

# PETROLEUM DEVELOPMENT CORP Weld County CO

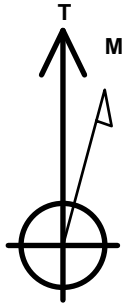
Well Name: **Becker Ranch 5U-303**

Surface Location: Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W  
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
 Ground Elevation: 4783.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1339356.64	3260134.66	40.261180	-104.567870	
RKB - 12.5' WELL @ 4795.5ft (RKB - 12.5')						

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 205'FNL, 700'FEL	1.0	0.0	0.0	Point
BHL 500'FSL, 170'FEL	6846.0	-4590.2	508.0	Point

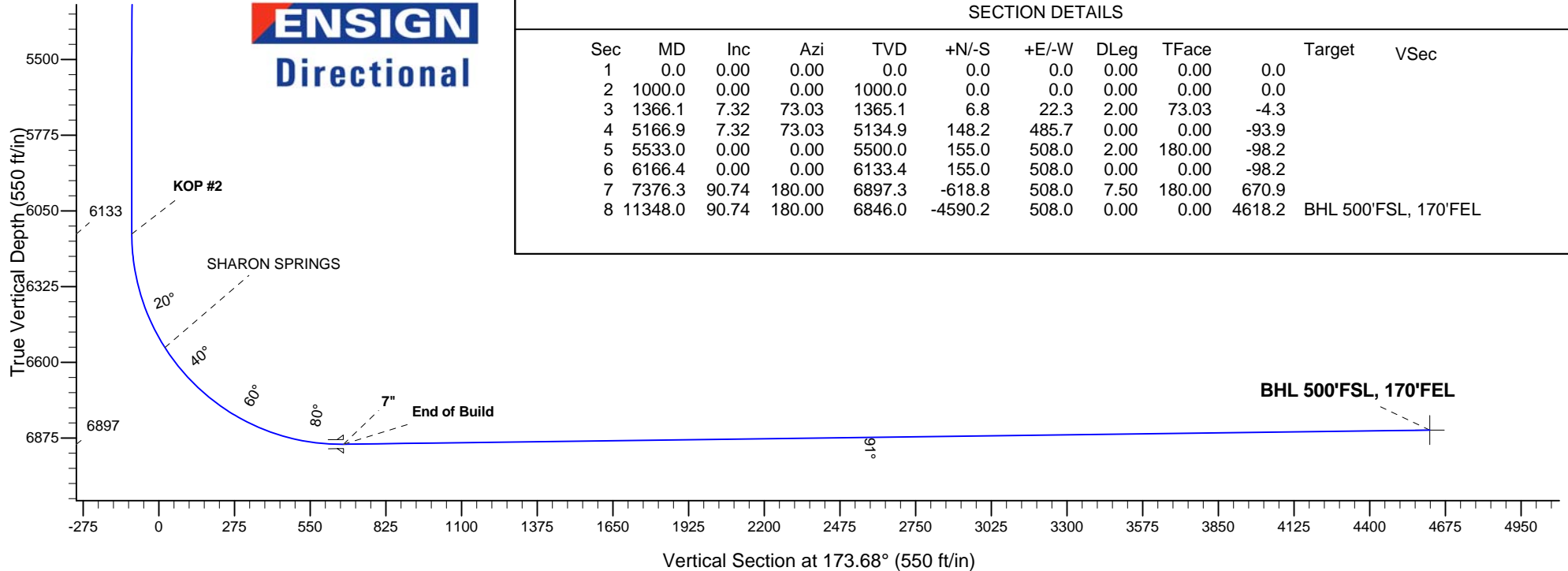
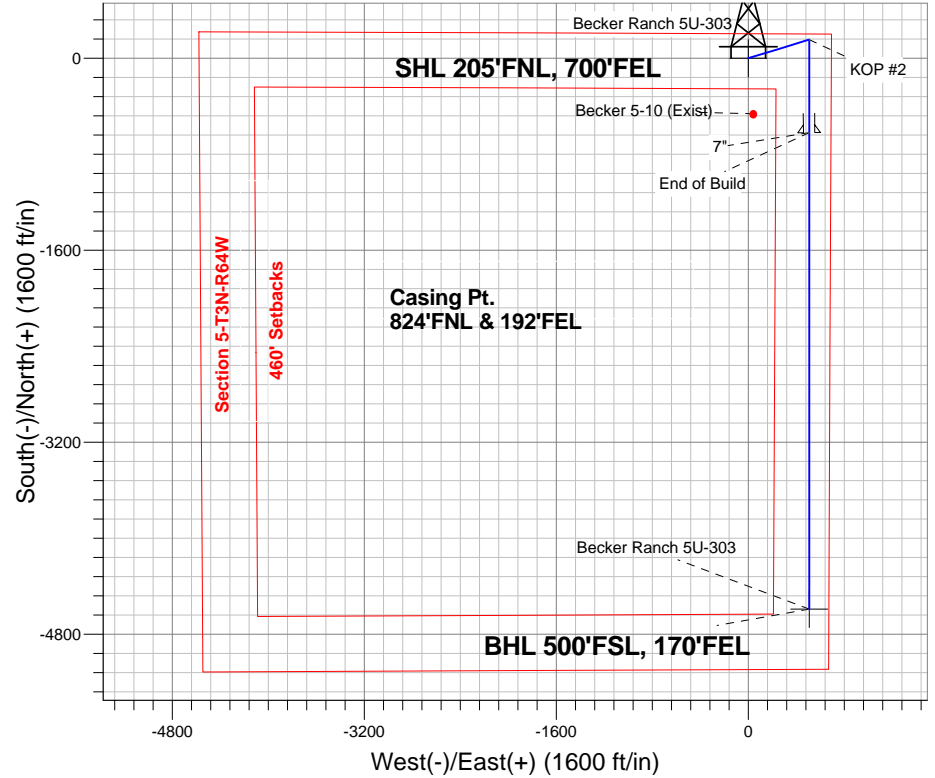


Azimuths to True North  
 Magnetic North: 8.35°  
 Magnetic Field  
 Strength: 52768.6snT  
 Dip Angle: 66.87°  
 Date: 5/28/2014  
 Model: IGRF2010

## ANNOTATIONS

TVD	MD	Annotation
1000.0	1000.0	KOP #1
6133.4	6166.4	KOP #2
6897.3	7376.3	End of Build

Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W  
 Becker Ranch 5U-303  
 Plan #2 (5-28-14)  
 8:54, June 02 2014



## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	Target	VSec
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1366.1	7.32	73.03	1365.1	6.8	22.3	2.00	73.03	-4.3	
4	5166.9	7.32	73.03	5134.9	148.2	485.7	0.00	0.00	-93.9	
5	5533.0	0.00	0.00	5500.0	155.0	508.0	2.00	180.00	-98.2	
6	6166.4	0.00	0.00	6133.4	155.0	508.0	0.00	0.00	-98.2	
7	7376.3	90.74	180.00	6897.3	-618.8	508.0	7.50	180.00	670.9	
8	11348.0	90.74	180.00	6846.0	-4590.2	508.0	0.00	0.00	4618.2	BHL 500'FSL, 170'FEL



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.5-T3N-R64W**

**Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W**

**Becker Ranch 5U-303**

**Wellbore #1**

**Plan: Plan #2 (5-28-14)**

## **Standard Planning Report**

**02 June, 2014**



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5U-303
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Project:</b>	SEC.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Site:</b>	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Becker Ranch 5U-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (5-28-14)		

<b>Project</b>	SEC.5-T3N-R64W, 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		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

<b>Site</b>	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W				
<b>Site Position:</b>		<b>Northing:</b>	1,339,355.73ft	<b>Latitude:</b>	40.261180
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,260,045.36ft	<b>Longitude:</b>	-104.568190
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"	<b>Grid Convergence:</b>	0.60 °

<b>Well</b>	Becker Ranch 5U-303					
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b>	1,339,356.64 ft	<b>Latitude:</b>	40.261180
	<b>+E/-W</b>	89.3 ft	<b>Easting:</b>	3,260,134.66 ft	<b>Longitude:</b>	-104.567870
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	4,783.0 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	5/28/2014	8.35	66.87	52,769

<b>Design</b>	Plan #2 (5-28-14)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	173.68

<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	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,366.1	7.32	73.03	1,365.1	6.8	22.3	2.00	2.00	0.00	73.03	
5,166.9	7.32	73.03	5,134.9	148.2	485.7	0.00	0.00	0.00	0.00	
5,533.0	0.00	0.00	5,500.0	155.0	508.0	2.00	-2.00	0.00	180.00	
6,166.4	0.00	0.00	6,133.4	155.0	508.0	0.00	0.00	0.00	0.00	
7,376.3	90.74	180.00	6,897.3	-618.8	508.0	7.50	7.50	0.00	180.00	
11,348.0	90.74	180.00	6,846.0	-4,590.2	508.0	0.00	0.00	0.00	0.00	BHL 500'FSL, 170'F

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5U-303
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Project:</b>	SEC.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Site:</b>	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Becker Ranch 5U-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (5-28-14)		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00	
<b>SHL 205'FNL, 700'FEL</b>										
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
<b>KOP #1</b>										
1,100.0	2.00	73.03	1,100.0	0.5	1.7	-0.3	2.00	2.00	0.00	
1,200.0	4.00	73.03	1,199.8	2.0	6.7	-1.3	2.00	2.00	0.00	
1,300.0	6.00	73.03	1,299.5	4.6	15.0	-2.9	2.00	2.00	0.00	
1,366.1	7.32	73.03	1,365.1	6.8	22.3	-4.3	2.00	2.00	0.00	
1,400.0	7.32	73.03	1,398.7	8.1	26.5	-5.1	0.00	0.00	0.00	
1,500.0	7.32	73.03	1,497.9	11.8	38.7	-7.5	0.00	0.00	0.00	
1,600.0	7.32	73.03	1,597.1	15.5	50.9	-9.8	0.00	0.00	0.00	
1,700.0	7.32	73.03	1,696.3	19.2	63.0	-12.2	0.00	0.00	0.00	
1,800.0	7.32	73.03	1,795.5	23.0	75.2	-14.5	0.00	0.00	0.00	
1,900.0	7.32	73.03	1,894.7	26.7	87.4	-16.9	0.00	0.00	0.00	
2,000.0	7.32	73.03	1,993.8	30.4	99.6	-19.3	0.00	0.00	0.00	
2,100.0	7.32	73.03	2,093.0	34.1	111.8	-21.6	0.00	0.00	0.00	
2,200.0	7.32	73.03	2,192.2	37.8	124.0	-24.0	0.00	0.00	0.00	
2,300.0	7.32	73.03	2,291.4	41.6	136.2	-26.3	0.00	0.00	0.00	
2,400.0	7.32	73.03	2,390.6	45.3	148.4	-28.7	0.00	0.00	0.00	
2,500.0	7.32	73.03	2,489.8	49.0	160.6	-31.0	0.00	0.00	0.00	
2,600.0	7.32	73.03	2,588.9	52.7	172.8	-33.4	0.00	0.00	0.00	
2,700.0	7.32	73.03	2,688.1	56.4	184.9	-35.7	0.00	0.00	0.00	
2,800.0	7.32	73.03	2,787.3	60.1	197.1	-38.1	0.00	0.00	0.00	
2,900.0	7.32	73.03	2,886.5	63.9	209.3	-40.5	0.00	0.00	0.00	
3,000.0	7.32	73.03	2,985.7	67.6	221.5	-42.8	0.00	0.00	0.00	
3,100.0	7.32	73.03	3,084.9	71.3	233.7	-45.2	0.00	0.00	0.00	
3,200.0	7.32	73.03	3,184.0	75.0	245.9	-47.5	0.00	0.00	0.00	
3,300.0	7.32	73.03	3,283.2	78.7	258.1	-49.9	0.00	0.00	0.00	
3,400.0	7.32	73.03	3,382.4	82.5	270.3	-52.2	0.00	0.00	0.00	
3,500.0	7.32	73.03	3,481.6	86.2	282.5	-54.6	0.00	0.00	0.00	
3,600.0	7.32	73.03	3,580.8	89.9	294.7	-56.9	0.00	0.00	0.00	
3,700.0	7.32	73.03	3,680.0	93.6	306.8	-59.3	0.00	0.00	0.00	
3,720.2	7.32	73.03	3,700.0	94.4	309.3	-59.8	0.00	0.00	0.00	
<b>PARKMAN</b>										
3,800.0	7.32	73.03	3,779.2	97.3	319.0	-61.7	0.00	0.00	0.00	
3,900.0	7.32	73.03	3,878.3	101.1	331.2	-64.0	0.00	0.00	0.00	
4,000.0	7.32	73.03	3,977.5	104.8	343.4	-66.4	0.00	0.00	0.00	
4,100.0	7.32	73.03	4,076.7	108.5	355.6	-68.7	0.00	0.00	0.00	
4,200.0	7.32	73.03	4,175.9	112.2	367.8	-71.1	0.00	0.00	0.00	
4,300.0	7.32	73.03	4,275.1	115.9	380.0	-73.4	0.00	0.00	0.00	
4,400.0	7.32	73.03	4,374.3	119.7	392.2	-75.8	0.00	0.00	0.00	
4,425.9	7.32	73.03	4,400.0	120.6	395.3	-76.4	0.00	0.00	0.00	
<b>SUSSEX</b>										

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<b>Project:</b>	SEC.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Site:</b>	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Becker Ranch 5U-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (5-28-14)		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
4,500.0	7.32	73.03	4,473.4	123.4	404.4	-78.1	0.00	0.00	0.00	
4,600.0	7.32	73.03	4,572.6	127.1	416.6	-80.5	0.00	0.00	0.00	
4,700.0	7.32	73.03	4,671.8	130.8	428.7	-82.9	0.00	0.00	0.00	
4,800.0	7.32	73.03	4,771.0	134.5	440.9	-85.2	0.00	0.00	0.00	
4,900.0	7.32	73.03	4,870.2	138.3	453.1	-87.6	0.00	0.00	0.00	
5,000.0	7.32	73.03	4,969.4	142.0	465.3	-89.9	0.00	0.00	0.00	
5,100.0	7.32	73.03	5,068.6	145.7	477.5	-92.3	0.00	0.00	0.00	
5,131.7	7.32	73.03	5,100.0	146.9	481.4	-93.0	0.00	0.00	0.00	
<b>SHANNON</b>										
5,166.9	7.32	73.03	5,134.9	148.2	485.7	-93.9	0.00	0.00	0.00	
5,200.0	6.66	73.03	5,167.8	149.4	489.5	-94.6	2.00	-2.00	0.00	
5,300.0	4.66	73.03	5,267.3	152.2	498.9	-96.4	2.00	-2.00	0.00	
5,400.0	2.66	73.03	5,367.1	154.1	505.0	-97.6	2.00	-2.00	0.00	
5,500.0	0.66	73.03	5,467.0	154.9	507.8	-98.1	2.00	-2.00	0.00	
5,533.0	0.00	0.00	5,500.0	155.0	508.0	-98.2	2.00	-2.00	0.00	
5,600.0	0.00	0.00	5,567.0	155.0	508.0	-98.2	0.00	0.00	0.00	
5,700.0	0.00	0.00	5,667.0	155.0	508.0	-98.2	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,767.0	155.0	508.0	-98.2	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,867.0	155.0	508.0	-98.2	0.00	0.00	0.00	
6,000.0	0.00	0.00	5,967.0	155.0	508.0	-98.2	0.00	0.00	0.00	
6,100.0	0.00	0.00	6,067.0	155.0	508.0	-98.2	0.00	0.00	0.00	
6,166.4	0.00	0.00	6,133.4	155.0	508.0	-98.2	0.00	0.00	0.00	
<b>KOP #2</b>										
6,200.0	2.52	180.00	6,167.0	154.3	508.0	-97.4	7.50	7.50	0.00	
6,300.0	10.02	180.00	6,266.3	143.3	508.0	-86.6	7.50	7.50	0.00	
6,400.0	17.52	180.00	6,363.4	119.6	508.0	-63.0	7.50	7.50	0.00	
6,500.0	25.02	180.00	6,456.5	83.3	508.0	-26.9	7.50	7.50	0.00	
6,600.0	32.52	180.00	6,544.1	35.2	508.0	20.9	7.50	7.50	0.00	
6,602.2	32.69	180.00	6,546.0	34.0	508.0	22.1	7.50	7.50	0.00	
<b>SHARON SPRINGS</b>										
6,700.0	40.02	180.00	6,624.7	-23.9	508.0	79.6	7.50	7.50	0.00	
6,800.0	47.52	180.00	6,696.8	-93.0	508.0	148.3	7.50	7.50	0.00	
6,900.0	55.02	180.00	6,759.4	-171.0	508.0	225.8	7.50	7.50	0.00	
7,000.0	62.52	180.00	6,811.2	-256.4	508.0	310.8	7.50	7.50	0.00	
7,100.0	70.02	180.00	6,851.4	-347.9	508.0	401.7	7.50	7.50	0.00	
7,200.0	77.52	180.00	6,879.3	-443.9	508.0	497.0	7.50	7.50	0.00	
7,300.0	85.02	180.00	6,894.5	-542.6	508.0	595.2	7.50	7.50	0.00	
7,376.3	90.74	180.00	6,897.3	-618.8	508.0	671.0	7.50	7.50	0.00	
<b>End of Build - 7"</b>										
7,400.0	90.74	180.00	6,897.0	-642.5	508.0	694.5	0.00	0.00	0.00	
7,500.0	90.74	180.00	6,895.7	-742.5	508.0	793.9	0.00	0.00	0.00	
7,600.0	90.74	180.00	6,894.4	-842.5	508.0	893.3	0.00	0.00	0.00	
7,700.0	90.74	180.00	6,893.1	-942.5	508.0	992.7	0.00	0.00	0.00	
7,800.0	90.74	180.00	6,891.8	-1,042.5	508.0	1,092.1	0.00	0.00	0.00	
7,900.0	90.74	180.00	6,890.5	-1,142.5	508.0	1,191.5	0.00	0.00	0.00	
8,000.0	90.74	180.00	6,889.2	-1,242.5	508.0	1,290.8	0.00	0.00	0.00	
8,100.0	90.74	180.00	6,887.9	-1,342.5	508.0	1,390.2	0.00	0.00	0.00	
8,200.0	90.74	180.00	6,886.7	-1,442.5	508.0	1,489.6	0.00	0.00	0.00	
8,300.0	90.74	180.00	6,885.4	-1,542.5	508.0	1,589.0	0.00	0.00	0.00	
8,400.0	90.74	180.00	6,884.1	-1,642.5	508.0	1,688.4	0.00	0.00	0.00	
8,500.0	90.74	180.00	6,882.8	-1,742.5	508.0	1,787.8	0.00	0.00	0.00	
8,600.0	90.74	180.00	6,881.5	-1,842.4	508.0	1,887.1	0.00	0.00	0.00	

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<b>Project:</b>	SEC.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Site:</b>	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Becker Ranch 5U-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (5-28-14)		

**Planned Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,700.0	90.74	180.00	6,880.2	-1,942.4	508.0	1,986.5	0.00	0.00	0.00
8,800.0	90.74	180.00	6,878.9	-2,042.4	508.0	2,085.9	0.00	0.00	0.00
8,900.0	90.74	180.00	6,877.6	-2,142.4	508.0	2,185.3	0.00	0.00	0.00
9,000.0	90.74	180.00	6,876.3	-2,242.4	508.0	2,284.7	0.00	0.00	0.00
9,100.0	90.74	180.00	6,875.0	-2,342.4	508.0	2,384.1	0.00	0.00	0.00
9,200.0	90.74	180.00	6,873.7	-2,442.4	508.0	2,483.5	0.00	0.00	0.00
9,300.0	90.74	180.00	6,872.4	-2,542.4	508.0	2,582.8	0.00	0.00	0.00
9,400.0	90.74	180.00	6,871.2	-2,642.4	508.0	2,682.2	0.00	0.00	0.00
9,500.0	90.74	180.00	6,869.9	-2,742.4	508.0	2,781.6	0.00	0.00	0.00
9,600.0	90.74	180.00	6,868.6	-2,842.4	508.0	2,881.0	0.00	0.00	0.00
9,700.0	90.74	180.00	6,867.3	-2,942.4	508.0	2,980.4	0.00	0.00	0.00
9,800.0	90.74	180.00	6,866.0	-3,042.3	508.0	3,079.8	0.00	0.00	0.00
9,900.0	90.74	180.00	6,864.7	-3,142.3	508.0	3,179.1	0.00	0.00	0.00
10,000.0	90.74	180.00	6,863.4	-3,242.3	508.0	3,278.5	0.00	0.00	0.00
10,100.0	90.74	180.00	6,862.1	-3,342.3	508.0	3,377.9	0.00	0.00	0.00
10,200.0	90.74	180.00	6,860.8	-3,442.3	508.0	3,477.3	0.00	0.00	0.00
10,300.0	90.74	180.00	6,859.5	-3,542.3	508.0	3,576.7	0.00	0.00	0.00
10,400.0	90.74	180.00	6,858.2	-3,642.3	508.0	3,676.1	0.00	0.00	0.00
10,500.0	90.74	180.00	6,857.0	-3,742.3	508.0	3,775.5	0.00	0.00	0.00
10,600.0	90.74	180.00	6,855.7	-3,842.3	508.0	3,874.8	0.00	0.00	0.00
10,700.0	90.74	180.00	6,854.4	-3,942.3	508.0	3,974.2	0.00	0.00	0.00
10,800.0	90.74	180.00	6,853.1	-4,042.3	508.0	4,073.6	0.00	0.00	0.00
10,900.0	90.74	180.00	6,851.8	-4,142.3	508.0	4,173.0	0.00	0.00	0.00
11,000.0	90.74	180.00	6,850.5	-4,242.2	508.0	4,272.4	0.00	0.00	0.00
11,100.0	90.74	180.00	6,849.2	-4,342.2	508.0	4,371.8	0.00	0.00	0.00
11,200.0	90.74	180.00	6,847.9	-4,442.2	508.0	4,471.2	0.00	0.00	0.00
11,300.0	90.74	180.00	6,846.6	-4,542.2	508.0	4,570.5	0.00	0.00	0.00
11,348.0	90.74	180.00	6,846.0	-4,590.2	508.0	4,618.2	0.00	0.00	0.00

**BHL 500'FSL, 170'FEL**

**Casing Points**

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,376.3	6,897.3	7"	7	7-1/2

**Formations**

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,720.2	3,700.0	PARKMAN			
4,425.9	4,400.0	SUSSEX			
5,131.7	5,100.0	SHANNON			
6,602.2	6,546.0	SHARON SPRINGS			

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5U-303
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Project:</b>	SEC.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Site:</b>	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Becker Ranch 5U-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (5-28-14)		

**Plan Annotations**

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,000.0	1,000.0	0.0	0.0	KOP #1
6,166.4	6,133.4	155.0	508.0	KOP #2
7,376.3	6,897.3	-618.8	508.0	End of Build



**Directional**

# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.5-T3N-R64W**

**Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W**

**Becker Ranch 5U-303**

**Wellbore #1**

**Plan #2 (5-28-14)**

## **Anticollision Report**

**02 June, 2014**



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5U-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5U-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-28-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #2 (5-28-14)		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD Interval 100.0ft	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 1,000.0ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	Date 6/2/2014			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	11,348.0	Plan #2 (5-28-14) (Wellbore #1)	MWD	MWD - Standard

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W						
Becker Ranch 5R-203 - Wellbore #1 - Plan #2 (5-28-14)	1,000.0	999.0	120.0	115.7	28.117	CC, ES
Becker Ranch 5R-203 - Wellbore #1 - Plan #2 (5-28-14)	11,348.0	11,252.6	992.0	813.2	5.550	SF
Becker Ranch 5R-323 - Wellbore #1 - Plan #2 (5-28-14)	1,000.0	1,000.0	89.3	85.0	20.913	CC, ES
Becker Ranch 5R-323 - Wellbore #1 - Plan #2 (5-28-14)	11,348.0	11,329.2	778.8	599.5	4.343	SF
Becker Ranch 5U-243 - Wellbore #1 - Plan #1 (5-28-14)	1,000.0	1,001.0	61.4	57.1	14.370	CC, ES
Becker Ranch 5U-243 - Wellbore #1 - Plan #1 (5-28-14)	11,348.0	11,242.4	422.2	246.5	2.404	SF
Becker Ranch 5U-443 - Wellbore #1 - Plan #2 (5-28-14)	1,000.0	1,001.0	30.7	26.4	7.185	CC, ES
Becker Ranch 5U-443 - Wellbore #1 - Plan #2 (5-28-14)	11,348.0	11,407.4	248.4	92.8	1.597	SF
<b>Existing Wells Sec.5-T3N-R64W</b>						
Becker 5-10 (Exist) - Wellbore #1 - Wellbore #1	1,000.0	981.5	464.5	442.8	21.343	CC
Becker 5-10 (Exist) - Wellbore #1 - Wellbore #1	7,219.2	6,864.7	466.1	311.1	3.007	ES, SF

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference Measured Depth (ft)	Vertical Depth (ft)	Offset Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis			Offset Wellbore Centre			Distance			Warning	
				Reference (ft)	Offset (ft)	Highside Toolface (°)	+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	-120.0	120.0					
100.0	100.0	99.0	99.0	0.1	0.1	-89.99	0.0	-120.0	120.0	119.8	0.22	536.612		
200.0	200.0	199.0	199.0	0.3	0.3	-89.99	0.0	-120.0	120.0	119.3	0.67	178.573		
300.0	300.0	299.0	299.0	0.6	0.6	-89.99	0.0	-120.0	120.0	118.9	1.12	107.001		
400.0	400.0	399.0	399.0	0.8	0.8	-89.99	0.0	-120.0	120.0	118.4	1.57	76.385		
500.0	500.0	499.0	499.0	1.0	1.0	-89.99	0.0	-120.0	120.0	118.0	2.02	59.392		
600.0	600.0	599.0	599.0	1.2	1.2	-89.99	0.0	-120.0	120.0	117.5	2.47	48.584		
700.0	700.0	699.0	699.0	1.5	1.5	-89.99	0.0	-120.0	120.0	117.1	2.92	41.103		
800.0	800.0	799.0	799.0	1.7	1.7	-89.99	0.0	-120.0	120.0	116.6	3.37	35.619		
900.0	900.0	899.0	899.0	1.9	1.9	-89.99	0.0	-120.0	120.0	116.2	3.82	31.426		
1,000.0	1,000.0	999.0	999.0	2.1	2.1	-89.99	0.0	-120.0	120.0	115.7	4.27	28.117	CC, ES	
1,100.0	1,100.0	1,095.2	1,095.2	2.4	2.3	-162.94	0.6	-121.5	123.2	118.5	4.69	26.255		
1,200.0	1,199.8	1,190.9	1,190.7	2.6	2.5	-162.70	2.6	-125.8	132.8	127.7	5.10	26.012		
1,300.0	1,299.5	1,286.3	1,285.8	2.8	2.8	-162.36	5.7	-133.0	148.6	143.1	5.52	26.909		
1,400.0	1,398.7	1,384.3	1,383.4	3.0	3.0	-162.29	9.3	-141.3	168.4	162.5	5.94	28.348		

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 Becker Ranch 5U-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5U-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-28-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5R-203 - Wellbore #1 - Plan #2 (5-28-14)	Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (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			
1,500.0	1,497.9	1,482.2	1,480.9	3.3	3.2	-162.37	12.9	-149.6	189.0	182.6	6.37	29.662			
1,600.0	1,597.1	1,580.0	1,578.3	3.6	3.5	-162.43	16.5	-157.9	209.5	202.7	6.81	30.780			
1,700.0	1,696.3	1,677.9	1,675.8	3.8	3.7	-162.48	20.1	-166.2	230.1	222.8	7.25	31.738			
1,800.0	1,795.5	1,775.8	1,773.2	4.1	4.0	-162.53	23.8	-174.5	250.6	242.9	7.70	32.569			
1,900.0	1,894.7	1,873.6	1,870.6	4.4	4.2	-162.56	27.4	-182.8	271.2	263.0	8.15	33.287			
2,000.0	1,993.8	1,971.5	1,968.1	4.7	4.5	-162.60	31.0	-191.1	291.7	283.1	8.60	33.924			
2,100.0	2,093.0	2,069.4	2,065.5	5.0	4.8	-162.62	34.6	-199.3	312.3	303.2	9.06	34.484			
2,200.0	2,192.2	2,167.2	2,163.0	5.3	5.0	-162.65	38.2	-207.6	332.8	323.3	9.51	34.982			
2,300.0	2,291.4	2,265.1	2,260.4	5.6	5.3	-162.67	41.8	-215.9	353.4	343.4	9.97	35.428			
2,400.0	2,390.6	2,363.0	2,357.9	5.9	5.5	-162.69	45.4	-224.2	373.9	363.5	10.44	35.827			
2,500.0	2,489.8	2,460.8	2,455.3	6.3	5.8	-162.71	49.1	-232.5	394.5	383.6	10.90	36.188			
2,600.0	2,588.9	2,558.7	2,552.8	6.6	6.1	-162.72	52.7	-240.8	415.0	403.7	11.37	36.515			
2,700.0	2,688.1	2,656.6	2,650.2	6.9	6.3	-162.74	56.3	-249.1	435.6	423.7	11.83	36.813			
2,800.0	2,787.3	2,754.4	2,747.7	7.2	6.6	-162.75	59.9	-257.3	456.1	443.8	12.30	37.084			
2,900.0	2,886.5	2,852.3	2,845.1	7.5	6.9	-162.76	63.5	-265.6	476.7	463.9	12.77	37.334			
3,000.0	2,985.7	2,950.2	2,942.6	7.8	7.2	-162.77	67.1	-273.9	497.2	484.0	13.24	37.563			
3,100.0	3,084.9	3,048.0	3,040.0	8.2	7.4	-162.78	70.7	-282.2	517.8	504.1	13.71	37.774			
3,200.0	3,184.0	3,145.9	3,137.5	8.5	7.7	-162.79	74.3	-290.5	538.3	524.1	14.18	37.969			
3,300.0	3,283.2	3,243.7	3,234.9	8.8	8.0	-162.80	78.0	-298.8	558.9	544.2	14.65	38.151			
3,400.0	3,382.4	3,341.6	3,332.4	9.1	8.2	-162.81	81.6	-307.1	579.4	564.3	15.12	38.319			
3,500.0	3,481.6	3,439.5	3,429.8	9.4	8.5	-162.81	85.2	-315.3	600.0	584.4	15.59	38.476			
3,600.0	3,580.8	3,537.3	3,527.3	9.8	8.8	-162.82	88.8	-323.6	620.5	604.5	16.07	38.623			
3,700.0	3,680.0	3,635.2	3,624.7	10.1	9.1	-162.83	92.4	-331.9	641.1	624.5	16.54	38.760			
3,800.0	3,779.2	3,733.1	3,722.1	10.4	9.3	-162.83	96.0	-340.2	661.6	644.6	17.01	38.888			
3,900.0	3,878.3	3,830.9	3,819.6	10.7	9.6	-162.84	99.6	-348.5	682.2	664.7	17.49	39.009			
4,000.0	3,977.5	3,928.8	3,917.0	11.0	9.9	-162.84	103.2	-356.8	702.7	684.8	17.96	39.123			
4,100.0	4,076.7	4,026.7	4,014.5	11.4	10.2	-162.85	106.9	-365.1	723.3	704.8	18.44	39.230			
4,200.0	4,175.9	4,124.5	4,111.9	11.7	10.4	-162.85	110.5	-373.4	743.8	724.9	18.91	39.331			
4,300.0	4,275.1	4,222.4	4,209.4	12.0	10.7	-162.86	114.1	-381.6	764.4	745.0	19.39	39.426			
4,400.0	4,374.3	4,320.3	4,306.8	12.3	11.0	-162.86	117.7	-389.9	784.9	765.1	19.86	39.516			
4,500.0	4,473.4	4,418.1	4,404.3	12.7	11.3	-162.87	121.3	-398.2	805.5	785.1	20.34	39.602			
4,600.0	4,572.6	4,516.0	4,501.7	13.0	11.5	-162.87	124.9	-406.5	826.0	805.2	20.82	39.683			
4,700.0	4,671.8	4,613.9	4,599.2	13.3	11.8	-162.87	128.5	-414.8	846.6	825.3	21.29	39.761			
4,800.0	4,771.0	4,711.7	4,696.6	13.6	12.1	-162.88	132.1	-423.1	867.1	845.3	21.77	39.834			
4,900.0	4,870.2	4,809.6	4,794.1	14.0	12.4	-162.88	135.8	-431.4	887.7	865.4	22.25	39.904			
5,000.0	4,969.4	4,907.5	4,891.5	14.3	12.6	-162.88	139.4	-439.6	908.2	885.5	22.72	39.970			
5,100.0	5,068.6	5,005.3	4,989.0	14.6	12.9	-162.89	143.0	-447.9	928.8	905.6	23.20	40.034			
5,200.0	5,167.8	5,103.2	5,086.4	14.9	13.2	-162.93	146.6	-456.2	949.1	925.4	23.69	40.064			
5,300.0	5,267.3	5,201.6	5,184.4	15.1	13.5	-162.98	150.2	-464.5	967.0	942.8	24.17	40.009			
5,400.0	5,367.1	5,322.4	5,304.7	15.3	13.8	-162.95	154.4	-474.0	981.0	956.3	24.65	39.801			
5,500.0	5,467.0	5,468.1	5,450.3	15.5	14.0	-162.92	156.8	-479.7	987.7	962.6	25.09	39.363			
5,600.0	5,567.0	5,583.8	5,566.0	15.7	14.2	-89.88	157.0	-480.1	988.1	962.6	25.48	38.774			
5,700.0	5,667.0	5,683.8	5,666.0	15.8	14.4	-89.88	157.0	-480.1	988.1	962.2	25.88	38.174			
5,800.0	5,767.0	5,783.8	5,766.0	16.0	14.6	-89.88	157.0	-480.1	988.1	961.8	26.29	37.588			
5,900.0	5,867.0	5,883.8	5,866.0	16.2	14.8	-89.88	157.0	-480.1	988.1	961.4	26.69	37.017			
6,000.0	5,967.0	5,983.8	5,966.0	16.3	15.0	-89.88	157.0	-480.1	988.1	961.0	27.10	36.462			
6,100.0	6,067.0	6,083.9	6,066.0	16.5	15.1	-89.89	156.9	-480.1	988.1	960.6	27.50	35.925			
6,139.9	6,106.9	6,123.8	6,106.0	16.6	15.2	90.03	155.1	-480.1	988.1	960.5	27.65	35.739			
6,200.0	6,167.0	6,183.4	6,165.2	16.7	15.3	89.67	148.6	-480.1	988.1	960.3	27.85	35.485			
6,300.0	6,266.3	6,281.5	6,261.0	16.8	15.4	89.08	128.0	-480.1	988.2	960.1	28.09	35.180			
6,400.0	6,363.4	6,378.3	6,352.2	16.9	15.5	88.51	95.7	-480.1	988.5	960.2	28.28	34.948			

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 Becker Ranch 5U-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5U-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-28-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5R-203 - Wellbore #1 - Plan #2 (5-28-14)	Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (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			
6,500.0	6,456.5	6,474.0	6,437.7	17.0	15.6	87.96	52.8	-480.1	988.7	960.3	28.47	34.726			
6,600.0	6,544.1	6,568.7	6,516.3	17.1	15.7	87.45	0.1	-480.1	989.1	960.4	28.72	34.440			
6,700.0	6,624.7	6,662.4	6,587.1	17.2	15.8	86.98	-61.3	-480.1	989.5	960.4	29.10	34.004			
6,800.0	6,696.8	6,755.4	6,649.3	17.3	16.0	86.56	-130.2	-480.1	989.9	960.2	29.67	33.358			
6,900.0	6,759.4	6,847.6	6,702.4	17.6	16.3	86.20	-205.5	-480.1	990.3	959.8	30.51	32.460			
7,000.0	6,811.2	6,939.3	6,745.8	17.9	16.7	85.90	-286.2	-480.1	990.7	959.0	31.64	31.309			
7,100.0	6,851.4	7,030.4	6,779.0	18.5	17.4	85.66	-371.1	-480.1	991.0	957.9	33.09	29.951			
7,200.0	6,879.3	7,121.3	6,801.9	19.2	18.2	85.49	-458.9	-480.1	991.2	956.4	34.83	28.459			
7,300.0	6,894.5	7,211.9	6,814.1	20.2	19.1	85.40	-548.7	-480.1	991.3	954.5	36.84	26.910			
7,400.0	6,897.0	7,304.7	6,816.0	21.3	20.2	85.37	-641.4	-480.1	991.4	952.3	39.10	25.354			
7,500.0	6,895.7	7,404.7	6,814.5	22.4	21.5	85.36	-741.4	-480.1	991.4	949.7	41.67	23.790			
7,600.0	6,894.4	7,504.7	6,813.0	23.7	22.8	85.35	-841.3	-480.1	991.4	947.0	44.42	22.317			
7,700.0	6,893.1	7,604.7	6,811.6	25.1	24.2	85.34	-941.3	-480.1	991.4	944.1	47.33	20.949			
7,800.0	6,891.8	7,704.7	6,810.1	26.6	25.7	85.33	-1,041.3	-480.1	991.4	941.1	50.35	19.690			
7,900.0	6,890.5	7,804.7	6,808.6	28.1	27.3	85.32	-1,141.3	-480.1	991.4	938.0	53.48	18.539			
8,000.0	6,889.2	7,904.7	6,807.2	29.6	28.9	85.31	-1,241.3	-480.1	991.4	934.8	56.69	17.488			
8,100.0	6,887.9	8,004.7	6,805.7	31.2	30.5	85.30	-1,341.3	-480.1	991.5	931.5	59.98	16.530			
8,200.0	6,886.7	8,104.7	6,804.2	32.8	32.2	85.29	-1,441.3	-480.1	991.5	928.2	63.32	15.657			
8,300.0	6,885.4	8,204.7	6,802.8	34.5	33.9	85.28	-1,541.3	-480.1	991.5	924.8	66.72	14.860			
8,400.0	6,884.1	8,304.7	6,801.3	36.2	35.6	85.27	-1,641.3	-480.1	991.5	921.3	70.16	14.131			
8,500.0	6,882.8	8,404.7	6,799.8	37.9	37.3	85.26	-1,741.2	-480.1	991.5	917.9	73.64	13.464			
8,600.0	6,881.5	8,504.7	6,798.4	39.6	39.0	85.25	-1,841.2	-480.1	991.5	914.4	77.15	12.851			
8,700.0	6,880.2	8,604.7	6,796.9	41.3	40.8	85.24	-1,941.2	-480.1	991.6	910.9	80.69	12.288			
8,800.0	6,878.9	8,704.7	6,795.4	43.1	42.6	85.23	-2,041.2	-480.1	991.6	907.3	84.26	11.768			
8,900.0	6,877.6	8,804.7	6,794.0	44.9	44.4	85.22	-2,141.2	-480.1	991.6	903.7	87.85	11.288			
9,000.0	6,876.3	8,904.7	6,792.5	46.6	46.2	85.21	-2,241.2	-480.1	991.6	900.1	91.45	10.843			
9,100.0	6,875.0	9,004.7	6,791.0	48.4	48.0	85.20	-2,341.2	-480.1	991.6	896.5	95.08	10.430			
9,200.0	6,873.7	9,104.7	6,789.6	50.2	49.8	85.19	-2,441.2	-480.1	991.6	892.9	98.71	10.045			
9,300.0	6,872.4	9,204.7	6,788.1	52.0	51.6	85.18	-2,541.2	-480.1	991.6	889.3	102.37	9.687			
9,400.0	6,871.2	9,304.7	6,786.6	53.8	53.4	85.17	-2,641.2	-480.1	991.7	885.6	106.03	9.353			
9,500.0	6,869.9	9,404.7	6,785.2	55.7	55.3	85.16	-2,741.1	-480.1	991.7	882.0	109.70	9.040			
9,600.0	6,868.6	9,504.7	6,783.7	57.5	57.1	85.15	-2,841.1	-480.1	991.7	878.3	113.39	8.746			
9,700.0	6,867.3	9,604.7	6,782.2	59.3	59.0	85.14	-2,941.1	-480.1	991.7	874.6	117.08	8.470			
9,800.0	6,866.0	9,704.7	6,780.8	61.2	60.8	85.13	-3,041.1	-480.1	991.7	870.9	120.78	8.211			
9,900.0	6,864.7	9,804.7	6,779.3	63.0	62.7	85.12	-3,141.1	-480.1	991.7	867.2	124.49	7.966			
10,000.0	6,863.4	9,904.7	6,777.8	64.9	64.5	85.11	-3,241.1	-480.1	991.8	863.5	128.21	7.736			
10,100.0	6,862.1	10,004.7	6,776.4	66.7	66.4	85.10	-3,341.1	-480.1	991.8	859.8	131.93	7.517			
10,200.0	6,860.8	10,104.7	6,774.9	68.6	68.3	85.09	-3,441.1	-480.1	991.8	856.1	135.66	7.311			
10,300.0	6,859.5	10,204.7	6,773.4	70.4	70.1	85.08	-3,541.1	-480.1	991.8	852.4	139.39	7.115			
10,400.0	6,858.2	10,304.7	6,772.0	72.3	72.0	85.07	-3,641.0	-480.1	991.8	848.7	143.13	6.930			
10,500.0	6,857.0	10,404.7	6,770.5	74.2	73.9	85.06	-3,741.0	-480.1	991.8	845.0	146.87	6.753			
10,600.0	6,855.7	10,504.7	6,769.0	76.0	75.7	85.05	-3,841.0	-480.1	991.8	841.2	150.61	6.585			
10,700.0	6,854.4	10,604.7	6,767.6	77.9	77.6	85.04	-3,941.0	-480.1	991.9	837.5	154.36	6.426			
10,800.0	6,853.1	10,704.7	6,766.1	79.8	79.5	85.03	-4,041.0	-480.1	991.9	833.8	158.11	6.273			
10,900.0	6,851.8	10,804.7	6,764.6	81.7	81.4	85.02	-4,141.0	-480.1	991.9	830.0	161.87	6.128			
11,000.0	6,850.5	10,904.7	6,763.2	83.5	83.3	85.01	-4,241.0	-480.1	991.9	826.3	165.63	5.989			
11,100.0	6,849.2	11,004.7	6,761.7	85.4	85.1	85.00	-4,341.0	-480.1	991.9	822.5	169.39	5.856			
11,200.0	6,847.9	11,104.7	6,760.2	87.3	87.0	84.99	-4,441.0	-480.1	991.9	818.8	173.15	5.729			
11,300.0	6,846.6	11,204.7	6,758.8	89.2	88.9	84.98	-4,540.9	-480.1	992.0	815.0	176.92	5.607			
11,348.0	6,846.0	11,252.6	6,758.1	90.1	89.8	84.97	-4,588.9	-480.1	992.0	813.2	178.73	5.550 SF			

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5U-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5U-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-28-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5R-323 - Wellbore #1 - Plan #2 (5-28-14)	Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (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	-89.3	89.3						
100.0	100.0	100.0	100.0	0.1	0.1	-90.00	0.0	-89.3	89.3	89.1	0.22	397.346			
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	0.0	-89.3	89.3	88.6	0.67	132.449			
300.0	300.0	300.0	300.0	0.6	0.6	-90.00	0.0	-89.3	89.3	88.2	1.12	79.469			
400.0	400.0	400.0	400.0	0.8	0.8	-90.00	0.0	-89.3	89.3	87.7	1.57	56.764			
500.0	500.0	500.0	500.0	1.0	1.0	-90.00	0.0	-89.3	89.3	87.3	2.02	44.150			
600.0	600.0	600.0	600.0	1.2	1.2	-90.00	0.0	-89.3	89.3	86.8	2.47	36.122			
700.0	700.0	700.0	700.0	1.5	1.5	-90.00	0.0	-89.3	89.3	86.4	2.92	30.565			
800.0	800.0	800.0	800.0	1.7	1.7	-90.00	0.0	-89.3	89.3	85.9	3.37	26.490			
900.0	900.0	900.0	900.0	1.9	1.9	-90.00	0.0	-89.3	89.3	85.5	3.82	23.373			
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-90.00	0.0	-89.3	89.3	85.0	4.27	20.913 CC, ES			
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	-163.34	0.0	-89.3	91.0	86.3	4.71	19.319			
1,200.0	1,199.8	1,199.8	1,199.8	2.6	2.6	-164.21	0.0	-89.3	96.0	90.9	5.14	18.688			
1,300.0	1,299.5	1,299.5	1,299.5	2.8	2.8	-165.47	0.0	-89.3	104.4	98.9	5.56	18.769			
1,400.0	1,398.7	1,398.7	1,398.7	3.0	3.0	-166.92	0.0	-89.3	116.1	110.1	5.99	19.372			
1,500.0	1,497.9	1,497.9	1,497.9	3.3	3.3	-168.20	0.0	-89.3	128.5	122.1	6.43	19.985			
1,600.0	1,597.1	1,597.1	1,597.1	3.6	3.5	-169.26	0.0	-89.3	141.0	134.1	6.87	20.517			
1,700.0	1,696.3	1,696.3	1,696.3	3.8	3.7	-170.15	0.0	-89.3	153.6	146.2	7.32	20.983			
1,800.0	1,795.5	1,795.5	1,795.5	4.1	3.9	-170.90	0.0	-89.3	166.1	158.4	7.77	21.393			
1,900.0	1,894.7	1,894.7	1,894.7	4.4	4.1	-171.55	0.0	-89.3	178.7	170.5	8.22	21.757			
2,000.0	1,993.8	1,993.8	1,993.8	4.7	4.4	-172.11	0.0	-89.3	191.4	182.7	8.67	22.081			
2,100.0	2,093.0	2,093.0	2,093.0	5.0	4.6	-172.60	0.0	-89.3	204.0	194.9	9.12	22.372			
2,200.0	2,192.2	2,192.2	2,192.2	5.3	4.8	-173.03	0.0	-89.3	216.6	207.1	9.57	22.634			
2,300.0	2,291.4	2,291.4	2,291.4	5.6	5.0	-173.42	0.0	-89.3	229.3	219.3	10.03	22.871			
2,400.0	2,390.6	2,390.6	2,390.6	5.9	5.3	-173.76	0.0	-89.3	242.0	231.5	10.48	23.087			
2,500.0	2,489.8	2,489.8	2,489.8	6.3	5.5	-174.08	0.0	-89.3	254.6	243.7	10.94	23.284			
2,600.0	2,588.9	2,588.9	2,588.9	6.6	5.7	-174.36	0.0	-89.3	267.3	255.9	11.39	23.464			
2,700.0	2,688.1	2,688.1	2,688.1	6.9	5.9	-174.61	0.0	-89.3	280.0	268.2	11.85	23.630			
2,800.0	2,787.3	2,787.3	2,787.3	7.2	6.2	-174.85	0.0	-89.3	292.7	280.4	12.31	23.783			
2,900.0	2,886.5	2,886.5	2,886.5	7.5	6.4	-175.06	0.0	-89.3	305.4	292.6	12.76	23.925			
3,000.0	2,985.7	2,985.7	2,985.7	7.8	6.6	-175.26	0.0	-89.3	318.1	304.9	13.22	24.056			
3,100.0	3,084.9	3,079.3	3,079.3	8.2	6.8	-175.28	0.7	-90.1	331.5	317.8	13.67	24.258			
3,200.0	3,184.0	3,171.5	3,171.4	8.5	7.0	-174.90	3.4	-93.2	346.8	332.7	14.10	24.592			
3,300.0	3,283.2	3,263.0	3,262.6	8.8	7.2	-174.19	7.9	-98.5	364.1	349.6	14.54	25.041			
3,400.0	3,382.4	3,357.0	3,356.1	9.1	7.4	-173.19	14.3	-105.9	383.2	368.2	14.99	25.569			
3,500.0	3,481.6	3,454.8	3,453.4	9.4	7.6	-172.21	21.2	-114.0	402.7	387.3	15.44	26.075			
3,600.0	3,580.8	3,552.7	3,550.6	9.8	7.9	-171.32	28.1	-122.0	422.3	406.4	15.90	26.553			
3,700.0	3,680.0	3,650.5	3,647.9	10.1	8.1	-170.50	35.1	-130.1	442.0	425.6	16.37	27.003			
3,800.0	3,779.2	3,748.4	3,745.2	10.4	8.3	-169.76	42.0	-138.2	461.8	444.9	16.84	27.429			
3,900.0	3,878.3	3,846.3	3,842.5	10.7	8.6	-169.07	48.9	-146.2	481.6	464.3	17.31	27.831			
4,000.0	3,977.5	3,944.1	3,939.7	11.0	8.8	-168.44	55.9	-154.3	501.5	483.7	17.78	28.211			
4,100.0	4,076.7	4,042.0	4,037.0	11.4	9.1	-167.86	62.8	-162.3	521.5	503.2	18.25	28.571			
4,200.0	4,175.9	4,139.8	4,134.3	11.7	9.3	-167.32	69.8	-170.4	541.5	522.8	18.73	28.913			
4,300.0	4,275.1	4,237.7	4,231.6	12.0	9.6	-166.82	76.7	-178.5	561.5	542.3	19.21	29.237			
4,400.0	4,374.3	4,335.5	4,328.8	12.3	9.8	-166.35	83.6	-186.5	581.6	561.9	19.69	29.545			
4,500.0	4,473.4	4,433.4	4,426.1	12.7	10.1	-165.92	90.6	-194.6	601.7	581.6	20.17	29.838			
4,600.0	4,572.6	4,531.2	4,523.4	13.0	10.4	-165.51	97.5	-202.7	621.9	601.2	20.65	30.117			
4,700.0	4,671.8	4,629.1	4,620.7	13.3	10.6	-165.13	104.4	-210.7	642.1	620.9	21.13	30.382			
4,800.0	4,771.0	4,727.0	4,717.9	13.6	10.9	-164.77	111.4	-218.8	662.3	640.7	21.62	30.635			
4,900.0	4,870.2	4,824.8	4,815.2	14.0	11.2	-164.43	118.3	-226.9	682.5	660.4	22.10	30.877			
5,000.0	4,969.4	4,922.7	4,912.5	14.3	11.4	-164.12	125.2	-234.9	702.8	680.2	22.59	31.108			

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 Becker Ranch 5U-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5U-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-28-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5R-323 - Wellbore #1 - Plan #2 (5-28-14)	Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (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			
5,100.0	5,068.6	5,020.5	5,009.8	14.6	11.7	-163.82	132.2	-243.0	723.0	700.0	23.08	31.329			
5,200.0	5,167.8	5,118.4	5,107.1	14.9	12.0	-163.56	139.1	-251.1	743.1	719.6	23.58	31.521			
5,300.0	5,267.3	5,220.9	5,208.9	15.1	12.2	-163.32	146.3	-259.5	760.7	736.6	24.06	31.619			
5,400.0	5,367.1	5,345.2	5,332.9	15.3	12.5	-163.08	152.8	-267.0	772.8	748.3	24.52	31.515			
5,500.0	5,467.0	5,470.9	5,458.4	15.5	12.7	-162.97	155.8	-270.5	778.3	753.4	24.93	31.227			
5,600.0	5,567.0	5,579.4	5,567.0	15.7	12.9	-89.93	156.0	-270.7	778.7	753.4	25.31	30.772			
5,700.0	5,667.0	5,679.4	5,667.0	15.8	13.1	-89.93	156.0	-270.7	778.7	753.0	25.71	30.282			
5,800.0	5,767.0	5,779.4	5,767.0	16.0	13.4	-89.93	156.0	-270.7	778.7	752.6	26.13	29.802			
5,900.0	5,867.0	5,879.4	5,867.0	16.2	13.6	-89.93	156.0	-270.7	778.7	752.2	26.55	29.335			
6,000.0	5,967.0	5,979.4	5,967.0	16.3	13.8	-89.93	156.0	-270.7	778.7	751.7	26.96	28.881			
6,100.0	6,067.0	6,079.4	6,067.0	16.5	14.0	-89.93	156.0	-270.7	778.7	751.3	27.38	28.440			
6,127.6	6,094.6	6,107.1	6,094.6	16.6	14.0	90.09	156.0	-270.7	778.7	751.2	27.49	28.322			
6,200.0	6,167.0	6,179.5	6,167.0	16.7	14.2	90.08	155.3	-270.7	778.7	750.9	27.78	28.036			
6,300.0	6,266.3	6,279.6	6,266.5	16.8	14.3	90.08	144.5	-270.7	778.7	750.7	28.05	27.760			
6,400.0	6,363.4	6,379.8	6,363.7	16.9	14.4	90.09	120.7	-270.7	778.7	750.5	28.26	27.556			
6,500.0	6,456.5	6,479.9	6,457.0	17.0	14.5	90.09	84.4	-270.7	778.7	750.3	28.44	27.380			
6,600.0	6,544.1	6,580.1	6,544.8	17.1	14.6	90.09	36.3	-270.7	778.7	750.1	28.66	27.171			
6,700.0	6,624.7	6,680.3	6,625.5	17.2	14.7	90.09	-22.9	-270.7	778.7	749.7	28.99	26.857			
6,800.0	6,696.8	6,780.4	6,697.7	17.3	14.9	90.09	-92.2	-270.7	778.7	749.2	29.53	26.373			
6,900.0	6,759.4	6,880.6	6,760.3	17.6	15.2	90.09	-170.3	-270.7	778.7	748.4	30.33	25.675			
7,000.0	6,811.2	6,980.7	6,812.2	17.9	15.7	90.08	-255.9	-270.7	778.7	747.3	31.46	24.755			
7,100.0	6,851.4	7,080.9	6,852.4	18.5	16.5	90.08	-347.5	-270.7	778.7	745.8	32.93	23.646			
7,200.0	6,879.3	7,181.0	6,880.2	19.2	17.4	90.07	-443.6	-270.7	778.7	744.0	34.75	22.409			
7,300.0	6,894.5	7,281.1	6,895.3	20.2	18.4	90.06	-542.5	-270.7	778.7	741.9	36.87	21.121			
7,400.0	6,897.0	7,381.2	6,897.7	21.3	19.6	90.05	-642.5	-270.7	778.7	739.5	39.23	19.849			
7,500.0	6,895.7	7,481.2	6,896.4	22.4	20.9	90.05	-742.5	-270.7	778.7	736.9	41.82	18.622			
7,600.0	6,894.4	7,581.2	6,895.1	23.7	22.3	90.05	-842.5	-270.7	778.7	734.2	44.58	17.470			
7,700.0	6,893.1	7,681.2	6,893.8	25.1	23.8	90.05	-942.5	-270.7	778.7	731.2	47.49	16.399			
7,800.0	6,891.8	7,781.2	6,892.5	26.6	25.3	90.05	-1,042.5	-270.7	778.7	728.2	50.52	15.415			
7,900.0	6,890.5	7,881.2	6,891.2	28.1	26.8	90.05	-1,142.5	-270.7	778.7	725.1	53.66	14.514			
8,000.0	6,889.2	7,981.2	6,889.9	29.6	28.4	90.05	-1,242.5	-270.7	778.7	721.9	56.88	13.691			
8,100.0	6,887.9	8,081.2	6,888.6	31.2	30.1	90.05	-1,342.5	-270.7	778.7	718.6	60.17	12.942			
8,200.0	6,886.7	8,181.2	6,887.3	32.8	31.8	90.04	-1,442.5	-270.7	778.7	715.2	63.53	12.258			
8,300.0	6,885.4	8,281.2	6,885.9	34.5	33.5	90.04	-1,542.5	-270.7	778.7	711.8	66.94	11.634			
8,400.0	6,884.1	8,381.2	6,884.6	36.2	35.2	90.04	-1,642.5	-270.7	778.7	708.4	70.39	11.063			
8,500.0	6,882.8	8,481.2	6,883.3	37.9	36.9	90.04	-1,742.5	-270.7	778.7	704.9	73.88	10.541			
8,600.0	6,881.5	8,581.2	6,882.0	39.6	38.7	90.04	-1,842.4	-270.7	778.7	701.3	77.40	10.061			
8,700.0	6,880.2	8,681.2	6,880.7	41.3	40.5	90.04	-1,942.4	-270.7	778.7	697.8	80.95	9.620			
8,800.0	6,878.9	8,781.2	6,879.4	43.1	42.3	90.04	-2,042.4	-270.7	778.8	694.2	84.53	9.213			
8,900.0	6,877.6	8,881.2	6,878.1	44.9	44.1	90.03	-2,142.4	-270.7	778.8	690.6	88.13	8.836			
9,000.0	6,876.3	8,981.2	6,876.8	46.6	45.9	90.03	-2,242.4	-270.7	778.8	687.0	91.75	8.488			
9,100.0	6,875.0	9,081.2	6,875.5	48.4	47.7	90.03	-2,342.4	-270.7	778.8	683.4	95.38	8.165			
9,200.0	6,873.7	9,181.2	6,874.2	50.2	49.5	90.03	-2,442.4	-270.7	778.8	679.7	99.03	7.864			
9,300.0	6,872.4	9,281.2	6,872.9	52.0	51.3	90.03	-2,542.4	-270.7	778.8	676.1	102.70	7.583			
9,400.0	6,871.2	9,381.2	6,871.5	53.8	53.2	90.03	-2,642.4	-270.7	778.8	672.4	106.37	7.321			
9,500.0	6,869.9	9,481.2	6,870.2	55.7	55.0	90.03	-2,742.4	-270.7	778.8	668.7	110.06	7.076			
9,600.0	6,868.6	9,581.2	6,868.9	57.5	56.9	90.03	-2,842.4	-270.7	778.8	665.0	113.76	6.846			
9,700.0	6,867.3	9,681.2	6,867.6	59.3	58.7	90.02	-2,942.3	-270.7	778.8	661.3	117.46	6.630			
9,800.0	6,866.0	9,781.2	6,866.3	61.2	60.6	90.02	-3,042.3	-270.7	778.8	657.6	121.18	6.427			
9,900.0	6,864.7	9,881.2	6,865.0	63.0	62.4	90.02	-3,142.3	-270.7	778.8	653.9	124.90	6.235			
10,000.0	6,863.4	9,981.2	6,863.7	64.9	64.3	90.02	-3,242.3	-270.7	778.8	650.1	128.63	6.054			

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 Becker Ranch 5U-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5U-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-28-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5R-323 - Wellbore #1 - Plan #2 (5-28-14)	Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (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			
10,100.0	6,862.1	10,081.2	6,862.4	66.7	66.2	90.02	-3,342.3	-270.7	778.8	646.4	132.36	5.884			
10,200.0	6,860.8	10,181.2	6,861.1	68.6	68.0	90.02	-3,442.3	-270.7	778.8	642.7	136.10	5.722			
10,300.0	6,859.5	10,281.2	6,859.8	70.4	69.9	90.02	-3,542.3	-270.7	778.8	638.9	139.85	5.569			
10,400.0	6,858.2	10,381.2	6,858.5	72.3	71.8	90.02	-3,642.3	-270.7	778.8	635.2	143.60	5.423			
10,500.0	6,857.0	10,481.2	6,857.1	74.2	73.7	90.01	-3,742.3	-270.7	778.8	631.4	147.36	5.285			
10,600.0	6,855.7	10,581.2	6,855.8	76.0	75.6	90.01	-3,842.3	-270.7	778.8	627.7	151.12	5.154			
10,700.0	6,854.4	10,681.2	6,854.5	77.9	77.4	90.01	-3,942.3	-270.7	778.8	623.9	154.88	5.028			
10,800.0	6,853.1	10,781.2	6,853.2	79.8	79.3	90.01	-4,042.3	-270.7	778.8	620.1	158.65	4.909			
10,900.0	6,851.8	10,881.2	6,851.9	81.7	81.2	90.01	-4,142.2	-270.7	778.8	616.4	162.42	4.795			
11,000.0	6,850.5	10,981.2	6,850.6	83.5	83.1	90.01	-4,242.2	-270.8	778.8	612.6	166.19	4.686			
11,100.0	6,849.2	11,081.2	6,849.3	85.4	85.0	90.01	-4,342.2	-270.8	778.8	608.8	169.97	4.582			
11,200.0	6,847.9	11,181.2	6,848.0	87.3	86.9	90.01	-4,442.2	-270.8	778.8	605.1	173.74	4.482			
11,300.0	6,846.6	11,281.2	6,846.7	89.2	88.8	90.00	-4,542.2	-270.8	778.8	601.3	177.53	4.387			
11,348.0	6,846.0	11,329.2	6,846.0	90.1	89.7	90.00	-4,590.2	-270.8	778.8	599.5	179.34	4.343 SF			

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5U-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5U-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-28-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5U-243 - Wellbore #1 - Plan #1 (5-28-14)	Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (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	1.0	1.0	0.0	0.0	-90.00	0.0	-61.4	61.4	61.4	0.00	N/A			
100.0	100.0	101.0	101.0	0.1	0.1	-90.00	0.0	-61.4	61.4	61.2	0.23	270.471			
200.0	200.0	201.0	201.0	0.3	0.3	-90.00	0.0	-61.4	61.4	60.7	0.68	90.756			
300.0	300.0	301.0	301.0	0.6	0.6	-90.00	0.0	-61.4	61.4	60.3	1.13	54.526			
400.0	400.0	401.0	401.0	0.8	0.8	-90.00	0.0	-61.4	61.4	59.8	1.58	38.969			
500.0	500.0	501.0	501.0	1.0	1.0	-90.00	0.0	-61.4	61.4	59.4	2.03	30.319			
600.0	600.0	601.0	601.0	1.2	1.2	-90.00	0.0	-61.4	61.4	58.9	2.47	24.812			
700.0	700.0	701.0	701.0	1.5	1.5	-90.00	0.0	-61.4	61.4	58.5	2.92	20.997			
800.0	800.0	801.0	801.0	1.7	1.7	-90.00	0.0	-61.4	61.4	58.0	3.37	18.200			
900.0	900.0	901.0	901.0	1.9	1.9	-90.00	0.0	-61.4	61.4	57.6	3.82	16.060			
1,000.0	1,000.0	1,001.0	1,001.0	2.1	2.1	-90.00	0.0	-61.4	61.4	57.1	4.27	14.370	CC, ES		
1,100.0	1,100.0	1,101.0	1,101.0	2.4	2.4	-163.49	0.0	-61.4	63.1	58.4	4.71	13.387			
1,200.0	1,199.8	1,200.8	1,200.8	2.6	2.6	-164.71	0.0	-61.4	68.1	63.0	5.14	13.251			
1,300.0	1,299.5	1,300.5	1,300.5	2.8	2.8	-166.39	0.0	-61.4	76.5	71.0	5.57	13.754			
1,400.0	1,398.7	1,399.7	1,399.7	3.0	3.0	-168.19	0.0	-61.4	88.2	82.3	5.99	14.724			
1,500.0	1,497.9	1,498.9	1,498.9	3.3	3.3	-169.68	0.0	-61.4	100.8	94.3	6.43	15.665			
1,600.0	1,597.1	1,598.1	1,598.1	3.6	3.5	-170.83	0.0	-61.4	113.3	106.4	6.87	16.484			
1,700.0	1,696.3	1,697.3	1,697.3	3.8	3.7	-171.75	0.0	-61.4	125.9	118.6	7.32	17.203			
1,800.0	1,795.5	1,796.5	1,796.5	4.1	3.9	-172.51	0.0	-61.4	138.6	130.8	7.77	17.838			
1,900.0	1,894.7	1,895.7	1,895.7	4.4	4.1	-173.14	0.0	-61.4	151.2	143.0	8.22	18.402			
2,000.0	1,993.8	1,994.8	1,994.8	4.7	4.4	-173.67	0.0	-61.4	163.9	155.2	8.67	18.907			
2,100.0	2,093.0	2,099.1	2,099.0	5.0	4.6	-173.84	1.2	-60.2	175.2	166.1	9.12	19.201			
2,200.0	2,192.2	2,202.6	2,202.4	5.3	4.8	-173.35	5.0	-56.4	183.6	174.1	9.58	19.177			
2,300.0	2,291.4	2,302.2	2,301.9	5.6	5.0	-172.76	9.2	-52.1	191.3	181.3	10.03	19.083			
2,400.0	2,390.6	2,401.9	2,401.4	5.9	5.3	-172.21	13.5	-47.9	199.0	188.5	10.48	18.994			
2,500.0	2,489.8	2,501.6	2,500.9	6.3	5.5	-171.71	17.8	-43.6	206.7	195.8	10.93	18.910			
2,600.0	2,588.9	2,601.3	2,600.4	6.6	5.7	-171.24	22.1	-39.3	214.5	203.1	11.39	18.830			
2,700.0	2,688.1	2,701.0	2,699.9	6.9	6.0	-170.80	26.4	-35.0	222.2	210.4	11.85	18.754			
2,800.0	2,787.3	2,800.7	2,799.4	7.2	6.2	-170.39	30.6	-30.7	230.0	217.7	12.31	18.681			
2,900.0	2,886.5	2,900.4	2,898.9	7.5	6.4	-170.01	34.9	-26.4	237.8	225.0	12.77	18.613			
3,000.0	2,985.7	3,000.0	2,998.4	7.8	6.6	-169.66	39.2	-22.1	245.6	232.3	13.24	18.547			
3,100.0	3,084.9	3,099.7	3,097.9	8.2	6.9	-169.32	43.5	-17.8	253.3	239.6	13.71	18.485			
3,200.0	3,184.0	3,199.4	3,197.4	8.5	7.1	-169.01	47.8	-13.5	261.1	247.0	14.17	18.426			
3,300.0	3,283.2	3,299.1	3,296.9	8.8	7.4	-168.71	52.0	-9.2	269.0	254.3	14.64	18.369			
3,400.0	3,382.4	3,398.8	3,396.4	9.1	7.6	-168.43	56.3	-5.0	276.8	261.7	15.11	18.315			
3,500.0	3,481.6	3,498.5	3,495.9	9.4	7.8	-168.17	60.6	-0.7	284.6	269.0	15.58	18.263			
3,600.0	3,580.8	3,598.2	3,595.4	9.8	8.1	-167.92	64.9	3.6	292.4	276.4	16.05	18.214			
3,700.0	3,680.0	3,697.8	3,694.9	10.1	8.3	-167.68	69.2	7.9	300.2	283.7	16.53	18.166			
3,800.0	3,779.2	3,797.5	3,794.4	10.4	8.5	-167.46	73.5	12.2	308.1	291.1	17.00	18.121			
3,900.0	3,878.3	3,897.2	3,893.9	10.7	8.8	-167.25	77.7	16.5	315.9	298.4	17.48	18.078			
4,000.0	3,977.5	3,996.9	3,993.4	11.0	9.0	-167.04	82.0	20.8	323.8	305.8	17.95	18.036			
4,100.0	4,076.7	4,096.6	4,092.9	11.4	9.3	-166.85	86.3	25.1	331.6	313.2	18.43	17.996			
4,200.0	4,175.9	4,196.3	4,192.4	11.7	9.5	-166.66	90.6	29.4	339.5	320.6	18.90	17.958			
4,300.0	4,275.1	4,296.0	4,291.9	12.0	9.7	-166.49	94.9	33.7	347.3	327.9	19.38	17.921			
4,400.0	4,374.3	4,395.6	4,391.4	12.3	10.0	-166.32	99.1	37.9	355.2	335.3	19.86	17.885			
4,500.0	4,473.4	4,495.3	4,490.9	12.7	10.2	-166.16	103.4	42.2	363.0	342.7	20.34	17.851			
4,600.0	4,572.6	4,595.0	4,590.4	13.0	10.5	-166.00	107.7	46.5	370.9	350.1	20.82	17.818			
4,700.0	4,671.8	4,694.7	4,689.9	13.3	10.7	-165.85	112.0	50.8	378.8	357.5	21.30	17.786			
4,800.0	4,771.0	4,794.4	4,789.4	13.6	11.0	-165.71	116.3	55.1	386.7	364.9	21.78	17.756			
4,900.0	4,870.2	4,894.1	4,888.9	14.0	11.2	-165.58	120.5	59.4	394.5	372.3	22.26	17.726			
5,000.0	4,969.4	4,993.7	4,988.4	14.3	11.4	-165.45	124.8	63.7	402.4	379.7	22.74	17.698			

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 Becker Ranch 5U-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5U-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-28-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5U-243 - Wellbore #1 - Plan #1 (5-28-14)	Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (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			
5,100.0	5,068.6	5,093.4	5,087.9	14.6	11.7	-165.32	129.1	68.0	410.3	387.1	23.22	17.670			
5,200.0	5,167.8	5,193.1	5,187.4	14.9	11.9	-165.20	133.4	72.3	418.0	394.3	23.70	17.633			
5,300.0	5,267.3	5,293.0	5,287.1	15.1	12.2	-165.01	137.7	76.6	423.0	398.9	24.16	17.511			
5,400.0	5,367.1	5,392.9	5,386.9	15.3	12.4	-164.69	142.0	80.9	424.8	400.2	24.59	17.275			
5,500.0	5,467.0	5,492.9	5,486.6	15.5	12.7	-164.22	146.3	85.2	423.1	398.2	24.99	16.930			
5,600.0	5,567.0	5,592.7	5,586.3	15.7	12.9	-90.61	150.5	89.5	419.0	393.5	25.42	16.482			
5,700.0	5,667.0	5,686.9	5,680.3	15.8	13.1	-90.11	154.2	93.2	415.0	389.2	25.84	16.060			
5,800.0	5,767.0	5,777.6	5,771.0	16.0	13.3	-89.88	155.9	94.8	413.2	387.0	26.21	15.763			
5,849.0	5,816.0	5,823.6	5,817.0	16.1	13.4	-89.86	156.0	94.9	413.1	386.7	26.40	15.649			
5,900.0	5,867.0	5,874.6	5,868.0	16.2	13.5	-89.86	156.0	94.9	413.1	386.5	26.60	15.531			
6,000.0	5,967.0	5,974.6	5,968.0	16.3	13.7	-89.86	156.0	94.9	413.1	386.1	27.01	15.296			
6,100.0	6,067.0	6,074.6	6,068.0	16.5	13.9	-89.88	155.9	94.9	413.1	385.7	27.42	15.066			
6,120.3	6,087.3	6,094.9	6,088.3	16.5	13.9	90.05	155.2	94.9	413.1	385.6	27.49	15.025			
6,200.0	6,167.0	6,174.0	6,167.0	16.7	14.0	89.08	147.6	94.9	413.1	385.4	27.73	14.901			
6,300.0	6,266.3	6,272.0	6,262.7	16.8	14.1	87.66	127.0	94.9	413.4	385.5	27.93	14.803			
6,400.0	6,363.4	6,368.7	6,353.9	16.9	14.2	86.30	94.8	94.9	414.0	385.9	28.09	14.736			
6,500.0	6,456.5	6,464.3	6,439.2	17.0	14.3	85.00	52.0	94.9	414.7	386.4	28.27	14.669			
6,600.0	6,544.1	6,558.9	6,517.8	17.1	14.4	83.80	-0.6	94.9	415.5	387.0	28.51	14.573			
6,700.0	6,624.7	6,652.6	6,588.6	17.2	14.6	82.70	-61.8	94.9	416.5	387.6	28.89	14.417			
6,800.0	6,696.8	6,745.4	6,650.8	17.3	14.8	81.73	-130.6	94.9	417.4	388.0	29.45	14.175			
6,900.0	6,759.4	6,837.6	6,703.9	17.6	15.3	80.89	-205.9	94.9	418.4	388.1	30.24	13.834			
7,000.0	6,811.2	6,929.2	6,747.4	17.9	15.9	80.20	-286.5	94.9	419.2	387.9	31.30	13.395			
7,100.0	6,851.4	7,020.3	6,780.7	18.5	16.6	79.67	-371.3	94.9	419.9	387.3	32.62	12.872			
7,200.0	6,879.3	7,111.2	6,803.7	19.2	17.5	79.29	-459.1	94.9	420.4	386.2	34.22	12.287			
7,300.0	6,894.5	7,200.0	6,815.9	20.2	18.4	79.08	-547.0	94.9	420.7	384.7	36.04	11.674			
7,400.0	6,897.0	7,294.4	6,817.9	21.3	19.6	79.03	-641.4	94.9	420.8	382.6	38.18	11.022			
7,500.0	6,895.7	7,394.4	6,816.4	22.4	20.9	79.00	-741.4	94.9	420.8	380.1	40.71	10.336			
7,600.0	6,894.4	7,494.4	6,815.0	23.7	22.2	78.98	-841.3	94.9	420.8	377.4	43.42	9.691			
7,700.0	6,893.1	7,594.4	6,813.5	25.1	23.7	78.96	-941.3	94.9	420.9	374.6	46.29	9.093			
7,800.0	6,891.8	7,694.4	6,812.0	26.6	25.2	78.93	-1,041.3	94.9	420.9	371.6	49.27	8.543			
7,900.0	6,890.5	7,794.4	6,810.6	28.1	26.8	78.91	-1,141.3	94.9	421.0	368.6	52.35	8.040			
8,000.0	6,889.2	7,894.4	6,809.1	29.6	28.4	78.89	-1,241.3	94.9	421.0	365.5	55.52	7.582			
8,100.0	6,887.9	7,994.4	6,807.6	31.2	30.1	78.86	-1,341.3	94.9	421.0	362.3	58.77	7.164			
8,200.0	6,886.7	8,094.4	6,806.2	32.8	31.8	78.84	-1,441.3	94.9	421.1	359.0	62.07	6.784			
8,300.0	6,885.4	8,194.4	6,804.7	34.5	33.5	78.82	-1,541.3	94.9	421.1	355.7	65.42	6.437			
8,400.0	6,884.1	8,294.4	6,803.2	36.2	35.2	78.79	-1,641.3	94.9	421.1	352.3	68.81	6.120			
8,500.0	6,882.8	8,394.4	6,801.8	37.9	36.9	78.77	-1,741.2	94.9	421.2	348.9	72.24	5.830			
8,600.0	6,881.5	8,494.4	6,800.3	39.6	38.7	78.75	-1,841.2	94.9	421.2	345.5	75.70	5.564			
8,700.0	6,880.2	8,594.4	6,798.8	41.3	40.5	78.72	-1,941.2	94.9	421.2	342.0	79.19	5.319			
8,800.0	6,878.9	8,694.4	6,797.4	43.1	42.3	78.70	-2,041.2	94.9	421.3	338.6	82.71	5.094			
8,900.0	6,877.6	8,794.4	6,795.9	44.9	44.1	78.68	-2,141.2	94.9	421.3	335.1	86.24	4.885			
9,000.0	6,876.3	8,894.4	6,794.4	46.6	45.9	78.65	-2,241.2	94.9	421.3	331.5	89.79	4.692			
9,100.0	6,875.0	8,994.4	6,793.0	48.4	47.7	78.63	-2,341.2	94.9	421.4	328.0	93.36	4.513			
9,200.0	6,873.7	9,094.4	6,791.5	50.2	49.5	78.61	-2,441.2	94.9	421.4	324.5	96.95	4.347			
9,300.0	6,872.4	9,194.4	6,790.0	52.0	51.4	78.58	-2,541.2	94.9	421.4	320.9	100.54	4.192			
9,400.0	6,871.2	9,294.4	6,788.6	53.8	53.2	78.56	-2,641.1	94.9	421.5	317.3	104.15	4.047			
9,500.0	6,869.9	9,394.4	6,787.1	55.7	55.0	78.54	-2,741.1	94.9	421.5	313.7	107.77	3.911			
9,600.0	6,868.6	9,494.4	6,785.6	57.5	56.9	78.51	-2,841.1	94.9	421.5	310.2	111.40	3.784			
9,700.0	6,867.3	9,594.4	6,784.2	59.3	58.7	78.49	-2,941.1	94.9	421.6	306.6	115.03	3.665			
9,800.0	6,866.0	9,694.4	6,782.7	61.2	60.6	78.47	-3,041.1	94.9	421.6	302.9	118.67	3.553			
9,900.0	6,864.7	9,794.4	6,781.2	63.0	62.5	78.44	-3,141.1	94.9	421.7	299.3	122.32	3.447			

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 Becker Ranch 5U-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5U-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-28-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5U-243 - Wellbore #1 - Plan #1 (5-28-14)														
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		
10,000.0	6,863.4	9,894.4	6,779.8	64.9	64.3	78.42	-3,241.1	94.9	421.7	295.7	125.98	3.347		
10,100.0	6,862.1	9,994.4	6,778.3	66.7	66.2	78.40	-3,341.1	94.9	421.7	292.1	129.64	3.253		
10,200.0	6,860.8	10,094.4	6,776.8	68.6	68.1	78.38	-3,441.1	94.9	421.8	288.5	133.31	3.164		
10,300.0	6,859.5	10,194.4	6,775.4	70.4	69.9	78.35	-3,541.1	94.9	421.8	284.8	136.98	3.079		
10,400.0	6,858.2	10,294.4	6,773.9	72.3	71.8	78.33	-3,641.0	94.9	421.8	281.2	140.65	2.999		
10,500.0	6,857.0	10,394.4	6,772.5	74.2	73.7	78.31	-3,741.0	94.9	421.9	277.5	144.33	2.923		
10,600.0	6,855.7	10,494.4	6,771.0	76.0	75.6	78.28	-3,841.0	94.9	421.9	273.9	148.01	2.850		
10,700.0	6,854.4	10,594.4	6,769.5	77.9	77.5	78.26	-3,941.0	94.9	421.9	270.2	151.70	2.781		
10,800.0	6,853.1	10,694.4	6,768.1	79.8	79.3	78.24	-4,041.0	94.9	422.0	266.6	155.39	2.716		
10,900.0	6,851.8	10,794.4	6,766.6	81.7	81.2	78.21	-4,141.0	94.9	422.0	262.9	159.08	2.653		
11,000.0	6,850.5	10,894.4	6,765.1	83.5	83.1	78.19	-4,241.0	94.9	422.1	259.3	162.77	2.593		
11,100.0	6,849.2	10,994.4	6,763.7	85.4	85.0	78.17	-4,341.0	94.9	422.1	255.6	166.47	2.536		
11,200.0	6,847.9	11,094.4	6,762.2	87.3	86.9	78.14	-4,441.0	94.9	422.1	252.0	170.16	2.481		
11,300.0	6,846.6	11,194.4	6,760.7	89.2	88.8	78.12	-4,540.9	94.9	422.2	248.3	173.86	2.428		
11,348.0	6,846.0	11,242.4	6,760.0	90.1	89.7	78.11	-4,588.9	94.9	422.2	246.5	175.64	2.404 SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5U-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5U-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-28-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5U-443 - Wellbore #1 - Plan #2 (5-28-14)	Offset Site Error:	0.0 ft
Survey Program: 0-MWDD														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	1.0	1.0	0.0	0.0	-89.99	0.0	-30.7	30.7	30.7	0.00	N/A			
100.0	100.0	101.0	101.0	0.1	0.1	-89.99	0.0	-30.7	30.7	30.5	0.23	135.235			
200.0	200.0	201.0	201.0	0.3	0.3	-89.99	0.0	-30.7	30.7	30.0	0.68	45.378			
300.0	300.0	301.0	301.0	0.6	0.6	-89.99	0.0	-30.7	30.7	29.6	1.13	27.263			
400.0	400.0	401.0	401.0	0.8	0.8	-89.99	0.0	-30.7	30.7	29.1	1.58	19.485			
500.0	500.0	501.0	501.0	1.0	1.0	-89.99	0.0	-30.7	30.7	28.7	2.03	15.160			
600.0	600.0	601.0	601.0	1.2	1.2	-89.99	0.0	-30.7	30.7	28.2	2.47	12.406			
700.0	700.0	701.0	701.0	1.5	1.5	-89.99	0.0	-30.7	30.7	27.8	2.92	10.499			
800.0	800.0	801.0	801.0	1.7	1.7	-89.99	0.0	-30.7	30.7	27.3	3.37	9.100			
900.0	900.0	901.0	901.0	1.9	1.9	-89.99	0.0	-30.7	30.7	26.9	3.82	8.030			
1,000.0	1,000.0	1,001.0	1,001.0	2.1	2.1	-89.99	0.0	-30.7	30.7	26.4	4.27	7.185 CC, ES			
1,100.0	1,100.0	1,101.0	1,101.0	2.4	2.4	-163.92	0.0	-30.7	32.4	27.7	4.71	6.871			
1,200.0	1,199.8	1,200.8	1,200.8	2.6	2.6	-166.11	0.0	-30.7	37.4	32.3	5.14	7.283			
1,300.0	1,299.5	1,300.5	1,300.5	2.8	2.8	-168.69	0.0	-30.7	45.9	40.4	5.57	8.255			
1,400.0	1,398.7	1,399.7	1,399.7	3.0	3.0	-171.00	0.0	-30.7	57.7	51.8	5.99	9.636			
1,500.0	1,497.9	1,498.9	1,498.9	3.3	3.3	-172.62	0.0	-30.7	70.4	63.9	6.43	10.940			
1,600.0	1,597.1	1,600.9	1,600.9	3.6	3.5	-173.47	0.8	-29.1	81.3	74.5	6.87	11.842			
1,700.0	1,696.3	1,703.6	1,703.4	3.8	3.7	-173.53	3.1	-24.2	88.9	81.6	7.30	12.171			
1,800.0	1,795.5	1,806.6	1,806.1	4.1	3.9	-173.02	7.0	-15.9	93.0	85.2	7.75	12.004			
1,900.0	1,894.7	1,907.4	1,906.1	4.4	4.2	-172.14	11.9	-5.5	94.6	86.5	8.19	11.554			
2,000.0	1,993.8	2,007.3	2,005.4	4.7	4.4	-171.29	16.7	4.9	96.2	87.6	8.64	11.138			
2,100.0	2,093.0	2,107.3	2,104.7	5.0	4.7	-170.46	21.6	15.4	97.8	88.7	9.09	10.758			
2,200.0	2,192.2	2,207.3	2,204.1	5.3	4.9	-169.66	26.5	25.8	99.5	89.9	9.55	10.412			
2,300.0	2,291.4	2,307.3	2,303.4	5.6	5.2	-168.89	31.4	36.2	101.1	91.1	10.02	10.096			
2,400.0	2,390.6	2,407.2	2,402.7	5.9	5.5	-168.14	36.3	46.6	102.8	92.3	10.48	9.805			
2,500.0	2,489.8	2,507.2	2,502.0	6.3	5.7	-167.41	41.2	57.0	104.5	93.5	10.95	9.537			
2,600.0	2,588.9	2,607.2	2,601.3	6.6	6.0	-166.71	46.1	67.4	106.2	94.7	11.43	9.289			
2,700.0	2,688.1	2,707.2	2,700.6	6.9	6.3	-166.03	51.0	77.8	107.9	96.0	11.91	9.060			
2,800.0	2,787.3	2,807.2	2,799.9	7.2	6.6	-165.37	55.9	88.2	109.6	97.2	12.39	8.847			
2,900.0	2,886.5	2,907.1	2,899.3	7.5	6.9	-164.74	60.7	98.6	111.4	98.5	12.88	8.649			
3,000.0	2,985.7	3,007.1	2,998.6	7.8	7.1	-164.12	65.6	109.0	113.1	99.7	13.36	8.464			
3,100.0	3,084.9	3,107.1	3,097.9	8.2	7.4	-163.52	70.5	119.5	114.9	101.0	13.86	8.292			
3,200.0	3,184.0	3,207.1	3,197.2	8.5	7.7	-162.94	75.4	129.9	116.7	102.3	14.35	8.130			
3,300.0	3,283.2	3,307.0	3,296.5	8.8	8.0	-162.38	80.3	140.3	118.5	103.6	14.85	7.979			
3,400.0	3,382.4	3,407.0	3,395.8	9.1	8.3	-161.83	85.2	150.7	120.3	104.9	15.35	7.836			
3,500.0	3,481.6	3,507.0	3,495.1	9.4	8.6	-161.30	90.1	161.1	122.1	106.2	15.85	7.702			
3,600.0	3,580.8	3,607.0	3,594.4	9.8	8.9	-160.78	95.0	171.5	123.9	107.5	16.35	7.576			
3,700.0	3,680.0	3,706.9	3,693.8	10.1	9.2	-160.28	99.8	181.9	125.7	108.9	16.86	7.457			
3,800.0	3,779.2	3,806.9	3,793.1	10.4	9.5	-159.80	104.7	192.3	127.6	110.2	17.37	7.344			
3,900.0	3,878.3	3,906.9	3,892.4	10.7	9.8	-159.33	109.6	202.7	129.4	111.6	17.88	7.237			
4,000.0	3,977.5	4,006.9	3,991.7	11.0	10.1	-158.87	114.5	213.1	131.3	112.9	18.40	7.136			
4,100.0	4,076.7	4,106.9	4,091.0	11.4	10.4	-158.42	119.4	223.6	133.2	114.3	18.92	7.040			
4,200.0	4,175.9	4,206.8	4,190.3	11.7	10.7	-157.99	124.3	234.0	135.0	115.6	19.43	6.949			
4,300.0	4,275.1	4,306.8	4,289.6	12.0	11.0	-157.57	129.2	244.4	136.9	117.0	19.96	6.862			
4,400.0	4,374.3	4,406.8	4,389.0	12.3	11.3	-157.16	134.1	254.8	138.8	118.3	20.48	6.779			
4,500.0	4,473.4	4,506.8	4,488.3	12.7	11.6	-156.76	139.0	265.2	140.7	119.7	21.00	6.700			
4,600.0	4,572.6	4,606.7	4,587.6	13.0	11.9	-156.37	143.8	275.6	142.6	121.1	21.53	6.625			
4,700.0	4,671.8	4,706.0	4,686.2	13.3	12.2	-156.01	148.7	285.9	144.6	122.5	22.05	6.557			
4,800.0	4,771.0	4,800.0	4,779.8	13.6	12.4	-155.69	152.4	293.8	148.4	125.9	22.49	6.599			
4,900.0	4,870.2	4,897.3	4,876.9	14.0	12.6	-155.81	154.9	299.1	155.0	132.1	22.88	6.774			
5,000.0	4,969.4	4,992.2	4,971.8	14.3	12.8	-158.02	155.9	301.4	164.5	141.3	23.23	7.082			

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 Becker Ranch 5U-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5U-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-28-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			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		
5,100.0	5,068.6	5,090.0	5,069.6	14.6	12.9	-159.53	156.0	301.5	176.3	152.7	23.58	7.477		
5,200.0	5,167.8	5,189.2	5,168.8	14.9	13.1	-160.89	156.0	301.5	188.1	164.2	23.95	7.854		
5,300.0	5,267.3	5,288.7	5,268.3	15.1	13.3	-161.88	156.0	301.5	197.5	173.2	24.31	8.123		
5,400.0	5,367.1	5,388.5	5,368.1	15.3	13.5	-162.48	156.0	301.5	203.6	178.9	24.66	8.255		
5,500.0	5,467.0	5,488.5	5,468.0	15.5	13.7	-162.74	156.0	301.5	206.3	181.3	24.99	8.255		
5,600.0	5,567.0	5,588.5	5,568.0	15.7	13.9	-89.72	156.0	301.5	206.5	181.1	25.37	8.140		
5,700.0	5,667.0	5,688.5	5,668.0	15.8	14.1	-89.72	156.0	301.5	206.5	180.7	25.77	8.012		
5,800.0	5,767.0	5,788.5	5,768.0	16.0	14.2	-89.72	156.0	301.5	206.5	180.3	26.18	7.887		
5,900.0	5,867.0	5,888.5	5,868.0	16.2	14.4	-89.72	156.0	301.5	206.5	179.9	26.59	7.766		
6,000.0	5,967.0	5,988.5	5,968.0	16.3	14.6	-89.72	156.0	301.5	206.5	179.5	27.00	7.647		
6,100.0	6,067.0	6,088.5	6,068.0	16.5	14.8	-89.72	156.0	301.5	206.5	179.1	27.41	7.532		
6,149.1	6,116.1	6,137.6	6,117.1	16.6	14.9	90.43	156.0	301.5	206.5	178.9	27.62	7.476		
6,200.0	6,167.0	6,188.4	6,168.0	16.7	15.0	90.48	156.0	301.5	206.5	178.7	27.83	7.420		
6,300.0	6,266.3	6,288.7	6,268.2	16.8	15.2	92.77	153.3	301.5	206.7	178.5	28.27	7.313		
6,400.0	6,363.4	6,390.2	6,368.5	16.9	15.3	95.26	138.2	301.5	207.4	178.8	28.62	7.247		
6,500.0	6,456.5	6,493.0	6,467.1	17.0	15.4	97.65	109.4	301.5	208.4	179.5	28.86	7.219		
6,600.0	6,544.1	6,597.0	6,562.0	17.1	15.5	99.90	67.2	301.5	209.6	180.6	29.04	7.219		
6,700.0	6,624.7	6,702.2	6,651.3	17.2	15.6	101.96	11.7	301.5	211.1	181.9	29.21	7.227		
6,800.0	6,696.8	6,808.6	6,733.0	17.3	15.8	103.80	-56.3	301.5	212.7	183.2	29.48	7.214		
6,900.0	6,759.4	6,916.0	6,805.1	17.6	16.0	105.38	-135.8	301.5	214.2	184.2	29.97	7.148		
7,000.0	6,811.2	7,024.3	6,865.8	17.9	16.4	106.67	-225.4	301.5	215.6	184.8	30.80	7.000		
7,100.0	6,851.4	7,133.4	6,913.5	18.5	17.0	107.67	-323.4	301.5	216.7	184.7	32.08	6.757		
7,200.0	6,879.3	7,243.0	6,946.9	19.2	17.9	108.34	-427.7	301.5	217.6	183.7	33.84	6.429		
7,300.0	6,894.5	7,352.2	6,965.0	20.2	19.0	108.70	-535.3	301.5	218.0	181.9	36.08	6.043		
7,400.0	6,897.0	7,454.2	6,975.1	21.3	20.2	110.46	-636.8	301.5	220.5	182.2	38.33	5.753		
7,500.0	6,895.7	7,559.8	6,978.3	22.4	21.5	111.56	-742.4	301.5	222.0	181.4	40.66	5.461		
7,600.0	6,894.4	7,659.8	6,978.5	23.7	22.8	111.91	-842.4	301.5	222.6	179.4	43.19	5.153		
7,700.0	6,893.1	7,759.8	6,978.6	25.1	24.3	112.26	-942.4	301.5	223.1	177.3	45.85	4.867		
7,800.0	6,891.8	7,859.8	6,978.8	26.6	25.8	112.60	-1,042.4	301.5	223.7	175.1	48.60	4.603		
7,900.0	6,890.5	7,959.8	6,979.0	28.1	27.3	112.95	-1,142.3	301.5	224.3	172.8	51.44	4.360		
8,000.0	6,889.2	8,059.8	6,979.2	29.6	28.9	113.29	-1,242.3	301.5	224.8	170.5	54.34	4.138		
8,100.0	6,887.9	8,159.8	6,979.3	31.2	30.5	113.63	-1,342.3	301.5	225.4	168.1	57.29	3.935		
8,200.0	6,886.7	8,259.8	6,979.5	32.8	32.2	113.97	-1,442.3	301.5	226.0	165.7	60.29	3.749		
8,300.0	6,885.4	8,359.8	6,979.7	34.5	33.8	114.31	-1,542.3	301.5	226.6	163.3	63.32	3.579		
8,400.0	6,884.1	8,459.8	6,979.9	36.2	35.6	114.65	-1,642.3	301.5	227.2	160.9	66.37	3.424		
8,500.0	6,882.8	8,559.7	6,980.0	37.9	37.3	114.98	-1,742.3	301.5	227.9	158.4	69.44	3.281		
8,600.0	6,881.5	8,659.7	6,980.2	39.6	39.0	115.32	-1,842.3	301.5	228.5	155.9	72.53	3.150		
8,700.0	6,880.2	8,759.7	6,980.4	41.3	40.8	115.65	-1,942.3	301.5	229.1	153.5	75.64	3.029		
8,800.0	6,878.9	8,859.7	6,980.6	43.1	42.6	115.98	-2,042.2	301.5	229.7	151.0	78.74	2.918		
8,900.0	6,877.6	8,959.7	6,980.7	44.9	44.3	116.31	-2,142.2	301.5	230.4	148.5	81.85	2.815		
9,000.0	6,876.3	9,059.7	6,980.9	46.6	46.1	116.63	-2,242.2	301.5	231.0	146.1	84.97	2.719		
9,100.0	6,875.0	9,159.7	6,981.1	48.4	47.9	116.96	-2,342.2	301.5	231.7	143.6	88.08	2.631		
9,200.0	6,873.7	9,259.7	6,981.3	50.2	49.8	117.28	-2,442.2	301.5	232.4	141.2	91.19	2.548		
9,300.0	6,872.4	9,359.7	6,981.4	52.0	51.6	117.60	-2,542.2	301.5	233.1	138.8	94.30	2.472		
9,400.0	6,871.2	9,459.6	6,981.6	53.8	53.4	117.92	-2,642.2	301.5	233.7	136.3	97.40	2.400		
9,500.0	6,869.9	9,559.6	6,981.8	55.7	55.2	118.23	-2,742.2	301.5	234.4	133.9	100.49	2.333		
9,600.0	6,868.6	9,659.6	6,981.9	57.5	57.1	118.55	-2,842.2	301.5	235.1	131.6	103.58	2.270		
9,700.0	6,867.3	9,759.6	6,982.1	59.3	58.9	118.86	-2,942.2	301.5	235.8	129.2	106.65	2.211		
9,800.0	6,866.0	9,859.6	6,982.3	61.2	60.8	119.17	-3,042.1	301.5	236.5	126.8	109.72	2.156		
9,900.0	6,864.7	9,959.6	6,982.5	63.0	62.6	119.48	-3,142.1	301.5	237.3	124.5	112.78	2.104		
10,000.0	6,863.4	10,059.6	6,982.6	64.9	64.5	119.79	-3,242.1	301.5	238.0	122.2	115.82	2.055		

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 Becker Ranch 5U-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5U-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-28-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5U-443 - Wellbore #1 - Plan #2 (5-28-14)	Offset Site Error:	0.0 ft
Survey Program: 0-MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (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			
10,100.0	6,862.1	10,159.6	6,982.8	66.7	66.4	120.09	-3,342.1	301.5	238.7	119.9	118.86	2.009			
10,200.0	6,860.8	10,259.6	6,983.0	68.6	68.2	120.40	-3,442.1	301.5	239.5	117.6	121.88	1.965			
10,300.0	6,859.5	10,359.5	6,983.2	70.4	70.1	120.70	-3,542.1	301.5	240.2	115.3	124.89	1.923			
10,400.0	6,858.2	10,459.5	6,983.3	72.3	72.0	121.00	-3,642.1	301.5	241.0	113.1	127.88	1.884			
10,500.0	6,857.0	10,559.5	6,983.5	74.2	73.8	121.29	-3,742.1	301.5	241.7	110.9	130.86	1.847			
10,600.0	6,855.7	10,659.5	6,983.7	76.0	75.7	121.59	-3,842.1	301.5	242.5	108.7	133.83	1.812			
10,700.0	6,854.4	10,759.5	6,983.9	77.9	77.6	121.88	-3,942.0	301.5	243.3	106.5	136.79	1.778			
10,800.0	6,853.1	10,859.5	6,984.0	79.8	79.5	122.18	-4,042.0	301.5	244.0	104.3	139.73	1.747			
10,900.0	6,851.8	10,959.5	6,984.2	81.7	81.3	122.47	-4,142.0	301.5	244.8	102.2	142.66	1.716			
11,000.0	6,850.5	11,059.5	6,984.4	83.5	83.2	122.75	-4,242.0	301.5	245.6	100.1	145.57	1.687			
11,100.0	6,849.2	11,159.5	6,984.6	85.4	85.1	123.04	-4,342.0	301.5	246.4	98.0	148.46	1.660			
11,200.0	6,847.9	11,259.5	6,984.7	87.3	87.0	123.33	-4,442.0	301.5	247.2	95.9	151.35	1.633			
11,300.0	6,846.6	11,359.4	6,984.9	89.2	88.9	123.61	-4,542.0	301.5	248.0	93.8	154.21	1.608			
11,348.0	6,846.0	11,407.4	6,985.0	90.1	89.8	123.74	-4,589.9	301.5	248.4	92.8	155.58	1.597 SF			

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5U-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5U-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-28-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 7600-UNKNOWN													Offset Well Error:	0.0 ft
Existing Wells Sec.5-T3N-R64W - Becker 5-10 (Exist) - Wellbore #1 - Wellbore #1														
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	174.83	-462.6	41.9	464.9					
100.0	100.0	81.5	81.5	0.1	1.6	174.83	-462.6	41.9	464.5	462.8	1.74	266.579		
200.0	200.0	181.5	181.5	0.3	3.6	174.83	-462.6	41.9	464.5	460.6	3.97	117.090		
300.0	300.0	281.5	281.5	0.6	5.6	174.83	-462.6	41.9	464.5	458.3	6.19	75.020		
400.0	400.0	381.5	381.5	0.8	7.6	174.83	-462.6	41.9	464.5	456.1	8.42	55.191		
500.0	500.0	481.5	481.5	1.0	9.6	174.83	-462.6	41.9	464.5	453.9	10.64	43.653		
600.0	600.0	581.5	581.5	1.2	11.6	174.83	-462.6	41.9	464.5	451.7	12.87	36.104		
700.0	700.0	681.5	681.5	1.5	13.6	174.83	-462.6	41.9	464.5	449.4	15.09	30.782		
800.0	800.0	781.5	781.5	1.7	15.6	174.83	-462.6	41.9	464.5	447.2	17.32	26.827		
900.0	900.0	881.5	881.5	1.9	17.6	174.83	-462.6	41.9	464.5	445.0	19.54	23.773		
1,000.0	1,000.0	981.5	981.5	2.1	19.6	174.83	-462.6	41.9	464.5	442.8	21.77	21.343 CC		
1,100.0	1,100.0	1,081.5	1,081.5	2.4	21.6	102.00	-462.6	41.9	464.9	440.9	23.98	19.386		
1,200.0	1,199.8	1,181.3	1,181.3	2.6	23.6	102.61	-462.6	41.9	466.0	439.8	26.19	17.795		
1,300.0	1,299.5	1,281.0	1,281.0	2.8	25.6	103.61	-462.6	41.9	468.0	439.6	28.40	16.479		
1,400.0	1,398.7	1,380.2	1,380.2	3.0	27.6	104.98	-462.6	41.9	471.0	440.4	30.62	15.381		
1,500.0	1,497.9	1,479.4	1,479.4	3.3	29.6	106.45	-462.6	41.9	474.5	441.6	32.86	14.439		
1,600.0	1,597.1	1,578.6	1,578.6	3.6	31.6	107.91	-462.6	41.9	478.2	443.1	35.10	13.624		
1,700.0	1,696.3	1,677.8	1,677.8	3.8	33.6	109.34	-462.6	41.9	482.3	445.0	37.36	12.912		
1,800.0	1,795.5	1,777.0	1,777.0	4.1	35.5	110.74	-462.6	41.9	486.7	447.1	39.61	12.287		
1,900.0	1,894.7	1,876.2	1,876.2	4.4	37.5	112.12	-462.6	41.9	491.4	449.6	41.87	11.736		
2,000.0	1,993.8	1,975.3	1,975.3	4.7	39.5	113.48	-462.6	41.9	496.4	452.3	44.13	11.248		
2,100.0	2,093.0	2,074.5	2,074.5	5.0	41.5	114.80	-462.6	41.9	501.7	455.3	46.40	10.812		
2,200.0	2,192.2	2,173.7	2,173.7	5.3	43.5	116.10	-462.6	41.9	507.2	458.5	48.66	10.423		
2,300.0	2,291.4	2,272.9	2,272.9	5.6	45.5	117.37	-462.6	41.9	512.9	462.0	50.92	10.074		
2,400.0	2,390.6	2,372.1	2,372.1	5.9	47.4	118.61	-462.6	41.9	519.0	465.8	53.18	9.759		
2,500.0	2,489.8	2,471.3	2,471.3	6.3	49.4	119.83	-462.6	41.9	525.2	469.8	55.44	9.474		
2,600.0	2,588.9	2,570.4	2,570.4	6.6	51.4	121.01	-462.6	41.9	531.7	474.0	57.69	9.216		
2,700.0	2,688.1	2,669.6	2,669.6	6.9	53.4	122.17	-462.6	41.9	538.4	478.5	59.95	8.982		
2,800.0	2,787.3	2,768.8	2,768.8	7.2	55.4	123.29	-462.6	41.9	545.4	483.2	62.20	8.768		
2,900.0	2,886.5	2,868.0	2,868.0	7.5	57.4	124.39	-462.6	41.9	552.5	488.1	64.45	8.573		
3,000.0	2,985.7	2,967.2	2,967.2	7.8	59.3	125.46	-462.6	41.9	559.8	493.1	66.70	8.394		
3,100.0	3,084.9	3,066.4	3,066.4	8.2	61.3	126.51	-462.6	41.9	567.4	498.4	68.94	8.229		
3,200.0	3,184.0	3,165.5	3,165.5	8.5	63.3	127.52	-462.6	41.9	575.1	503.9	71.19	8.078		
3,300.0	3,283.2	3,264.7	3,264.7	8.8	65.3	128.51	-462.6	41.9	583.0	509.5	73.43	7.939		
3,400.0	3,382.4	3,363.9	3,363.9	9.1	67.3	129.47	-462.6	41.9	591.0	515.4	75.67	7.811		
3,500.0	3,481.6	3,463.1	3,463.1	9.4	69.3	130.41	-462.6	41.9	599.3	521.3	77.91	7.692		
3,600.0	3,580.8	3,562.3	3,562.3	9.8	71.2	131.32	-462.6	41.9	607.6	527.5	80.14	7.582		
3,700.0	3,680.0	3,661.5	3,661.5	10.1	73.2	132.21	-462.6	41.9	616.2	533.8	82.38	7.480		
3,800.0	3,779.2	3,760.7	3,760.7	10.4	75.2	133.07	-462.6	41.9	624.8	540.2	84.61	7.385		
3,900.0	3,878.3	3,859.8	3,859.8	10.7	77.2	133.91	-462.6	41.9	633.6	546.8	86.84	7.297		
4,000.0	3,977.5	3,959.0	3,959.0	11.0	79.2	134.72	-462.6	41.9	642.6	553.5	89.06	7.215		
4,100.0	4,076.7	4,058.2	4,058.2	11.4	81.2	135.51	-462.6	41.9	651.6	560.4	91.29	7.138		
4,200.0	4,175.9	4,157.4	4,157.4	11.7	83.1	136.29	-462.6	41.9	660.8	567.3	93.52	7.067		
4,300.0	4,275.1	4,256.6	4,256.6	12.0	85.1	137.04	-462.6	41.9	670.1	574.4	95.74	7.000		
4,400.0	4,374.3	4,355.8	4,355.8	12.3	87.1	137.77	-462.6	41.9	679.6	581.6	97.96	6.937		
4,500.0	4,473.4	4,454.9	4,454.9	12.7	89.1	138.48	-462.6	41.9	689.1	588.9	100.18	6.878		
4,600.0	4,572.6	4,554.1	4,554.1	13.0	91.1	139.17	-462.6	41.9	698.7	596.3	102.40	6.823		
4,700.0	4,671.8	4,653.3	4,653.3	13.3	93.1	139.84	-462.6	41.9	708.4	603.8	104.62	6.772		
4,800.0	4,771.0	4,752.5	4,752.5	13.6	95.1	140.49	-462.6	41.9	718.2	611.4	106.84	6.723		
4,900.0	4,870.2	4,851.7	4,851.7	14.0	97.0	141.13	-462.6	41.9	728.2	619.1	109.05	6.677		
5,000.0	4,969.4	4,950.9	4,950.9	14.3	99.0	141.75	-462.6	41.9	738.2	626.9	111.27	6.634		

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

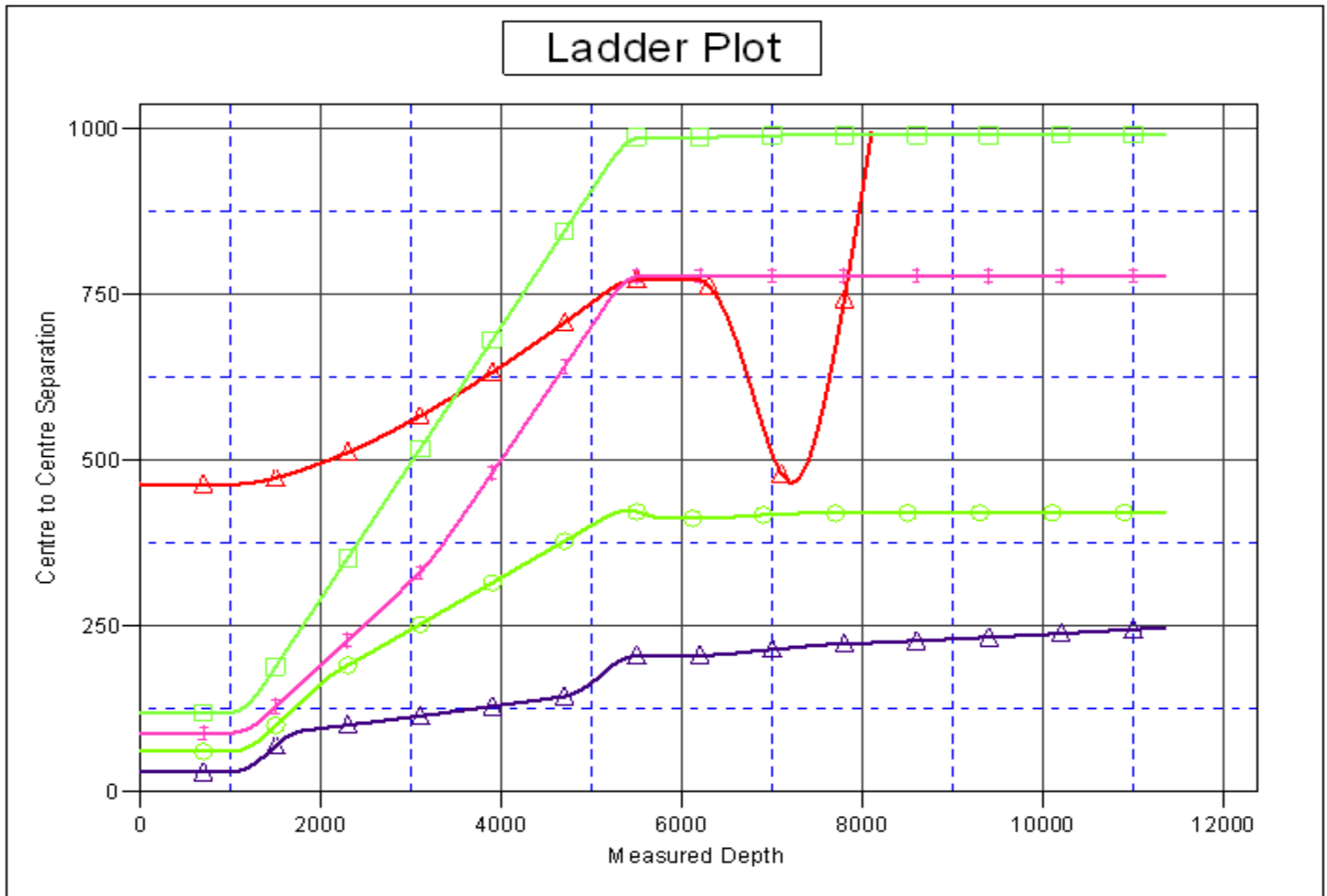
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5U-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5U-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-28-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 7600-UNKNOWN													Offset Well Error:	0.0 ft
Existing Wells Sec.5-T3N-R64W - Becker 5-10 (Exist) - Wellbore #1 - Wellbore #1														
Reference				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)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.0	5,068.6	5,050.1	5,050.1	14.6	101.0	142.35	-462.6	41.9	748.2	634.8	113.48	6.594		
5,200.0	5,167.8	5,149.3	5,149.3	14.9	103.0	142.96	-462.6	41.9	758.2	642.5	115.77	6.549		
5,300.0	5,267.3	5,248.8	5,248.8	15.1	105.0	143.50	-462.6	41.9	766.2	648.0	118.15	6.485		
5,400.0	5,367.1	5,348.6	5,348.6	15.3	107.0	143.85	-462.6	41.9	771.3	650.9	120.45	6.404		
5,500.0	5,467.0	5,448.5	5,448.5	15.5	109.0	144.00	-462.6	41.9	773.6	651.0	122.65	6.308		
5,600.0	5,567.0	5,548.5	5,548.5	15.7	111.0	-142.96	-462.6	41.9	773.8	649.0	124.82	6.199		
5,700.0	5,667.0	5,648.5	5,648.5	15.8	113.0	-142.96	-462.6	41.9	773.8	646.8	127.01	6.093		
5,800.0	5,767.0	5,748.5	5,748.5	16.0	115.0	-142.96	-462.6	41.9	773.8	644.6	129.20	5.989		
5,900.0	5,867.0	5,848.5	5,848.5	16.2	117.0	-142.96	-462.6	41.9	773.8	642.4	131.39	5.889		
6,000.0	5,967.0	5,948.5	5,948.5	16.3	119.0	-142.96	-462.6	41.9	773.8	640.2	133.58	5.793		
6,100.0	6,067.0	6,048.5	6,048.5	16.5	121.0	-142.96	-462.6	41.9	773.8	638.0	135.77	5.699		
6,200.0	6,167.0	6,148.5	6,148.5	16.7	123.0	37.10	-462.6	41.9	773.2	635.4	137.84	5.609		
6,300.0	6,266.3	6,247.8	6,247.8	16.8	125.0	37.99	-462.6	41.9	764.5	625.9	138.66	5.514		
6,400.0	6,363.4	6,344.9	6,344.9	16.9	126.9	40.02	-462.6	41.9	745.8	607.7	138.15	5.399		
6,500.0	6,456.5	6,438.0	6,438.0	17.0	128.8	43.30	-462.6	41.9	717.9	581.0	136.89	5.244		
6,600.0	6,544.1	6,525.6	6,525.6	17.1	130.5	47.99	-462.6	41.9	682.0	546.1	135.90	5.018		
6,700.0	6,624.7	6,606.2	6,606.2	17.2	132.1	54.22	-462.6	41.9	640.1	503.7	136.48	4.690		
6,800.0	6,696.8	6,678.3	6,678.3	17.3	133.6	61.83	-462.6	41.9	594.9	455.4	139.51	4.264		
6,900.0	6,759.4	6,740.9	6,740.9	17.6	134.8	70.27	-462.6	41.9	549.9	405.4	144.43	3.807		
7,000.0	6,811.2	6,792.7	6,792.7	17.9	135.9	78.46	-462.6	41.9	509.7	360.4	149.36	3.413		
7,100.0	6,851.4	6,832.9	6,832.9	18.5	136.7	85.19	-462.6	41.9	480.1	327.3	152.79	3.142		
7,200.0	6,879.3	6,860.8	6,860.8	19.2	137.2	89.50	-462.6	41.9	466.5	311.8	154.73	3.015		
7,219.2	6,883.2	6,864.7	6,864.7	19.4	137.3	90.00	-462.6	41.9	466.1	311.1	155.02	3.007 ES, SF		
7,300.0	6,894.5	6,876.0	6,876.0	20.2	137.5	90.85	-462.6	41.9	473.0	316.9	156.10	3.030		
7,400.0	6,897.0	6,878.5	6,878.5	21.3	137.6	89.71	-462.6	41.9	499.7	342.3	157.32	3.176		
7,500.0	6,895.7	6,877.2	6,877.2	22.4	137.5	89.56	-462.6	41.9	543.7	385.2	158.56	3.429		
7,600.0	6,894.4	6,875.9	6,875.9	23.7	137.5	89.40	-462.6	41.9	601.3	441.4	159.90	3.761		
7,700.0	6,893.1	6,874.6	6,874.6	25.1	137.5	89.24	-462.6	41.9	669.0	507.7	161.32	4.147		
7,800.0	6,891.8	6,873.3	6,873.3	26.6	137.5	89.08	-462.6	41.9	744.0	581.2	162.79	4.570		
7,900.0	6,890.5	6,872.0	6,872.0	28.1	137.4	88.92	-462.6	41.9	824.3	660.0	164.31	5.017		
8,000.0	6,889.2	6,870.7	6,870.7	29.6	137.4	88.76	-462.6	41.9	908.5	742.7	165.88	5.477		
8,100.0	6,887.9	6,869.4	6,869.4	31.2	137.4	88.60	-462.6	41.9	995.7	828.2	167.48	5.945		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5U-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5U-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-28-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4795.5ft (RKB - 12.5')  
 Offset Depths are relative to Offset Datum  
 Central Meridian is -105.500000 °

Coordinates are relative to: Becker Ranch 5U-303  
 Coordinate System is US State Plane 1983, Colorado Northern Zone  
 Grid Convergence at Surface is: 0.60°



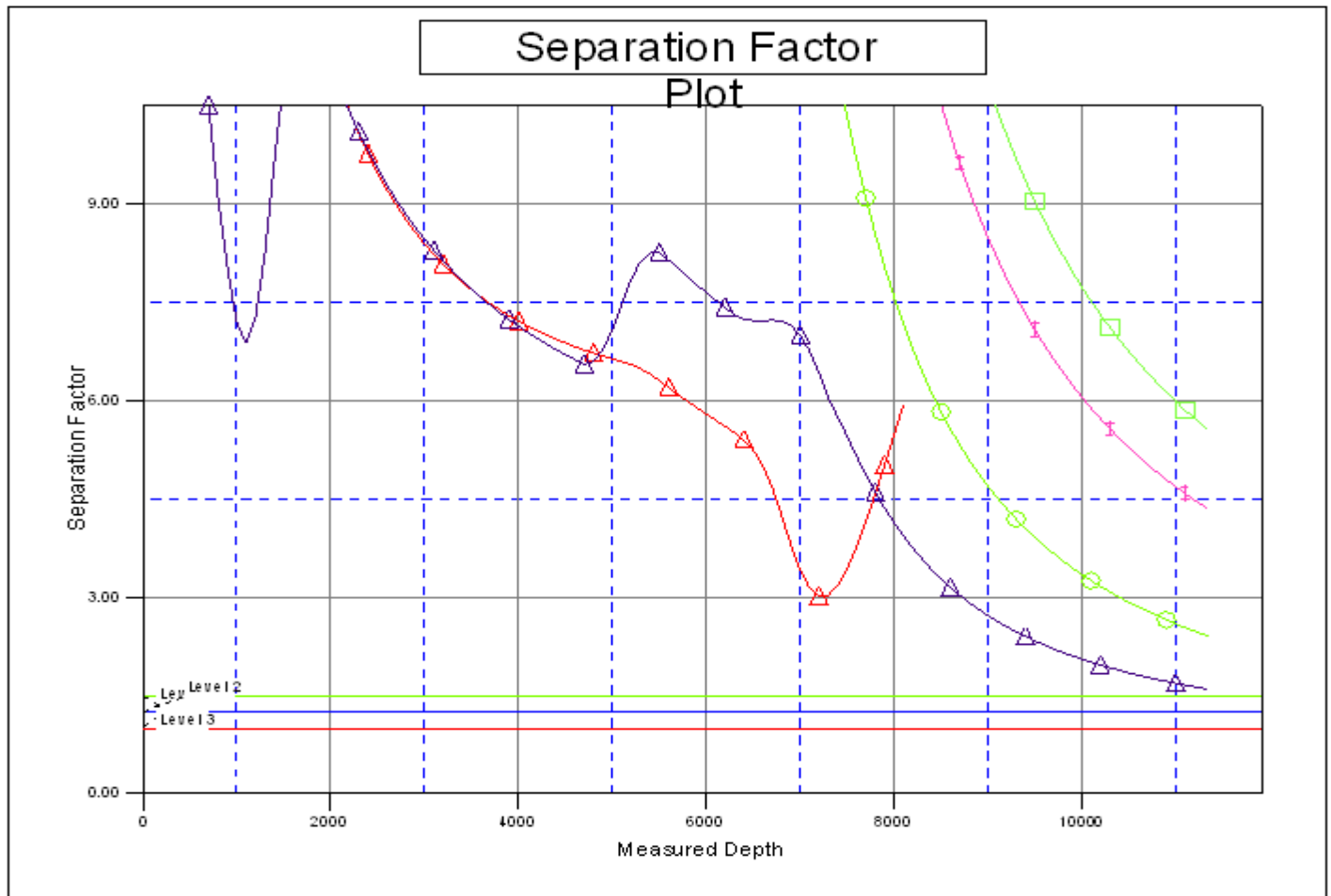
LEGEND

- 0 (Exist), Wellbore #1, Wellbore #1 VD
- Becker Ranch 5U-443, Wellbore #1, Plan #2 (5-28-14) VD
- Becker Ranch 5R-323, Wellbore #1, F
- 5R-203, Wellbore #1, Plan #2 (5-28-14) VD
- Becker Ranch 5U-243, Wellbore #1, Plan #1 (5-28-14) VD

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5U-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4795.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5U-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #2 (5-28-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4795.5ft (RKB - 12.5')  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000 °

Coordinates are relative to: Becker Ranch 5U-303  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.60°



LEGEND

- 0 (Exist), Wellbore #1, Wellbore #1 VD
- Becker Ranch 5U-443, Wellbore #1, Plan #2 (5-28-14) VD
- Becker Ranch 5R-203, Wellbore #1, Plan #2 (5-28-14) VD
- Becker Ranch 5U-243, Wellbore #1, Plan #1 (5-28-14) VD
- Becker Ranch 5R-323, Wellbore #1, F