96.7	-67.58	-466.3	-1,201.6	935.3	823.7	111.56	8.383		

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 Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Existing Wells - Harvester 31-15 (Exist.) - Wellbore #1 - Wellbore #1											Offset Site Error:		0.0 ft	
Survey Program: 7300-UNKNOWN														Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
5,000.0	4,953.5	4,933.5	4,933.5	16.0	98.7	-68.45	-466.3	-1,201.6	929.4	815.5	113.94	8.157				
5,100.0	5,052.3	5,032.3	5,032.3	16.4	100.6	-69.33	-466.3	-1,201.6	923.8	807.5	116.32	7.942				
5,200.0	5,151.1	5,131.1	5,131.1	16.8	102.6	-70.22	-466.3	-1,201.6	918.5	799.8	118.70	7.738				
5,300.0	5,249.9	5,229.9	5,229.9	17.1	104.6	-71.12	-466.3	-1,201.6	913.3	792.2	121.08	7.543				
5,400.0	5,348.7	5,328.7	5,328.7	17.5	106.6	-72.03	-466.3	-1,201.6	908.4	784.9	123.47	7.357				
5,500.0	5,447.5	5,427.5	5,427.5	17.9	108.6	-72.94	-466.3	-1,201.6	903.7	777.9	125.85	7.181				
5,600.0	5,546.3	5,526.3	5,526.3	18.2	110.5	-73.87	-466.3	-1,201.6	899.3	771.0	128.24	7.012				
5,700.0	5,645.2	5,625.2	5,625.2	18.6	112.5	-74.81	-466.3	-1,201.6	895.1	764.4	130.63	6.852				
5,800.0	5,744.0	5,724.0	5,724.0	19.0	114.5	-75.75	-466.3	-1,201.6	891.1	758.1	133.01	6.699				
5,900.0	5,842.8	5,822.8	5,822.8	19.3	116.5	-76.70	-466.3	-1,201.6	887.4	752.0	135.40	6.554				
5,916.6	5,859.2	5,839.2	5,839.2	19.4	116.8	-76.86	-466.3	-1,201.6	886.8	751.0	135.80	6.530				
6,000.0	5,941.8	5,921.8	5,921.8	19.7	118.4	-77.54	-466.3	-1,201.6	884.2	746.5	137.76	6.419				
6,100.0	6,041.2	6,021.2	6,021.2	19.9	120.4	-78.17	-466.3	-1,201.6	881.9	741.9	140.02	6.298				
6,200.0	6,140.9	6,120.9	6,120.9	20.1	122.4	-78.61	-466.3	-1,201.6	880.5	738.2	142.24	6.190				
6,300.0	6,240.8	6,220.8	6,220.8	20.2	124.4	-78.84	-466.3	-1,201.6	879.7	735.3	144.42	6.092				
6,359.2	6,300.0	6,280.0	6,280.0	20.3	125.6	-148.04	-466.3	-1,201.6	879.6	733.9	145.68	6.038				
6,400.0	6,340.8	6,320.8	6,320.8	20.4	126.4	-148.04	-466.3	-1,201.6	879.6	733.0	146.55	6.002				
6,500.0	6,440.8	6,420.8	6,420.8	20.5	128.4	-148.04	-466.3	-1,201.6	879.6	730.9	148.70	5.915				
6,551.4	6,492.2	6,472.2	6,472.2	20.6	129.4	-148.04	-466.3	-1,201.6	879.6	729.8	149.81	5.872				
6,600.0	6,540.8	6,520.8	6,520.8	20.7	130.4	32.08	-466.3	-1,201.6	878.3	727.7	150.62	5.831				
6,650.0	6,590.5	6,570.5	6,570.5	20.7	131.4	32.41	-466.3	-1,201.6	874.2	723.2	150.98	5.790				
6,700.0	6,639.9	6,619.9	6,619.9	20.7	132.4	32.98	-466.3	-1,201.6	867.4	716.5	150.86	5.750				
6,750.0	6,688.6	6,668.6	6,668.6	20.8	133.4	33.78	-466.3	-1,201.6	857.9	707.6	150.29	5.708				
6,800.0	6,736.4	6,716.4	6,716.4	20.8	134.3	34.85	-466.3	-1,201.6	845.8	696.5	149.34	5.664				
6,850.0	6,783.3	6,763.3	6,763.3	20.8	135.3	36.19	-466.3	-1,201.6	831.3	683.2	148.08	5.614				
6,900.0	6,828.8	6,808.8	6,808.8	20.8	136.2	37.84	-466.3	-1,201.6	814.3	667.7	146.63	5.554				
6,950.0	6,873.0	6,853.0	6,853.0	20.8	137.1	39.82	-466.3	-1,201.6	795.2	650.0	145.15	5.479				
7,000.0	6,915.5	6,895.5	6,895.5	20.8	137.9	42.15	-466.3	-1,201.6	774.0	630.2	143.81	5.382				
7,050.0	6,956.2	6,936.2	6,936.2	20.8	138.7	44.86	-466.3	-1,201.6	751.0	608.2	142.83	5.258				
7,100.0	6,994.9	6,974.9	6,974.9	20.8	139.5	47.97	-466.3	-1,201.6	726.5	584.0	142.43	5.101				
7,150.0	7,031.4	7,011.4	7,011.4	20.8	140.2	51.48	-466.3	-1,201.6	700.6	557.8	142.79	4.907				
7,200.0	7,065.6	7,045.6	7,045.6	20.8	140.9	55.37	-466.3	-1,201.6	673.8	529.8	144.03	4.679				
7,250.0	7,097.4	7,077.4	7,077.4	20.8	141.5	59.57	-466.3	-1,201.6	646.5	500.4	146.10	4.425				
7,300.0	7,126.6	7,106.6	7,106.6	20.8	142.1	64.00	-466.3	-1,201.6	619.1	470.2	148.83	4.159				
7,350.0	7,153.1	7,133.1	7,133.1	20.8	142.7	68.53	-466.3	-1,201.6	592.0	440.1	151.90	3.897				
7,400.0	7,176.7	7,156.7	7,156.7	20.9	143.1	72.98	-466.3	-1,201.6	565.9	410.9	154.92	3.653				
7,450.0	7,197.5	7,177.5	7,177.5	21.0	143.5	77.18	-466.3	-1,201.6	541.3	383.7	157.60	3.435				
7,500.0	7,215.1	7,195.1	7,195.1	21.1	143.9	80.97	-466.3	-1,201.6	519.1	359.3	159.73	3.250				
7,550.0	7,229.7	7,209.7	7,209.7	21.3	144.2	84.21	-466.3	-1,201.6	499.8	338.5	161.28	3.099				
7,600.0	7,241.2	7,221.2	7,221.2	21.5	144.4	86.79	-466.3	-1,201.6	484.3	322.0	162.34	2.983				
7,650.0	7,249.4	7,229.4	7,229.4	21.8	144.6	88.65	-466.3	-1,201.6	473.2	310.1	163.07	2.902				
7,671.4	7,252.0	7,232.0	7,232.0	21.9	144.6	89.20	-466.3	-1,201.6	469.9	306.6	163.32	2.877				
7,700.0	7,254.9	7,234.9	7,234.9	22.1	144.7	89.57	-466.3	-1,201.6	467.0	303.4	163.65	2.854				
7,733.8	7,258.5	7,238.5	7,238.5	22.3	144.8	90.00	-466.3	-1,201.6	465.8	301.8	164.04	2.840 CC, ES				
7,745.4	7,259.7	7,239.7	7,239.7	22.4	144.8	90.15	-466.3	-1,201.6	465.9	301.8	164.17	2.838 SF				
7,800.0	7,264.1	7,244.1	7,244.1	22.8	144.9	90.46	-466.3	-1,201.6	470.5	305.6	164.81	2.854				
7,864.2	7,266.0	7,246.0	7,246.0	23.4	144.9	90.02	-466.3	-1,201.6	483.6	318.1	165.59	2.921				
7,900.0	7,266.0	7,246.0	7,246.0	23.8	144.9	90.02	-466.3	-1,201.6	494.5	328.5	166.01	2.979				
8,000.0	7,266.1	7,246.1	7,246.1	24.8	144.9	90.03	-466.3	-1,201.6	536.4	369.1	167.25	3.207				
8,100.0	7,266.2	7,246.2	7,246.2	26.0	144.9	90.05	-466.3	-1,201.6	592.4	423.8	168.58	3.514				

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 Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells - Harvester 31-15 (Exist.) - Wellbore #1 - Wellbore #1														Offset Site Error:	0.0 ft
Survey Program: 7300-UNKNOWN														Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis		Distance											
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
8,200.0	7,266.3	7,246.3	7,246.3	27.3	144.9	90.06	-466.3	-1,201.6	658.9	488.9	169.99	3.876			
8,300.0	7,266.4	7,246.4	7,246.4	28.7	144.9	90.07	-466.3	-1,201.6	733.0	561.5	171.47	4.275			
8,400.0	7,266.5	7,246.5	7,246.5	30.1	144.9	90.09	-466.3	-1,201.6	812.7	639.7	173.00	4.698			
8,500.0	7,266.6	7,246.6	7,246.6	31.6	144.9	90.10	-466.3	-1,201.6	896.5	721.9	174.58	5.135			
8,600.0	7,266.7	7,246.7	7,246.7	33.1	144.9	90.11	-466.3	-1,201.6	983.3	807.1	176.19	5.581			
8,700.0	7,266.8	7,246.8	7,246.8	34.7	144.9	90.12	-466.3	-1,201.6	1,072.4	894.6	177.84	6.030			
8,800.0	7,266.9	7,246.9	7,246.9	36.3	144.9	90.14	-466.3	-1,201.6	1,163.3	983.8	179.51	6.480			
8,900.0	7,267.0	7,247.0	7,247.0	37.9	144.9	90.15	-466.3	-1,201.6	1,255.6	1,074.3	181.22	6.929			
9,000.0	7,267.2	7,247.2	7,247.2	39.5	144.9	90.16	-466.3	-1,201.6	1,348.9	1,166.0	182.94	7.374			
9,100.0	7,267.3	7,247.3	7,247.3	41.2	144.9	90.18	-466.3	-1,201.6	1,443.2	1,258.5	184.68	7.815			
9,200.0	7,267.4	7,247.4	7,247.4	42.9	144.9	90.19	-466.3	-1,201.6	1,538.2	1,351.7	186.44	8.250			
9,300.0	7,267.5	7,247.5	7,247.5	44.6	144.9	90.20	-466.3	-1,201.6	1,633.8	1,445.6	188.21	8.681			
9,400.0	7,267.6	7,247.6	7,247.6	46.4	145.0	90.21	-466.3	-1,201.6	1,729.9	1,539.9	189.99	9.105			
9,500.0	7,267.7	7,247.7	7,247.7	48.1	145.0	90.23	-466.3	-1,201.6	1,826.4	1,634.6	191.79	9.523			
9,600.0	7,267.8	7,247.8	7,247.8	49.9	145.0	90.24	-466.3	-1,201.6	1,923.2	1,729.6	193.59	9.934			
9,700.0	7,267.9	7,247.9	7,247.9	51.6	145.0	90.25	-466.3	-1,201.6	2,020.4	1,825.0	195.41	10.339			
9,800.0	7,268.0	7,248.0	7,248.0	53.4	145.0	90.27	-466.3	-1,201.6	2,117.8	1,920.6	197.23	10.738			
9,900.0	7,268.1	7,248.1	7,248.1	55.2	145.0	90.28	-466.3	-1,201.6	2,215.5	2,016.4	199.06	11.130			
10,000.0	7,268.2	7,248.2	7,248.2	57.0	145.0	90.29	-466.3	-1,201.6	2,313.3	2,112.4	200.89	11.515			
10,100.0	7,268.3	7,248.3	7,248.3	58.8	145.0	90.30	-466.3	-1,201.6	2,411.4	2,208.6	202.73	11.894			
10,200.0	7,268.4	7,248.4	7,248.4	60.6	145.0	90.32	-466.3	-1,201.6	2,509.6	2,305.0	204.58	12.267			
10,300.0	7,268.5	7,248.5	7,248.5	62.5	145.0	90.33	-466.3	-1,201.6	2,607.9	2,401.5	206.43	12.633			
10,400.0	7,268.6	7,248.6	7,248.6	64.3	145.0	90.34	-466.3	-1,201.6	2,706.3	2,498.1	208.29	12.993			
10,500.0	7,268.7	7,248.7	7,248.7	66.1	145.0	90.36	-466.3	-1,201.6	2,804.9	2,594.8	210.15	13.347			
10,600.0	7,268.8	7,248.8	7,248.8	68.0	145.0	90.37	-466.3	-1,201.6	2,903.6	2,691.6	212.01	13.695			
10,700.0	7,268.9	7,248.9	7,248.9	69.8	145.0	90.38	-466.3	-1,201.6	3,002.3	2,788.4	213.88	14.038			
10,800.0	7,269.0	7,249.0	7,249.0	71.7	145.0	90.39	-466.3	-1,201.6	3,101.1	2,885.4	215.75	14.374			
10,900.0	7,269.1	7,249.1	7,249.1	73.5	145.0	90.41	-466.3	-1,201.6	3,200.0	2,982.4	217.62	14.705			
11,000.0	7,269.2	7,249.2	7,249.2	75.4	145.0	90.42	-466.3	-1,201.6	3,299.0	3,079.5	219.49	15.030			
11,100.0	7,269.4	7,249.4	7,249.4	77.2	145.0	90.43	-466.3	-1,201.6	3,398.0	3,176.7	221.37	15.350			
11,200.0	7,269.5	7,249.5	7,249.5	79.1	145.0	90.45	-466.3	-1,201.6	3,497.1	3,273.9	223.25	15.664			
11,300.0	7,269.6	7,249.6	7,249.6	80.9	145.0	90.46	-466.3	-1,201.6	3,596.3	3,371.1	225.13	15.974			
11,400.0	7,269.7	7,249.7	7,249.7	82.8	145.0	90.47	-466.3	-1,201.6	3,695.4	3,468.4	227.02	16.278			
11,500.0	7,269.8	7,249.8	7,249.8	84.7	145.0	90.49	-466.3	-1,201.6	3,794.7	3,565.7	228.90	16.577			
11,600.0	7,269.9	7,249.9	7,249.9	86.5	145.0	90.50	-466.3	-1,201.6	3,893.9	3,663.1	230.79	16.872			
11,700.0	7,270.0	7,250.0	7,250.0	88.4	145.0	90.51	-466.3	-1,201.6	3,993.2	3,760.5	232.68	17.162			
11,719.8	7,270.0	7,250.0	7,250.0	88.8	145.0	90.51	-466.3	-1,201.6	4,012.9	3,779.9	233.06	17.219			

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Existing Wells - Harvester 32-15 (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error: 0.0 ft	
Survey Program: 7300-UNKNOWN														Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
0.0	0.0	0.0	0.0	0.0	0.0	-142.24	-1,515.5	-1,173.8	1,917.2						
100.0	100.0	70.0	70.0	0.1	1.4	-142.24	-1,515.5	-1,173.8	1,916.9	1,915.4	1.50	1,281.603			
200.0	200.0	170.0	170.0	0.3	3.4	-142.24	-1,515.5	-1,173.8	1,916.9	1,913.2	3.72	515.235			
300.0	300.0	270.0	270.0	0.5	5.4	-142.24	-1,515.5	-1,173.8	1,916.9	1,911.0	5.95	322.429			
400.0	400.0	370.0	370.0	0.8	7.4	-142.24	-1,515.5	-1,173.8	1,916.9	1,908.8	8.17	234.629			
500.0	500.0	470.0	470.0	1.0	9.4	-142.24	-1,515.5	-1,173.8	1,916.9	1,906.5	10.39	184.412			
600.0	600.0	570.0	570.0	1.2	11.4	-142.24	-1,515.5	-1,173.8	1,916.9	1,904.3	12.62	151.901			
700.0	700.0	670.0	670.0	1.4	13.4	-142.24	-1,515.5	-1,173.8	1,916.9	1,902.1	14.84	129.135			
800.0	800.0	770.0	770.0	1.7	15.4	-142.24	-1,515.5	-1,173.8	1,916.9	1,899.9	17.07	112.304			
900.0	900.0	870.0	870.0	1.9	17.4	-73.13	-1,515.5	-1,173.8	1,916.4	1,897.1	19.28	99.376			
1,000.0	999.8	969.8	969.8	2.1	19.4	-73.31	-1,515.5	-1,173.8	1,914.9	1,893.4	21.49	89.095			
1,100.0	1,099.5	1,069.5	1,069.5	2.3	21.4	-73.61	-1,515.5	-1,173.8	1,912.4	1,888.7	23.71	80.670			
1,200.0	1,198.7	1,168.7	1,168.7	2.6	23.4	-74.02	-1,515.5	-1,173.8	1,909.0	1,883.1	25.93	73.615			
1,242.6	1,240.8	1,210.8	1,210.8	2.7	24.2	-74.23	-1,515.5	-1,173.8	1,907.3	1,880.4	26.88	70.942			
1,300.0	1,297.6	1,267.6	1,267.6	2.9	25.4	-74.48	-1,515.5	-1,173.8	1,904.9	1,876.7	28.18	67.593			
1,400.0	1,396.4	1,366.4	1,366.4	3.2	27.3	-74.93	-1,515.5	-1,173.8	1,900.8	1,870.3	30.45	62.417			
1,500.0	1,495.2	1,465.2	1,465.2	3.5	29.3	-75.37	-1,515.5	-1,173.8	1,896.8	1,864.0	32.74	57.940			
1,600.0	1,594.0	1,564.0	1,564.0	3.8	31.3	-75.82	-1,515.5	-1,173.8	1,892.9	1,857.9	35.03	54.034			
1,700.0	1,692.8	1,662.8	1,662.8	4.1	33.3	-76.26	-1,515.5	-1,173.8	1,889.1	1,851.8	37.33	50.600			
1,800.0	1,791.6	1,761.6	1,761.6	4.5	35.2	-76.71	-1,515.5	-1,173.8	1,885.5	1,845.9	39.64	47.561			
1,900.0	1,890.4	1,860.4	1,860.4	4.8	37.2	-77.16	-1,515.5	-1,173.8	1,882.0	1,840.0	41.96	44.853			
2,000.0	1,989.2	1,959.2	1,959.2	5.2	39.2	-77.62	-1,515.5	-1,173.8	1,878.6	1,834.3	44.28	42.427			
2,100.0	2,088.0	2,058.0	2,058.0	5.5	41.2	-78.07	-1,515.5	-1,173.8	1,875.3	1,828.7	46.60	40.241			
2,200.0	2,186.8	2,156.8	2,156.8	5.9	43.1	-78.53	-1,515.5	-1,173.8	1,872.2	1,823.2	48.93	38.263			
2,300.0	2,285.6	2,255.6	2,255.6	6.2	45.1	-78.98	-1,515.5	-1,173.8	1,869.1	1,817.9	51.26	36.466			
2,400.0	2,384.5	2,354.5	2,354.5	6.6	47.1	-79.44	-1,515.5	-1,173.8	1,866.2	1,812.6	53.59	34.825			
2,500.0	2,483.3	2,453.3	2,453.3	6.9	49.1	-79.90	-1,515.5	-1,173.8	1,863.4	1,807.5	55.92	33.322			
2,600.0	2,582.1	2,552.1	2,552.1	7.3	51.0	-80.36	-1,515.5	-1,173.8	1,860.7	1,802.5	58.26	31.940			
2,700.0	2,680.9	2,650.9	2,650.9	7.7	53.0	-80.82	-1,515.5	-1,173.8	1,858.2	1,797.6	60.59	30.666			
2,800.0	2,779.7	2,749.7	2,749.7	8.0	55.0	-81.29	-1,515.5	-1,173.8	1,855.8	1,792.8	62.93	29.488			
2,900.0	2,878.5	2,848.5	2,848.5	8.4	57.0	-81.75	-1,515.5	-1,173.8	1,853.5	1,788.2	65.27	28.396			
3,000.0	2,977.3	2,947.3	2,947.3	8.7	58.9	-82.22	-1,515.5	-1,173.8	1,851.3	1,783.7	67.61	27.381			
3,100.0	3,076.1	3,046.1	3,046.1	9.1	60.9	-82.68	-1,515.5	-1,173.8	1,849.3	1,779.3	69.95	26.435			
3,200.0	3,174.9	3,144.9	3,144.9	9.5	62.9	-83.15	-1,515.5	-1,173.8	1,847.3	1,775.0	72.30	25.552			
3,300.0	3,273.7	3,243.7	3,243.7	9.8	64.9	-83.62	-1,515.5	-1,173.8	1,845.6	1,770.9	74.64	24.726			
3,400.0	3,372.5	3,342.5	3,342.5	10.2	66.9	-84.09	-1,515.5	-1,173.8	1,843.9	1,766.9	76.98	23.951			
3,500.0	3,471.4	3,441.4	3,441.4	10.5	68.8	-84.56	-1,515.5	-1,173.8	1,842.3	1,763.0	79.33	23.224			
3,600.0	3,570.2	3,540.2	3,540.2	10.9	70.8	-85.03	-1,515.5	-1,173.8	1,840.9	1,759.3	81.67	22.540			
3,700.0	3,669.0	3,639.0	3,639.0	11.3	72.8	-85.50	-1,515.5	-1,173.8	1,839.6	1,755.6	84.02	21.896			
3,800.0	3,767.8	3,737.8	3,737.8	11.6	74.8	-85.98	-1,515.5	-1,173.8	1,838.5	1,752.1	86.36	21.288			
3,900.0	3,866.6	3,836.6	3,836.6	12.0	76.7	-86.45	-1,515.5	-1,173.8	1,837.5	1,748.8	88.71	20.713			
4,000.0	3,965.4	3,935.4	3,935.4	12.4	78.7	-86.92	-1,515.5	-1,173.8	1,836.6	1,745.5	91.06	20.170			
4,100.0	4,064.2	4,034.2	4,034.2	12.7	80.7	-87.40	-1,515.5	-1,173.8	1,835.8	1,742.4	93.40	19.655			
4,200.0	4,163.0	4,133.0	4,133.0	13.1	82.7	-87.87	-1,515.5	-1,173.8	1,835.1	1,739.4	95.75	19.166			
4,300.0	4,261.8	4,231.8	4,231.8	13.5	84.6	-88.35	-1,515.5	-1,173.8	1,834.6	1,736.5	98.09	18.703			
4,400.0	4,360.6	4,330.6	4,330.6	13.8	86.6	-88.82	-1,515.5	-1,173.8	1,834.2	1,733.8	100.44	18.262			
4,500.0	4,459.4	4,429.4	4,429.4	14.2	88.6	-89.30	-1,515.5	-1,173.8	1,834.0	1,731.2	102.79	17.843			
4,600.0	4,558.3	4,528.3	4,528.3	14.6	90.6	-89.77	-1,515.5	-1,173.8	1,833.9	1,728.7	105.13	17.444			
4,648.4	4,606.1	4,576.1	4,576.1	14.7	91.5	-90.00	-1,515.5	-1,173.8	1,833.9	1,727.6	106.27	17.257			
4,700.0	4,657.1	4,627.1	4,627.1	14.9	92.5	-90.25	-1,515.5	-1,173.8	1,833.9	1,726.4	107.48	17.063			
4,800.0	4,755.9	4,725.9	4,725.9	15.3	94.5	-90.72	-1,515.5	-1,173.8	1,834.0	1,724.2	109.82	16.700			

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 Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells - Harvester 32-15 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7300-UNKNOWN													Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis			Distance								Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,900.0	4,854.7	4,824.7	4,824.7	15.7	96.5	-91.19	-1,515.5	-1,173.8	1,834.3	1,722.1	112.16	16.353		
5,000.0	4,953.5	4,923.5	4,923.5	16.0	98.5	-91.67	-1,515.5	-1,173.8	1,834.6	1,720.1	114.51	16.022		
5,100.0	5,052.3	5,022.3	5,022.3	16.4	100.4	-92.14	-1,515.5	-1,173.8	1,835.2	1,718.3	116.85	15.705		
5,200.0	5,151.1	5,121.1	5,121.1	16.8	102.4	-92.62	-1,515.5	-1,173.8	1,835.8	1,716.6	119.19	15.402		
5,300.0	5,249.9	5,219.9	5,219.9	17.1	104.4	-93.09	-1,515.5	-1,173.8	1,836.6	1,715.1	121.54	15.112		
5,400.0	5,348.7	5,318.7	5,318.7	17.5	106.4	-93.57	-1,515.5	-1,173.8	1,837.5	1,713.6	123.88	14.833		
5,500.0	5,447.5	5,417.5	5,417.5	17.9	108.4	-94.04	-1,515.5	-1,173.8	1,838.5	1,712.3	126.22	14.566		
5,600.0	5,546.3	5,516.3	5,516.3	18.2	110.3	-94.51	-1,515.5	-1,173.8	1,839.7	1,711.1	128.56	14.310		
5,700.0	5,645.2	5,615.2	5,615.2	18.6	112.3	-94.98	-1,515.5	-1,173.8	1,841.0	1,710.1	130.89	14.065		
5,800.0	5,744.0	5,714.0	5,714.0	19.0	114.3	-95.45	-1,515.5	-1,173.8	1,842.4	1,709.2	133.23	13.828		
5,900.0	5,842.8	5,812.8	5,812.8	19.3	116.3	-95.92	-1,515.5	-1,173.8	1,843.9	1,708.4	135.57	13.601		
5,916.6	5,859.2	5,829.2	5,829.2	19.4	116.6	-96.00	-1,515.5	-1,173.8	1,844.2	1,708.2	135.96	13.565		
6,000.0	5,941.8	5,911.8	5,911.8	19.7	118.2	-96.38	-1,515.5	-1,173.8	1,845.5	1,707.6	137.86	13.386		
6,100.0	6,041.2	6,011.2	6,011.2	19.9	120.2	-96.74	-1,515.5	-1,173.8	1,846.7	1,706.6	140.08	13.183		
6,200.0	6,140.9	6,110.9	6,110.9	20.1	122.2	-96.98	-1,515.5	-1,173.8	1,847.6	1,705.3	142.26	12.987		
6,300.0	6,240.8	6,210.8	6,210.8	20.2	124.2	-97.11	-1,515.5	-1,173.8	1,848.1	1,703.6	144.42	12.796		
6,359.2	6,300.0	6,270.0	6,270.0	20.3	125.4	-166.30	-1,515.5	-1,173.8	1,848.1	1,702.4	145.68	12.686		
6,400.0	6,340.8	6,310.8	6,310.8	20.4	126.2	-166.30	-1,515.5	-1,173.8	1,848.1	1,701.6	146.55	12.611		
6,500.0	6,440.8	6,410.8	6,410.8	20.5	128.2	-166.30	-1,515.5	-1,173.8	1,848.1	1,699.4	148.70	12.429		
6,551.4	6,492.2	6,462.2	6,462.2	20.6	129.2	-166.30	-1,515.5	-1,173.8	1,848.1	1,698.3	149.81	12.337		
6,600.0	6,540.8	6,510.8	6,510.8	20.7	130.2	13.76	-1,515.5	-1,173.8	1,846.6	1,696.1	150.54	12.266		
6,650.0	6,590.5	6,560.5	6,560.5	20.7	131.2	13.88	-1,515.5	-1,173.8	1,842.0	1,691.3	150.69	12.224		
6,700.0	6,639.9	6,609.9	6,609.9	20.7	132.2	14.08	-1,515.5	-1,173.8	1,834.1	1,683.9	150.21	12.210		
6,750.0	6,688.6	6,658.6	6,658.6	20.8	133.2	14.38	-1,515.5	-1,173.8	1,823.2	1,674.1	149.11	12.227		
6,800.0	6,736.4	6,706.4	6,706.4	20.8	134.1	14.77	-1,515.5	-1,173.8	1,809.2	1,661.8	147.39	12.275		
6,850.0	6,783.3	6,753.3	6,753.3	20.8	135.1	15.26	-1,515.5	-1,173.8	1,792.2	1,647.1	145.08	12.354		
6,900.0	6,828.8	6,798.8	6,798.8	20.8	136.0	15.88	-1,515.5	-1,173.8	1,772.3	1,630.1	142.19	12.464		
6,950.0	6,873.0	6,843.0	6,843.0	20.8	136.9	16.62	-1,515.5	-1,173.8	1,749.5	1,610.7	138.78	12.606		
7,000.0	6,915.5	6,885.5	6,885.5	20.8	137.7	17.53	-1,515.5	-1,173.8	1,724.1	1,589.1	134.92	12.778		
7,050.0	6,956.2	6,926.2	6,926.2	20.8	138.5	18.61	-1,515.5	-1,173.8	1,696.0	1,565.3	130.70	12.976		
7,100.0	6,994.9	6,964.9	6,964.9	20.8	139.3	19.92	-1,515.5	-1,173.8	1,665.4	1,539.2	126.26	13.190		
7,150.0	7,031.4	7,001.4	7,001.4	20.8	140.0	21.48	-1,515.5	-1,173.8	1,632.6	1,510.8	121.81	13.403		
7,200.0	7,065.6	7,035.6	7,035.6	20.8	140.7	23.36	-1,515.5	-1,173.8	1,597.5	1,479.9	117.60	13.584		
7,250.0	7,097.4	7,067.4	7,067.4	20.8	141.3	25.63	-1,515.5	-1,173.8	1,560.4	1,446.4	114.03	13.685		
7,300.0	7,126.6	7,096.6	7,096.6	20.8	141.9	28.37	-1,515.5	-1,173.8	1,521.5	1,409.9	111.59	13.635		
7,350.0	7,153.1	7,123.1	7,123.1	20.8	142.5	31.71	-1,515.5	-1,173.8	1,481.0	1,370.1	110.89	13.356		
7,400.0	7,176.7	7,146.7	7,146.7	20.9	142.9	35.78	-1,515.5	-1,173.8	1,439.0	1,326.4	112.57	12.783		
7,450.0	7,197.5	7,167.5	7,167.5	21.0	143.3	40.72	-1,515.5	-1,173.8	1,395.7	1,278.6	117.12	11.916		
7,500.0	7,215.1	7,185.1	7,185.1	21.1	143.7	46.70	-1,515.5	-1,173.8	1,351.4	1,226.7	124.65	10.842		
7,550.0	7,229.7	7,199.7	7,199.7	21.3	144.0	53.82	-1,515.5	-1,173.8	1,306.2	1,171.7	134.55	9.708		
7,600.0	7,241.2	7,211.2	7,211.2	21.5	144.2	62.05	-1,515.5	-1,173.8	1,260.5	1,115.1	145.39	8.670		
7,650.0	7,249.4	7,219.4	7,219.4	21.8	144.4	71.13	-1,515.5	-1,173.8	1,214.4	1,059.3	155.10	7.830		
7,671.4	7,252.0	7,222.0	7,222.0	21.9	144.4	75.16	-1,515.5	-1,173.8	1,194.6	1,036.3	158.38	7.543		
7,700.0	7,254.9	7,224.9	7,224.9	22.1	144.5	75.52	-1,515.5	-1,173.8	1,168.2	1,009.3	158.93	7.350		
7,745.4	7,259.7	7,229.7	7,229.7	22.4	144.6	76.10	-1,515.5	-1,173.8	1,126.5	966.7	159.83	7.048		
7,800.0	7,264.1	7,234.1	7,234.1	22.8	144.7	82.71	-1,515.5	-1,173.8	1,076.6	912.9	163.62	6.579		
7,864.2	7,266.0	7,236.0	7,236.0	23.4	144.7	89.87	-1,515.5	-1,173.8	1,018.3	852.9	165.39	6.157		
7,900.0	7,266.0	7,236.0	7,236.0	23.8	144.7	89.88	-1,515.5	-1,173.8	986.1	820.3	165.81	5.947		
8,000.0	7,266.1	7,236.1	7,236.1	24.8	144.7	89.89	-1,515.5	-1,173.8	897.6	730.6	167.06	5.373		
8,100.0	7,266.2	7,236.2	7,236.2	26.0	144.7	89.91	-1,515.5	-1,173.8	811.8	643.4	168.39	4.821		

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 Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells - Harvester 32-15 (Exist.) - Wellbore #1 - Wellbore #1														Offset Site Error: 0.0 ft
Survey Program: 7300-UNKNOWN														Offset Well Error: 0.0 ft
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
8,200.0	7,266.3	7,236.3	7,236.3	27.3	144.7	89.92	-1,515.5	-1,173.8	729.7	559.9	169.80	4.297		
8,300.0	7,266.4	7,236.4	7,236.4	28.7	144.7	89.93	-1,515.5	-1,173.8	652.5	481.2	171.28	3.810		
8,400.0	7,266.5	7,236.5	7,236.5	30.1	144.7	89.95	-1,515.5	-1,173.8	582.3	409.5	172.81	3.370		
8,500.0	7,266.6	7,236.6	7,236.6	31.6	144.7	89.96	-1,515.5	-1,173.8	522.0	347.6	174.38	2.993		
8,600.0	7,266.7	7,236.7	7,236.7	33.1	144.7	89.97	-1,515.5	-1,173.8	475.2	299.2	176.00	2.700		
8,700.0	7,266.8	7,236.8	7,236.8	34.7	144.7	89.99	-1,515.5	-1,173.8	446.2	268.6	177.64	2.512		
8,783.3	7,266.9	7,236.9	7,236.9	36.0	144.7	90.00	-1,515.5	-1,173.8	438.4	259.4	179.04	2.449 CC, ES		
8,800.0	7,266.9	7,236.9	7,236.9	36.3	144.7	90.00	-1,515.5	-1,173.8	438.7	259.4	179.32	2.447 SF		
8,900.0	7,267.0	7,237.0	7,237.0	37.9	144.7	90.02	-1,515.5	-1,173.8	453.7	272.6	181.02	2.506		
9,000.0	7,267.2	7,237.2	7,237.2	39.5	144.7	90.03	-1,515.5	-1,173.8	489.0	306.3	182.75	2.676		
9,100.0	7,267.3	7,237.3	7,237.3	41.2	144.7	90.04	-1,515.5	-1,173.8	540.8	356.3	184.49	2.932		
9,200.0	7,267.4	7,237.4	7,237.4	42.9	144.7	90.06	-1,515.5	-1,173.8	604.8	418.6	186.24	3.248		
9,300.0	7,267.5	7,237.5	7,237.5	44.6	144.7	90.07	-1,515.5	-1,173.8	677.6	489.6	188.02	3.604		
9,400.0	7,267.6	7,237.6	7,237.6	46.4	144.8	90.08	-1,515.5	-1,173.8	756.7	566.9	189.80	3.987		
9,500.0	7,267.7	7,237.7	7,237.7	48.1	144.8	90.10	-1,515.5	-1,173.8	840.2	648.6	191.60	4.385		
9,600.0	7,267.8	7,237.8	7,237.8	49.9	144.8	90.11	-1,515.5	-1,173.8	926.9	733.5	193.40	4.793		
9,700.0	7,267.9	7,237.9	7,237.9	51.6	144.8	90.13	-1,515.5	-1,173.8	1,016.1	820.9	195.21	5.205		
9,800.0	7,268.0	7,238.0	7,238.0	53.4	144.8	90.14	-1,515.5	-1,173.8	1,107.2	910.2	197.04	5.619		
9,900.0	7,268.1	7,238.1	7,238.1	55.2	144.8	90.15	-1,515.5	-1,173.8	1,199.7	1,000.8	198.87	6.033		
10,000.0	7,268.2	7,238.2	7,238.2	57.0	144.8	90.17	-1,515.5	-1,173.8	1,293.3	1,092.6	200.70	6.444		
10,100.0	7,268.3	7,238.3	7,238.3	58.8	144.8	90.18	-1,515.5	-1,173.8	1,387.8	1,185.2	202.54	6.852		
10,200.0	7,268.4	7,238.4	7,238.4	60.6	144.8	90.19	-1,515.5	-1,173.8	1,483.0	1,278.6	204.39	7.256		
10,300.0	7,268.5	7,238.5	7,238.5	62.5	144.8	90.21	-1,515.5	-1,173.8	1,578.8	1,372.6	206.24	7.655		
10,400.0	7,268.6	7,238.6	7,238.6	64.3	144.8	90.22	-1,515.5	-1,173.8	1,675.1	1,467.0	208.10	8.050		
10,500.0	7,268.7	7,238.7	7,238.7	66.1	144.8	90.23	-1,515.5	-1,173.8	1,771.8	1,561.8	209.95	8.439		
10,600.0	7,268.8	7,238.8	7,238.8	68.0	144.8	90.25	-1,515.5	-1,173.8	1,868.9	1,657.0	211.82	8.823		
10,700.0	7,268.9	7,238.9	7,238.9	69.8	144.8	90.26	-1,515.5	-1,173.8	1,966.2	1,752.5	213.68	9.201		
10,800.0	7,269.0	7,239.0	7,239.0	71.7	144.8	90.28	-1,515.5	-1,173.8	2,063.8	1,848.3	215.55	9.574		
10,900.0	7,269.1	7,239.1	7,239.1	73.5	144.8	90.29	-1,515.5	-1,173.8	2,161.6	1,944.2	217.43	9.942		
11,000.0	7,269.2	7,239.2	7,239.2	75.4	144.8	90.30	-1,515.5	-1,173.8	2,259.6	2,040.3	219.30	10.304		
11,100.0	7,269.4	7,239.4	7,239.4	77.2	144.8	90.32	-1,515.5	-1,173.8	2,357.8	2,136.6	221.18	10.660		
11,200.0	7,269.5	7,239.5	7,239.5	79.1	144.8	90.33	-1,515.5	-1,173.8	2,456.2	2,233.1	223.06	11.011		
11,300.0	7,269.6	7,239.6	7,239.6	80.9	144.8	90.34	-1,515.5	-1,173.8	2,554.6	2,329.7	224.94	11.357		
11,400.0	7,269.7	7,239.7	7,239.7	82.8	144.8	90.36	-1,515.5	-1,173.8	2,653.2	2,426.4	226.83	11.697		
11,500.0	7,269.8	7,239.8	7,239.8	84.7	144.8	90.37	-1,515.5	-1,173.8	2,751.9	2,523.1	228.71	12.032		
11,600.0	7,269.9	7,239.9	7,239.9	86.5	144.8	90.39	-1,515.5	-1,173.8	2,850.6	2,620.0	230.60	12.362		
11,700.0	7,270.0	7,240.0	7,240.0	88.4	144.8	90.40	-1,515.5	-1,173.8	2,949.5	2,717.0	232.49	12.687		
11,719.8	7,270.0	7,240.0	7,240.0	88.8	144.8	90.40	-1,515.5	-1,173.8	2,969.1	2,736.2	232.86	12.750		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells - Harvester 41-15 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7300-UNKNOWN													Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis			Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-160.84	-488.2	-169.7	517.2					
100.0	100.0	80.0	80.0	0.1	1.6	-160.84	-488.2	-169.7	516.8	515.1	1.70	304.778		
200.0	200.0	180.0	180.0	0.3	3.6	-160.84	-488.2	-169.7	516.8	512.9	3.92	131.825		
300.0	300.0	280.0	280.0	0.5	5.6	-160.84	-488.2	-169.7	516.8	510.7	6.15	84.101		
400.0	400.0	380.0	380.0	0.8	7.6	-160.84	-488.2	-169.7	516.8	508.5	8.37	61.747		
500.0	500.0	480.0	480.0	1.0	9.6	-160.84	-488.2	-169.7	516.8	506.2	10.59	48.781		
600.0	600.0	580.0	580.0	1.2	11.6	-160.84	-488.2	-169.7	516.8	504.0	12.82	40.315		
700.0	700.0	680.0	680.0	1.4	13.6	-160.84	-488.2	-169.7	516.8	501.8	15.04	34.353		
800.0	800.0	780.0	780.0	1.7	15.6	-160.84	-488.2	-169.7	516.8	499.6	17.27	29.928 CC		
900.0	900.0	880.0	880.0	1.9	17.6	-91.86	-488.2	-169.7	516.9	497.4	19.49	26.526		
1,000.0	999.8	979.8	979.8	2.1	19.6	-92.43	-488.2	-169.7	517.1	495.4	21.70	23.830		
1,100.0	1,099.5	1,079.5	1,079.5	2.3	21.6	-93.38	-488.2	-169.7	517.5	493.6	23.92	21.635		
1,200.0	1,198.7	1,178.7	1,178.7	2.6	23.6	-94.70	-488.2	-169.7	518.4	492.2	26.16	19.818		
1,242.6	1,240.8	1,220.8	1,220.8	2.7	24.4	-95.37	-488.2	-169.7	518.9	491.8	27.12	19.138		
1,300.0	1,297.6	1,277.6	1,277.6	2.9	25.6	-96.33	-488.2	-169.7	519.8	491.4	28.41	18.295		
1,400.0	1,396.4	1,376.4	1,376.4	3.2	27.5	-97.99	-488.2	-169.7	521.8	491.1	30.69	17.002		
1,500.0	1,495.2	1,475.2	1,475.2	3.5	29.5	-99.63	-488.2	-169.7	524.2	491.2	32.97	15.896		
1,600.0	1,594.0	1,574.0	1,574.0	3.8	31.5	-101.26	-488.2	-169.7	527.0	491.7	35.27	14.943		
1,700.0	1,692.8	1,672.8	1,672.8	4.1	33.5	-102.88	-488.2	-169.7	530.2	492.7	37.56	14.116		
1,800.0	1,791.6	1,771.6	1,771.6	4.5	35.4	-104.47	-488.2	-169.7	533.9	494.1	39.86	13.394		
1,900.0	1,890.4	1,870.4	1,870.4	4.8	37.4	-106.04	-488.2	-169.7	538.0	495.9	42.16	12.761		
2,000.0	1,989.2	1,969.2	1,969.2	5.2	39.4	-107.58	-488.2	-169.7	542.5	498.1	44.46	12.202		
2,100.0	2,088.0	2,068.0	2,068.0	5.5	41.4	-109.10	-488.2	-169.7	547.4	500.7	46.76	11.707		
2,200.0	2,186.8	2,166.8	2,166.8	5.9	43.3	-110.59	-488.2	-169.7	552.7	503.6	49.05	11.267		
2,300.0	2,285.6	2,265.6	2,265.6	6.2	45.3	-112.06	-488.2	-169.7	558.3	507.0	51.35	10.874		
2,400.0	2,384.5	2,364.5	2,364.5	6.6	47.3	-113.49	-488.2	-169.7	564.4	510.7	53.63	10.522		
2,500.0	2,483.3	2,463.3	2,463.3	6.9	49.3	-114.89	-488.2	-169.7	570.7	514.8	55.92	10.206		
2,600.0	2,582.1	2,562.1	2,562.1	7.3	51.2	-116.27	-488.2	-169.7	577.4	519.2	58.20	9.922		
2,700.0	2,680.9	2,660.9	2,660.9	7.7	53.2	-117.61	-488.2	-169.7	584.5	524.0	60.48	9.665		
2,800.0	2,779.7	2,759.7	2,759.7	8.0	55.2	-118.91	-488.2	-169.7	591.8	529.1	62.75	9.432		
2,900.0	2,878.5	2,858.5	2,858.5	8.4	57.2	-120.19	-488.2	-169.7	599.5	534.5	65.02	9.221		
3,000.0	2,977.3	2,957.3	2,957.3	8.7	59.1	-121.43	-488.2	-169.7	607.4	540.2	67.28	9.029		
3,100.0	3,076.1	3,056.1	3,056.1	9.1	61.1	-122.64	-488.2	-169.7	615.7	546.1	69.54	8.854		
3,200.0	3,174.9	3,154.9	3,154.9	9.5	63.1	-123.82	-488.2	-169.7	624.2	552.4	71.79	8.694		
3,300.0	3,273.7	3,253.7	3,253.7	9.8	65.1	-124.97	-488.2	-169.7	632.9	558.9	74.04	8.548		
3,400.0	3,372.5	3,352.5	3,352.5	10.2	67.1	-126.09	-488.2	-169.7	642.0	565.7	76.29	8.415		
3,500.0	3,471.4	3,451.4	3,451.4	10.5	69.0	-127.18	-488.2	-169.7	651.2	572.7	78.53	8.292		
3,600.0	3,570.2	3,550.2	3,550.2	10.9	71.0	-128.23	-488.2	-169.7	660.7	579.9	80.77	8.180		
3,700.0	3,669.0	3,649.0	3,649.0	11.3	73.0	-129.26	-488.2	-169.7	670.4	587.4	83.01	8.076		
3,800.0	3,767.8	3,747.8	3,747.8	11.6	75.0	-130.25	-488.2	-169.7	680.3	595.1	85.24	7.981		
3,900.0	3,866.6	3,846.6	3,846.6	12.0	76.9	-131.22	-488.2	-169.7	690.4	602.9	87.47	7.893		
4,000.0	3,965.4	3,945.4	3,945.4	12.4	78.9	-132.16	-488.2	-169.7	700.7	611.0	89.70	7.812		
4,100.0	4,064.2	4,044.2	4,044.2	12.7	80.9	-133.07	-488.2	-169.7	711.2	619.3	91.92	7.737		
4,200.0	4,163.0	4,143.0	4,143.0	13.1	82.9	-133.96	-488.2	-169.7	721.9	627.7	94.14	7.668		
4,300.0	4,261.8	4,241.8	4,241.8	13.5	84.8	-134.82	-488.2	-169.7	732.7	636.3	96.36	7.604		
4,400.0	4,360.6	4,340.6	4,340.6	13.8	86.8	-135.66	-488.2	-169.7	743.7	645.1	98.57	7.545		
4,500.0	4,459.4	4,439.4	4,439.4	14.2	88.8	-136.47	-488.2	-169.7	754.8	654.1	100.79	7.489		
4,600.0	4,558.3	4,538.3	4,538.3	14.6	90.8	-137.26	-488.2	-169.7	766.1	663.1	103.00	7.438		
4,700.0	4,657.1	4,637.1	4,637.1	14.9	92.7	-138.02	-488.2	-169.7	777.6	672.4	105.21	7.391		
4,800.0	4,755.9	4,735.9	4,735.9	15.3	94.7	-138.77	-488.2	-169.7	789.1	681.7	107.42	7.346		
4,900.0	4,854.7	4,834.7	4,834.7	15.7	96.7	-139.49	-488.2	-169.7	800.8	691.2	109.62	7.305		

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 Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Existing Wells - Harvester 41-15 (Exist.) - Wellbore #1 - Wellbore #1											Offset Site Error:		0.0 ft	
Survey Program: 7300-UNKNOWN														Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
5,000.0	4,953.5	4,933.5	4,933.5	16.0	98.7	-140.19	-488.2	-169.7	812.6	700.8	111.83	7.267				
5,100.0	5,052.3	5,032.3	5,032.3	16.4	100.6	-140.87	-488.2	-169.7	824.6	710.6	114.03	7.231				
5,200.0	5,151.1	5,131.1	5,131.1	16.8	102.6	-141.53	-488.2	-169.7	836.6	720.4	116.23	7.198				
5,300.0	5,249.9	5,229.9	5,229.9	17.1	104.6	-142.18	-488.2	-169.7	848.8	730.4	118.43	7.167				
5,400.0	5,348.7	5,328.7	5,328.7	17.5	106.6	-142.80	-488.2	-169.7	861.0	740.4	120.63	7.138				
5,500.0	5,447.5	5,427.5	5,427.5	17.9	108.6	-143.41	-488.2	-169.7	873.4	750.6	122.83	7.111				
5,600.0	5,546.3	5,526.3	5,526.3	18.2	110.5	-144.00	-488.2	-169.7	885.9	760.8	125.03	7.085				
5,700.0	5,645.2	5,625.2	5,625.2	18.6	112.5	-144.58	-488.2	-169.7	898.4	771.2	127.22	7.062				
5,800.0	5,744.0	5,724.0	5,724.0	19.0	114.5	-145.13	-488.2	-169.7	911.0	781.6	129.42	7.039				
5,900.0	5,842.8	5,822.8	5,822.8	19.3	116.5	-145.68	-488.2	-169.7	923.8	792.1	131.61	7.019				
5,916.6	5,859.2	5,839.2	5,839.2	19.4	116.8	-145.77	-488.2	-169.7	925.9	793.9	131.98	7.015				
6,000.0	5,941.8	5,921.8	5,921.8	19.7	118.4	-146.27	-488.2	-169.7	935.5	801.4	134.10	6.977				
6,100.0	6,041.2	6,021.2	6,021.2	19.9	120.4	-146.74	-488.2	-169.7	944.5	808.0	136.53	6.918				
6,200.0	6,140.9	6,120.9	6,120.9	20.1	122.4	-147.04	-488.2	-169.7	950.7	811.8	138.86	6.846				
6,300.0	6,240.8	6,220.8	6,220.8	20.2	124.4	-147.20	-488.2	-169.7	953.9	812.8	141.10	6.760				
6,359.2	6,300.0	6,280.0	6,280.0	20.3	125.6	143.60	-488.2	-169.7	954.4	812.0	142.37	6.704				
6,400.0	6,340.8	6,320.8	6,320.8	20.4	126.4	143.60	-488.2	-169.7	954.4	811.1	143.25	6.662				
6,500.0	6,440.8	6,420.8	6,420.8	20.5	128.4	143.60	-488.2	-169.7	954.4	809.0	145.42	6.563				
6,551.4	6,492.2	6,472.2	6,472.2	20.6	129.4	143.60	-488.2	-169.7	954.4	807.8	146.54	6.513				
6,600.0	6,540.8	6,520.8	6,520.8	20.7	130.4	-36.49	-488.2	-169.7	953.1	805.8	147.33	6.469				
6,650.0	6,590.5	6,570.5	6,570.5	20.7	131.4	-36.84	-488.2	-169.7	949.3	801.5	147.72	6.426				
6,700.0	6,639.9	6,619.9	6,619.9	20.7	132.4	-37.42	-488.2	-169.7	942.8	795.1	147.69	6.384				
6,750.0	6,688.6	6,668.6	6,668.6	20.8	133.4	-38.26	-488.2	-169.7	933.8	786.5	147.30	6.340				
6,800.0	6,736.4	6,716.4	6,716.4	20.8	134.3	-39.36	-488.2	-169.7	922.4	775.8	146.59	6.292				
6,850.0	6,783.3	6,763.3	6,763.3	20.8	135.3	-40.74	-488.2	-169.7	908.6	763.0	145.66	6.238				
6,900.0	6,828.8	6,808.8	6,808.8	20.8	136.2	-42.42	-488.2	-169.7	892.6	748.0	144.64	6.172				
6,950.0	6,873.0	6,853.0	6,853.0	20.8	137.1	-44.40	-488.2	-169.7	874.6	731.0	143.65	6.088				
7,000.0	6,915.5	6,895.5	6,895.5	20.8	137.9	-46.72	-488.2	-169.7	854.7	711.8	142.88	5.982				
7,050.0	6,956.2	6,936.2	6,936.2	20.8	138.7	-49.37	-488.2	-169.7	833.2	690.7	142.51	5.847				
7,100.0	6,994.9	6,974.9	6,974.9	20.8	139.5	-52.36	-488.2	-169.7	810.2	667.5	142.69	5.678				
7,150.0	7,031.4	7,011.4	7,011.4	20.8	140.2	-55.68	-488.2	-169.7	786.2	642.6	143.55	5.477				
7,200.0	7,065.6	7,045.6	7,045.6	20.8	140.9	-59.28	-488.2	-169.7	761.4	616.3	145.11	5.247				
7,250.0	7,097.4	7,077.4	7,077.4	20.8	141.5	-63.10	-488.2	-169.7	736.1	588.8	147.29	4.998				
7,300.0	7,126.6	7,106.6	7,106.6	20.8	142.1	-67.06	-488.2	-169.7	710.9	561.0	149.90	4.742				
7,350.0	7,153.1	7,133.1	7,133.1	20.8	142.7	-71.05	-488.2	-169.7	686.1	533.4	152.68	4.493				
7,400.0	7,176.7	7,156.7	7,156.7	20.9	143.1	-74.92	-488.2	-169.7	662.2	506.8	155.36	4.262				
7,450.0	7,197.5	7,177.5	7,177.5	21.0	143.5	-78.56	-488.2	-169.7	639.7	482.0	157.72	4.056				
7,500.0	7,215.1	7,195.1	7,195.1	21.1	143.9	-81.84	-488.2	-169.7	619.3	459.7	159.64	3.880				
7,550.0	7,229.7	7,209.7	7,209.7	21.3	144.2	-84.65	-488.2	-169.7	601.5	440.4	161.11	3.734				
7,600.0	7,241.2	7,221.2	7,221.2	21.5	144.4	-86.92	-488.2	-169.7	586.9	424.7	162.18	3.619				
7,650.0	7,249.4	7,229.4	7,229.4	21.8	144.6	-88.59	-488.2	-169.7	575.8	412.8	162.98	3.533				
7,671.4	7,252.0	7,232.0	7,232.0	21.9	144.6	-89.11	-488.2	-169.7	572.3	409.1	163.26	3.506				
7,700.0	7,254.9	7,234.9	7,234.9	22.1	144.7	-89.41	-488.2	-169.7	568.8	405.2	163.61	3.477				
7,745.4	7,259.7	7,239.7	7,239.7	22.4	144.8	-89.89	-488.2	-169.7	566.2	402.0	164.17	3.449				
7,756.1	7,260.8	7,240.8	7,240.8	22.5	144.8	-90.00	-488.2	-169.7	566.1	401.8	164.31	3.445 ES				
7,800.0	7,264.1	7,244.1	7,244.1	22.8	144.9	-90.25	-488.2	-169.7	567.8	402.9	164.84	3.444 SF				
7,864.2	7,266.0	7,246.0	7,246.0	23.4	144.9	-90.01	-488.2	-169.7	576.3	410.7	165.59	3.480				
7,900.0	7,266.0	7,246.0	7,246.0	23.8	144.9	-90.02	-488.2	-169.7	584.0	418.0	166.01	3.518				
8,000.0	7,266.1	7,246.1	7,246.1	24.8	144.9	-90.03	-488.2	-169.7	616.3	449.1	167.25	3.685				
8,100.0	7,266.2	7,246.2	7,246.2	26.0	144.9	-90.04	-488.2	-169.7	662.3	493.7	168.59	3.928				

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 Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells - Harvester 41-15 (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 7300-UNKNOWN												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
8,200.0	7,266.3	7,246.3	7,246.3	27.3	144.9	-90.05	-488.2	-169.7	719.3	549.3	170.00	4.231	
8,300.0	7,266.4	7,246.4	7,246.4	28.7	144.9	-90.06	-488.2	-169.7	784.9	613.4	171.48	4.577	
8,400.0	7,266.5	7,246.5	7,246.5	30.1	144.9	-90.07	-488.2	-169.7	857.2	684.2	173.01	4.955	
8,500.0	7,266.6	7,246.6	7,246.6	31.6	144.9	-90.08	-488.2	-169.7	934.6	760.1	174.58	5.354	
8,600.0	7,266.7	7,246.7	7,246.7	33.1	144.9	-90.09	-488.2	-169.7	1,016.0	839.8	176.20	5.766	
8,700.0	7,266.8	7,246.8	7,246.8	34.7	144.9	-90.10	-488.2	-169.7	1,100.5	922.6	177.85	6.188	
8,800.0	7,266.9	7,246.9	7,246.9	36.3	144.9	-90.11	-488.2	-169.7	1,187.3	1,007.8	179.53	6.614	
8,900.0	7,267.0	7,247.0	7,247.0	37.9	144.9	-90.12	-488.2	-169.7	1,276.1	1,094.9	181.23	7.042	
9,000.0	7,267.2	7,247.2	7,247.2	39.5	144.9	-90.13	-488.2	-169.7	1,366.5	1,183.5	182.95	7.469	
9,100.0	7,267.3	7,247.3	7,247.3	41.2	144.9	-90.14	-488.2	-169.7	1,458.1	1,273.4	184.69	7.895	
9,200.0	7,267.4	7,247.4	7,247.4	42.9	144.9	-90.15	-488.2	-169.7	1,550.7	1,364.3	186.45	8.317	
9,300.0	7,267.5	7,247.5	7,247.5	44.6	144.9	-90.16	-488.2	-169.7	1,644.2	1,456.0	188.23	8.735	
9,400.0	7,267.6	7,247.6	7,247.6	46.4	145.0	-90.17	-488.2	-169.7	1,738.5	1,548.5	190.01	9.149	
9,500.0	7,267.7	7,247.7	7,247.7	48.1	145.0	-90.18	-488.2	-169.7	1,833.3	1,641.5	191.81	9.558	
9,600.0	7,267.8	7,247.8	7,247.8	49.9	145.0	-90.20	-488.2	-169.7	1,928.7	1,735.1	193.61	9.961	
9,700.0	7,267.9	7,247.9	7,247.9	51.6	145.0	-90.21	-488.2	-169.7	2,024.5	1,829.0	195.43	10.359	
9,800.0	7,268.0	7,248.0	7,248.0	53.4	145.0	-90.22	-488.2	-169.7	2,120.7	1,923.4	197.25	10.751	
9,900.0	7,268.1	7,248.1	7,248.1	55.2	145.0	-90.23	-488.2	-169.7	2,217.2	2,018.1	199.08	11.137	
10,000.0	7,268.2	7,248.2	7,248.2	57.0	145.0	-90.24	-488.2	-169.7	2,314.0	2,113.1	200.92	11.517	
10,100.0	7,268.3	7,248.3	7,248.3	58.8	145.0	-90.25	-488.2	-169.7	2,411.1	2,208.4	202.76	11.892	
10,200.0	7,268.4	7,248.4	7,248.4	60.6	145.0	-90.26	-488.2	-169.7	2,508.4	2,303.8	204.61	12.260	
10,300.0	7,268.5	7,248.5	7,248.5	62.5	145.0	-90.27	-488.2	-169.7	2,605.9	2,399.5	206.46	12.622	
10,400.0	7,268.6	7,248.6	7,248.6	64.3	145.0	-90.28	-488.2	-169.7	2,703.6	2,495.3	208.31	12.979	
10,500.0	7,268.7	7,248.7	7,248.7	66.1	145.0	-90.29	-488.2	-169.7	2,801.5	2,591.3	210.18	13.329	
10,600.0	7,268.8	7,248.8	7,248.8	68.0	145.0	-90.30	-488.2	-169.7	2,899.5	2,687.5	212.04	13.674	
10,700.0	7,268.9	7,248.9	7,248.9	69.8	145.0	-90.31	-488.2	-169.7	2,997.7	2,783.7	213.91	14.014	
10,800.0	7,269.0	7,249.0	7,249.0	71.7	145.0	-90.32	-488.2	-169.7	3,095.9	2,880.1	215.78	14.348	
10,900.0	7,269.1	7,249.1	7,249.1	73.5	145.0	-90.33	-488.2	-169.7	3,194.3	2,976.6	217.65	14.676	
11,000.0	7,269.2	7,249.2	7,249.2	75.4	145.0	-90.34	-488.2	-169.7	3,292.7	3,073.2	219.53	14.999	
11,100.0	7,269.4	7,249.4	7,249.4	77.2	145.0	-90.35	-488.2	-169.7	3,391.3	3,169.9	221.41	15.317	
11,200.0	7,269.5	7,249.5	7,249.5	79.1	145.0	-90.37	-488.2	-169.7	3,489.9	3,266.6	223.29	15.630	
11,300.0	7,269.6	7,249.6	7,249.6	80.9	145.0	-90.38	-488.2	-169.7	3,588.6	3,363.5	225.17	15.938	
11,400.0	7,269.7	7,249.7	7,249.7	82.8	145.0	-90.39	-488.2	-169.7	3,687.4	3,460.4	227.05	16.240	
11,500.0	7,269.8	7,249.8	7,249.8	84.7	145.0	-90.40	-488.2	-169.7	3,786.3	3,557.3	228.94	16.538	
11,600.0	7,269.9	7,249.9	7,249.9	86.5	145.0	-90.41	-488.2	-169.7	3,885.2	3,654.3	230.83	16.831	
11,700.0	7,270.0	7,250.0	7,250.0	88.4	145.0	-90.42	-488.2	-169.7	3,984.1	3,751.4	232.72	17.120	
11,719.8	7,270.0	7,250.0	7,250.0	88.8	145.0	-90.42	-488.2	-169.7	4,003.8	3,770.7	233.10	17.177	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Existing Wells - Harvester 42-15 (exist.) - Wellbore #1 - Wellbore #1											Offset Site Error:		0.0 ft		
Survey Program: 7300-UNKNOWN														Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor					
0.0	0.0	0.0	0.0	0.0	0.0	-172.41	-1,482.8	-197.5	1,496.4								
100.0	100.0	60.0	60.0	0.1	1.2	-172.41	-1,482.8	-197.5	1,495.9	1,494.6	1.30	1,154.461					
200.0	200.0	160.0	160.0	0.3	3.2	-172.41	-1,482.8	-197.5	1,495.9	1,492.3	3.52	424.902					
300.0	300.0	260.0	260.0	0.5	5.2	-172.41	-1,482.8	-197.5	1,495.9	1,490.1	5.75	260.365					
400.0	400.0	360.0	360.0	0.8	7.2	-172.41	-1,482.8	-197.5	1,495.9	1,487.9	7.97	187.686					
500.0	500.0	460.0	460.0	1.0	9.2	-172.41	-1,482.8	-197.5	1,495.9	1,485.7	10.19	146.728					
600.0	600.0	560.0	560.0	1.2	11.2	-172.41	-1,482.8	-197.5	1,495.9	1,483.4	12.42	120.444					
700.0	700.0	660.0	660.0	1.4	13.2	-172.41	-1,482.8	-197.5	1,495.9	1,481.2	14.64	102.146					
800.0	800.0	760.0	760.0	1.7	15.2	-172.41	-1,482.8	-197.5	1,495.9	1,479.0	16.87	88.675					
900.0	900.0	860.0	860.0	1.9	17.2	-103.30	-1,482.8	-197.5	1,496.3	1,477.2	19.09	78.399					
1,000.0	999.8	959.8	959.8	2.1	19.2	-103.47	-1,482.8	-197.5	1,497.5	1,476.2	21.30	70.317					
1,100.0	1,099.5	1,059.5	1,059.5	2.3	21.2	-103.75	-1,482.8	-197.5	1,499.5	1,476.0	23.51	63.772					
1,200.0	1,198.7	1,158.7	1,158.7	2.6	23.2	-104.14	-1,482.8	-197.5	1,502.5	1,476.8	25.74	58.363					
1,242.6	1,240.8	1,200.8	1,200.8	2.7	24.0	-104.34	-1,482.8	-197.5	1,504.0	1,477.3	26.70	56.335					
1,300.0	1,297.6	1,257.6	1,257.6	2.9	25.2	-104.66	-1,482.8	-197.5	1,506.3	1,478.3	28.00	53.804					
1,400.0	1,396.4	1,356.4	1,356.4	3.2	27.1	-105.22	-1,482.8	-197.5	1,510.3	1,480.0	30.27	49.900					
1,500.0	1,495.2	1,455.2	1,455.2	3.5	29.1	-105.78	-1,482.8	-197.5	1,514.5	1,481.9	32.55	46.528					
1,600.0	1,594.0	1,554.0	1,554.0	3.8	31.1	-106.33	-1,482.8	-197.5	1,518.8	1,483.9	34.84	43.591					
1,700.0	1,692.8	1,652.8	1,652.8	4.1	33.1	-106.88	-1,482.8	-197.5	1,523.2	1,486.1	37.14	41.015					
1,800.0	1,791.6	1,751.6	1,751.6	4.5	35.0	-107.43	-1,482.8	-197.5	1,527.8	1,488.4	39.44	38.737					
1,900.0	1,890.4	1,850.4	1,850.4	4.8	37.0	-107.97	-1,482.8	-197.5	1,532.5	1,490.8	41.74	36.712					
2,000.0	1,989.2	1,949.2	1,949.2	5.2	39.0	-108.51	-1,482.8	-197.5	1,537.4	1,493.3	44.05	34.900					
2,100.0	2,088.0	2,048.0	2,048.0	5.5	41.0	-109.04	-1,482.8	-197.5	1,542.4	1,496.0	46.36	33.270					
2,200.0	2,186.8	2,146.8	2,146.8	5.9	42.9	-109.58	-1,482.8	-197.5	1,547.5	1,498.9	48.67	31.797					
2,300.0	2,285.6	2,245.6	2,245.6	6.2	44.9	-110.11	-1,482.8	-197.5	1,552.8	1,501.8	50.98	30.459					
2,400.0	2,384.5	2,344.5	2,344.5	6.6	46.9	-110.63	-1,482.8	-197.5	1,558.2	1,504.9	53.29	29.241					
2,500.0	2,483.3	2,443.3	2,443.3	6.9	48.9	-111.16	-1,482.8	-197.5	1,563.8	1,508.2	55.60	28.125					
2,600.0	2,582.1	2,542.1	2,542.1	7.3	50.8	-111.67	-1,482.8	-197.5	1,569.5	1,511.5	57.91	27.102					
2,700.0	2,680.9	2,640.9	2,640.9	7.7	52.8	-112.19	-1,482.8	-197.5	1,575.3	1,515.0	60.22	26.159					
2,800.0	2,779.7	2,739.7	2,739.7	8.0	54.8	-112.70	-1,482.8	-197.5	1,581.2	1,518.7	62.53	25.288					
2,900.0	2,878.5	2,838.5	2,838.5	8.4	56.8	-113.21	-1,482.8	-197.5	1,587.3	1,522.4	64.83	24.482					
3,000.0	2,977.3	2,937.3	2,937.3	8.7	58.7	-113.71	-1,482.8	-197.5	1,593.4	1,526.3	67.14	23.733					
3,100.0	3,076.1	3,036.1	3,036.1	9.1	60.7	-114.21	-1,482.8	-197.5	1,599.8	1,530.3	69.45	23.036					
3,200.0	3,174.9	3,134.9	3,134.9	9.5	62.7	-114.71	-1,482.8	-197.5	1,606.2	1,534.4	71.75	22.386					
3,300.0	3,273.7	3,233.7	3,233.7	9.8	64.7	-115.20	-1,482.8	-197.5	1,612.7	1,538.7	74.05	21.779					
3,400.0	3,372.5	3,332.5	3,332.5	10.2	66.7	-115.69	-1,482.8	-197.5	1,619.4	1,543.1	76.35	21.210					
3,500.0	3,471.4	3,431.4	3,431.4	10.5	68.6	-116.17	-1,482.8	-197.5	1,626.2	1,547.6	78.65	20.676					
3,600.0	3,570.2	3,530.2	3,530.2	10.9	70.6	-116.65	-1,482.8	-197.5	1,633.1	1,552.2	80.95	20.174					
3,700.0	3,669.0	3,629.0	3,629.0	11.3	72.6	-117.13	-1,482.8	-197.5	1,640.1	1,556.9	83.25	19.702					
3,800.0	3,767.8	3,727.8	3,727.8	11.6	74.6	-117.60	-1,482.8	-197.5	1,647.3	1,561.7	85.54	19.256					
3,900.0	3,866.6	3,826.6	3,826.6	12.0	76.5	-118.06	-1,482.8	-197.5	1,654.5	1,566.7	87.84	18.836					
4,000.0	3,965.4	3,925.4	3,925.4	12.4	78.5	-118.53	-1,482.8	-197.5	1,661.9	1,571.8	90.13	18.439					
4,100.0	4,064.2	4,024.2	4,024.2	12.7	80.5	-118.99	-1,482.8	-197.5	1,669.4	1,577.0	92.42	18.062					
4,200.0	4,163.0	4,123.0	4,123.0	13.1	82.5	-119.44	-1,482.8	-197.5	1,677.0	1,582.2	94.71	17.706					
4,300.0	4,261.8	4,221.8	4,221.8	13.5	84.4	-119.90	-1,482.8	-197.5	1,684.6	1,587.6	97.00	17.368					
4,400.0	4,360.6	4,320.6	4,320.6	13.8	86.4	-120.34	-1,482.8	-197.5	1,692.4	1,593.1	99.29	17.046					
4,500.0	4,459.4	4,419.4	4,419.4	14.2	88.4	-120.79	-1,482.8	-197.5	1,700.3	1,598.8	101.57	16.740					
4,600.0	4,558.3	4,518.3	4,518.3	14.6	90.4	-121.23	-1,482.8	-197.5	1,708.3	1,604.5	103.85	16.449					
4,700.0	4,657.1	4,617.1	4,617.1	14.9	92.3	-121.66	-1,482.8	-197.5	1,716.4	1,610.3	106.13	16.172					
4,800.0	4,755.9	4,715.9	4,715.9	15.3	94.3	-122.09	-1,482.8	-197.5	1,724.6	1,616.2	108.41	15.908					
4,900.0	4,854.7	4,814.7	4,814.7	15.7	96.3	-122.52	-1,482.8	-197.5	1,732.9	1,622.2	110.69	15.655					

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 Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells - Harvester 42-15 (exist.) - Wellbore #1 - Wellbore #1														Offset Site Error:	0.0 ft
Survey Program: 7300-UNKNOWN														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)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
5,000.0	4,953.5	4,913.5	4,913.5	16.0	98.3	-122.94	-1,482.8	-197.5	1,741.3	1,628.3	112.97	15.414			
5,100.0	5,052.3	5,012.3	5,012.3	16.4	100.2	-123.36	-1,482.8	-197.5	1,749.8	1,634.5	115.24	15.183			
5,200.0	5,151.1	5,111.1	5,111.1	16.8	102.2	-123.78	-1,482.8	-197.5	1,758.4	1,640.8	117.52	14.963			
5,300.0	5,249.9	5,209.9	5,209.9	17.1	104.2	-124.19	-1,482.8	-197.5	1,767.0	1,647.3	119.79	14.751			
5,400.0	5,348.7	5,308.7	5,308.7	17.5	106.2	-124.60	-1,482.8	-197.5	1,775.8	1,653.7	122.06	14.549			
5,500.0	5,447.5	5,407.5	5,407.5	17.9	108.2	-125.00	-1,482.8	-197.5	1,784.7	1,660.3	124.33	14.355			
5,600.0	5,546.3	5,506.3	5,506.3	18.2	110.1	-125.40	-1,482.8	-197.5	1,793.6	1,667.0	126.59	14.168			
5,700.0	5,645.2	5,605.2	5,605.2	18.6	112.1	-125.80	-1,482.8	-197.5	1,802.6	1,673.8	128.86	13.989			
5,800.0	5,744.0	5,704.0	5,704.0	19.0	114.1	-126.19	-1,482.8	-197.5	1,811.7	1,680.6	131.12	13.817			
5,900.0	5,842.8	5,802.8	5,802.8	19.3	116.1	-126.58	-1,482.8	-197.5	1,820.9	1,687.6	133.39	13.652			
5,916.6	5,859.2	5,819.2	5,819.2	19.4	116.4	-126.64	-1,482.8	-197.5	1,822.5	1,688.7	133.76	13.625			
6,000.0	5,941.8	5,901.8	5,901.8	19.7	118.0	-127.04	-1,482.8	-197.5	1,829.5	1,693.7	135.77	13.475			
6,100.0	6,041.2	6,001.2	6,001.2	19.9	120.0	-127.41	-1,482.8	-197.5	1,836.0	1,697.9	138.08	13.297			
6,200.0	6,140.9	6,100.9	6,100.9	20.1	122.0	-127.66	-1,482.8	-197.5	1,840.5	1,700.1	140.34	13.115			
6,300.0	6,240.8	6,200.8	6,200.8	20.2	124.0	-127.80	-1,482.8	-197.5	1,842.8	1,700.3	142.53	12.929			
6,359.2	6,300.0	6,260.0	6,260.0	20.3	125.2	163.01	-1,482.8	-197.5	1,843.2	1,699.4	143.79	12.818			
6,400.0	6,340.8	6,300.8	6,300.8	20.4	126.0	163.01	-1,482.8	-197.5	1,843.2	1,698.5	144.67	12.741			
6,500.0	6,440.8	6,400.8	6,400.8	20.5	128.0	163.01	-1,482.8	-197.5	1,843.2	1,696.4	146.83	12.553			
6,551.4	6,492.2	6,452.2	6,452.2	20.6	129.0	163.01	-1,482.8	-197.5	1,843.2	1,695.2	147.94	12.459			
6,600.0	6,540.8	6,500.8	6,500.8	20.7	130.0	-17.01	-1,482.8	-197.5	1,841.7	1,693.1	148.66	12.389			
6,650.0	6,590.5	6,550.5	6,550.5	20.7	131.0	-17.16	-1,482.8	-197.5	1,837.1	1,688.3	148.81	12.346			
6,700.0	6,639.9	6,599.9	6,599.9	20.7	132.0	-17.41	-1,482.8	-197.5	1,829.4	1,681.1	148.36	12.331			
6,750.0	6,688.6	6,648.6	6,648.6	20.8	133.0	-17.77	-1,482.8	-197.5	1,818.6	1,671.3	147.32	12.345			
6,800.0	6,736.4	6,696.4	6,696.4	20.8	133.9	-18.24	-1,482.8	-197.5	1,804.9	1,659.2	145.69	12.388			
6,850.0	6,783.3	6,743.3	6,743.3	20.8	134.9	-18.84	-1,482.8	-197.5	1,788.2	1,644.6	143.52	12.460			
6,900.0	6,828.8	6,788.8	6,788.8	20.8	135.8	-19.58	-1,482.8	-197.5	1,768.6	1,627.7	140.82	12.559			
6,950.0	6,873.0	6,833.0	6,833.0	20.8	136.7	-20.48	-1,482.8	-197.5	1,746.2	1,608.5	137.68	12.684			
7,000.0	6,915.5	6,875.5	6,875.5	20.8	137.5	-21.56	-1,482.8	-197.5	1,721.2	1,587.0	134.16	12.829			
7,050.0	6,956.2	6,916.2	6,916.2	20.8	138.3	-22.86	-1,482.8	-197.5	1,693.6	1,563.2	130.41	12.987			
7,100.0	6,994.9	6,954.9	6,954.9	20.8	139.1	-24.41	-1,482.8	-197.5	1,663.6	1,537.1	126.59	13.142			
7,150.0	7,031.4	6,991.4	6,991.4	20.8	139.8	-26.25	-1,482.8	-197.5	1,631.4	1,508.5	122.92	13.272			
7,200.0	7,065.6	7,025.6	7,025.6	20.8	140.5	-28.43	-1,482.8	-197.5	1,597.1	1,477.3	119.73	13.338			
7,250.0	7,097.4	7,057.4	7,057.4	20.8	141.1	-31.03	-1,482.8	-197.5	1,560.8	1,443.4	117.40	13.294			
7,300.0	7,126.6	7,086.6	7,086.6	20.8	141.7	-34.13	-1,482.8	-197.5	1,522.8	1,406.4	116.40	13.082			
7,350.0	7,153.1	7,113.1	7,113.1	20.8	142.3	-37.81	-1,482.8	-197.5	1,483.2	1,366.0	117.19	12.656			
7,400.0	7,176.7	7,136.7	7,136.7	20.9	142.7	-42.16	-1,482.8	-197.5	1,442.2	1,322.0	120.15	12.003			
7,450.0	7,197.5	7,157.5	7,157.5	21.0	143.1	-47.27	-1,482.8	-197.5	1,400.1	1,274.7	125.42	11.163			
7,500.0	7,215.1	7,175.1	7,175.1	21.1	143.5	-53.19	-1,482.8	-197.5	1,357.0	1,224.3	132.69	10.227			
7,550.0	7,229.7	7,189.7	7,189.7	21.3	143.8	-59.87	-1,482.8	-197.5	1,313.3	1,172.1	141.17	9.303			
7,600.0	7,241.2	7,201.2	7,201.2	21.5	144.0	-67.19	-1,482.8	-197.5	1,269.0	1,119.4	149.65	8.480			
7,650.0	7,249.4	7,209.4	7,209.4	21.8	144.2	-74.86	-1,482.8	-197.5	1,224.6	1,067.8	156.80	7.810			
7,671.4	7,252.0	7,212.0	7,212.0	21.9	144.2	-78.16	-1,482.8	-197.5	1,205.5	1,046.4	159.18	7.574			
7,700.0	7,254.9	7,214.9	7,214.9	22.1	144.3	-78.46	-1,482.8	-197.5	1,180.1	1,020.4	159.67	7.391			
7,745.4	7,259.7	7,219.7	7,219.7	22.4	144.4	-78.95	-1,482.8	-197.5	1,140.1	979.7	160.48	7.104			
7,800.0	7,264.1	7,224.1	7,224.1	22.8	144.5	-84.24	-1,482.8	-197.5	1,092.4	929.0	163.41	6.685			
7,864.2	7,266.0	7,226.0	7,226.0	23.4	144.5	-89.90	-1,482.8	-197.5	1,037.1	871.9	165.18	6.278			
7,900.0	7,266.0	7,226.0	7,226.0	23.8	144.5	-89.91	-1,482.8	-197.5	1,006.6	841.0	165.60	6.079			
8,000.0	7,266.1	7,226.1	7,226.1	24.8	144.5	-89.92	-1,482.8	-197.5	923.7	756.8	166.85	5.536			
8,100.0	7,266.2	7,226.2	7,226.2	26.0	144.5	-89.93	-1,482.8	-197.5	844.4	676.2	168.18	5.021			
8,200.0	7,266.3	7,226.3	7,226.3	27.3	144.5	-89.94	-1,482.8	-197.5	769.9	600.3	169.59	4.540			

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 Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Existing Wells - Harvester 42-15 (exist.) - Wellbore #1 - Wellbore #1											Offset Site Error: 0.0 ft	
Survey Program: 7300-UNKNOWN													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
8,300.0	7,266.4	7,226.4	7,226.4	28.7	144.5	-89.95	-1,482.8	-197.5	701.9	530.8	171.07	4.103	3.017 CC, ES	
8,400.0	7,266.5	7,226.5	7,226.5	30.1	144.5	-89.96	-1,482.8	-197.5	642.2	469.6	172.60	3.721		
8,500.0	7,266.6	7,226.6	7,226.6	31.6	144.5	-89.97	-1,482.8	-197.5	593.5	419.4	174.18	3.408		
8,600.0	7,266.7	7,226.7	7,226.7	33.1	144.5	-89.98	-1,482.8	-197.5	558.7	382.9	175.79	3.178		
8,700.0	7,266.8	7,226.8	7,226.8	34.7	144.5	-89.99	-1,482.8	-197.5	540.3	362.9	177.44	3.045		
8,750.9	7,266.9	7,226.9	7,226.9	35.5	144.5	-90.00	-1,482.8	-197.5	537.9	359.6	178.30	3.017	3.016 SF	
8,800.0	7,266.9	7,226.9	7,226.9	36.3	144.5	-90.01	-1,482.8	-197.5	540.2	361.0	179.12	3.016		
8,900.0	7,267.0	7,227.0	7,227.0	37.9	144.5	-90.02	-1,482.8	-197.5	558.2	377.4	180.82	3.087		
9,000.0	7,267.2	7,227.2	7,227.2	39.5	144.5	-90.03	-1,482.8	-197.5	592.8	410.3	182.55	3.247		
9,100.0	7,267.3	7,227.3	7,227.3	41.2	144.5	-90.04	-1,482.8	-197.5	641.3	457.0	184.29	3.480		
9,200.0	7,267.4	7,227.4	7,227.4	42.9	144.5	-90.05	-1,482.8	-197.5	700.8	514.7	186.05	3.767		
9,300.0	7,267.5	7,227.5	7,227.5	44.6	144.5	-90.06	-1,482.8	-197.5	768.7	580.9	187.82	4.093		
9,400.0	7,267.6	7,227.6	7,227.6	46.4	144.6	-90.07	-1,482.8	-197.5	843.1	653.4	189.61	4.446		
9,500.0	7,267.7	7,227.7	7,227.7	48.1	144.6	-90.08	-1,482.8	-197.5	922.3	730.9	191.40	4.818		
9,600.0	7,267.8	7,227.8	7,227.8	49.9	144.6	-90.09	-1,482.8	-197.5	1,005.2	812.0	193.21	5.203		
9,700.0	7,267.9	7,227.9	7,227.9	51.6	144.6	-90.11	-1,482.8	-197.5	1,091.0	895.9	195.02	5.594		
9,800.0	7,268.0	7,228.0	7,228.0	53.4	144.6	-90.12	-1,482.8	-197.5	1,179.0	982.2	196.85	5.989		
9,900.0	7,268.1	7,228.1	7,228.1	55.2	144.6	-90.13	-1,482.8	-197.5	1,268.8	1,070.1	198.68	6.386		
10,000.0	7,268.2	7,228.2	7,228.2	57.0	144.6	-90.14	-1,482.8	-197.5	1,360.0	1,159.5	200.51	6.783		
10,100.0	7,268.3	7,228.3	7,228.3	58.8	144.6	-90.15	-1,482.8	-197.5	1,452.4	1,250.1	202.36	7.178		
10,200.0	7,268.4	7,228.4	7,228.4	60.6	144.6	-90.16	-1,482.8	-197.5	1,545.8	1,341.6	204.20	7.570		
10,300.0	7,268.5	7,228.5	7,228.5	62.5	144.6	-90.17	-1,482.8	-197.5	1,639.9	1,433.8	206.06	7.958		
10,400.0	7,268.6	7,228.6	7,228.6	64.3	144.6	-90.18	-1,482.8	-197.5	1,734.7	1,526.7	207.91	8.343		
10,500.0	7,268.7	7,228.7	7,228.7	66.1	144.6	-90.20	-1,482.8	-197.5	1,830.0	1,620.2	209.77	8.724		
10,600.0	7,268.8	7,228.8	7,228.8	68.0	144.6	-90.21	-1,482.8	-197.5	1,925.8	1,714.2	211.64	9.099		
10,700.0	7,268.9	7,228.9	7,228.9	69.8	144.6	-90.22	-1,482.8	-197.5	2,022.0	1,808.5	213.50	9.471		
10,800.0	7,269.0	7,229.0	7,229.0	71.7	144.6	-90.23	-1,482.8	-197.5	2,118.6	1,903.2	215.38	9.837		
10,900.0	7,269.1	7,229.1	7,229.1	73.5	144.6	-90.24	-1,482.8	-197.5	2,215.4	1,998.2	217.25	10.198		
11,000.0	7,269.2	7,229.2	7,229.2	75.4	144.6	-90.25	-1,482.8	-197.5	2,312.6	2,093.4	219.13	10.554		
11,100.0	7,269.4	7,229.4	7,229.4	77.2	144.6	-90.26	-1,482.8	-197.5	2,409.9	2,188.9	221.00	10.904		
11,200.0	7,269.5	7,229.5	7,229.5	79.1	144.6	-90.27	-1,482.8	-197.5	2,507.5	2,284.6	222.88	11.250		
11,300.0	7,269.6	7,229.6	7,229.6	80.9	144.6	-90.28	-1,482.8	-197.5	2,605.3	2,380.5	224.77	11.591		
11,400.0	7,269.7	7,229.7	7,229.7	82.8	144.6	-90.30	-1,482.8	-197.5	2,703.2	2,476.5	226.65	11.927		
11,500.0	7,269.8	7,229.8	7,229.8	84.7	144.6	-90.31	-1,482.8	-197.5	2,801.3	2,572.7	228.54	12.257		
11,600.0	7,269.9	7,229.9	7,229.9	86.5	144.6	-90.32	-1,482.8	-197.5	2,899.5	2,669.0	230.43	12.583		
11,700.0	7,270.0	7,230.0	7,230.0	88.4	144.6	-90.33	-1,482.8	-197.5	2,997.8	2,765.5	232.32	12.904		
11,719.8	7,270.0	7,230.0	7,230.0	88.8	144.6	-90.33	-1,482.8	-197.5	3,017.3	2,784.6	232.69	12.967		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W - Harvesters Resources 15R-323 - Wellbore #		Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft		
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
0.0	0.0	0.0	0.0	0.0	0.0	89.99	0.0	30.6	30.6							
100.0	100.0	100.0	100.0	0.1	0.1	89.99	0.0	30.6	30.6	30.4	0.19	160.137				
200.0	200.0	200.0	200.0	0.3	0.3	89.99	0.0	30.6	30.6	30.0	0.64	47.760				
300.0	300.0	300.0	300.0	0.5	0.5	89.99	0.0	30.6	30.6	29.5	1.09	28.065				
400.0	400.0	400.0	400.0	0.8	0.8	89.99	0.0	30.6	30.6	29.1	1.54	19.871				
500.0	500.0	500.0	500.0	1.0	1.0	89.99	0.0	30.6	30.6	28.6	1.99	15.380				
600.0	600.0	600.0	600.0	1.2	1.2	89.99	0.0	30.6	30.6	28.2	2.44	12.545				
700.0	700.0	700.0	700.0	1.4	1.4	89.99	0.0	30.6	30.6	27.7	2.89	10.593				
800.0	800.0	800.0	800.0	1.7	1.7	89.99	0.0	30.6	30.6	27.3	3.34	9.166 CC, ES				
900.0	900.0	900.0	900.0	1.9	1.9	160.26	0.0	30.6	32.2	28.5	3.78	8.530				
1,000.0	999.8	999.8	999.8	2.1	2.1	162.95	0.0	30.6	37.2	33.0	4.21	8.833				
1,100.0	1,099.5	1,099.5	1,099.5	2.3	2.3	166.12	0.0	30.6	45.6	41.0	4.64	9.820				
1,200.0	1,198.7	1,198.7	1,198.7	2.6	2.6	168.99	0.0	30.6	57.5	52.4	5.07	11.333				
1,242.6	1,240.8	1,241.7	1,241.7	2.7	2.7	169.96	0.2	30.3	63.4	58.1	5.26	12.057				
1,300.0	1,297.6	1,299.9	1,299.9	2.9	2.8	170.80	0.9	29.1	70.8	65.3	5.51	12.855				
1,400.0	1,396.4	1,401.9	1,401.7	3.2	3.0	171.21	3.8	24.6	81.1	75.2	5.94	13.647				
1,500.0	1,495.2	1,504.5	1,503.9	3.5	3.2	170.70	8.7	17.0	88.1	81.7	6.39	13.784				
1,600.0	1,594.0	1,606.5	1,605.1	3.8	3.5	169.48	15.5	6.5	91.9	85.1	6.85	13.421				
1,700.0	1,692.8	1,706.4	1,704.2	4.1	3.8	168.17	22.5	-4.5	95.0	87.7	7.32	12.985				
1,800.0	1,791.6	1,806.3	1,803.3	4.5	4.0	166.94	29.6	-15.5	98.1	90.3	7.79	12.593				
1,900.0	1,890.4	1,906.3	1,902.3	4.8	4.3	165.78	36.7	-26.5	101.3	93.0	8.27	12.239				
2,000.0	1,989.2	2,006.2	2,001.4	5.2	4.6	164.70	43.8	-37.5	104.5	95.7	8.77	11.918				
2,100.0	2,088.0	2,106.1	2,100.5	5.5	4.9	163.68	50.8	-48.5	107.7	98.4	9.26	11.624				
2,200.0	2,186.8	2,206.0	2,199.5	5.9	5.2	162.72	57.9	-59.6	111.0	101.2	9.77	11.356				
2,300.0	2,285.6	2,306.0	2,298.6	6.2	5.5	161.82	65.0	-70.6	114.3	104.0	10.28	11.111				
2,400.0	2,384.5	2,405.9	2,397.7	6.6	5.8	160.96	72.0	-81.6	117.6	106.8	10.80	10.884				
2,500.0	2,483.3	2,505.8	2,496.7	6.9	6.1	160.16	79.1	-92.6	120.9	109.6	11.33	10.675				
2,600.0	2,582.1	2,605.8	2,595.8	7.3	6.4	159.40	86.2	-103.6	124.3	112.4	11.86	10.482				
2,700.0	2,680.9	2,705.7	2,694.9	7.7	6.7	158.67	93.2	-114.6	127.7	115.3	12.39	10.303				
2,800.0	2,779.7	2,805.6	2,794.0	8.0	7.0	157.99	100.3	-125.6	131.1	118.1	12.93	10.136				
2,900.0	2,878.5	2,905.6	2,893.0	8.4	7.3	157.34	107.4	-136.6	134.5	121.0	13.48	9.981				
3,000.0	2,977.3	3,005.5	2,992.1	8.7	7.7	156.72	114.5	-147.6	137.9	123.9	14.02	9.836				
3,100.0	3,076.1	3,105.4	3,091.2	9.1	8.0	156.13	121.5	-158.6	141.4	126.8	14.58	9.701				
3,200.0	3,174.9	3,205.3	3,190.2	9.5	8.3	155.57	128.6	-169.7	144.9	129.7	15.13	9.574				
3,300.0	3,273.7	3,305.3	3,289.3	9.8	8.6	155.04	135.7	-180.7	148.4	132.7	15.69	9.455				
3,400.0	3,372.5	3,405.2	3,388.4	10.2	8.9	154.53	142.7	-191.7	151.9	135.6	16.25	9.343				
3,500.0	3,471.4	3,505.1	3,487.4	10.5	9.3	154.04	149.8	-202.7	155.4	138.5	16.82	9.237				
3,600.0	3,570.2	3,605.1	3,586.5	10.9	9.6	153.58	156.9	-213.7	158.9	141.5	17.39	9.138				
3,700.0	3,669.0	3,705.0	3,685.6	11.3	9.9	153.14	164.0	-224.7	162.4	144.4	17.96	9.044				
3,800.0	3,767.8	3,804.9	3,784.7	11.6	10.2	152.71	171.0	-235.7	165.9	147.4	18.53	8.955				
3,900.0	3,866.6	3,904.9	3,883.7	12.0	10.6	152.30	178.1	-246.7	169.5	150.4	19.11	8.871				
4,000.0	3,965.4	4,004.8	3,982.8	12.4	10.9	151.91	185.2	-257.7	173.0	153.4	19.68	8.792				
4,100.0	4,064.2	4,104.7	4,081.9	12.7	11.2	151.54	192.2	-268.7	176.6	156.3	20.26	8.716				
4,200.0	4,163.0	4,204.6	4,180.9	13.1	11.5	151.18	199.3	-279.7	180.2	159.3	20.84	8.645				
4,300.0	4,261.8	4,304.6	4,280.0	13.5	11.9	150.83	206.4	-290.8	183.8	162.3	21.43	8.576				
4,400.0	4,360.6	4,404.5	4,379.1	13.8	12.2	150.50	213.4	-301.8	187.3	165.3	22.01	8.511				
4,500.0	4,459.4	4,504.4	4,478.1	14.2	12.5	150.18	220.5	-312.8	190.9	168.3	22.60	8.449				
4,600.0	4,558.3	4,604.4	4,577.2	14.6	12.9	149.87	227.6	-323.8	194.5	171.3	23.18	8.390				
4,700.0	4,657.1	4,704.3	4,676.3	14.9	13.2	149.57	234.7	-334.8	198.1	174.3	23.77	8.334				
4,800.0	4,755.9	4,804.2	4,775.4	15.3	13.5	149.28	241.7	-345.8	201.7	177.4	24.36	8.280				
4,900.0	4,854.7	4,904.2	4,874.4	15.7	13.8	149.01	248.8	-356.8	205.3	180.4	24.95	8.229				

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 Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W - Harvesters Resources 15R-323 - Wellbore #										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.0	4,953.5	5,004.1	4,973.5	16.0	14.2	148.74	255.9	-367.8	208.9	183.4	25.55	8.179		
5,100.0	5,052.3	5,104.0	5,072.6	16.4	14.5	148.48	262.9	-378.8	212.6	186.4	26.14	8.132		
5,200.0	5,151.1	5,200.0	5,167.8	16.8	14.8	148.30	269.6	-389.1	216.5	189.8	26.70	8.107		
5,300.0	5,249.9	5,296.0	5,263.3	17.1	15.0	148.61	274.7	-397.2	222.4	195.3	27.15	8.193		
5,400.0	5,348.7	5,390.2	5,357.2	17.5	15.2	149.43	278.1	-402.4	230.8	203.3	27.51	8.390		
5,500.0	5,447.5	5,483.7	5,450.7	17.9	15.3	150.68	279.8	-405.0	241.7	213.9	27.79	8.695		
5,600.0	5,546.3	5,579.3	5,546.3	18.2	15.5	152.25	280.0	-405.4	254.9	226.8	28.04	9.091		
5,700.0	5,645.2	5,678.1	5,645.2	18.6	15.7	153.78	280.0	-405.4	268.6	240.3	28.31	9.490		
5,800.0	5,744.0	5,777.0	5,744.0	19.0	15.8	155.15	280.0	-405.4	282.5	253.9	28.60	9.880		
5,900.0	5,842.8	5,875.8	5,842.8	19.3	16.0	156.40	280.0	-405.4	296.6	267.7	28.91	10.260		
5,916.6	5,859.2	5,892.2	5,859.2	19.4	16.0	156.60	280.0	-405.4	299.0	270.0	28.96	10.322		
6,000.0	5,941.8	5,974.7	5,941.8	19.7	16.2	157.53	280.0	-405.4	309.7	280.4	29.23	10.594		
6,100.0	6,041.2	6,074.2	6,041.2	19.9	16.4	158.34	280.0	-405.4	319.7	290.1	29.54	10.823		
6,200.0	6,140.9	6,173.9	6,140.9	20.1	16.5	158.87	280.0	-405.4	326.5	296.6	29.84	10.940		
6,300.0	6,240.8	6,273.8	6,240.8	20.2	16.7	159.13	280.0	-405.4	330.0	299.9	30.14	10.950		
6,359.2	6,300.0	6,333.0	6,300.0	20.3	16.8	90.00	280.0	-405.4	330.6	300.3	30.31	10.907		
6,400.0	6,340.8	6,373.8	6,340.8	20.4	16.9	90.00	280.0	-405.4	330.6	300.1	30.46	10.852		
6,460.9	6,401.7	6,434.7	6,401.7	20.5	17.0	90.00	280.0	-405.4	330.6	299.9	30.70	10.769		
6,500.0	6,440.8	6,473.8	6,440.8	20.5	17.1	90.06	279.7	-405.4	330.6	299.8	30.84	10.721		
6,551.4	6,492.2	6,524.9	6,491.8	20.6	17.1	90.62	276.4	-405.4	330.6	299.7	30.94	10.684		
6,600.0	6,540.8	6,573.0	6,539.4	20.7	17.2	-88.55	270.3	-405.4	330.7	299.7	30.99	10.673		
6,650.0	6,590.5	6,622.0	6,587.6	20.7	17.2	-87.73	260.9	-405.4	330.9	299.9	30.99	10.675		
6,700.0	6,639.9	6,670.8	6,634.8	20.7	17.2	-86.92	248.6	-405.4	331.1	300.1	30.98	10.687		
6,750.0	6,688.6	6,719.3	6,680.9	20.8	17.2	-86.13	233.4	-405.4	331.4	300.4	30.95	10.706		
6,800.0	6,736.4	6,767.6	6,725.6	20.8	17.2	-85.36	215.3	-405.4	331.7	300.8	30.91	10.731		
6,850.0	6,783.3	6,815.5	6,768.9	20.8	17.2	-84.61	194.7	-405.4	332.1	301.2	30.87	10.757		
6,900.0	6,828.8	6,863.3	6,810.5	20.8	17.2	-83.88	171.4	-405.4	332.5	301.7	30.84	10.783		
6,950.0	6,873.0	6,910.8	6,850.5	20.8	17.2	-83.18	145.8	-405.3	333.0	302.2	30.82	10.805		
7,000.0	6,915.5	6,958.0	6,888.6	20.8	17.2	-82.52	117.8	-405.3	333.5	302.7	30.81	10.822		
7,050.0	6,956.2	7,005.1	6,924.8	20.8	17.2	-81.88	87.7	-405.3	334.0	303.1	30.84	10.830		
7,100.0	6,994.9	7,051.9	6,958.9	20.8	17.2	-81.28	55.6	-405.3	334.5	303.6	30.90	10.826		
7,150.0	7,031.4	7,100.0	6,991.7	20.8	17.2	-80.71	20.5	-405.3	335.0	304.0	31.00	10.808		
7,200.0	7,065.6	7,145.1	7,020.5	20.8	17.2	-80.20	-14.3	-405.3	335.5	304.4	31.14	10.774		
7,250.0	7,097.4	7,191.5	7,047.9	20.8	17.2	-79.71	-51.7	-405.3	336.0	304.7	31.34	10.722		
7,300.0	7,126.6	7,237.7	7,072.9	20.8	17.3	-79.27	-90.5	-405.2	336.5	304.9	31.59	10.654		
7,350.0	7,153.1	7,283.8	7,095.4	20.8	17.3	-78.88	-130.7	-405.2	337.0	305.1	31.90	10.563		
7,400.0	7,176.7	7,329.8	7,115.4	20.9	17.4	-78.52	-172.1	-405.2	337.4	305.1	32.27	10.454		
7,450.0	7,197.5	7,375.6	7,132.9	21.0	17.6	-78.21	-214.5	-405.2	337.8	305.1	32.71	10.326		
7,500.0	7,215.1	7,421.4	7,147.7	21.1	17.8	-77.95	-257.8	-405.2	338.1	304.9	33.21	10.180		
7,550.0	7,229.7	7,467.2	7,159.9	21.3	18.1	-77.74	-301.9	-405.2	338.4	304.6	33.78	10.018		
7,600.0	7,241.2	7,512.8	7,169.5	21.5	18.4	-77.57	-346.5	-405.1	338.6	304.2	34.41	9.841		
7,650.0	7,249.4	7,558.4	7,176.3	21.8	18.8	-77.45	-391.6	-405.1	338.8	303.7	35.10	9.651		
7,671.4	7,252.0	7,577.9	7,178.4	21.9	18.9	-77.41	-411.0	-405.1	338.8	303.4	35.42	9.566		
7,700.0	7,254.9	7,604.0	7,180.5	22.1	19.2	-77.30	-437.0	-405.1	339.0	303.1	35.90	9.441		
7,745.4	7,259.7	7,645.2	7,181.9	22.4	19.6	-76.83	-478.1	-405.1	339.7	303.0	36.67	9.263		
7,800.0	7,264.1	7,698.7	7,181.8	22.8	20.1	-76.04	-531.7	-405.1	340.8	303.2	37.55	9.075		
7,864.2	7,266.0	7,762.8	7,181.5	23.4	20.9	-75.67	-595.8	-405.0	341.3	302.5	38.78	8.802		
7,900.0	7,266.0	7,798.6	7,181.4	23.8	21.3	-75.64	-631.6	-405.0	341.3	301.8	39.58	8.624		
8,000.0	7,266.1	7,898.6	7,180.9	24.8	22.5	-75.56	-731.6	-405.0	341.5	299.5	42.00	8.131		
8,100.0	7,266.2	7,998.6	7,180.5	26.0	23.9	-75.48	-831.6	-404.9	341.6	297.0	44.59	7.661		

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 Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W - Harvesters Resources 15R-323 - Wellbore #										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
8,200.0	7,266.3	8,098.6	7,180.1	27.3	25.3	-75.40	-931.6	-404.9	341.7	294.4	47.34	7.219		
8,300.0	7,266.4	8,198.6	7,179.7	28.7	26.7	-75.31	-1,031.6	-404.8	341.9	291.7	50.21	6.809		
8,400.0	7,266.5	8,298.6	7,179.3	30.1	28.3	-75.23	-1,131.6	-404.8	342.0	288.8	53.18	6.431		
8,500.0	7,266.6	8,398.6	7,178.9	31.6	29.8	-75.15	-1,231.6	-404.8	342.2	285.9	56.25	6.083		
8,600.0	7,266.7	8,498.6	7,178.5	33.1	31.5	-75.07	-1,331.6	-404.7	342.3	282.9	59.38	5.764		
8,700.0	7,266.8	8,598.6	7,178.1	34.7	33.1	-74.99	-1,431.6	-404.7	342.4	279.9	62.58	5.472		
8,800.0	7,266.9	8,698.6	7,177.7	36.3	34.8	-74.91	-1,531.6	-404.6	342.6	276.8	65.83	5.204		
8,900.0	7,267.0	8,798.6	7,177.3	37.9	36.5	-74.83	-1,631.6	-404.6	342.7	273.6	69.12	4.958		
9,000.0	7,267.2	8,898.6	7,176.9	39.5	38.2	-74.74	-1,731.6	-404.5	342.9	270.4	72.45	4.732		
9,100.0	7,267.3	8,998.6	7,176.5	41.2	39.9	-74.66	-1,831.6	-404.5	343.0	267.2	75.82	4.524		
9,200.0	7,267.4	9,098.6	7,176.1	42.9	41.7	-74.58	-1,931.6	-404.5	343.1	263.9	79.21	4.332		
9,300.0	7,267.5	9,198.6	7,175.7	44.6	43.4	-74.50	-2,031.6	-404.4	343.3	260.7	82.63	4.155		
9,400.0	7,267.6	9,298.6	7,175.3	46.4	45.2	-74.42	-2,131.6	-404.4	343.4	257.4	86.06	3.990		
9,500.0	7,267.7	9,398.6	7,174.9	48.1	47.0	-74.34	-2,231.6	-404.3	343.6	254.1	89.52	3.838		
9,600.0	7,267.8	9,498.6	7,174.5	49.9	48.8	-74.26	-2,331.6	-404.3	343.7	250.7	92.99	3.696		
9,700.0	7,267.9	9,598.6	7,174.1	51.6	50.6	-74.18	-2,431.6	-404.2	343.9	247.4	96.48	3.564		
9,800.0	7,268.0	9,698.6	7,173.7	53.4	52.4	-74.10	-2,531.6	-404.2	344.0	244.0	99.97	3.441		
9,900.0	7,268.1	9,798.6	7,173.3	55.2	54.2	-74.02	-2,631.6	-404.2	344.2	240.7	103.48	3.326		
10,000.0	7,268.2	9,898.6	7,172.9	57.0	56.1	-73.94	-2,731.6	-404.1	344.3	237.3	107.00	3.218		
10,100.0	7,268.3	9,998.6	7,172.5	58.8	57.9	-73.86	-2,831.6	-404.1	344.5	233.9	110.53	3.117		
10,200.0	7,268.4	10,098.6	7,172.1	60.6	59.7	-73.77	-2,931.6	-404.0	344.6	230.6	114.06	3.021		
10,300.0	7,268.5	10,198.6	7,171.7	62.5	61.6	-73.69	-3,031.6	-404.0	344.8	227.2	117.60	2.932		
10,400.0	7,268.6	10,298.6	7,171.3	64.3	63.4	-73.61	-3,131.6	-403.9	344.9	223.8	121.14	2.847		
10,500.0	7,268.7	10,398.6	7,170.9	66.1	65.3	-73.53	-3,231.6	-403.9	345.1	220.4	124.69	2.767		
10,600.0	7,268.8	10,498.6	7,170.5	68.0	67.2	-73.45	-3,331.6	-403.9	345.2	217.0	128.25	2.692		
10,700.0	7,268.9	10,598.6	7,170.1	69.8	69.0	-73.37	-3,431.5	-403.8	345.4	213.6	131.80	2.620		
10,800.0	7,269.0	10,698.6	7,169.7	71.7	70.9	-73.29	-3,531.5	-403.8	345.5	210.2	135.36	2.553		
10,900.0	7,269.1	10,798.6	7,169.3	73.5	72.8	-73.21	-3,631.5	-403.7	345.7	206.8	138.92	2.488		
11,000.0	7,269.2	10,898.6	7,168.9	75.4	74.6	-73.13	-3,731.5	-403.7	345.8	203.4	142.49	2.427		
11,100.0	7,269.4	10,998.6	7,168.5	77.2	76.5	-73.05	-3,831.5	-403.6	346.0	199.9	146.06	2.369		
11,200.0	7,269.5	11,098.6	7,168.1	79.1	78.4	-72.97	-3,931.5	-403.6	346.2	196.5	149.62	2.314		
11,300.0	7,269.6	11,198.6	7,167.7	80.9	80.3	-72.89	-4,031.5	-403.6	346.3	193.1	153.19	2.261		
11,400.0	7,269.7	11,298.6	7,167.3	82.8	82.1	-72.82	-4,131.5	-403.5	346.5	189.7	156.76	2.210		
11,500.0	7,269.8	11,398.6	7,166.9	84.7	84.0	-72.74	-4,231.5	-403.5	346.6	186.3	160.33	2.162		
11,600.0	7,269.9	11,498.6	7,166.5	86.5	85.9	-72.66	-4,331.5	-403.4	346.8	182.9	163.90	2.116		
11,700.0	7,270.0	11,598.6	7,166.1	88.4	87.8	-72.58	-4,431.5	-403.4	346.9	179.5	167.47	2.072		
11,719.8	7,270.0	11,618.4	7,166.0	88.8	88.2	-72.56	-4,451.4	-403.4	347.0	178.8	168.18	2.063 SF		



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W - Harvesters Resources 15U-203 - Wellbore #										Offset Site Error:		0.0 ft	
Survey Program: 0-MWD												Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	91.8	91.8						
100.0	100.0	100.0	100.0	0.1	0.1	90.00	0.0	91.8	91.8	91.6	0.19	480.412			
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	91.8	91.8	91.1	0.64	143.281			
300.0	300.0	300.0	300.0	0.5	0.5	90.00	0.0	91.8	91.8	90.7	1.09	84.196			
400.0	400.0	400.0	400.0	0.8	0.8	90.00	0.0	91.8	91.8	90.2	1.54	59.613			
500.0	500.0	500.0	500.0	1.0	1.0	90.00	0.0	91.8	91.8	89.8	1.99	46.141			
600.0	600.0	600.0	600.0	1.2	1.2	90.00	0.0	91.8	91.8	89.3	2.44	37.636			
700.0	700.0	700.0	700.0	1.4	1.4	90.00	0.0	91.8	91.8	88.9	2.89	31.778			
800.0	800.0	800.0	800.0	1.7	1.7	90.00	0.0	91.8	91.8	88.4	3.34	27.498	CC, ES		
900.0	900.0	900.0	900.0	1.9	1.9	159.54	0.0	91.8	93.4	89.6	3.78	24.723			
1,000.0	999.8	999.8	999.8	2.1	2.1	160.57	0.0	91.8	98.3	94.1	4.21	23.349			
1,100.0	1,099.5	1,099.5	1,099.5	2.3	2.3	162.08	0.0	91.8	106.6	102.0	4.64	22.950			
1,200.0	1,198.7	1,198.7	1,198.7	2.6	2.6	163.83	0.0	91.8	118.3	113.2	5.08	23.293			
1,242.6	1,240.8	1,240.8	1,240.8	2.7	2.7	164.60	0.0	91.8	124.3	119.0	5.26	23.623			
1,300.0	1,297.6	1,297.6	1,297.6	2.9	2.8	165.61	0.0	91.8	132.8	127.3	5.51	24.082			
1,400.0	1,396.4	1,396.4	1,396.4	3.2	3.0	167.09	0.0	91.8	147.8	141.8	5.96	24.788			
1,500.0	1,495.2	1,495.2	1,495.2	3.5	3.2	168.30	0.0	91.8	162.8	156.4	6.41	25.394			
1,600.0	1,594.0	1,580.3	1,579.9	3.8	3.4	167.17	5.1	98.7	184.5	177.6	6.85	26.939			
1,700.0	1,692.8	1,677.7	1,676.6	4.1	3.6	166.02	11.4	107.1	207.1	199.8	7.30	28.369			
1,800.0	1,791.6	1,775.0	1,773.4	4.5	3.9	165.09	17.6	115.6	229.7	221.9	7.76	29.620			
1,900.0	1,890.4	1,872.4	1,870.2	4.8	4.1	164.34	23.8	124.0	252.4	244.2	8.22	30.711			
2,000.0	1,989.2	1,969.7	1,967.0	5.2	4.4	163.70	30.1	132.4	275.1	266.4	8.69	31.669			
2,100.0	2,088.0	2,067.0	2,063.7	5.5	4.6	163.16	36.3	140.8	297.9	288.7	9.16	32.518			
2,200.0	2,186.8	2,164.4	2,160.5	5.9	4.9	162.70	42.6	149.2	320.6	311.0	9.64	33.264			
2,300.0	2,285.6	2,261.7	2,257.3	6.2	5.1	162.30	48.8	157.6	343.4	333.3	10.12	33.935			
2,400.0	2,384.5	2,359.1	2,354.1	6.6	5.4	161.95	55.0	166.1	366.2	355.6	10.60	34.536			
2,500.0	2,483.3	2,456.4	2,450.8	6.9	5.7	161.64	61.3	174.5	389.1	378.0	11.09	35.077			
2,600.0	2,582.1	2,553.7	2,547.6	7.3	5.9	161.37	67.5	182.9	411.9	400.3	11.58	35.566			
2,700.0	2,680.9	2,651.1	2,644.4	7.7	6.2	161.12	73.7	191.3	434.7	422.7	12.07	36.010			
2,800.0	2,779.7	2,748.4	2,741.2	8.0	6.5	160.90	80.0	199.7	457.6	445.0	12.57	36.415			
2,900.0	2,878.5	2,845.8	2,838.0	8.4	6.7	160.70	86.2	208.2	480.4	467.4	13.06	36.786			
3,000.0	2,977.3	2,943.1	2,934.7	8.7	7.0	160.52	92.4	216.6	503.3	489.7	13.56	37.125			
3,100.0	3,076.1	3,040.5	3,031.5	9.1	7.3	160.35	98.7	225.0	526.1	512.1	14.05	37.438			
3,200.0	3,174.9	3,137.8	3,128.3	9.5	7.6	160.20	104.9	233.4	549.0	534.4	14.55	37.727			
3,300.0	3,273.7	3,235.1	3,225.1	9.8	7.8	160.06	111.2	241.8	571.9	556.8	15.05	37.994			
3,400.0	3,372.5	3,332.5	3,321.8	10.2	8.1	159.93	117.4	250.3	594.7	579.2	15.55	38.242			
3,500.0	3,471.4	3,429.8	3,418.6	10.5	8.4	159.81	123.6	258.7	617.6	601.5	16.05	38.473			
3,600.0	3,570.2	3,527.2	3,515.4	10.9	8.7	159.70	129.9	267.1	640.5	623.9	16.55	38.688			
3,700.0	3,669.0	3,624.5	3,612.2	11.3	9.0	159.59	136.1	275.5	663.3	646.3	17.06	38.889			
3,800.0	3,767.8	3,721.8	3,708.9	11.6	9.3	159.50	142.3	283.9	686.2	668.7	17.56	39.078			
3,900.0	3,866.6	3,819.2	3,805.7	12.0	9.5	159.41	148.6	292.3	709.1	691.0	18.06	39.254			
4,000.0	3,965.4	3,916.5	3,902.5	12.4	9.8	159.32	154.8	300.8	732.0	713.4	18.57	39.420			
4,100.0	4,064.2	4,013.9	3,999.3	12.7	10.1	159.24	161.0	309.2	754.9	735.8	19.07	39.576			
4,200.0	4,163.0	4,111.2	4,096.0	13.1	10.4	159.17	167.3	317.6	777.7	758.2	19.58	39.723			
4,300.0	4,261.8	4,208.6	4,192.8	13.5	10.7	159.10	173.5	326.0	800.6	780.5	20.09	39.862			
4,400.0	4,360.6	4,305.9	4,289.6	13.8	11.0	159.03	179.8	334.4	823.5	802.9	20.59	39.993			
4,500.0	4,459.4	4,403.2	4,386.4	14.2	11.2	158.96	186.0	342.9	846.4	825.3	21.10	40.117			
4,600.0	4,558.3	4,500.6	4,483.1	14.6	11.5	158.91	192.2	351.3	869.3	847.7	21.61	40.235			
4,700.0	4,657.1	4,597.9	4,579.9	14.9	11.8	158.85	198.5	359.7	892.2	870.1	22.11	40.347			
4,800.0	4,755.9	4,695.3	4,676.7	15.3	12.1	158.79	204.7	368.1	915.1	892.4	22.62	40.453			
4,900.0	4,854.7	4,792.6	4,773.5	15.7	12.4	158.74	210.9	376.5	938.0	914.8	23.13	40.554			

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 Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W - Harvesters Resources 15U-203 - Wellbore #										Offset Site Error:		0.0 ft	
Survey Program: 0-MWD												Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
							+N/-S (ft)	+E/-W (ft)							
5,000.0	4,953.5	4,889.9	4,870.3	16.0	12.7	158.69	217.2	385.0	960.9	937.2	23.64	40.650			
5,100.0	5,052.3	4,987.3	4,967.0	16.4	13.0	158.65	223.4	393.4	983.7	959.6	24.15	40.742			
5,200.0	5,151.1	5,084.6	5,063.8	16.8	13.3	158.60	229.6	401.8	1,006.6	982.0	24.65	40.829			
5,300.0	5,249.9	5,182.0	5,160.6	17.1	13.5	158.56	235.9	410.2	1,029.5	1,004.4	25.16	40.913			
5,400.0	5,348.7	5,279.3	5,257.4	17.5	13.8	158.52	242.1	418.6	1,052.4	1,026.7	25.67	40.993			
5,500.0	5,447.5	5,376.7	5,354.1	17.9	14.1	158.48	248.3	427.0	1,075.3	1,049.1	26.18	41.069			
5,600.0	5,546.3	5,474.0	5,450.9	18.2	14.4	158.44	254.6	435.5	1,098.2	1,071.5	26.69	41.143			
5,700.0	5,645.2	5,571.3	5,547.7	18.6	14.7	158.41	260.8	443.9	1,121.1	1,093.9	27.20	41.213			
5,800.0	5,744.0	5,668.7	5,644.5	19.0	15.0	158.37	267.1	452.3	1,144.0	1,116.3	27.71	41.280			
5,900.0	5,842.8	5,790.5	5,765.7	19.3	15.3	158.36	274.3	462.1	1,166.4	1,138.1	28.26	41.270			
5,916.6	5,859.2	5,814.7	5,789.8	19.4	15.4	158.37	275.4	463.6	1,169.8	1,141.4	28.35	41.256			
6,000.0	5,941.8	5,937.7	5,912.6	19.7	15.6	158.61	279.2	468.7	1,184.1	1,155.2	28.83	41.072			
6,100.0	6,041.2	6,066.3	6,041.2	19.9	15.8	158.89	280.0	469.8	1,194.8	1,165.5	29.30	40.783			
6,200.0	6,140.9	6,166.0	6,140.9	20.1	16.0	159.07	280.0	469.8	1,201.7	1,172.0	29.70	40.459			
6,300.0	6,240.8	6,265.9	6,240.8	20.2	16.2	159.16	280.0	469.8	1,205.2	1,175.1	30.07	40.076			
6,359.2	6,300.0	6,325.1	6,300.0	20.3	16.3	90.00	280.0	469.8	1,205.8	1,175.5	30.28	39.823			
6,385.6	6,326.4	6,351.5	6,326.4	20.4	16.3	90.00	280.0	469.8	1,205.8	1,175.4	30.38	39.693			
6,400.0	6,340.8	6,365.9	6,340.8	20.4	16.4	90.00	280.0	469.8	1,205.8	1,175.4	30.43	39.623			
6,425.0	6,365.8	6,390.9	6,365.8	20.4	16.4	90.02	279.5	469.8	1,205.8	1,175.3	30.52	39.508			
6,500.0	6,440.8	6,465.3	6,439.9	20.5	16.5	90.32	273.2	469.8	1,205.8	1,175.1	30.74	39.223			
6,551.4	6,492.2	6,515.2	6,489.2	20.6	16.5	90.71	265.0	469.8	1,205.9	1,175.0	30.87	39.068			
6,600.0	6,540.8	6,561.7	6,534.4	20.7	16.5	-88.82	254.5	469.8	1,206.0	1,175.1	30.95	38.962			
6,650.0	6,590.5	6,608.9	6,579.6	20.7	16.6	-88.37	240.9	469.8	1,206.3	1,175.3	31.01	38.899			
6,700.0	6,639.9	6,655.6	6,623.5	20.7	16.6	-87.93	224.9	469.8	1,206.6	1,175.5	31.04	38.867			
6,750.0	6,688.6	6,701.8	6,665.8	20.8	16.6	-87.50	206.3	469.8	1,206.9	1,175.9	31.06	38.861			
6,800.0	6,736.4	6,747.6	6,706.5	20.8	16.6	-87.08	185.5	469.8	1,207.4	1,176.3	31.06	38.873			
6,850.0	6,783.3	6,792.9	6,745.5	20.8	16.6	-86.67	162.5	469.8	1,207.8	1,176.8	31.06	38.892			
6,900.0	6,828.8	6,837.7	6,782.8	20.8	16.5	-86.28	137.5	469.8	1,208.4	1,177.3	31.05	38.911			
6,950.0	6,873.0	6,882.3	6,818.2	20.8	16.5	-85.90	110.6	469.8	1,208.9	1,177.8	31.06	38.918			
7,000.0	6,915.5	6,926.4	6,851.8	20.8	16.5	-85.54	81.9	469.8	1,209.5	1,178.4	31.09	38.904			
7,050.0	6,956.2	6,970.2	6,883.4	20.8	16.5	-85.20	51.5	469.8	1,210.1	1,178.9	31.14	38.860			
7,100.0	6,994.9	7,013.7	6,913.0	20.8	16.5	-84.87	19.6	469.8	1,210.6	1,179.4	31.22	38.775			
7,150.0	7,031.4	7,057.0	6,940.5	20.8	16.5	-84.57	-13.7	469.8	1,211.2	1,179.9	31.34	38.642			
7,200.0	7,065.6	7,100.0	6,966.0	20.8	16.6	-84.28	-48.3	469.8	1,211.8	1,180.3	31.52	38.447			
7,250.0	7,097.4	7,142.7	6,989.4	20.8	16.6	-84.02	-84.1	469.8	1,212.4	1,180.6	31.75	38.184			
7,300.0	7,126.6	7,185.3	7,010.7	20.8	16.7	-83.78	-120.9	469.8	1,212.9	1,180.8	32.04	37.853			
7,350.0	7,153.1	7,227.6	7,029.7	20.8	16.8	-83.56	-158.7	469.8	1,213.4	1,181.0	32.40	37.453			
7,400.0	7,176.7	7,269.8	7,046.6	20.9	17.0	-83.37	-197.4	469.8	1,213.8	1,181.0	32.82	36.984			
7,450.0	7,197.5	7,311.9	7,061.3	21.0	17.2	-83.20	-236.8	469.8	1,214.2	1,180.9	33.31	36.449			
7,500.0	7,215.1	7,350.0	7,072.8	21.1	17.4	-83.07	-273.2	469.8	1,214.6	1,180.7	33.85	35.884			
7,550.0	7,229.7	7,395.6	7,084.0	21.3	17.8	-82.94	-317.4	469.8	1,214.8	1,180.3	34.51	35.201			
7,600.0	7,241.2	7,437.4	7,092.0	21.5	18.1	-82.85	-358.3	469.8	1,215.1	1,179.8	35.22	34.501			
7,650.0	7,249.4	7,479.1	7,097.7	21.8	18.5	-82.79	-399.6	469.8	1,215.2	1,179.2	35.99	33.766			
7,671.4	7,252.0	7,500.0	7,099.8	21.9	18.7	-82.76	-420.5	469.8	1,215.3	1,178.9	36.36	33.421			
7,672.2	7,252.0	7,500.0	7,099.8	21.9	18.7	-82.76	-420.5	469.8	1,215.3	1,178.9	36.37	33.414			
7,700.0	7,254.9	7,520.7	7,101.2	22.1	18.9	-82.73	-441.1	469.8	1,215.4	1,178.6	36.83	33.000			
7,745.4	7,259.7	7,558.3	7,102.4	22.4	19.3	-82.60	-478.7	469.8	1,215.8	1,178.2	37.64	32.300			
7,800.0	7,264.1	7,611.2	7,102.3	22.8	19.8	-82.37	-531.6	469.8	1,216.4	1,177.6	38.75	31.394			
7,864.2	7,266.0	7,675.4	7,102.1	23.4	20.6	-82.26	-595.8	469.8	1,216.6	1,176.5	40.16	30.291			
7,900.0	7,266.0	7,711.2	7,102.0	23.8	21.0	-82.25	-631.6	469.8	1,216.6	1,175.6	41.00	29.671			

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 Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W - Harvesters Resources 15U-203 - Wellbore #										Offset Site Error:		0.0 ft	
Survey Program: 0-MWD												Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
8,000.0	7,266.1	7,811.2	7,101.8	24.8	22.3	-82.24	-731.6	469.9	1,216.7	1,173.2	43.51	27.966			
8,100.0	7,266.2	7,911.2	7,101.5	26.0	23.6	-82.22	-831.6	469.9	1,216.7	1,170.5	46.19	26.343			
8,200.0	7,266.3	8,011.2	7,101.2	27.3	25.0	-82.20	-931.6	469.9	1,216.7	1,167.7	49.02	24.822			
8,300.0	7,266.4	8,111.2	7,101.0	28.7	26.5	-82.19	-1,031.6	469.9	1,216.7	1,164.8	51.97	23.411			
8,400.0	7,266.5	8,211.2	7,100.7	30.1	28.1	-82.17	-1,131.6	469.9	1,216.8	1,161.7	55.04	22.109			
8,500.0	7,266.6	8,311.2	7,100.5	31.6	29.6	-82.15	-1,231.6	469.9	1,216.8	1,158.6	58.19	20.912			
8,600.0	7,266.7	8,411.2	7,100.2	33.1	31.3	-82.13	-1,331.6	469.9	1,216.8	1,155.4	61.41	19.814			
8,700.0	7,266.8	8,511.2	7,099.9	34.7	32.9	-82.12	-1,431.6	469.9	1,216.8	1,152.1	64.70	18.807			
8,800.0	7,266.9	8,611.2	7,099.7	36.3	34.6	-82.10	-1,531.6	469.9	1,216.8	1,148.8	68.05	17.883			
8,900.0	7,267.0	8,711.2	7,099.4	37.9	36.3	-82.08	-1,631.6	469.9	1,216.9	1,145.4	71.44	17.034			
9,000.0	7,267.2	8,811.2	7,099.2	39.5	38.0	-82.06	-1,731.6	469.9	1,216.9	1,142.0	74.87	16.254			
9,100.0	7,267.3	8,911.2	7,098.9	41.2	39.8	-82.05	-1,831.6	469.9	1,216.9	1,138.6	78.34	15.535			
9,200.0	7,267.4	9,011.2	7,098.6	42.9	41.5	-82.03	-1,931.6	469.9	1,216.9	1,135.1	81.83	14.871			
9,300.0	7,267.5	9,111.2	7,098.4	44.6	43.3	-82.01	-2,031.6	469.9	1,217.0	1,131.6	85.36	14.258			
9,400.0	7,267.6	9,211.2	7,098.1	46.4	45.1	-82.00	-2,131.6	469.9	1,217.0	1,128.1	88.90	13.689			
9,500.0	7,267.7	9,311.2	7,097.8	48.1	46.9	-81.98	-2,231.6	470.0	1,217.0	1,124.5	92.47	13.161			
9,600.0	7,267.8	9,411.2	7,097.6	49.9	48.7	-81.96	-2,331.6	470.0	1,217.0	1,121.0	96.06	12.670			
9,700.0	7,267.9	9,511.2	7,097.3	51.6	50.5	-81.94	-2,431.6	470.0	1,217.1	1,117.4	99.66	12.212			
9,800.0	7,268.0	9,611.2	7,097.1	53.4	52.3	-81.93	-2,531.6	470.0	1,217.1	1,113.8	103.28	11.785			
9,900.0	7,268.1	9,711.2	7,096.8	55.2	54.1	-81.91	-2,631.6	470.0	1,217.1	1,110.2	106.91	11.385			
10,000.0	7,268.2	9,811.2	7,096.5	57.0	56.0	-81.89	-2,731.6	470.0	1,217.1	1,106.6	110.55	11.010			
10,100.0	7,268.3	9,911.2	7,096.3	58.8	57.8	-81.87	-2,831.6	470.0	1,217.2	1,103.0	114.20	10.658			
10,200.0	7,268.4	10,011.2	7,096.0	60.6	59.7	-81.86	-2,931.6	470.0	1,217.2	1,099.3	117.87	10.327			
10,300.0	7,268.5	10,111.2	7,095.7	62.5	61.5	-81.84	-3,031.6	470.0	1,217.2	1,095.7	121.54	10.015			
10,400.0	7,268.6	10,211.2	7,095.5	64.3	63.4	-81.82	-3,131.6	470.0	1,217.2	1,092.0	125.22	9.721			
10,500.0	7,268.7	10,311.2	7,095.2	66.1	65.2	-81.81	-3,231.6	470.0	1,217.3	1,088.4	128.91	9.443			
10,600.0	7,268.8	10,411.2	7,095.0	68.0	67.1	-81.79	-3,331.6	470.0	1,217.3	1,084.7	132.60	9.180			
10,700.0	7,268.9	10,511.2	7,094.7	69.8	68.9	-81.77	-3,431.5	470.0	1,217.3	1,081.0	136.30	8.931			
10,800.0	7,269.0	10,611.2	7,094.4	71.7	70.8	-81.75	-3,531.5	470.0	1,217.3	1,077.3	140.00	8.695			
10,900.0	7,269.1	10,711.2	7,094.2	73.5	72.7	-81.74	-3,631.5	470.1	1,217.4	1,073.7	143.71	8.471			
11,000.0	7,269.2	10,811.2	7,093.9	75.4	74.6	-81.72	-3,731.5	470.1	1,217.4	1,070.0	147.43	8.258			
11,100.0	7,269.4	10,911.2	7,093.7	77.2	76.4	-81.70	-3,831.5	470.1	1,217.4	1,066.3	151.15	8.055			
11,200.0	7,269.5	11,011.2	7,093.4	79.1	78.3	-81.68	-3,931.5	470.1	1,217.4	1,062.6	154.87	7.861			
11,300.0	7,269.6	11,111.2	7,093.1	80.9	80.2	-81.67	-4,031.5	470.1	1,217.5	1,058.9	158.60	7.677			
11,400.0	7,269.7	11,211.2	7,092.9	82.8	82.1	-81.65	-4,131.5	470.1	1,217.5	1,055.2	162.33	7.500			
11,500.0	7,269.8	11,311.2	7,092.6	84.7	84.0	-81.63	-4,231.5	470.1	1,217.5	1,051.5	166.06	7.332			
11,600.0	7,269.9	11,411.2	7,092.3	86.5	85.8	-81.62	-4,331.5	470.1	1,217.6	1,047.8	169.80	7.171			
11,700.0	7,270.0	11,511.2	7,092.1	88.4	87.7	-81.60	-4,431.5	470.1	1,217.6	1,044.0	173.54	7.016			
11,719.8	7,270.0	11,531.0	7,092.0	88.8	88.1	-81.60	-4,451.4	470.1	1,217.6	1,043.3	174.28	6.986 SF			

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W - Harvesters Resources 15U-443 - Wellbore #		Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft		
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	61.2	61.2							
100.0	100.0	100.0	100.0	0.1	0.1	90.00	0.0	61.2	61.2	61.0	0.19	320.275				
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	61.2	61.2	60.5	0.64	95.521				
300.0	300.0	300.0	300.0	0.5	0.5	90.00	0.0	61.2	61.2	60.1	1.09	56.131				
400.0	400.0	400.0	400.0	0.8	0.8	90.00	0.0	61.2	61.2	59.6	1.54	39.742				
500.0	500.0	500.0	500.0	1.0	1.0	90.00	0.0	61.2	61.2	59.2	1.99	30.761				
600.0	600.0	600.0	600.0	1.2	1.2	90.00	0.0	61.2	61.2	58.8	2.44	25.091				
700.0	700.0	700.0	700.0	1.4	1.4	90.00	0.0	61.2	61.2	58.3	2.89	21.186				
800.0	800.0	800.0	800.0	1.7	1.7	90.00	0.0	61.2	61.2	57.9	3.34	18.332 CC, ES				
900.0	900.0	900.0	900.0	1.9	1.9	159.72	0.0	61.2	62.8	59.0	3.78	16.626				
1,000.0	999.8	999.8	999.8	2.1	2.1	161.22	0.0	61.2	67.8	63.5	4.21	16.088				
1,100.0	1,099.5	1,099.5	1,099.5	2.3	2.3	163.29	0.0	61.2	76.1	71.4	4.64	16.376				
1,200.0	1,198.7	1,198.7	1,198.7	2.6	2.6	165.52	0.0	61.2	87.8	82.7	5.08	17.298				
1,242.6	1,240.8	1,240.8	1,240.8	2.7	2.7	166.44	0.0	61.2	93.9	88.6	5.26	17.848				
1,300.0	1,297.6	1,297.6	1,297.6	2.9	2.8	167.60	0.0	61.2	102.5	97.0	5.51	18.588				
1,400.0	1,396.4	1,396.4	1,396.4	3.2	3.0	169.21	0.0	61.2	117.6	111.6	5.96	19.727				
1,500.0	1,495.2	1,495.2	1,495.2	3.5	3.2	170.45	0.0	61.2	132.7	126.3	6.41	20.709				
1,600.0	1,594.0	1,594.0	1,594.0	3.8	3.5	171.44	0.0	61.2	147.9	141.1	6.86	21.560				
1,700.0	1,692.8	1,692.8	1,692.8	4.1	3.7	172.24	0.0	61.2	163.2	155.8	7.31	22.304				
1,800.0	1,791.6	1,791.6	1,791.6	4.5	3.9	172.91	0.0	61.2	178.4	170.6	7.77	22.959				
1,900.0	1,890.4	1,890.4	1,890.4	4.8	4.1	173.47	0.0	61.2	193.7	185.5	8.23	23.539				
2,000.0	1,989.2	1,989.2	1,989.2	5.2	4.3	173.95	0.0	61.2	209.0	200.3	8.69	24.057				
2,100.0	2,088.0	2,091.1	2,091.1	5.5	4.6	174.04	1.4	60.9	223.7	214.5	9.15	24.440				
2,200.0	2,186.8	2,193.7	2,193.5	5.9	4.8	173.32	6.4	60.0	236.9	227.3	9.62	24.625				
2,300.0	2,285.6	2,295.8	2,295.2	6.2	5.0	171.92	14.9	58.4	248.7	238.6	10.09	24.643				
2,400.0	2,384.5	2,394.9	2,393.9	6.6	5.3	170.43	24.4	56.7	260.2	249.7	10.57	24.617				
2,500.0	2,483.3	2,494.0	2,492.5	6.9	5.5	169.08	33.9	54.9	271.9	260.8	11.06	24.590				
2,600.0	2,582.1	2,593.1	2,591.2	7.3	5.7	167.83	43.3	53.1	283.7	272.1	11.55	24.562				
2,700.0	2,680.9	2,692.2	2,689.8	7.7	6.0	166.68	52.8	51.4	295.6	283.6	12.05	24.533				
2,800.0	2,779.7	2,791.4	2,788.5	8.0	6.2	165.63	62.2	49.6	307.6	295.1	12.56	24.503				
2,900.0	2,878.5	2,890.5	2,887.1	8.4	6.5	164.65	71.7	47.9	319.8	306.7	13.07	24.472				
3,000.0	2,977.3	2,989.6	2,985.8	8.7	6.7	163.74	81.1	46.1	332.0	318.4	13.58	24.441				
3,100.0	3,076.1	3,088.7	3,084.5	9.1	7.0	162.90	90.6	44.4	344.3	330.2	14.10	24.409				
3,200.0	3,174.9	3,187.8	3,183.1	9.5	7.2	162.12	100.0	42.6	356.6	342.0	14.63	24.377				
3,300.0	3,273.7	3,287.0	3,281.8	9.8	7.5	161.39	109.5	40.9	369.0	353.9	15.16	24.346				
3,400.0	3,372.5	3,386.1	3,380.4	10.2	7.7	160.70	119.0	39.1	381.5	365.8	15.69	24.314				
3,500.0	3,471.4	3,485.2	3,479.1	10.5	8.0	160.06	128.4	37.3	394.0	377.8	16.23	24.283				
3,600.0	3,570.2	3,584.3	3,577.7	10.9	8.3	159.46	137.9	35.6	406.6	389.8	16.77	24.253				
3,700.0	3,669.0	3,683.4	3,676.4	11.3	8.5	158.90	147.3	33.8	419.2	401.9	17.31	24.223				
3,800.0	3,767.8	3,782.6	3,775.0	11.6	8.8	158.37	156.8	32.1	431.9	414.0	17.85	24.194				
3,900.0	3,866.6	3,881.7	3,873.7	12.0	9.1	157.86	166.2	30.3	444.5	426.1	18.40	24.166				
4,000.0	3,965.4	3,980.8	3,972.3	12.4	9.3	157.39	175.7	28.6	457.3	438.3	18.94	24.139				
4,100.0	4,064.2	4,079.9	4,071.0	12.7	9.6	156.94	185.1	26.8	470.0	450.5	19.49	24.112				
4,200.0	4,163.0	4,179.0	4,169.6	13.1	9.9	156.52	194.6	25.0	482.8	462.7	20.04	24.086				
4,300.0	4,261.8	4,278.1	4,268.3	13.5	10.1	156.11	204.1	23.3	495.6	475.0	20.60	24.060				
4,400.0	4,360.6	4,377.3	4,366.9	13.8	10.4	155.73	213.5	21.5	508.4	487.2	21.15	24.036				
4,500.0	4,459.4	4,476.4	4,465.6	14.2	10.7	155.37	223.0	19.8	521.2	499.5	21.71	24.012				
4,600.0	4,558.3	4,575.5	4,564.2	14.6	10.9	155.02	232.4	18.0	534.1	511.8	22.26	23.989				
4,700.0	4,657.1	4,674.6	4,662.9	14.9	11.2	154.69	241.9	16.3	546.9	524.1	22.82	23.967				
4,800.0	4,755.9	4,773.7	4,761.5	15.3	11.5	154.38	251.3	14.5	559.8	536.5	23.38	23.945				
4,900.0	4,854.7	4,872.9	4,860.2	15.7	11.8	154.08	260.8	12.8	572.7	548.8	23.94	23.924				

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 Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W - Harvesters Resources 15U-443 - Wellbore #										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.0	4,953.5	4,971.3	4,958.2	16.0	12.0	153.81	270.0	11.1	585.7	561.2	24.48	23.921		
5,100.0	5,052.3	5,068.5	5,055.2	16.4	12.2	153.82	276.4	9.9	598.9	573.9	24.96	23.997		
5,200.0	5,151.1	5,165.5	5,152.1	16.8	12.4	154.14	279.6	9.3	612.4	587.1	25.38	24.130		
5,300.0	5,249.9	5,263.3	5,249.9	17.1	12.6	154.71	280.0	9.2	626.3	600.5	25.78	24.290		
5,400.0	5,348.7	5,362.1	5,348.7	17.5	12.8	155.29	280.0	9.2	640.3	614.1	26.21	24.433		
5,500.0	5,447.5	5,460.9	5,447.5	17.9	13.0	155.86	280.0	9.2	654.3	627.7	26.64	24.566		
5,600.0	5,546.3	5,559.8	5,546.3	18.2	13.2	156.39	280.0	9.2	668.4	641.3	27.07	24.696		
5,700.0	5,645.2	5,658.6	5,645.2	18.6	13.4	156.91	280.0	9.2	682.6	655.1	27.50	24.822		
5,800.0	5,744.0	5,757.4	5,744.0	19.0	13.6	157.41	280.0	9.2	696.8	668.8	27.93	24.946		
5,900.0	5,842.8	5,856.2	5,842.8	19.3	13.8	157.88	280.0	9.2	711.0	682.7	28.37	25.066		
5,916.6	5,859.2	5,872.6	5,859.2	19.4	13.8	157.96	280.0	9.2	713.4	685.0	28.44	25.086		
6,000.0	5,941.8	5,955.2	5,941.8	19.7	14.0	158.38	280.0	9.2	724.2	695.4	28.81	25.134		
6,100.0	6,041.2	6,054.6	6,041.2	19.9	14.2	158.77	280.0	9.2	734.2	705.0	29.22	25.129		
6,200.0	6,140.9	6,154.3	6,140.9	20.1	14.4	159.02	280.0	9.2	741.1	711.5	29.60	25.038		
6,300.0	6,240.8	6,254.2	6,240.8	20.2	14.6	159.15	280.0	9.2	744.6	714.7	29.95	24.865		
6,359.2	6,300.0	6,313.4	6,300.0	20.3	14.7	90.00	280.0	9.2	745.2	715.0	30.14	24.723		
6,400.0	6,340.8	6,354.2	6,340.8	20.4	14.8	90.00	280.0	9.2	745.2	714.9	30.30	24.595		
6,500.0	6,440.8	6,454.2	6,440.8	20.5	15.0	90.00	280.0	9.2	745.2	714.5	30.69	24.277		
6,534.2	6,475.1	6,488.5	6,475.1	20.6	15.1	90.00	280.0	9.2	745.2	714.4	30.83	24.170		
6,551.4	6,492.2	6,505.6	6,492.2	20.6	15.1	90.00	280.0	9.2	745.2	714.3	30.90	24.117		
6,600.0	6,540.8	6,554.2	6,540.8	20.7	15.2	-89.98	278.5	9.2	745.2	714.1	31.06	23.993		
6,650.0	6,590.5	6,604.2	6,590.5	20.7	15.3	-89.98	273.7	9.2	745.2	714.0	31.17	23.905		
6,700.0	6,639.9	6,654.2	6,639.8	20.7	15.3	-89.98	265.6	9.2	745.2	713.9	31.25	23.843		
6,750.0	6,688.6	6,704.1	6,688.5	20.8	15.3	-89.98	254.3	9.2	745.2	713.9	31.31	23.803		
6,800.0	6,736.4	6,754.1	6,736.4	20.8	15.3	-89.98	239.9	9.2	745.2	713.9	31.34	23.781		
6,850.0	6,783.3	6,804.1	6,783.2	20.8	15.3	-89.98	222.4	9.2	745.2	713.8	31.35	23.772		
6,900.0	6,828.8	6,854.1	6,828.7	20.8	15.4	-89.98	201.9	9.2	745.2	713.8	31.35	23.770		
6,950.0	6,873.0	6,904.1	6,872.8	20.8	15.4	-89.98	178.4	9.2	745.2	713.8	31.35	23.770		
7,000.0	6,915.5	6,954.1	6,915.3	20.8	15.4	-89.98	152.1	9.2	745.2	713.8	31.36	23.764		
7,050.0	6,956.2	7,004.0	6,956.0	20.8	15.4	-89.98	123.1	9.3	745.2	713.8	31.38	23.745		
7,100.0	6,994.9	7,054.0	6,994.7	20.8	15.4	-89.99	91.5	9.3	745.2	713.8	31.44	23.704		
7,150.0	7,031.4	7,104.0	7,031.3	20.8	15.4	-89.99	57.4	9.3	745.2	713.7	31.53	23.633		
7,200.0	7,065.6	7,154.0	7,065.5	20.8	15.5	-89.99	21.0	9.3	745.2	713.5	31.68	23.526		
7,250.0	7,097.4	7,204.0	7,097.3	20.8	15.6	-89.99	-17.6	9.3	745.2	713.3	31.88	23.377		
7,300.0	7,126.6	7,254.0	7,126.5	20.8	15.7	-89.99	-58.2	9.3	745.2	713.1	32.15	23.179		
7,350.0	7,153.1	7,304.0	7,153.0	20.8	15.9	-89.99	-100.6	9.3	745.2	712.7	32.50	22.931		
7,400.0	7,176.7	7,354.0	7,176.6	20.9	16.1	-89.99	-144.6	9.4	745.2	712.3	32.93	22.632		
7,450.0	7,197.5	7,403.9	7,197.3	21.0	16.4	-89.99	-190.1	9.4	745.2	711.8	33.44	22.284		
7,500.0	7,215.1	7,453.9	7,215.1	21.1	16.7	-89.99	-236.8	9.4	745.2	711.2	34.05	21.889		
7,550.0	7,229.7	7,503.9	7,229.7	21.3	17.1	-89.99	-284.6	9.4	745.2	710.5	34.74	21.454		
7,600.0	7,241.2	7,553.9	7,241.1	21.5	17.5	-90.00	-333.3	9.4	745.2	709.7	35.51	20.986		
7,650.0	7,249.4	7,603.9	7,249.4	21.8	17.9	-90.00	-382.6	9.5	745.2	708.9	36.37	20.493		
7,671.4	7,252.0	7,625.3	7,251.9	21.9	18.1	-90.00	-403.8	9.5	745.2	708.5	36.75	20.276		
7,700.0	7,254.9	7,653.9	7,254.9	22.1	18.4	-90.00	-432.3	9.5	745.2	707.9	37.31	19.977		
7,745.4	7,259.7	7,699.3	7,259.6	22.4	18.8	-90.00	-477.4	9.5	745.2	707.0	38.20	19.507		
7,800.0	7,264.1	7,753.9	7,264.1	22.8	19.4	-90.00	-531.8	9.5	745.2	705.9	39.38	18.923		
7,864.2	7,266.0	7,818.1	7,266.0	23.4	20.2	-90.00	-596.0	9.5	745.2	704.4	40.83	18.254		
7,900.0	7,266.0	7,853.9	7,266.0	23.8	20.6	-90.00	-631.8	9.6	745.3	703.6	41.69	17.877		
8,000.0	7,266.1	7,953.9	7,266.1	24.8	21.9	-90.00	-731.8	9.6	745.3	701.0	44.21	16.858		
8,100.0	7,266.2	8,053.9	7,266.2	26.0	23.3	-90.00	-831.8	9.6	745.3	698.4	46.91	15.888		

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 Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W - Harvesters Resources 15U-443 - Wellbore #										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
8,200.0	7,266.3	8,153.9	7,266.3	27.3	24.7	-90.00	-931.8	9.7	745.3	695.5	49.76	14.978		
8,300.0	7,266.4	8,253.9	7,266.4	28.7	26.2	-90.00	-1,031.8	9.7	745.3	692.5	52.73	14.133		
8,400.0	7,266.5	8,353.9	7,266.5	30.1	27.8	-90.00	-1,131.8	9.8	745.3	689.5	55.82	13.352		
8,500.0	7,266.6	8,453.9	7,266.6	31.6	29.3	-90.00	-1,231.8	9.8	745.3	686.3	58.99	12.634		
8,600.0	7,266.7	8,553.9	7,266.7	33.1	31.0	-90.00	-1,331.8	9.8	745.3	683.1	62.24	11.975		
8,700.0	7,266.8	8,653.9	7,266.8	34.7	32.7	-90.00	-1,431.8	9.9	745.3	679.8	65.55	11.369		
8,800.0	7,266.9	8,753.9	7,266.9	36.3	34.3	-90.00	-1,531.8	9.9	745.3	676.4	68.92	10.814		
8,900.0	7,267.0	8,853.9	7,267.0	37.9	36.1	-90.00	-1,631.8	10.0	745.3	673.0	72.34	10.303		
9,000.0	7,267.2	8,953.9	7,267.1	39.5	37.8	-90.00	-1,731.8	10.0	745.3	669.5	75.80	9.833		
9,100.0	7,267.3	9,053.9	7,267.2	41.2	39.6	-90.00	-1,831.8	10.0	745.3	666.0	79.29	9.400		
9,200.0	7,267.4	9,153.9	7,267.4	42.9	41.3	-90.00	-1,931.8	10.1	745.3	662.5	82.82	9.000		
9,300.0	7,267.5	9,253.9	7,267.5	44.6	43.1	-90.00	-2,031.8	10.1	745.3	659.0	86.37	8.630		
9,400.0	7,267.6	9,353.9	7,267.6	46.4	44.9	-90.00	-2,131.8	10.2	745.4	655.4	89.95	8.287		
9,500.0	7,267.7	9,453.9	7,267.7	48.1	46.7	-90.00	-2,231.8	10.2	745.4	651.8	93.54	7.968		
9,600.0	7,267.8	9,553.9	7,267.8	49.9	48.5	-90.00	-2,331.8	10.3	745.4	648.2	97.16	7.671		
9,700.0	7,267.9	9,653.9	7,267.9	51.6	50.3	-90.00	-2,431.8	10.3	745.4	644.6	100.80	7.395		
9,800.0	7,268.0	9,753.9	7,268.0	53.4	52.2	-90.00	-2,531.8	10.3	745.4	640.9	104.45	7.137		
9,900.0	7,268.1	9,853.9	7,268.1	55.2	54.0	-90.00	-2,631.8	10.4	745.4	637.3	108.11	6.895		
10,000.0	7,268.2	9,953.9	7,268.2	57.0	55.8	-90.00	-2,731.8	10.4	745.4	633.6	111.78	6.668		
10,100.0	7,268.3	10,053.9	7,268.3	58.8	57.7	-90.00	-2,831.8	10.5	745.4	629.9	115.47	6.455		
10,200.0	7,268.4	10,153.9	7,268.4	60.6	59.5	-90.00	-2,931.8	10.5	745.4	626.2	119.17	6.255		
10,300.0	7,268.5	10,253.9	7,268.5	62.5	61.4	-90.00	-3,031.8	10.5	745.4	622.5	122.87	6.067		
10,400.0	7,268.6	10,353.9	7,268.6	64.3	63.3	-90.00	-3,131.8	10.6	745.4	618.8	126.59	5.889		
10,500.0	7,268.7	10,453.9	7,268.7	66.1	65.1	-90.00	-3,231.8	10.6	745.4	615.1	130.31	5.720		
10,600.0	7,268.8	10,553.9	7,268.8	68.0	67.0	-90.00	-3,331.8	10.7	745.4	611.4	134.04	5.561		
10,700.0	7,268.9	10,653.9	7,268.9	69.8	68.9	-90.00	-3,431.8	10.7	745.4	607.7	137.77	5.411		
10,800.0	7,269.0	10,753.9	7,269.0	71.7	70.7	-90.00	-3,531.8	10.7	745.4	603.9	141.52	5.268		
10,900.0	7,269.1	10,853.9	7,269.1	73.5	72.6	-90.00	-3,631.8	10.8	745.5	600.2	145.26	5.132		
11,000.0	7,269.2	10,953.9	7,269.2	75.4	74.5	-90.00	-3,731.8	10.8	745.5	596.4	149.02	5.003		
11,100.0	7,269.4	11,053.9	7,269.3	77.2	76.4	-90.00	-3,831.8	10.9	745.5	592.7	152.77	4.880		
11,200.0	7,269.5	11,153.9	7,269.4	79.1	78.2	-90.00	-3,931.8	10.9	745.5	588.9	156.53	4.762		
11,300.0	7,269.6	11,253.9	7,269.6	80.9	80.1	-90.00	-4,031.8	10.9	745.5	585.2	160.30	4.651		
11,400.0	7,269.7	11,353.9	7,269.7	82.8	82.0	-90.00	-4,131.8	11.0	745.5	581.4	164.07	4.544		
11,500.0	7,269.8	11,453.9	7,269.8	84.7	83.9	-90.00	-4,231.8	11.0	745.5	577.7	167.84	4.442		
11,600.0	7,269.9	11,553.9	7,269.9	86.5	85.8	-90.00	-4,331.8	11.1	745.5	573.9	171.62	4.344		
11,700.0	7,270.0	11,653.9	7,270.0	88.4	87.7	-90.00	-4,431.8	11.1	745.5	570.1	175.39	4.250		
11,719.8	7,270.0	11,673.8	7,270.0	88.8	88.1	-90.00	-4,451.6	11.1	745.5	569.4	176.14	4.232 SF		



Reference Depths are relative to WELL @ 4830.0ft (RKB - 15')	Coordinates are relative to: Harvesters Resources 15R-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: 0.48°



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Harvesters Resources 15R-403
<b>Project:</b>	SEC.15-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Reference Site:</b>	Harvesters Resources 15UR-HZ Pad Sec.15-T6N-R66W	<b>MD Reference:</b>	WELL @ 4830.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Harvesters Resources 15R-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 (6-11-13)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4830.0ft (RKB - 15')  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000 °

Coordinates are relative to: Harvesters Resources 15R-403  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.48°

