

# PETROLEUM DEVELOPMENT CORP Weld County CO

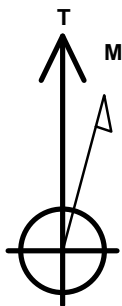
Well Name: **Becker Ranch 5R-303**

Surface Location: Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
Ground Elevation: 4780.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1339345.57	3259079.79	40.261180	-104.571650	
RKB - 12.5' WELL @ 4792.5ft (RKB - 12.5')						

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 210'FNL, 1755'FEL	1.0	0.0	0.0	Point
BHL 500'FSL, 1440'FEL	6845.0	-4593.8	293.1	Point



Azimuths to True North  
Magnetic North: 8.35°

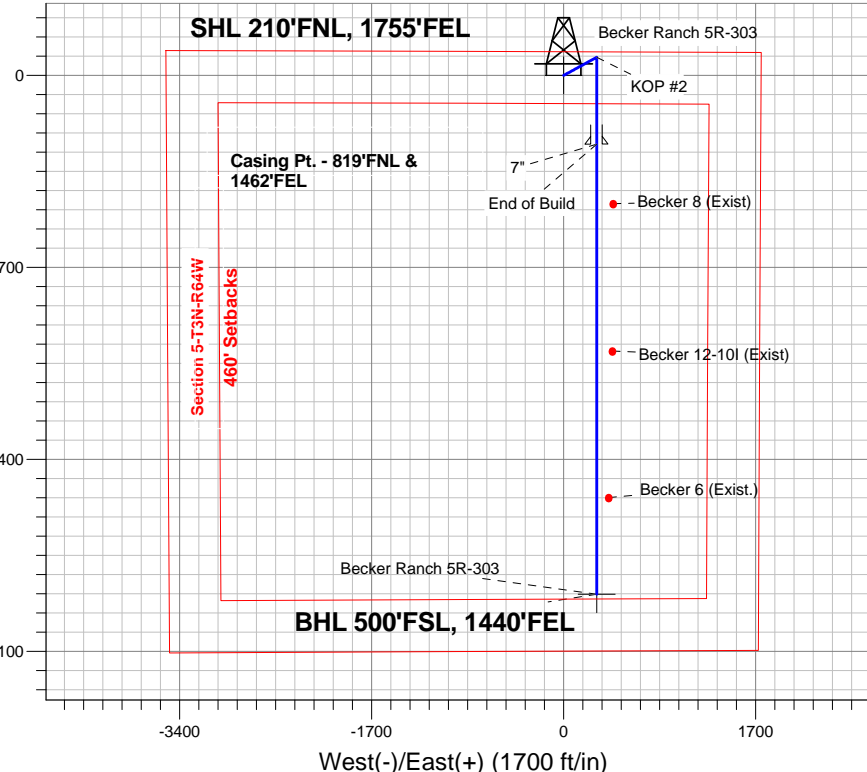
Magnetic Field  
Strength: 52765.9snT  
Dip Angle: 66.87°  
Date: 6/5/2014  
Model: IGRF2010

## ANNOTATIONS

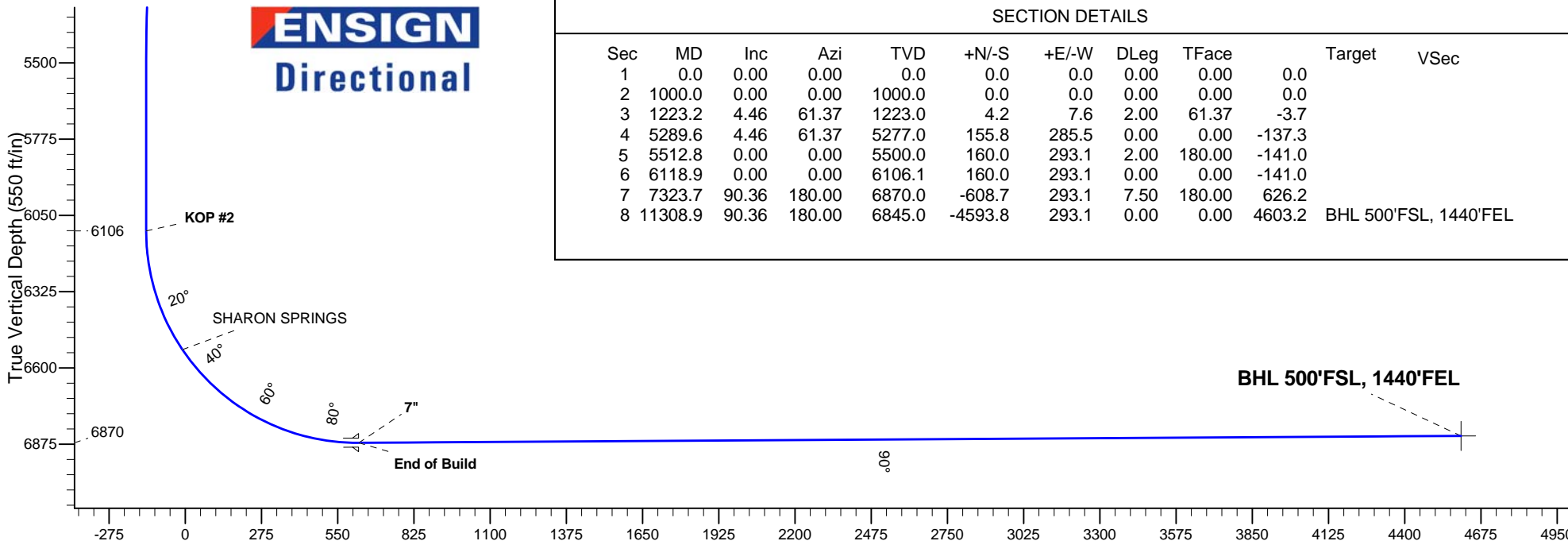
TVD	MD	Annotation
1000.0	1000.0	KOP #1
6106.1	6118.9	KOP #2
6870.0	7323.7	End of Build

Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W  
Becker Ranch 5R-303  
Plan #2 (5-30-14)  
8:19, June 05 2014

South(-)/North(+) (1700 ft/in)



**ENSIGN**  
Directional



## 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	1223.2	4.46	61.37	1223.0	4.2	7.6	2.00	61.37	-3.7	
4	5289.6	4.46	61.37	5277.0	155.8	285.5	0.00	0.00	-137.3	
5	5512.8	0.00	0.00	5500.0	160.0	293.1	2.00	180.00	-141.0	
6	6118.9	0.00	0.00	6106.1	160.0	293.1	0.00	0.00	-141.0	
7	7323.7	90.36	180.00	6870.0	-608.7	293.1	7.50	180.00	626.2	
8	11308.9	90.36	180.00	6845.0	-4593.8	293.1	0.00	0.00	4603.2	BHL 500'FSL, 1440'FEL

Vertical Section at 176.35° (550 ft/in)



## **Directional**

# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.5-T3N-R64W**

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

**Becker Ranch 5R-303**

**Wellbore #1**

**Plan: Plan #2 (5-30-14)**

## **Standard Planning Report**

**05 June, 2014**

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5R-303
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Project:</b>	SEC.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Becker Ranch 5R-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (5-30-14)		

<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

Site						Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W											
Site Position:			Northing:			1,339,344.02 ft			Latitude:			40.261180					
From:			Lat/Long			Easting:			3,258,929.10 ft			Longitude:			-104.572190		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.60 °		

Well	Becker Ranch 5R-303					
Well Position	+N/-S	0.0 ft	Northing:	1,339,345.57 ft	Latitude:	40.261180
	+E/-W	150.7 ft	Easting:	3,259,079.79 ft	Longitude:	-104.571650
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,780.0 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	6/5/2014	8.35	66.87	52,766

<b>Design</b>	Plan #2 (5-30-14)			
<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	176.35

<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	
1,223.2	4.46	61.37	1,223.0	4.2	7.6	2.00	2.00	0.00	61.37	
5,289.6	4.46	61.37	5,277.0	155.8	285.5	0.00	0.00	0.00	0.00	
5,512.8	0.00	0.00	5,500.0	160.0	293.1	2.00	-2.00	0.00	180.00	
6,118.9	0.00	0.00	6,106.1	160.0	293.1	0.00	0.00	0.00	0.00	
7,323.7	90.36	180.00	6,870.0	-608.7	293.1	7.50	7.50	0.00	180.00	
11,308.9	90.36	180.00	6,845.0	-4,593.8	293.1	0.00	0.00	0.00	0.00	BHL 500'FSL, 1440

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5R-303
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Project:</b>	SEC.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Becker Ranch 5R-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (5-30-14)		

## 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
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	61.37	1,100.0	0.8	1.5	-0.7	2.00	2.00	0.00
1,200.0	4.00	61.37	1,199.8	3.3	6.1	-2.9	2.00	2.00	0.00
1,223.2	4.46	61.37	1,223.0	4.2	7.6	-3.7	2.00	2.00	0.00
1,300.0	4.46	61.37	1,299.5	7.0	12.9	-6.2	0.00	0.00	0.00
1,400.0	4.46	61.37	1,399.2	10.8	19.7	-9.5	0.00	0.00	0.00
1,500.0	4.46	61.37	1,498.9	14.5	26.5	-12.8	0.00	0.00	0.00
1,600.0	4.46	61.37	1,598.6	18.2	33.4	-16.1	0.00	0.00	0.00
1,700.0	4.46	61.37	1,698.3	21.9	40.2	-19.3	0.00	0.00	0.00
1,800.0	4.46	61.37	1,798.0	25.7	47.0	-22.6	0.00	0.00	0.00
1,900.0	4.46	61.37	1,897.7	29.4	53.9	-25.9	0.00	0.00	0.00
2,000.0	4.46	61.37	1,997.4	33.1	60.7	-29.2	0.00	0.00	0.00
2,100.0	4.46	61.37	2,097.1	36.9	67.5	-32.5	0.00	0.00	0.00
2,200.0	4.46	61.37	2,196.8	40.6	74.4	-35.8	0.00	0.00	0.00
2,300.0	4.46	61.37	2,296.5	44.3	81.2	-39.1	0.00	0.00	0.00
2,400.0	4.46	61.37	2,396.2	48.1	88.0	-42.4	0.00	0.00	0.00
2,500.0	4.46	61.37	2,495.9	51.8	94.9	-45.6	0.00	0.00	0.00
2,600.0	4.46	61.37	2,595.6	55.5	101.7	-48.9	0.00	0.00	0.00
2,700.0	4.46	61.37	2,695.3	59.2	108.5	-52.2	0.00	0.00	0.00
2,800.0	4.46	61.37	2,795.0	63.0	115.4	-55.5	0.00	0.00	0.00
2,900.0	4.46	61.37	2,894.7	66.7	122.2	-58.8	0.00	0.00	0.00
3,000.0	4.46	61.37	2,994.4	70.4	129.0	-62.1	0.00	0.00	0.00
3,100.0	4.46	61.37	3,094.1	74.2	135.9	-65.4	0.00	0.00	0.00
3,200.0	4.46	61.37	3,193.8	77.9	142.7	-68.7	0.00	0.00	0.00
3,300.0	4.46	61.37	3,293.5	81.6	149.5	-71.9	0.00	0.00	0.00
3,400.0	4.46	61.37	3,393.2	85.4	156.4	-75.2	0.00	0.00	0.00
3,500.0	4.46	61.37	3,492.9	89.1	163.2	-78.5	0.00	0.00	0.00
3,600.0	4.46	61.37	3,592.6	92.8	170.0	-81.8	0.00	0.00	0.00
3,700.0	4.46	61.37	3,692.3	96.5	176.9	-85.1	0.00	0.00	0.00
3,707.8	4.46	61.37	3,700.0	96.8	177.4	-85.3	0.00	0.00	0.00
<b>PARKMAN</b>									
3,800.0	4.46	61.37	3,792.0	100.3	183.7	-88.4	0.00	0.00	0.00
3,900.0	4.46	61.37	3,891.7	104.0	190.5	-91.7	0.00	0.00	0.00
4,000.0	4.46	61.37	3,991.3	107.7	197.4	-95.0	0.00	0.00	0.00
4,100.0	4.46	61.37	4,091.0	111.5	204.2	-98.2	0.00	0.00	0.00
4,200.0	4.46	61.37	4,190.7	115.2	211.0	-101.5	0.00	0.00	0.00
4,300.0	4.46	61.37	4,290.4	118.9	217.9	-104.8	0.00	0.00	0.00
4,400.0	4.46	61.37	4,390.1	122.7	224.7	-108.1	0.00	0.00	0.00
4,409.9	4.46	61.37	4,400.0	123.0	225.4	-108.4	0.00	0.00	0.00
<b>SUSSEX</b>									
4,500.0	4.46	61.37	4,489.8	126.4	231.5	-111.4	0.00	0.00	0.00
4,600.0	4.46	61.37	4,589.5	130.1	238.4	-114.7	0.00	0.00	0.00

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<b>Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Becker Ranch 5R-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (5-30-14)		

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)
4,700.0	4.46	61.37	4,689.2	133.8	245.2	-118.0	0.00	0.00	0.00
4,800.0	4.46	61.37	4,788.9	137.6	252.0	-121.2	0.00	0.00	0.00
4,900.0	4.46	61.37	4,888.6	141.3	258.9	-124.5	0.00	0.00	0.00
5,000.0	4.46	61.37	4,988.3	145.0	265.7	-127.8	0.00	0.00	0.00
5,100.0	4.46	61.37	5,088.0	148.8	272.5	-131.1	0.00	0.00	0.00
5,112.0	4.46	61.37	5,100.0	149.2	273.3	-131.5	0.00	0.00	0.00
<b>SHANNON</b>									
5,200.0	4.46	61.37	5,187.7	152.5	279.4	-134.4	0.00	0.00	0.00
5,289.6	4.46	61.37	5,277.0	155.8	285.5	-137.3	0.00	0.00	0.00
5,300.0	4.26	61.37	5,287.4	156.2	286.2	-137.7	2.00	-2.00	0.00
5,400.0	2.26	61.37	5,387.2	158.9	291.2	-140.1	2.00	-2.00	0.00
5,500.0	0.26	61.37	5,487.2	160.0	293.1	-141.0	2.00	-2.00	0.00
5,512.8	0.00	0.00	5,500.0	160.0	293.1	-141.0	2.00	-2.00	0.00
5,600.0	0.00	0.00	5,587.2	160.0	293.1	-141.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,687.2	160.0	293.1	-141.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,787.2	160.0	293.1	-141.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,887.2	160.0	293.1	-141.0	0.00	0.00	0.00
6,000.0	0.00	0.00	5,987.2	160.0	293.1	-141.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,087.2	160.0	293.1	-141.0	0.00	0.00	0.00
6,118.9	0.00	0.00	6,106.1	160.0	293.1	-141.0	0.00	0.00	0.00
<b>KOP #2</b>									
6,200.0	6.08	180.00	6,187.1	155.7	293.1	-136.7	7.50	7.50	0.00
6,300.0	13.58	180.00	6,285.5	138.6	293.1	-119.7	7.50	7.50	0.00
6,400.0	21.08	180.00	6,380.9	108.9	293.1	-90.0	7.50	7.50	0.00
6,500.0	28.58	180.00	6,471.6	66.9	293.1	-48.1	7.50	7.50	0.00
6,573.1	34.06	180.00	6,534.0	28.9	293.1	-10.2	7.50	7.50	0.00
<b>SHARON SPRINGS</b>									
6,600.0	36.08	180.00	6,556.0	13.5	293.1	5.2	7.50	7.50	0.00
6,700.0	43.58	180.00	6,632.8	-50.6	293.1	69.1	7.50	7.50	0.00
6,800.0	51.08	180.00	6,700.5	-124.0	293.1	142.4	7.50	7.50	0.00
6,900.0	58.58	180.00	6,758.1	-205.7	293.1	224.0	7.50	7.50	0.00
7,000.0	66.08	180.00	6,804.5	-294.2	293.1	312.3	7.50	7.50	0.00
7,100.0	73.58	180.00	6,838.9	-388.0	293.1	405.9	7.50	7.50	0.00
7,200.0	81.08	180.00	6,860.8	-485.5	293.1	503.2	7.50	7.50	0.00
7,300.0	88.58	180.00	6,869.8	-585.0	293.1	602.5	7.50	7.50	0.00
7,323.7	90.36	180.00	6,870.0	-608.7	293.1	626.2	7.50	7.50	0.00
<b>End of Build - 7"</b>									
7,400.0	90.36	180.00	6,869.6	-685.0	293.1	702.3	0.00	0.00	0.00
7,500.0	90.36	180.00	6,868.9	-785.0	293.1	802.1	0.00	0.00	0.00
7,600.0	90.36	180.00	6,868.3	-885.0	293.1	901.9	0.00	0.00	0.00
7,700.0	90.36	180.00	6,867.7	-985.0	293.1	1,001.7	0.00	0.00	0.00
7,800.0	90.36	180.00	6,867.0	-1,085.0	293.1	1,101.5	0.00	0.00	0.00
7,900.0	90.36	180.00	6,866.4	-1,185.0	293.1	1,201.3	0.00	0.00	0.00
8,000.0	90.36	180.00	6,865.8	-1,285.0	293.1	1,301.1	0.00	0.00	0.00
8,100.0	90.36	180.00	6,865.2	-1,385.0	293.1	1,400.9	0.00	0.00	0.00
8,200.0	90.36	180.00	6,864.5	-1,485.0	293.1	1,500.7	0.00	0.00	0.00
8,300.0	90.36	180.00	6,863.9	-1,585.0	293.1	1,600.5	0.00	0.00	0.00
8,400.0	90.36	180.00	6,863.3	-1,685.0	293.1	1,700.3	0.00	0.00	0.00
8,500.0	90.36	180.00	6,862.6	-1,785.0	293.1	1,800.1	0.00	0.00	0.00
8,600.0	90.36	180.00	6,862.0	-1,885.0	293.1	1,899.9	0.00	0.00	0.00
8,700.0	90.36	180.00	6,861.4	-1,985.0	293.1	1,999.7	0.00	0.00	0.00
8,800.0	90.36	180.00	6,860.8	-2,085.0	293.1	2,099.4	0.00	0.00	0.00
8,900.0	90.36	180.00	6,860.1	-2,185.0	293.1	2,199.2	0.00	0.00	0.00

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<b>Project:</b>	SEC.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Becker Ranch 5R-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (5-30-14)		

## 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)
9,000.0	90.36	180.00	6,859.5	-2,285.0	293.1	2,299.0	0.00	0.00	0.00
9,100.0	90.36	180.00	6,858.9	-2,385.0	293.1	2,398.8	0.00	0.00	0.00
9,200.0	90.36	180.00	6,858.3	-2,485.0	293.1	2,498.6	0.00	0.00	0.00
9,300.0	90.36	180.00	6,857.6	-2,585.0	293.1	2,598.4	0.00	0.00	0.00
9,400.0	90.36	180.00	6,857.0	-2,685.0	293.1	2,698.2	0.00	0.00	0.00
9,500.0	90.36	180.00	6,856.4	-2,785.0	293.1	2,798.0	0.00	0.00	0.00
9,600.0	90.36	180.00	6,855.7	-2,885.0	293.1	2,897.8	0.00	0.00	0.00
9,700.0	90.36	180.00	6,855.1	-2,985.0	293.1	2,997.6	0.00	0.00	0.00
9,800.0	90.36	180.00	6,854.5	-3,085.0	293.1	3,097.4	0.00	0.00	0.00
9,900.0	90.36	180.00	6,853.9	-3,185.0	293.1	3,197.2	0.00	0.00	0.00
10,000.0	90.36	180.00	6,853.2	-3,285.0	293.1	3,297.0	0.00	0.00	0.00
10,100.0	90.36	180.00	6,852.6	-3,385.0	293.1	3,396.8	0.00	0.00	0.00
10,200.0	90.36	180.00	6,852.0	-3,485.0	293.1	3,496.6	0.00	0.00	0.00
10,300.0	90.36	180.00	6,851.3	-3,585.0	293.1	3,596.4	0.00	0.00	0.00
10,400.0	90.36	180.00	6,850.7	-3,685.0	293.1	3,696.2	0.00	0.00	0.00
10,500.0	90.36	180.00	6,850.1	-3,785.0	293.1	3,796.0	0.00	0.00	0.00
10,600.0	90.36	180.00	6,849.5	-3,885.0	293.1	3,895.8	0.00	0.00	0.00
10,700.0	90.36	180.00	6,848.8	-3,985.0	293.1	3,995.6	0.00	0.00	0.00
10,800.0	90.36	180.00	6,848.2	-4,085.0	293.1	4,095.3	0.00	0.00	0.00
10,900.0	90.36	180.00	6,847.6	-4,185.0	293.1	4,195.1	0.00	0.00	0.00
11,000.0	90.36	180.00	6,846.9	-4,285.0	293.1	4,294.9	0.00	0.00	0.00
11,100.0	90.36	180.00	6,846.3	-4,385.0	293.1	4,394.7	0.00	0.00	0.00
11,200.0	90.36	180.00	6,845.7	-4,485.0	293.1	4,494.5	0.00	0.00	0.00
11,300.0	90.36	180.00	6,845.1	-4,585.0	293.1	4,594.3	0.00	0.00	0.00
11,308.9	90.36	180.00	6,845.0	-4,593.8	293.1	4,603.2	0.00	0.00	0.00

## Targets

### Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
SHL 210'FNL, 1755'FI	0.00	0.00	1.0	0.0	0.0	1,339,345.59	3,259,079.79	40.261180	-104.571650
- plan hits target center									
- Point									
BHL 500'FSL, 1440'FI	0.00	0.00	6,845.0	-4,593.8	293.1	1,334,755.27	3,259,420.96	40.248570	-104.570600
- plan hits target center									
- Point									

## Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,323.7	6,870.0	7"	7	7-1/2

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5R-303
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Project:</b>	SEC.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	Becker Ranch 5R-303	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 (5-30-14)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,707.8	3,700.0	PARKMAN				
4,409.9	4,400.0	SUSSEX				
5,112.0	5,100.0	SHANNON				
6,573.1	6,534.0	SHARON SPRINGS				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,000.0	1,000.0	0.0	0.0	KOP #1	
6,118.9	6,106.1	160.0	293.1	KOP #2	
7,323.7	6,870.0	-608.7	293.1	End of Build	



## **Directional**

# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.5-T3N-R64W**

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

**Becker Ranch 5R-303**

**Wellbore #1**

**Plan #2 (5-30-14)**

## **Anticollision Report**

**05 June, 2014**



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5R-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5R-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 (5-30-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #2 (5-30-14)		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	Stations	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 1,000.0ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b> 6/5/2014			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	11,308.9	Plan #2 (5-30-14) (Wellbore #1)	MWD	MWD - Standard

<b>Summary</b>						
<b>Site Name</b>	<b>Reference Measured Depth (ft)</b>	<b>Offset Measured Depth (ft)</b>	<b>Distance Between Centres (ft)</b>	<b>Distance Between Ellipses (ft)</b>	<b>Separation Factor</b>	<b>Warning</b>
<b>Offset Well - Wellbore - Design</b>						
Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W						
Becker Ranch 5M-203 - Wellbore #1 - Plan #1 (5-30-14)	466.0	468.0	150.7	148.8	80.401	CC
Becker Ranch 5M-203 - Wellbore #1 - Plan #1 (5-30-14)	500.0	500.0	150.7	148.7	74.509	ES
Becker Ranch 5M-203 - Wellbore #1 - Plan #1 (5-30-14)	5,200.0	5,103.0	988.6	964.8	41.464	SF
Becker Ranch 5M-323 - Wellbore #1 - Plan #2 (5-30-14)	1,000.0	1,002.0	89.3	85.0	20.891	CC, ES
Becker Ranch 5M-323 - Wellbore #1 - Plan #2 (5-30-14)	11,308.9	11,312.0	650.4	470.9	3.623	SF
Becker Ranch 5M-423 - Wellbore #1 - Plan #2 (5-30-14)	966.0	968.0	120.0	115.9	29.113	CC
Becker Ranch 5M-423 - Wellbore #1 - Plan #2 (5-30-14)	1,000.0	1,001.9	120.0	115.7	28.075	ES
Becker Ranch 5M-423 - Wellbore #1 - Plan #2 (5-30-14)	11,308.9	11,433.8	869.0	691.5	4.898	SF
Becker Ranch 5R-243 - Wellbore #1 - Plan #1 (5-30-14)	1,000.0	1,001.0	61.4	57.1	14.370	CC, ES
Becker Ranch 5R-243 - Wellbore #1 - Plan #1 (5-30-14)	11,308.9	11,227.6	420.8	244.2	2.383	SF
Becker Ranch 5R-443 - Wellbore #1 - Plan #2 (5-30-14)	1,000.0	1,000.0	30.7	26.4	7.189	CC, ES
Becker Ranch 5R-443 - Wellbore #1 - Plan #2 (5-30-14)	11,308.9	11,412.7	253.0	100.2	1.656	SF
Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W						
Becker Ranch 5R-203 - Wellbore #1 - Plan #2 (5-28-14)	6,050.6	6,057.6	281.8	254.6	10.361	CC
Becker Ranch 5R-203 - Wellbore #1 - Plan #2 (5-28-14)	11,308.9	11,256.3	295.5	123.1	1.714	ES, SF
Existing Wells Sec.5-T3N-R64W						
Becker 12-10I (Exist) - Wellbore #1 - Wellbore #1	9,155.8	6,817.0	139.5	-46.3	0.751	Level 1, CC, ES, SF
Becker 6 (Exist) - Wellbore #1 - Wellbore #1	10,452.7	6,801.9	106.1	-103.6	0.506	Level 1, CC, ES, SF
Becker 8 (Exist) - Wellbore #1 - Wellbore #1	7,851.6	6,855.2	145.1	-18.8	0.886	Level 1, CC, ES, SF

<b>Offset Design</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5M-203 - Wellbore #1 - Plan #1 (5-30-14)										<b>Offset Site Error:</b>	0.0 ft
<b>Survey Program:</b>	0-MWD										<b>Offset Well Error:</b>	0.0 ft
<b>Reference</b>	<b>Offset</b>	<b>Semi Major Axis</b>		<b>Distance</b>				<b>Minimum Separation</b>	<b>Separation Factor</b>	<b>Warning</b>		
<b>Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Reference (ft)</b>	<b>Offset (ft)</b>	<b>Highside Toolface (°)</b>	<b>Offset Wellbore Centre +N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Between Centres (ft)</b>	<b>Between Ellipses (ft)</b>	<b>Minimum Separation (ft)</b>	
0.0	0.0	2.0	2.0	0.0	0.0	-90.00	0.0	-150.7	150.7	150.7	0.00	N/A
100.0	100.0	102.0	102.0	0.1	0.1	-90.00	0.0	-150.7	150.7	150.5	0.23	657.374
200.0	200.0	202.0	202.0	0.3	0.3	-90.00	0.0	-150.7	150.7	150.0	0.68	222.027
300.0	300.0	302.0	302.0	0.6	0.6	-90.00	0.0	-150.7	150.7	149.6	1.13	133.570
400.0	400.0	402.0	402.0	0.8	0.8	-90.00	0.0	-150.7	150.7	149.1	1.58	95.516
466.0	466.0	468.0	468.0	0.9	0.9	-90.00	0.0	-150.7	150.7	148.8	1.87	80.401 CC

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 5R-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5R-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 (5-30-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5M-203 - Wellbore #1 - Plan #1 (5-30-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
500.0	500.0	500.0	500.0	1.0	1.0	-90.00		0.0	-150.7	150.7	148.7	2.02	74.509 ES	
600.0	600.0	597.0	597.0	1.2	1.2	-89.84		0.4	-152.3	152.4	149.9	2.46	62.016	
700.0	700.0	691.9	691.8	1.5	1.4	-89.41		1.6	-156.9	157.3	154.4	2.89	54.473	
800.0	800.0	786.4	785.9	1.7	1.6	-88.75		3.6	-164.6	165.4	162.0	3.33	49.639	
900.0	900.0	880.9	879.8	1.9	1.9	-87.92		6.4	-175.2	176.7	172.9	3.80	46.534	
1,000.0	1,000.0	980.1	978.1	2.1	2.2	-87.08		9.6	-187.5	189.3	185.0	4.29	44.074	
1,100.0	1,100.0	1,079.0	1,076.3	2.4	2.5	-147.83		12.8	-199.9	203.4	198.7	4.66	43.669	
1,200.0	1,199.8	1,177.6	1,174.0	2.6	2.8	-147.73		16.0	-212.1	220.4	215.3	5.09	43.267	
1,223.2	1,223.0	1,200.4	1,196.6	2.6	2.8	-147.76		16.7	-215.0	224.8	219.6	5.20	43.267	
1,300.0	1,299.5	1,275.7	1,271.3	2.8	3.1	-148.07		19.1	-224.4	239.5	234.0	5.53	43.284	
1,400.0	1,399.2	1,373.9	1,368.6	3.0	3.4	-148.41		22.3	-236.6	258.7	252.7	5.98	43.269	
1,500.0	1,498.9	1,472.0	1,466.0	3.3	3.7	-148.71		25.5	-248.9	277.8	271.4	6.43	43.222	
1,600.0	1,598.6	1,570.1	1,563.3	3.5	4.0	-148.97		28.7	-261.1	297.0	290.1	6.88	43.163	
1,700.0	1,698.3	1,668.3	1,660.6	3.7	4.3	-149.19		31.9	-273.3	316.2	308.9	7.34	43.094	
1,800.0	1,798.0	1,766.4	1,757.9	4.0	4.6	-149.39		35.0	-285.6	335.4	327.6	7.80	43.019	
1,900.0	1,897.7	1,864.5	1,855.2	4.2	4.9	-149.57		38.2	-297.8	354.6	346.3	8.26	42.942	
2,000.0	1,997.4	1,962.7	1,952.5	4.5	5.3	-149.73		41.4	-310.0	373.8	365.1	8.72	42.865	
2,100.0	2,097.1	2,060.8	2,049.9	4.8	5.6	-149.88		44.6	-322.3	393.0	383.8	9.18	42.788	
2,200.0	2,196.8	2,158.9	2,147.2	5.0	5.9	-150.01		47.8	-334.5	412.2	402.5	9.65	42.714	
2,300.0	2,296.5	2,257.1	2,244.5	5.3	6.2	-150.13		50.9	-346.7	431.4	421.3	10.12	42.642	
2,400.0	2,396.2	2,355.2	2,341.8	5.5	6.5	-150.24		54.1	-359.0	450.6	440.0	10.58	42.573	
2,500.0	2,495.9	2,453.3	2,439.1	5.8	6.9	-150.34		57.3	-371.2	469.8	458.7	11.05	42.506	
2,600.0	2,595.6	2,551.5	2,536.4	6.0	7.2	-150.43		60.5	-383.4	489.0	477.5	11.52	42.442	
2,700.0	2,695.3	2,649.6	2,633.8	6.3	7.5	-150.52		63.6	-395.7	508.2	496.2	11.99	42.381	
2,800.0	2,795.0	2,747.8	2,731.1	6.6	7.8	-150.60		66.8	-407.9	527.4	515.0	12.46	42.323	
2,900.0	2,894.7	2,845.9	2,828.4	6.8	8.2	-150.67		70.0	-420.1	546.6	533.7	12.93	42.267	
3,000.0	2,994.4	2,944.0	2,925.7	7.1	8.5	-150.74		73.2	-432.4	565.8	552.4	13.40	42.214	
3,100.0	3,094.1	3,042.2	3,023.0	7.3	8.8	-150.81		76.4	-444.6	585.0	571.2	13.88	42.163	
3,200.0	3,193.8	3,140.3	3,120.4	7.6	9.1	-150.87		79.5	-456.8	604.3	589.9	14.35	42.114	
3,300.0	3,293.5	3,238.4	3,217.7	7.9	9.5	-150.92		82.7	-469.1	623.5	608.7	14.82	42.068	
3,400.0	3,393.2	3,336.6	3,315.0	8.1	9.8	-150.98		85.9	-481.3	642.7	627.4	15.29	42.023	
3,500.0	3,492.9	3,434.7	3,412.3	8.4	10.1	-151.03		89.1	-493.5	661.9	646.1	15.77	41.980	
3,600.0	3,592.6	3,532.8	3,509.6	8.6	10.4	-151.07		92.2	-505.8	681.1	664.9	16.24	41.940	
3,700.0	3,692.3	3,631.0	3,606.9	8.9	10.7	-151.12		95.4	-518.0	700.3	683.6	16.71	41.901	
3,800.0	3,792.0	3,729.1	3,704.3	9.2	11.1	-151.16		98.6	-530.2	719.5	702.4	17.19	41.863	
3,900.0	3,891.7	3,827.2	3,801.6	9.4	11.4	-151.20		101.8	-542.5	738.8	721.1	17.66	41.827	
4,000.0	3,991.3	3,925.4	3,898.9	9.7	11.7	-151.24		105.0	-554.7	758.0	739.8	18.14	41.792	
4,100.0	4,091.0	4,023.5	3,996.2	10.0	12.0	-151.27		108.1	-566.9	777.2	758.6	18.61	41.759	
4,200.0	4,190.7	4,121.6	4,093.5	10.2	12.4	-151.31		111.3	-579.2	796.4	777.3	19.09	41.727	
4,300.0	4,290.4	4,219.8	4,190.8	10.5	12.7	-151.34		114.5	-591.4	815.6	796.1	19.56	41.696	
4,400.0	4,390.1	4,317.9	4,288.2	10.7	13.0	-151.37		117.7	-603.6	834.8	814.8	20.04	41.667	
4,500.0	4,489.8	4,416.0	4,385.5	11.0	13.3	-151.40		120.9	-615.9	854.1	833.6	20.51	41.638	
4,600.0	4,589.5	4,514.2	4,482.8	11.3	13.7	-151.43		124.0	-628.1	873.3	852.3	20.99	41.611	
4,700.0	4,689.2	4,612.3	4,580.1	11.5	14.0	-151.46		127.2	-640.3	892.5	871.0	21.46	41.584	
4,800.0	4,788.9	4,710.5	4,677.4	11.8	14.3	-151.49		130.4	-652.6	911.7	889.8	21.94	41.558	
4,900.0	4,888.6	4,808.6	4,774.8	12.1	14.6	-151.51		133.6	-664.8	930.9	908.5	22.41	41.534	
5,000.0	4,988.3	4,906.7	4,872.1	12.3	15.0	-151.53		136.7	-677.0	950.2	927.3	22.89	41.509	
5,100.0	5,088.0	5,004.9	4,969.4	12.6	15.3	-151.56		139.9	-689.3	969.4	946.0	23.37	41.486	
5,200.0	5,187.7	5,103.0	5,066.7	12.9	15.6	-151.58		143.1	-701.5	988.6	964.8	23.84	41.464 SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5R-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5R-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 (5-30-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5M-323 - Wellbore #1 - Plan #2 (5-30-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	2.0	2.0	0.0	0.0	-89.99	-89.99	0.0	-89.3	89.3	89.3	0.00	N/A	
100.0	100.0	102.0	102.0	0.1	0.1	-89.99	-89.99	0.0	-89.3	89.3	89.1	0.23	389.555	
200.0	200.0	202.0	202.0	0.3	0.3	-89.99	-89.99	0.0	-89.3	89.3	88.6	0.68	131.571	
300.0	300.0	302.0	302.0	0.6	0.6	-89.99	-89.99	0.0	-89.3	89.3	88.2	1.13	79.153	
400.0	400.0	402.0	402.0	0.8	0.8	-89.99	-89.99	0.0	-89.3	89.3	87.7	1.58	56.602	
500.0	500.0	502.0	502.0	1.0	1.0	-89.99	-89.99	0.0	-89.3	89.3	87.3	2.03	44.052	
600.0	600.0	602.0	602.0	1.2	1.2	-89.99	-89.99	0.0	-89.3	89.3	86.8	2.48	36.057	
700.0	700.0	702.0	702.0	1.5	1.5	-89.99	-89.99	0.0	-89.3	89.3	86.4	2.93	30.518	
800.0	800.0	802.0	802.0	1.7	1.7	-89.99	-89.99	0.0	-89.3	89.3	85.9	3.38	26.454	
900.0	900.0	902.0	902.0	1.9	1.9	-89.99	-89.99	0.0	-89.3	89.3	85.5	3.83	23.346	
1,000.0	1,000.0	1,002.0	1,002.0	2.1	2.1	-89.99	-89.99	0.0	-89.3	89.3	85.0	4.28	20.891 CC, ES	
1,100.0	1,100.0	1,102.0	1,102.0	2.4	2.4	-151.88	-151.88	0.0	-89.3	90.8	86.1	4.72	19.262	
1,200.0	1,199.8	1,201.8	1,201.8	2.6	2.6	-153.31	-153.31	0.0	-89.3	95.5	90.3	5.15	18.545	
1,223.2	1,223.0	1,225.0	1,225.0	2.6	2.6	-153.76	-153.76	0.0	-89.3	97.0	91.8	5.25	18.483	
1,300.0	1,299.5	1,301.5	1,301.5	2.8	2.8	-155.23	-155.23	0.0	-89.3	102.4	96.8	5.59	18.337	
1,400.0	1,399.2	1,401.2	1,401.2	3.0	3.0	-156.94	-156.94	0.0	-89.3	109.5	103.5	6.03	18.178	
1,500.0	1,498.9	1,500.0	1,500.0	3.3	3.3	-158.42	-158.42	0.0	-89.3	116.8	110.3	6.47	18.054	
1,600.0	1,598.6	1,597.3	1,597.3	3.5	3.5	-159.23	-159.23	0.9	-90.7	125.4	118.5	6.90	18.164	
1,700.0	1,698.3	1,693.3	1,693.1	3.7	3.7	-159.06	-159.06	3.4	-94.9	136.6	129.2	7.33	18.628	
1,800.0	1,798.0	1,790.7	1,790.2	4.0	3.9	-158.24	-158.24	7.3	-101.5	150.0	142.2	7.77	19.310	
1,900.0	1,897.7	1,889.7	1,888.9	4.2	4.1	-157.46	-157.46	11.6	-108.5	163.8	155.5	8.21	19.947	
2,000.0	1,997.4	1,988.7	1,987.6	4.5	4.4	-156.81	-156.81	15.8	-115.6	177.5	168.9	8.65	20.514	
2,100.0	2,097.1	2,087.8	2,086.3	4.8	4.6	-156.25	-156.25	20.0	-122.6	191.3	182.2	9.10	21.021	
2,200.0	2,196.8	2,186.8	2,185.0	5.0	4.8	-155.77	-155.77	24.2	-129.6	205.1	195.6	9.55	21.475	
2,300.0	2,296.5	2,285.8	2,283.7	5.3	5.1	-155.34	-155.34	28.5	-136.7	219.0	208.9	10.00	21.884	
2,400.0	2,396.2	2,384.8	2,382.4	5.5	5.3	-154.97	-154.97	32.7	-143.7	232.8	222.3	10.46	22.255	
2,500.0	2,495.9	2,483.9	2,481.0	5.8	5.6	-154.64	-154.64	36.9	-150.7	246.6	235.7	10.92	22.592	
2,600.0	2,595.6	2,582.9	2,579.7	6.0	5.8	-154.34	-154.34	41.1	-157.8	260.5	249.1	11.37	22.900	
2,700.0	2,695.3	2,681.9	2,678.4	6.3	6.1	-154.08	-154.08	45.4	-164.8	274.3	262.5	11.83	23.181	
2,800.0	2,795.0	2,781.0	2,777.1	6.6	6.3	-153.84	-153.84	49.6	-171.8	288.2	275.9	12.29	23.439	
2,900.0	2,894.7	2,880.0	2,875.8	6.8	6.6	-153.62	-153.62	53.8	-178.8	302.0	289.3	12.76	23.678	
3,000.0	2,994.4	2,979.0	2,974.5	7.1	6.8	-153.42	-153.42	58.0	-185.9	315.9	302.7	13.22	23.898	
3,100.0	3,094.1	3,078.0	3,073.2	7.3	7.1	-153.24	-153.24	62.2	-192.9	329.8	316.1	13.68	24.102	
3,200.0	3,193.8	3,177.1	3,171.9	7.6	7.3	-153.07	-153.07	66.5	-199.9	343.7	329.5	14.15	24.291	
3,300.0	3,293.5	3,276.1	3,270.5	7.9	7.6	-152.91	-152.91	70.7	-207.0	357.5	342.9	14.61	24.467	
3,400.0	3,393.2	3,375.1	3,369.2	8.1	7.9	-152.77	-152.77	74.9	-214.0	371.4	356.3	15.08	24.632	
3,500.0	3,492.9	3,474.2	3,467.9	8.4	8.1	-152.64	-152.64	79.1	-221.0	385.3	369.7	15.54	24.786	
3,600.0	3,592.6	3,573.2	3,566.6	8.6	8.4	-152.52	-152.52	83.4	-228.1	399.2	383.2	16.01	24.930	
3,700.0	3,692.3	3,672.2	3,665.3	8.9	8.6	-152.40	-152.40	87.6	-235.1	413.1	396.6	16.48	25.066	
3,800.0	3,792.0	3,771.2	3,764.0	9.2	8.9	-152.29	-152.29	91.8	-242.1	426.9	410.0	16.95	25.193	
3,900.0	3,891.7	3,870.3	3,862.7	9.4	9.2	-152.19	-152.19	96.0	-249.1	440.8	423.4	17.42	25.313	
4,000.0	3,991.3	3,969.3	3,961.4	9.7	9.4	-152.10	-152.10	100.3	-256.2	454.7	436.8	17.88	25.426	
4,100.0	4,091.0	4,068.3	4,060.1	10.0	9.7	-152.01	-152.01	104.5	-263.2	468.6	450.3	18.35	25.533	
4,200.0	4,190.7	4,167.4	4,158.7	10.2	9.9	-151.92	-151.92	108.7	-270.2	482.5	463.7	18.82	25.635	
4,300.0	4,290.4	4,266.4	4,257.4	10.5	10.2	-151.84	-151.84	112.9	-277.3	496.4	477.1	19.29	25.731	
4,400.0	4,390.1	4,365.4	4,356.1	10.7	10.5	-151.77	-151.77	117.1	-284.3	510.3	490.5	19.76	25.822	
4,500.0	4,489.8	4,464.4	4,454.8	11.0	10.7	-151.70	-151.70	121.4	-291.3	524.2	503.9	20.23	25.908	
4,600.0	4,589.5	4,563.5	4,553.5	11.3	11.0	-151.63	-151.63	125.6	-298.4	538.1	517.4	20.70	25.991	
4,700.0	4,689.2	4,662.5	4,652.2	11.5	11.3	-151.57	-151.57	129.8	-305.4	552.0	530.8	21.17	26.069	
4,800.0	4,788.9	4,761.5	4,750.9	11.8	11.5	-151.51	-151.51	134.0	-312.4	565.9	544.2	21.64	26.144	
4,900.0	4,888.6	4,860.6	4,849.6	12.1	11.8	-151.45	-151.45	138.3	-319.4	579.8	557.6	22.12	26.215	

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 5R-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5R-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 (5-30-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5M-323 - Wellbore #1 - Plan #2 (5-30-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.0	4,988.3	4,959.6	4,948.2	12.3	12.1	-151.39		142.5	-326.5	593.7	571.1	22.59	26.283	
5,100.0	5,088.0	5,058.6	5,046.9	12.6	12.3	-151.34		146.7	-333.5	607.6	584.5	23.06	26.349	
5,200.0	5,187.7	5,157.6	5,145.6	12.9	12.6	-151.29		150.9	-340.5	621.4	597.9	23.53	26.411	
5,289.6	5,277.0	5,246.3	5,234.0	13.1	12.8	-151.25		154.7	-346.8	633.9	609.9	23.95	26.465	
5,300.0	5,287.4	5,256.7	5,244.3	13.1	12.9	-151.25		155.2	-347.6	635.3	611.3	24.00	26.468	
5,400.0	5,387.2	5,375.3	5,362.7	13.3	13.1	-151.27		159.3	-354.5	646.2	621.7	24.45	26.428	
5,500.0	5,487.2	5,499.3	5,486.6	13.5	13.3	-151.28		161.0	-357.3	650.4	625.5	24.86	26.165	
5,512.8	5,500.0	5,514.7	5,502.0	13.5	13.4	-89.91		161.0	-357.3	650.4	625.5	24.91	26.115	
5,600.0	5,587.2	5,601.9	5,589.2	13.7	13.5	-89.91		161.0	-357.3	650.4	625.2	25.24	25.768	
5,700.0	5,687.2	5,701.9	5,689.2	13.9	13.7	-89.91		161.0	-357.3	650.4	624.8	25.66	25.350	
5,800.0	5,787.2	5,801.9	5,789.2	14.1	13.9	-89.91		161.0	-357.3	650.4	624.3	26.07	24.945	
5,900.0	5,887.2	5,901.9	5,889.2	14.2	14.1	-89.91		161.0	-357.3	650.4	623.9	26.49	24.551	
6,000.0	5,987.2	6,001.9	5,989.2	14.4	14.3	-89.91		161.0	-357.3	650.4	623.5	26.91	24.169	
6,100.0	6,087.2	6,101.9	6,089.2	14.6	14.5	-89.91		161.0	-357.3	650.4	623.1	27.33	23.798	
6,118.9	6,106.1	6,120.8	6,108.1	14.7	14.5	-89.91		161.0	-357.3	650.4	623.0	27.41	23.729	
6,150.0	6,137.2	6,151.9	6,139.2	14.7	14.6	90.09		160.4	-357.3	650.4	622.9	27.53	23.629	
6,200.0	6,187.1	6,202.0	6,189.2	14.8	14.7	90.09		156.7	-357.3	650.4	622.7	27.68	23.501	
6,250.0	6,236.6	6,252.1	6,238.7	14.9	14.7	90.09		149.8	-357.3	650.4	622.6	27.80	23.392	
6,300.0	6,285.5	6,302.1	6,287.8	14.9	14.8	90.09		139.6	-357.3	650.4	622.5	27.91	23.300	
6,350.0	6,333.7	6,352.2	6,336.0	15.0	14.8	90.09		126.3	-357.3	650.4	622.4	28.01	23.220	
6,400.0	6,380.9	6,402.3	6,383.3	15.0	14.9	90.09		109.8	-357.3	650.4	622.3	28.10	23.147	
6,450.0	6,426.9	6,452.4	6,429.4	15.1	14.9	90.09		90.3	-357.3	650.4	622.2	28.19	23.075	
6,500.0	6,471.6	6,502.4	6,474.1	15.1	15.0	90.09		67.8	-357.3	650.4	622.1	28.28	22.995	
6,550.0	6,514.7	6,552.5	6,517.2	15.2	15.0	90.09		42.4	-357.3	650.4	622.0	28.40	22.902	
6,600.0	6,556.0	6,602.5	6,558.6	15.2	15.1	90.08		14.2	-357.3	650.4	621.9	28.54	22.787	
6,650.0	6,595.4	6,652.6	6,598.0	15.3	15.1	90.08		-16.6	-357.3	650.4	621.7	28.72	22.643	
6,700.0	6,632.8	6,702.7	6,635.4	15.4	15.2	90.08		-49.9	-357.3	650.4	621.5	28.96	22.462	
6,750.0	6,667.8	6,752.7	6,670.5	15.4	15.3	90.08		-85.6	-357.3	650.4	621.2	29.25	22.240	
6,800.0	6,700.5	6,802.8	6,703.1	15.6	15.4	90.07		-123.5	-357.3	650.4	620.8	29.60	21.971	
6,850.0	6,730.6	6,852.8	6,733.3	15.7	15.5	90.07		-163.5	-357.3	650.4	620.4	30.04	21.653	
6,900.0	6,758.1	6,902.9	6,760.7	15.9	15.8	90.06		-205.3	-357.3	650.4	619.9	30.55	21.288	
6,950.0	6,782.7	6,952.9	6,785.3	16.2	16.0	90.06		-248.9	-357.3	650.4	619.3	31.15	20.877	
7,000.0	6,804.5	7,003.0	6,807.0	16.5	16.3	90.06		-294.0	-357.3	650.4	618.6	31.85	20.424	
7,050.0	6,823.2	7,053.0	6,825.8	16.9	16.7	90.05		-340.4	-357.3	650.4	617.8	32.62	19.937	
7,100.0	6,838.9	7,103.1	6,841.4	17.3	17.1	90.05		-387.9	-357.3	650.4	616.9	33.49	19.422	
7,150.0	6,851.5	7,153.1	6,853.9	17.8	17.6	90.04		-436.3	-357.3	650.4	616.0	34.44	18.888	
7,200.0	6,860.8	7,203.1	6,863.2	18.3	18.1	90.03		-485.5	-357.3	650.4	614.9	35.46	18.342	
7,250.0	6,866.9	7,253.1	6,869.3	18.8	18.6	90.03		-535.1	-357.3	650.4	613.9	36.55	17.794	
7,300.0	6,869.8	7,303.2	6,872.1	19.4	19.2	90.02		-585.0	-357.3	650.4	612.7	37.71	17.249	
7,323.7	6,870.0	7,326.9	6,872.3	19.6	19.5	90.02		-608.7	-357.3	650.4	612.1	38.27	16.993	
7,400.0	6,869.6	7,403.2	6,871.9	20.6	20.4	90.03		-685.0	-357.3	650.4	610.2	40.18	16.186	
7,500.0	6,868.9	7,503.2	6,871.3	21.9	21.7	90.03		-785.0	-357.3	650.4	607.5	42.86	15.176	
7,600.0	6,868.3	7,603.2	6,870.7	23.3	23.1	90.04		-885.0	-357.3	650.4	604.7	45.70	14.233	
7,700.0	6,867.7	7,703.2	6,870.2	24.8	24.6	90.04		-985.0	-357.3	650.4	601.7	48.68	13.362	
7,800.0	6,867.0	7,803.2	6,869.6	26.3	26.1	90.05		-1,085.0	-357.3	650.4	598.6	51.77	12.564	
7,900.0	6,866.4	7,903.2	6,869.1	27.9	27.7	90.06		-1,185.0	-357.3	650.4	595.5	54.95	11.836	
8,000.0	6,865.8	8,003.2	6,868.5	29.5	29.3	90.06		-1,285.0	-357.3	650.4	592.2	58.22	11.172	
8,100.0	6,865.2	8,103.2	6,867.9	31.1	31.0	90.07		-1,385.0	-357.3	650.4	588.9	61.55	10.568	
8,200.0	6,864.5	8,203.2	6,867.4	32.8	32.7	90.07		-1,485.0	-357.3	650.4	585.5	64.93	10.017	
8,300.0	6,863.9	8,303.2	6,866.8	34.5	34.4	90.08		-1,585.0	-357.3	650.4	582.0	68.37	9.513	
8,400.0	6,863.3	8,403.2	6,866.3	36.2	36.1	90.09		-1,685.0	-357.3	650.4	578.6	71.84	9.053	

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 5R-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5R-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 (5-30-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5M-323 - Wellbore #1 - Plan #2 (5-30-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
8,500.0	6,862.6	8,503.2	6,865.7	38.0	37.9	90.09	90.09	-1,785.0	-357.3	650.4	575.1	75.35	8.631	
8,600.0	6,862.0	8,603.2	6,865.1	39.7	39.6	90.10	90.10	-1,885.0	-357.3	650.4	571.5	78.89	8.244	
8,700.0	6,861.4	8,703.2	6,864.6	41.5	41.4	90.11	90.11	-1,985.0	-357.3	650.4	567.9	82.46	7.887	
8,800.0	6,860.8	8,803.2	6,864.0	43.3	43.2	90.11	90.11	-2,085.0	-357.3	650.4	564.4	86.05	7.558	
8,900.0	6,860.1	8,903.2	6,863.5	45.1	45.0	90.12	90.12	-2,185.0	-357.3	650.4	560.7	89.66	7.254	
9,000.0	6,859.5	9,003.2	6,862.9	46.9	46.8	90.12	90.12	-2,285.0	-357.3	650.4	557.1	93.29	6.972	
9,100.0	6,858.9	9,103.2	6,862.4	48.7	48.6	90.13	90.13	-2,385.0	-357.3	650.4	553.5	96.94	6.709	
9,200.0	6,858.3	9,203.2	6,861.8	50.5	50.4	90.14	90.14	-2,485.0	-357.3	650.4	549.8	100.60	6.465	
9,300.0	6,857.6	9,303.2	6,861.2	52.4	52.3	90.14	90.14	-2,585.0	-357.3	650.4	546.1	104.27	6.238	
9,400.0	6,857.0	9,403.2	6,860.7	54.2	54.1	90.15	90.15	-2,685.0	-357.3	650.4	542.4	107.95	6.025	
9,500.0	6,856.4	9,503.2	6,860.1	56.0	55.9	90.15	90.15	-2,785.0	-357.3	650.4	538.8	111.65	5.825	
9,600.0	6,855.7	9,603.2	6,859.6	57.9	57.8	90.16	90.16	-2,885.0	-357.3	650.4	535.0	115.35	5.638	
9,700.0	6,855.1	9,703.2	6,859.0	59.7	59.6	90.17	90.17	-2,985.0	-357.3	650.4	531.3	119.06	5.463	
9,800.0	6,854.5	9,803.2	6,858.4	61.6	61.5	90.17	90.17	-3,085.0	-357.3	650.4	527.6	122.78	5.297	
9,900.0	6,853.9	9,903.2	6,857.9	63.5	63.4	90.18	90.18	-3,185.0	-357.3	650.4	523.9	126.51	5.141	
10,000.0	6,853.2	10,003.2	6,857.3	65.3	65.2	90.19	90.19	-3,285.0	-357.3	650.4	520.2	130.24	4.994	
10,100.0	6,852.6	10,103.2	6,856.8	67.2	67.1	90.19	90.19	-3,385.0	-357.3	650.4	516.4	133.98	4.854	
10,200.0	6,852.0	10,203.2	6,856.2	69.0	69.0	90.20	90.20	-3,485.0	-357.3	650.4	512.7	137.73	4.722	
10,300.0	6,851.3	10,303.2	6,855.7	70.9	70.8	90.20	90.20	-3,585.0	-357.3	650.4	508.9	141.48	4.597	
10,400.0	6,850.7	10,403.2	6,855.1	72.8	72.7	90.21	90.21	-3,685.0	-357.3	650.4	505.2	145.23	4.478	
10,500.0	6,850.1	10,503.2	6,854.5	74.7	74.6	90.22	90.22	-3,785.0	-357.3	650.4	501.4	148.99	4.365	
10,600.0	6,849.5	10,603.2	6,854.0	76.5	76.5	90.22	90.22	-3,885.0	-357.3	650.4	497.6	152.75	4.258	
10,700.0	6,848.8	10,703.2	6,853.4	78.4	78.3	90.23	90.23	-3,985.0	-357.3	650.4	493.9	156.52	4.155	
10,800.0	6,848.2	10,803.2	6,852.9	80.3	80.2	90.23	90.23	-4,085.0	-357.3	650.4	490.1	160.29	4.058	
10,900.0	6,847.6	10,903.2	6,852.3	82.2	82.1	90.24	90.24	-4,185.0	-357.3	650.4	486.3	164.06	3.964	
11,000.0	6,846.9	11,003.2	6,851.7	84.1	84.0	90.25	90.25	-4,285.0	-357.3	650.4	482.6	167.84	3.875	
11,100.0	6,846.3	11,103.2	6,851.2	86.0	85.9	90.25	90.25	-4,385.0	-357.3	650.4	478.8	171.62	3.790	
11,200.0	6,845.7	11,203.2	6,850.6	87.8	87.8	90.26	90.26	-4,485.0	-357.3	650.4	475.0	175.40	3.708	
11,308.9	6,845.0	11,312.0	6,850.0	89.9	89.8	90.27	90.27	-4,593.9	-357.3	650.4	470.9	179.52	3.623 SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5R-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5R-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 (5-30-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5M-423 - Wellbore #1 - Plan #2 (5-30-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	2.0	2.0	0.0	0.0	-90.00	0.0	-120.0	120.0	120.0	0.00	N/A		
100.0	100.0	102.0	102.0	0.1	0.1	-90.00	0.0	-120.0	120.0	119.8	0.23	523.464		
200.0	200.0	202.0	202.0	0.3	0.3	-90.00	0.0	-120.0	120.0	119.3	0.68	176.799		
300.0	300.0	302.0	302.0	0.6	0.6	-90.00	0.0	-120.0	120.0	118.9	1.13	106.361		
400.0	400.0	402.0	402.0	0.8	0.8	-90.00	0.0	-120.0	120.0	118.4	1.58	76.059		
500.0	500.0	502.0	502.0	1.0	1.0	-90.00	0.0	-120.0	120.0	118.0	2.03	59.194		
600.0	600.0	602.0	602.0	1.2	1.2	-90.00	0.0	-120.0	120.0	117.5	2.48	48.451		
700.0	700.0	702.0	702.0	1.5	1.5	-90.00	0.0	-120.0	120.0	117.1	2.93	41.009		
800.0	800.0	802.0	802.0	1.7	1.7	-90.00	0.0	-120.0	120.0	116.6	3.38	35.548		
900.0	900.0	902.0	902.0	1.9	1.9	-90.00	0.0	-120.0	120.0	116.2	3.83	31.371		
966.0	966.0	968.0	968.0	2.1	2.1	-90.00	0.0	-120.0	120.0	115.9	4.12	29.113 CC		
1,000.0	1,000.0	1,001.9	1,001.9	2.1	2.1	-90.00	0.0	-120.0	120.0	115.7	4.27	28.075 ES		
1,100.0	1,100.0	1,098.0	1,098.0	2.4	2.3	-151.44	0.6	-121.6	123.2	118.5	4.70	26.210		
1,200.0	1,199.8	1,193.6	1,193.4	2.6	2.6	-151.67	2.2	-126.2	132.6	127.4	5.11	25.915		
1,223.2	1,223.0	1,215.7	1,215.5	2.6	2.6	-151.74	2.8	-127.6	135.6	130.4	5.21	26.019		
1,300.0	1,299.5	1,288.2	1,287.7	2.8	2.8	-151.91	4.9	-133.6	147.2	141.6	5.54	26.585		
1,400.0	1,399.2	1,385.0	1,384.0	3.0	3.0	-151.84	8.6	-143.7	164.3	158.3	5.97	27.530		
1,500.0	1,498.9	1,483.5	1,481.8	3.3	3.2	-151.75	12.4	-154.1	181.6	175.2	6.40	28.370		
1,600.0	1,598.6	1,582.0	1,579.7	3.5	3.5	-151.68	16.1	-164.5	198.9	192.1	6.84	29.080		
1,700.0	1,698.3	1,680.5	1,677.6	3.7	3.8	-151.62	19.9	-174.9	216.3	209.0	7.29	29.685		
1,800.0	1,798.0	1,779.0	1,775.4	4.0	4.0	-151.57	23.7	-185.2	233.6	225.9	7.73	30.206		
1,900.0	1,897.7	1,877.5	1,873.3	4.2	4.3	-151.52	27.4	-195.6	250.9	242.7	8.19	30.655		
2,000.0	1,997.4	1,976.0	1,971.2	4.5	4.6	-151.48	31.2	-206.0	268.2	259.6	8.64	31.052		
2,100.0	2,097.1	2,074.5	2,069.0	4.8	4.9	-151.45	35.0	-216.4	285.6	276.5	9.10	31.399		
2,200.0	2,196.8	2,172.9	2,166.9	5.0	5.2	-151.42	38.8	-226.8	302.9	293.3	9.55	31.706		
2,300.0	2,296.5	2,271.4	2,264.7	5.3	5.4	-151.39	42.5	-237.2	320.2	310.2	10.01	31.980		
2,400.0	2,396.2	2,369.9	2,362.6	5.5	5.7	-151.37	46.3	-247.6	337.6	327.1	10.47	32.225		
2,500.0	2,495.9	2,468.4	2,460.5	5.8	6.0	-151.35	50.1	-258.0	354.9	343.9	10.94	32.446		
2,600.0	2,595.6	2,566.9	2,558.3	6.0	6.3	-151.33	53.8	-268.4	372.2	360.8	11.40	32.645		
2,700.0	2,695.3	2,665.4	2,656.2	6.3	6.6	-151.31	57.6	-278.8	389.5	377.7	11.87	32.826		
2,800.0	2,795.0	2,763.9	2,754.1	6.6	6.9	-151.29	61.4	-289.2	406.9	394.5	12.33	32.991		
2,900.0	2,894.7	2,862.4	2,851.9	6.8	7.2	-151.28	65.2	-299.6	424.2	411.4	12.80	33.142		
3,000.0	2,994.4	2,960.8	2,949.8	7.1	7.5	-151.27	68.9	-310.0	441.5	428.2	13.27	33.280		
3,100.0	3,094.1	3,059.3	3,047.7	7.3	7.8	-151.25	72.7	-320.4	458.8	445.1	13.73	33.407		
3,200.0	3,193.8	3,157.8	3,145.5	7.6	8.1	-151.24	76.5	-330.8	476.2	462.0	14.20	33.525		
3,300.0	3,293.5	3,256.3	3,243.4	7.9	8.4	-151.23	80.3	-341.2	493.5	478.8	14.67	33.634		
3,400.0	3,393.2	3,354.8	3,341.3	8.1	8.7	-151.22	84.0	-351.6	510.8	495.7	15.14	33.735		
3,500.0	3,492.9	3,453.3	3,439.1	8.4	9.0	-151.21	87.8	-362.0	528.1	512.5	15.61	33.829		
3,600.0	3,592.6	3,551.8	3,537.0	8.6	9.3	-151.20	91.6	-372.4	545.5	529.4	16.08	33.916		
3,700.0	3,692.3	3,650.3	3,634.8	8.9	9.6	-151.19	95.3	-382.8	562.8	546.2	16.55	33.998		
3,800.0	3,792.0	3,748.7	3,732.7	9.2	9.9	-151.18	99.1	-393.2	580.1	563.1	17.03	34.075		
3,900.0	3,891.7	3,847.2	3,830.6	9.4	10.2	-151.18	102.9	-403.6	597.5	580.0	17.50	34.146		
4,000.0	3,991.3	3,945.7	3,928.4	9.7	10.5	-151.17	106.7	-414.0	614.8	596.8	17.97	34.214		
4,100.0	4,091.0	4,044.2	4,026.3	10.0	10.8	-151.16	110.4	-424.4	632.1	613.7	18.44	34.277		
4,200.0	4,190.7	4,142.7	4,124.2	10.2	11.1	-151.16	114.2	-434.8	649.4	630.5	18.91	34.337		
4,300.0	4,290.4	4,241.2	4,222.0	10.5	11.4	-151.15	118.0	-445.2	666.8	647.4	19.39	34.394		
4,400.0	4,390.1	4,339.7	4,319.9	10.7	11.7	-151.14	121.7	-455.6	684.1	664.2	19.86	34.447		
4,500.0	4,489.8	4,438.2	4,417.8	11.0	12.0	-151.14	125.5	-466.0	701.4	681.1	20.33	34.498		
4,600.0	4,589.5	4,536.6	4,515.6	11.3	12.3	-151.13	129.3	-476.4	718.7	697.9	20.81	34.546		
4,700.0	4,689.2	4,635.1	4,613.5	11.5	12.6	-151.13	133.1	-486.8	736.1	714.8	21.28	34.591		
4,800.0	4,788.9	4,733.6	4,711.4	11.8	12.9	-151.12	136.8	-497.2	753.4	731.6	21.75	34.634		

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 5R-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5R-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 (5-30-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5M-423 - Wellbore #1 - Plan #2 (5-30-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,900.0	4,888.6	4,832.1	4,809.2	12.1	13.2	-151.12		140.6	-507.6	770.7	748.5	22.23	34.675	
5,000.0	4,988.3	4,930.6	4,907.1	12.3	13.5	-151.12		144.4	-518.0	788.1	765.4	22.70	34.714	
5,100.0	5,088.0	5,029.1	5,004.9	12.6	13.8	-151.11		148.1	-528.4	805.4	782.2	23.18	34.752	
5,200.0	5,187.7	5,127.6	5,102.8	12.9	14.1	-151.11		151.9	-538.8	822.7	799.1	23.65	34.787	
5,289.6	5,277.0	5,220.4	5,195.1	13.1	14.3	-151.11		155.5	-548.5	838.2	814.1	24.08	34.807	
5,300.0	5,287.4	5,234.6	5,209.2	13.1	14.4	-151.12		156.0	-549.9	839.9	815.8	24.14	34.794	
5,400.0	5,387.2	5,372.1	5,346.2	13.3	14.7	-151.25		159.6	-559.9	852.2	827.5	24.64	34.592	
5,500.0	5,487.2	5,510.9	5,485.0	13.5	14.9	-151.30		161.0	-563.8	856.9	831.8	25.08	34.171	
5,512.8	5,500.0	5,527.9	5,502.0	13.5	14.9	-89.93		161.0	-563.8	856.9	831.8	25.13	34.100	
5,600.0	5,587.2	5,615.1	5,589.2	13.7	15.1	-89.93		161.0	-563.8	856.9	831.4	25.46	33.654	
5,700.0	5,687.2	5,715.1	5,689.2	13.9	15.3	-89.93		161.0	-563.8	856.9	831.0	25.87	33.124	
5,800.0	5,787.2	5,815.1	5,789.2	14.1	15.4	-89.93		161.0	-563.8	856.9	830.6	26.28	32.609	
5,900.0	5,887.2	5,915.1	5,889.2	14.2	15.6	-89.93		161.0	-563.8	856.9	830.2	26.69	32.108	
6,000.0	5,987.2	6,015.1	5,989.2	14.4	15.8	-89.93		161.0	-563.8	856.9	829.8	27.10	31.621	
6,100.0	6,087.2	6,115.1	6,089.2	14.6	16.0	-89.93		161.0	-563.8	856.9	829.4	27.51	31.147	
6,118.9	6,106.1	6,134.0	6,108.1	14.7	16.0	-89.93		161.0	-563.8	856.9	829.3	27.59	31.059	
6,150.0	6,137.2	6,165.1	6,139.2	14.7	16.1	90.11		161.0	-563.8	856.9	829.2	27.71	30.923	
6,200.0	6,187.1	6,215.0	6,189.1	14.8	16.2	90.35		161.0	-563.8	856.9	829.0	27.89	30.729	
6,250.0	6,236.6	6,264.8	6,238.9	14.9	16.2	90.79		160.7	-563.8	857.0	829.0	28.04	30.562	
6,300.0	6,285.5	6,313.3	6,289.3	14.9	16.3	91.26		157.5	-563.8	857.1	828.9	28.17	30.426	
6,350.0	6,333.7	6,366.4	6,339.9	15.0	16.4	91.72		151.0	-563.8	857.3	829.0	28.28	30.312	
6,400.0	6,380.9	6,417.9	6,390.4	15.0	16.4	92.18		141.0	-563.8	857.5	829.2	28.38	30.215	
6,450.0	6,426.9	6,469.9	6,440.6	15.1	16.5	92.63		127.4	-563.8	857.8	829.4	28.47	30.128	
6,500.0	6,471.6	6,522.4	6,490.2	15.1	16.5	93.08		110.3	-563.8	858.2	829.6	28.56	30.043	
6,550.0	6,514.7	6,575.4	6,539.1	15.2	16.6	93.51		89.6	-563.8	858.5	829.9	28.66	29.951	
6,600.0	6,556.0	6,628.9	6,586.8	15.2	16.6	93.93		65.3	-563.8	859.0	830.2	28.78	29.842	
6,650.0	6,595.4	6,683.0	6,633.1	15.3	16.7	94.33		37.5	-563.8	859.4	830.5	28.93	29.703	
6,700.0	6,632.8	6,737.5	6,677.7	15.4	16.7	94.71		6.1	-563.8	859.9	830.7	29.12	29.525	
6,750.0	6,667.8	6,792.5	6,720.3	15.4	16.8	95.08		-28.6	-563.8	860.3	831.0	29.36	29.300	
6,800.0	6,700.5	6,848.0	6,760.7	15.6	16.8	95.42		-66.7	-563.8	860.8	831.1	29.67	29.012	
6,850.0	6,730.6	6,904.0	6,798.4	15.7	16.9	95.73		-107.9	-563.8	861.3	831.2	30.05	28.657	
6,900.0	6,758.1	6,960.3	6,833.3	15.9	17.1	96.03		-152.2	-563.8	861.7	831.2	30.52	28.231	
6,950.0	6,782.7	7,017.0	6,865.1	16.2	17.2	96.29		-199.2	-563.8	862.1	831.0	31.09	27.734	
7,000.0	6,804.5	7,074.1	6,893.4	16.5	17.5	96.52		-248.7	-563.8	862.5	830.8	31.74	27.171	
7,050.0	6,823.2	7,131.5	6,918.1	16.9	17.8	96.72		-300.5	-563.8	862.9	830.4	32.50	26.546	
7,100.0	6,838.9	7,189.2	6,938.9	17.3	18.1	96.89		-354.3	-563.8	863.2	829.8	33.36	25.872	
7,150.0	6,851.5	7,247.1	6,955.6	17.8	18.6	97.02		-409.7	-563.8	863.4	829.1	34.32	25.158	
7,200.0	6,860.8	7,305.2	6,968.2	18.3	19.1	97.12		-466.4	-563.8	863.6	828.2	35.37	24.414	
7,250.0	6,866.9	7,363.2	6,976.4	18.8	19.6	97.18		-523.8	-563.8	863.7	827.2	36.51	23.659	
7,300.0	6,869.8	7,413.2	6,981.6	19.4	20.1	97.32		-573.5	-563.8	864.0	826.4	37.62	22.968	
7,323.7	6,870.0	7,436.8	6,984.1	19.6	20.4	97.44		-597.0	-563.8	864.3	826.1	38.16	22.652	
7,400.0	6,869.6	7,521.4	6,989.8	20.6	21.4	97.85		-681.4	-563.8	865.0	824.9	40.10	21.572	
7,500.0	6,868.9	7,625.0	6,990.3	21.9	22.7	97.93		-785.0	-563.8	865.2	822.4	42.78	20.226	
7,600.0	6,868.3	7,725.0	6,990.4	23.3	24.0	97.97		-885.0	-563.8	865.3	819.7	45.57	18.989	
7,700.0	6,867.7	7,825.0	6,990.4	24.8	25.5	98.02		-985.0	-563.8	865.4	816.9	48.50	17.844	
7,800.0	6,867.0	7,925.0	6,990.4	26.3	27.0	98.06		-1,085.0	-563.8	865.5	813.9	51.54	16.792	
7,900.0	6,866.4	8,025.0	6,990.4	27.9	28.5	98.10		-1,185.0	-563.8	865.6	810.9	54.68	15.830	
8,000.0	6,865.8	8,125.0	6,990.4	29.5	30.1	98.14		-1,285.0	-563.8	865.7	807.8	57.90	14.952	
8,100.0	6,865.2	8,225.0	6,990.4	31.1	31.7	98.19		-1,385.0	-563.8	865.7	804.6	61.18	14.151	
8,200.0	6,864.5	8,325.0	6,990.5	32.8	33.3	98.23		-1,485.0	-563.8	865.8	801.3	64.52	13.420	
8,300.0	6,863.9	8,425.0	6,990.5	34.5	35.0	98.27		-1,585.0	-563.8	865.9	798.0	67.91	12.752	

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 5R-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5R-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 (5-30-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5M-423 - Wellbore #1 - Plan #2 (5-30-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
8,400.0	6,863.3	8,525.0	6,990.5	36.2	36.7	98.31	98.31	-1,685.0	-563.8	866.0	794.7	71.33	12.140	
8,500.0	6,862.6	8,625.0	6,990.5	38.0	38.4	98.36	98.36	-1,785.0	-563.8	866.1	791.3	74.80	11.580	
8,600.0	6,862.0	8,725.0	6,990.5	39.7	40.2	98.40	98.40	-1,885.0	-563.8	866.2	787.9	78.29	11.064	
8,700.0	6,861.4	8,825.0	6,990.5	41.5	41.9	98.44	98.44	-1,985.0	-563.8	866.3	784.5	81.81	10.589	
8,800.0	6,860.8	8,925.0	6,990.6	43.3	43.7	98.48	98.48	-2,085.0	-563.8	866.4	781.1	85.35	10.151	
8,900.0	6,860.1	9,025.0	6,990.6	45.1	45.5	98.52	98.52	-2,185.0	-563.8	866.5	777.6	88.92	9.745	
9,000.0	6,859.5	9,125.0	6,990.6	46.9	47.3	98.57	98.57	-2,285.0	-563.8	866.6	774.1	92.50	9.369	
9,100.0	6,858.9	9,225.0	6,990.6	48.7	49.1	98.61	98.61	-2,385.0	-563.8	866.7	770.6	96.09	9.019	
9,200.0	6,858.3	9,325.0	6,990.6	50.5	50.9	98.65	98.65	-2,485.0	-563.8	866.8	767.1	99.70	8.694	
9,300.0	6,857.6	9,425.0	6,990.6	52.4	52.7	98.69	98.69	-2,585.0	-563.8	866.9	763.6	103.33	8.390	
9,400.0	6,857.0	9,525.0	6,990.7	54.2	54.5	98.74	98.74	-2,685.0	-563.8	867.0	760.0	106.96	8.106	
9,500.0	6,856.4	9,625.0	6,990.7	56.0	56.3	98.78	98.78	-2,785.0	-563.8	867.1	756.5	110.60	7.840	
9,600.0	6,855.7	9,725.0	6,990.7	57.9	58.2	98.82	98.82	-2,885.0	-563.8	867.2	752.9	114.26	7.590	
9,700.0	6,855.1	9,825.0	6,990.7	59.7	60.0	98.86	98.86	-2,985.0	-563.8	867.3	749.4	117.92	7.355	
9,800.0	6,854.5	9,925.0	6,990.7	61.6	61.9	98.90	98.90	-3,085.0	-563.8	867.4	745.8	121.58	7.134	
9,900.0	6,853.9	10,025.0	6,990.8	63.5	63.7	98.95	98.95	-3,185.0	-563.8	867.5	742.2	125.26	6.926	
10,000.0	6,853.2	10,125.0	6,990.8	65.3	65.6	98.99	98.99	-3,285.0	-563.8	867.6	738.7	128.93	6.729	
10,100.0	6,852.6	10,225.0	6,990.8	67.2	67.4	99.03	99.03	-3,385.0	-563.8	867.7	735.1	132.62	6.543	
10,200.0	6,852.0	10,325.0	6,990.8	69.0	69.3	99.07	99.07	-3,485.0	-563.8	867.8	731.5	136.31	6.366	
10,300.0	6,851.3	10,425.0	6,990.8	70.9	71.1	99.11	99.11	-3,585.0	-563.8	867.9	727.9	140.00	6.199	
10,400.0	6,850.7	10,525.0	6,990.8	72.8	73.0	99.16	99.16	-3,685.0	-563.8	868.0	724.3	143.70	6.040	
10,500.0	6,850.1	10,625.0	6,990.9	74.7	74.9	99.20	99.20	-3,784.9	-563.8	868.1	720.7	147.40	5.889	
10,600.0	6,849.5	10,725.0	6,990.9	76.5	76.8	99.24	99.24	-3,884.9	-563.8	868.2	717.1	151.10	5.746	
10,700.0	6,848.8	10,824.9	6,990.9	78.4	78.6	99.28	99.28	-3,984.9	-563.8	868.3	713.5	154.81	5.609	
10,800.0	6,848.2	10,924.9	6,990.9	80.3	80.5	99.32	99.32	-4,084.9	-563.8	868.4	709.9	158.52	5.478	
10,900.0	6,847.6	11,024.9	6,990.9	82.2	82.4	99.37	99.37	-4,184.9	-563.8	868.5	706.3	162.23	5.354	
11,000.0	6,846.9	11,124.9	6,990.9	84.1	84.3	99.41	99.41	-4,284.9	-563.8	868.6	702.7	165.95	5.234	
11,100.0	6,846.3	11,224.9	6,991.0	86.0	86.1	99.45	99.45	-4,384.9	-563.8	868.7	699.1	169.66	5.120	
11,200.0	6,845.7	11,324.9	6,991.0	87.8	88.0	99.49	99.49	-4,484.9	-563.8	868.9	695.5	173.38	5.011	
11,308.9	6,845.0	11,433.8	6,991.0	89.9	90.1	99.54	99.54	-4,593.8	-563.9	869.0	691.5	177.43	4.898 SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5R-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5R-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 (5-30-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5R-243 - Wellbore #1 - Plan #1 (5-30-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	1.0	1.0	0.0	0.0	-90.00	-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	-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	-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	-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	-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	-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	-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	-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	-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	-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	-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	-152.11	-152.11	0.0	-61.4	62.9	58.2	4.71	13.351	
1,200.0	1,199.8	1,200.8	1,200.8	2.6	2.6	-154.15	-154.15	0.0	-61.4	67.6	62.5	5.15	13.136	
1,223.2	1,223.0	1,224.0	1,224.0	2.6	2.6	-154.75	-154.75	0.0	-61.4	69.2	63.9	5.25	13.180	
1,300.0	1,299.5	1,300.5	1,300.5	2.8	2.8	-156.71	-156.71	0.0	-61.4	74.6	69.0	5.58	13.363	
1,400.0	1,399.2	1,400.2	1,400.2	3.0	3.0	-158.87	-158.87	0.0	-61.4	81.8	75.8	6.02	13.583	
1,500.0	1,498.9	1,499.9	1,499.9	3.3	3.3	-160.67	-160.67	0.0	-61.4	89.1	82.7	6.47	13.784	
1,600.0	1,598.6	1,599.6	1,599.6	3.5	3.5	-162.20	-162.20	0.0	-61.4	96.5	89.6	6.91	13.966	
1,700.0	1,698.3	1,699.3	1,699.3	3.7	3.7	-163.51	-163.51	0.0	-61.4	103.9	96.6	7.36	14.132	
1,800.0	1,798.0	1,799.0	1,799.0	4.0	3.9	-164.65	-164.65	0.0	-61.4	111.4	103.6	7.80	14.283	
1,900.0	1,897.7	1,898.7	1,898.7	4.2	4.2	-165.64	-165.64	0.0	-61.4	119.0	110.7	8.25	14.421	
2,000.0	1,997.4	1,998.4	1,998.4	4.5	4.4	-166.51	-166.51	0.0	-61.4	126.5	117.8	8.70	14.546	
2,100.0	2,097.1	2,098.1	2,098.1	4.8	4.6	-167.29	-167.29	0.0	-61.4	134.1	125.0	9.15	14.662	
2,200.0	2,196.8	2,197.8	2,197.8	5.0	4.8	-167.98	-167.98	0.0	-61.4	141.7	132.1	9.60	14.768	
2,300.0	2,296.5	2,297.5	2,297.5	5.3	5.1	-168.60	-168.60	0.0	-61.4	149.3	139.3	10.05	14.866	
2,400.0	2,396.2	2,397.2	2,397.2	5.5	5.3	-169.16	-169.16	0.0	-61.4	157.0	146.5	10.50	14.956	
2,500.0	2,495.9	2,496.9	2,496.9	5.8	5.5	-169.67	-169.67	0.0	-61.4	164.6	153.7	10.95	15.039	
2,600.0	2,595.6	2,596.6	2,596.6	6.0	5.7	-170.14	-170.14	0.0	-61.4	172.3	160.9	11.40	15.117	
2,700.0	2,695.3	2,696.3	2,696.3	6.3	5.9	-170.56	-170.56	0.0	-61.4	180.0	168.1	11.85	15.189	
2,800.0	2,795.0	2,796.0	2,796.0	6.6	6.2	-170.95	-170.95	0.0	-61.4	187.6	175.3	12.30	15.256	
2,900.0	2,894.7	2,895.7	2,895.7	6.8	6.4	-171.31	-171.31	0.0	-61.4	195.3	182.6	12.75	15.319	
3,000.0	2,994.4	2,995.4	2,995.4	7.1	6.6	-171.64	-171.64	0.0	-61.4	203.0	189.8	13.20	15.378	
3,100.0	3,094.1	3,095.1	3,095.1	7.3	6.8	-171.52	-171.52	1.5	-61.9	210.7	197.1	13.65	15.433	
3,200.0	3,193.8	3,194.7	3,194.5	7.6	7.1	-170.50	-170.50	6.2	-63.7	218.5	204.4	14.11	15.488	
3,300.0	3,293.5	3,294.2	3,293.7	7.9	7.3	-168.96	-168.96	13.1	-66.2	226.4	211.8	14.56	15.547	
3,400.0	3,393.2	3,393.7	3,393.0	8.1	7.5	-167.51	-167.51	20.0	-68.7	234.4	219.4	15.02	15.610	
3,500.0	3,492.9	3,493.2	3,492.2	8.4	7.7	-166.16	-166.16	27.0	-71.3	242.6	227.1	15.48	15.674	
3,600.0	3,592.6	3,592.7	3,591.4	8.6	8.0	-164.89	-164.89	33.9	-73.8	250.9	234.9	15.94	15.740	
3,700.0	3,692.3	3,692.2	3,690.7	8.9	8.2	-163.71	-163.71	40.9	-76.4	259.3	242.9	16.40	15.806	
3,800.0	3,792.0	3,791.7	3,789.9	9.2	8.4	-162.60	-162.60	47.8	-78.9	267.8	250.9	16.87	15.873	
3,900.0	3,891.7	3,891.2	3,889.1	9.4	8.7	-161.56	-161.56	54.8	-81.5	276.4	259.1	17.34	15.940	
4,000.0	3,991.3	3,990.7	3,988.4	9.7	8.9	-160.59	-160.59	61.7	-84.0	285.1	267.3	17.81	16.006	
4,100.0	4,091.0	4,090.2	4,087.6	10.0	9.1	-159.67	-159.67	68.6	-86.5	293.9	275.6	18.29	16.071	
4,200.0	4,190.7	4,189.7	4,186.8	10.2	9.4	-158.80	-158.80	75.6	-89.1	302.8	284.0	18.76	16.136	
4,300.0	4,290.4	4,289.2	4,286.1	10.5	9.6	-157.99	-157.99	82.5	-91.6	311.7	292.4	19.24	16.199	
4,400.0	4,390.1	4,388.7	4,385.3	10.7	9.9	-157.22	-157.22	89.5	-94.2	320.6	300.9	19.72	16.262	
4,500.0	4,489.8	4,488.2	4,484.5	11.0	10.1	-156.49	-156.49	96.4	-96.7	329.7	309.5	20.20	16.323	
4,600.0	4,589.5	4,587.7	4,583.7	11.3	10.3	-155.80	-155.80	103.4	-99.3	338.7	318.1	20.68	16.383	
4,700.0	4,689.2	4,687.2	4,683.0	11.5	10.6	-155.15	-155.15	110.3	-101.8	347.9	326.7	21.16	16.441	
4,800.0	4,788.9	4,786.8	4,782.2	11.8	10.8	-154.53	-154.53	117.2	-104.4	357.0	335.4	21.64	16.498	
4,900.0	4,888.6	4,886.3	4,881.4	12.1	11.1	-153.94	-153.94	124.2	-106.9	366.2	344.1	22.12	16.554	

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 Becker Ranch 5R-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5R-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 (5-30-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5R-243 - Wellbore #1 - Plan #1 (5-30-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.0	4,988.3	4,985.8	4,980.7	12.3	11.3	-153.38		131.1	-109.4	375.5	352.9	22.61	16.608	
5,100.0	5,088.0	5,085.3	5,079.9	12.6	11.6	-152.85		138.1	-112.0	384.8	361.7	23.09	16.662	
5,200.0	5,187.7	5,184.8	5,179.1	12.9	11.8	-152.34		145.0	-114.5	394.1	370.5	23.58	16.713	
5,289.6	5,277.0	5,273.9	5,268.0	13.1	12.0	-151.90		151.2	-116.8	402.4	378.4	24.01	16.759	
5,300.0	5,287.4	5,284.3	5,278.4	13.1	12.0	-151.86		152.0	-117.1	403.4	379.3	24.06	16.763	
5,400.0	5,387.2	5,388.6	5,382.5	13.3	12.3	-151.50		157.7	-119.2	410.4	385.9	24.47	16.770	
5,500.0	5,487.2	5,493.7	5,487.6	13.5	12.4	-151.37		160.0	-120.0	413.1	388.3	24.83	16.636	
5,512.8	5,500.0	5,507.1	5,501.0	13.5	12.5	-90.00		160.0	-120.0	413.1	388.2	24.87	16.608	
5,600.0	5,587.2	5,594.4	5,588.2	13.7	12.6	-90.00		160.0	-120.0	413.1	387.9	25.21	16.387	
5,700.0	5,687.2	5,694.4	5,688.2	13.9	12.8	-90.00		160.0	-120.0	413.1	387.5	25.63	16.117	
5,800.0	5,787.2	5,794.4	5,788.2	14.1	13.1	-90.00		160.0	-120.0	413.1	387.1	26.06	15.854	
5,900.0	5,887.2	5,894.4	5,888.2	14.2	13.3	-90.00		160.0	-120.0	413.1	386.6	26.48	15.599	
6,000.0	5,987.2	5,994.4	5,988.2	14.4	13.5	-90.00		160.0	-120.0	413.1	386.2	26.91	15.352	
6,048.1	6,035.3	6,042.4	6,036.3	14.5	13.6	-90.00		160.0	-120.0	413.1	386.0	27.11	15.236	
6,100.0	6,087.2	6,094.3	6,088.1	14.6	13.7	-90.29		157.9	-120.0	413.1	385.8	27.30	15.132	
6,118.9	6,106.1	6,113.0	6,106.7	14.7	13.7	-90.51		156.3	-120.0	413.1	385.8	27.36	15.099	
6,150.0	6,137.2	6,143.8	6,137.3	14.7	13.7	89.07		152.7	-120.0	413.2	385.7	27.45	15.049	
6,200.0	6,187.1	6,192.9	6,185.7	14.8	13.8	88.40		144.4	-120.0	413.3	385.7	27.58	14.987	
6,250.0	6,236.6	6,241.8	6,233.3	14.9	13.9	87.75		133.0	-120.0	413.4	385.8	27.68	14.936	
6,300.0	6,285.5	6,290.4	6,279.7	14.9	13.9	87.10		118.7	-120.0	413.7	385.9	27.77	14.896	
6,350.0	6,333.7	6,338.7	6,324.9	15.0	13.9	86.46		101.6	-120.0	413.9	386.1	27.85	14.861	
6,400.0	6,380.9	6,386.8	6,368.6	15.0	14.0	85.85		81.8	-120.0	414.2	386.3	27.93	14.830	
6,450.0	6,426.9	6,434.5	6,410.9	15.1	14.0	85.25		59.4	-120.0	414.6	386.5	28.02	14.797	
6,500.0	6,471.6	6,482.1	6,451.4	15.1	14.1	84.67		34.6	-120.0	414.9	386.8	28.12	14.758	
6,550.0	6,514.7	6,529.4	6,490.1	15.2	14.2	84.12		7.4	-120.0	415.3	387.1	28.24	14.709	
6,600.0	6,556.0	6,576.5	6,526.9	15.2	14.2	83.59		-22.0	-120.0	415.7	387.3	28.39	14.645	
6,650.0	6,595.4	6,623.4	6,561.7	15.3	14.3	83.10		-53.4	-120.0	416.2	387.6	28.58	14.563	
6,700.0	6,632.8	6,670.1	6,594.3	15.4	14.4	82.63		-86.8	-120.0	416.6	387.8	28.81	14.458	
6,750.0	6,667.8	6,716.7	6,624.8	15.4	14.6	82.19		-122.0	-120.0	417.0	387.9	29.10	14.328	
6,800.0	6,700.5	6,763.0	6,652.9	15.6	14.8	81.78		-158.9	-120.0	417.4	388.0	29.46	14.171	
6,850.0	6,730.6	6,809.3	6,678.7	15.7	15.0	81.41		-197.2	-120.0	417.8	387.9	29.88	13.985	
6,900.0	6,758.1	6,855.3	6,702.0	15.9	15.3	81.07		-237.0	-120.0	418.2	387.8	30.37	13.771	
6,950.0	6,782.7	6,900.0	6,722.3	16.2	15.6	80.77		-276.7	-120.0	418.6	387.6	30.92	13.535	
7,000.0	6,804.5	6,947.2	6,741.2	16.5	15.9	80.50		-320.0	-120.0	418.9	387.3	31.58	13.264	
7,050.0	6,823.2	6,992.9	6,756.9	16.9	16.3	80.27		-362.9	-120.0	419.2	386.9	32.30	12.976	
7,100.0	6,838.9	7,038.6	6,770.0	17.3	16.7	80.07		-406.7	-120.0	419.4	386.3	33.10	12.670	
7,150.0	6,851.5	7,084.3	6,780.5	17.8	17.2	79.92		-451.1	-120.0	419.6	385.6	33.97	12.351	
7,200.0	6,860.8	7,129.9	6,788.3	18.3	17.7	79.81		-496.0	-120.0	419.7	384.8	34.91	12.023	
7,250.0	6,866.9	7,175.4	6,793.4	18.8	18.2	79.73		-541.3	-120.0	419.8	383.9	35.92	11.690	
7,300.0	6,869.8	7,220.9	6,795.8	19.4	18.7	79.70		-586.7	-120.0	419.9	382.9	36.98	11.356	
7,323.7	6,870.0	7,243.9	6,795.9	19.6	19.0	79.70		-609.7	-120.0	419.9	382.4	37.51	11.193	
7,341.8	6,869.9	7,260.5	6,795.8	19.9	19.2	79.69		-626.3	-120.0	419.9	382.0	37.94	11.068	
7,400.0	6,869.6	7,318.7	6,795.4	20.6	19.9	79.68		-684.5	-120.0	419.9	380.5	39.39	10.661	
7,500.0	6,868.9	7,418.7	6,794.6	21.9	21.3	79.67		-784.5	-120.0	419.9	377.9	42.03	9.992	
7,600.0	6,868.3	7,518.7	6,793.9	23.3	22.7	79.65		-884.5	-120.0	420.0	375.1	44.83	9.367	
7,700.0	6,867.7	7,618.7	6,793.1	24.8	24.2	79.63		-984.5	-120.0	420.0	372.2	47.77	8.791	
7,800.0	6,867.0	7,718.7	6,792.4	26.3	25.8	79.62		-1,084.5	-120.0	420.0	369.2	50.82	8.264	
7,900.0	6,866.4	7,818.7	6,791.6	27.9	27.4	79.60		-1,184.5	-120.0	420.0	366.1	53.96	7.783	
8,000.0	6,865.8	7,918.7	6,790.9	29.5	29.0	79.59		-1,284.5	-120.0	420.0	362.9	57.19	7.345	
8,100.0	6,865.2	8,018.7	6,790.1	31.1	30.7	79.57		-1,384.5	-120.0	420.1	359.6	60.47	6.947	
8,200.0	6,864.5	8,118.7	6,789.4	32.8	32.4	79.55		-1,484.5	-120.0	420.1	356.3	63.81	6.583	

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 5R-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5R-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 (5-30-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5R-243 - Wellbore #1 - Plan #1 (5-30-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
8,300.0	6,863.9	8,218.7	6,788.6	34.5	34.1	79.54	79.54	-1,584.5	-120.0	420.1	352.9	67.20	6.252	
8,400.0	6,863.3	8,318.7	6,787.9	36.2	35.8	79.52	79.52	-1,684.4	-120.0	420.1	349.5	70.62	5.949	
8,500.0	6,862.6	8,418.7	6,787.1	38.0	37.6	79.50	79.50	-1,784.4	-120.0	420.2	346.1	74.08	5.671	
8,600.0	6,862.0	8,518.7	6,786.4	39.7	39.4	79.49	79.49	-1,884.4	-120.0	420.2	342.6	77.57	5.417	
8,700.0	6,861.4	8,618.7	6,785.6	41.5	41.2	79.47	79.47	-1,984.4	-120.0	420.2	339.1	81.09	5.182	
8,800.0	6,860.8	8,718.7	6,784.9	43.3	43.0	79.45	79.45	-2,084.4	-120.0	420.2	335.6	84.62	4.966	
8,900.0	6,860.1	8,818.7	6,784.1	45.1	44.8	79.44	79.44	-2,184.4	-120.0	420.2	332.1	88.18	4.766	
9,000.0	6,859.5	8,918.7	6,783.4	46.9	46.6	79.42	79.42	-2,284.4	-120.0	420.3	328.5	91.76	4.580	
9,100.0	6,858.9	9,018.7	6,782.6	48.7	48.4	79.41	79.41	-2,384.4	-120.0	420.3	324.9	95.35	4.408	
9,200.0	6,858.3	9,118.7	6,781.9	50.5	50.2	79.39	79.39	-2,484.4	-120.0	420.3	321.4	98.95	4.248	
9,300.0	6,857.6	9,218.7	6,781.1	52.4	52.1	79.37	79.37	-2,584.4	-120.0	420.3	317.8	102.57	4.098	
9,400.0	6,857.0	9,318.7	6,780.4	54.2	53.9	79.36	79.36	-2,684.4	-120.0	420.4	314.2	106.19	3.958	
9,500.0	6,856.4	9,418.7	6,779.6	56.0	55.8	79.34	79.34	-2,784.4	-120.0	420.4	310.5	109.83	3.828	
9,600.0	6,855.7	9,518.7	6,778.9	57.9	57.6	79.32	79.32	-2,884.4	-120.0	420.4	306.9	113.47	3.705	
9,700.0	6,855.1	9,618.7	6,778.1	59.7	59.5	79.31	79.31	-2,984.4	-120.0	420.4	303.3	117.13	3.589	
9,800.0	6,854.5	9,718.7	6,777.4	61.6	61.3	79.29	79.29	-3,084.4	-120.0	420.4	299.7	120.79	3.481	
9,900.0	6,853.9	9,818.7	6,776.6	63.5	63.2	79.27	79.27	-3,184.4	-120.0	420.5	296.0	124.45	3.378	
10,000.0	6,853.2	9,918.7	6,775.9	65.3	65.1	79.26	79.26	-3,284.4	-120.0	420.5	292.4	128.13	3.282	
10,100.0	6,852.6	10,018.7	6,775.1	67.2	66.9	79.24	79.24	-3,384.4	-120.0	420.5	288.7	131.80	3.190	
10,200.0	6,852.0	10,118.7	6,774.4	69.0	68.8	79.23	79.23	-3,484.4	-120.0	420.5	285.0	135.49	3.104	
10,300.0	6,851.3	10,218.7	6,773.6	70.9	70.7	79.21	79.21	-3,584.4	-120.0	420.6	281.4	139.18	3.022	
10,400.0	6,850.7	10,318.7	6,772.9	72.8	72.6	79.19	79.19	-3,684.4	-120.0	420.6	277.7	142.87	2.944	
10,500.0	6,850.1	10,418.7	6,772.1	74.7	74.5	79.18	79.18	-3,784.4	-120.0	420.6	274.0	146.56	2.870	
10,600.0	6,849.5	10,518.7	6,771.4	76.5	76.3	79.16	79.16	-3,884.4	-120.0	420.6	270.4	150.26	2.799	
10,700.0	6,848.8	10,618.7	6,770.6	78.4	78.2	79.14	79.14	-3,984.4	-120.0	420.7	266.7	153.96	2.732	
10,800.0	6,848.2	10,718.7	6,769.9	80.3	80.1	79.13	79.13	-4,084.4	-120.0	420.7	263.0	157.67	2.668	
10,900.0	6,847.6	10,818.7	6,769.1	82.2	82.0	79.11	79.11	-4,184.4	-120.0	420.7	259.3	161.38	2.607	
11,000.0	6,846.9	10,918.7	6,768.3	84.1	83.9	79.09	79.09	-4,284.4	-120.0	420.7	255.6	165.09	2.548	
11,100.0	6,846.3	11,018.7	6,767.6	86.0	85.8	79.08	79.08	-4,384.4	-120.0	420.7	251.9	168.80	2.493	
11,200.0	6,845.7	11,118.7	6,766.8	87.8	87.7	79.06	79.06	-4,484.4	-120.0	420.8	248.3	172.51	2.439	
11,308.9	6,845.0	11,227.6	6,766.0	89.9	89.7	79.04	79.04	-4,593.2	-120.0	420.8	244.2	176.56	2.383 SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5R-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5R-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 (5-30-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-89.97	-89.97	0.0	-30.7	30.7				
100.0	100.0	100.0	100.0	0.1	0.1	-89.97	-89.97	0.0	-30.7	30.7	30.5	0.22	136.588	
200.0	200.0	200.0	200.0	0.3	0.3	-89.97	-89.97	0.0	-30.7	30.7	30.0	0.67	45.529	
300.0	300.0	300.0	300.0	0.6	0.6	-89.97	-89.97	0.0	-30.7	30.7	29.6	1.12	27.318	
400.0	400.0	400.0	400.0	0.8	0.8	-89.97	-89.97	0.0	-30.7	30.7	29.1	1.57	19.513	
500.0	500.0	500.0	500.0	1.0	1.0	-89.97	-89.97	0.0	-30.7	30.7	28.7	2.02	15.176	
600.0	600.0	600.0	600.0	1.2	1.2	-89.97	-89.97	0.0	-30.7	30.7	28.2	2.47	12.417	
700.0	700.0	700.0	700.0	1.5	1.5	-89.97	-89.97	0.0	-30.7	30.7	27.8	2.92	10.507	
800.0	800.0	800.0	800.0	1.7	1.7	-89.97	-89.97	0.0	-30.7	30.7	27.3	3.37	9.106	
900.0	900.0	900.0	900.0	1.9	1.9	-89.97	-89.97	0.0	-30.7	30.7	26.9	3.82	8.035	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-89.97	-89.97	0.0	-30.7	30.7	26.4	4.27	7.189 CC, ES	
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	-152.82	-152.82	0.0	-30.7	32.2	27.5	4.71	6.843	
1,200.0	1,199.8	1,199.8	1,199.8	2.6	2.6	-156.48	-156.48	0.0	-30.7	37.0	31.8	5.14	7.187	
1,223.2	1,223.0	1,223.0	1,223.0	2.6	2.6	-157.49	-157.49	0.0	-30.7	38.6	33.3	5.24	7.351	
1,300.0	1,299.5	1,299.5	1,299.5	2.8	2.8	-160.46	-160.46	0.0	-30.7	44.1	38.6	5.58	7.909	
1,400.0	1,399.2	1,399.2	1,399.2	3.0	3.0	-163.35	-163.35	0.0	-30.7	51.5	45.5	6.02	8.561	
1,500.0	1,498.9	1,498.9	1,498.9	3.3	3.3	-165.52	-165.52	0.0	-30.7	59.0	52.6	6.46	9.136	
1,600.0	1,598.6	1,600.4	1,600.4	3.5	3.5	-166.27	-166.27	1.4	-29.7	65.3	58.3	6.91	9.449	
1,700.0	1,698.3	1,701.6	1,701.5	3.7	3.7	-165.13	-165.13	5.6	-26.6	68.9	61.5	7.35	9.371	
1,800.0	1,798.0	1,801.6	1,801.2	4.0	3.9	-163.67	-163.67	10.4	-23.1	71.9	64.1	7.79	9.221	
1,900.0	1,897.7	1,901.5	1,901.0	4.2	4.2	-162.33	-162.33	15.2	-19.6	74.9	66.7	8.24	9.089	
2,000.0	1,997.4	2,001.4	2,000.8	4.5	4.4	-161.10	-161.10	20.0	-16.1	78.0	69.3	8.69	8.971	
2,100.0	2,097.1	2,101.4	2,100.5	4.8	4.6	-159.96	-159.96	24.8	-12.6	81.1	71.9	9.15	8.865	
2,200.0	2,196.8	2,201.3	2,200.3	5.0	4.8	-158.91	-158.91	29.6	-9.1	84.2	74.6	9.60	8.771	
2,300.0	2,296.5	2,301.3	2,300.0	5.3	5.1	-157.93	-157.93	34.4	-5.5	87.4	77.3	10.06	8.685	
2,400.0	2,396.2	2,401.2	2,399.8	5.5	5.3	-157.02	-157.02	39.2	-2.0	90.6	80.0	10.52	8.607	
2,500.0	2,495.9	2,501.1	2,499.6	5.8	5.5	-156.17	-156.17	44.0	1.5	93.8	82.8	10.99	8.536	
2,600.0	2,595.6	2,601.1	2,599.3	6.0	5.8	-155.38	-155.38	48.7	5.0	97.0	85.6	11.45	8.471	
2,700.0	2,695.3	2,701.0	2,699.1	6.3	6.0	-154.64	-154.64	53.5	8.5	100.3	88.3	11.92	8.411	
2,800.0	2,795.0	2,801.0	2,798.9	6.6	6.3	-153.95	-153.95	58.3	12.0	103.5	91.1	12.39	8.356	
2,900.0	2,894.7	2,900.9	2,898.6	6.8	6.5	-153.30	-153.30	63.1	15.5	106.8	93.9	12.86	8.305	
3,000.0	2,994.4	3,000.8	2,998.4	7.1	6.7	-152.68	-152.68	67.9	19.0	110.1	96.8	13.33	8.257	
3,100.0	3,094.1	3,100.8	3,098.1	7.3	7.0	-152.11	-152.11	72.7	22.6	113.4	99.6	13.81	8.213	
3,200.0	3,193.8	3,200.7	3,197.9	7.6	7.2	-151.56	-151.56	77.5	26.1	116.7	102.4	14.28	8.173	
3,300.0	3,293.5	3,300.6	3,297.7	7.9	7.5	-151.05	-151.05	82.3	29.6	120.0	105.3	14.76	8.134	
3,400.0	3,393.2	3,400.6	3,397.4	8.1	7.7	-150.56	-150.56	87.1	33.1	123.4	108.1	15.23	8.099	
3,500.0	3,492.9	3,500.5	3,497.2	8.4	7.9	-150.10	-150.10	91.9	36.6	126.7	111.0	15.71	8.065	
3,600.0	3,592.6	3,600.5	3,596.9	8.6	8.2	-149.66	-149.66	96.7	40.1	130.0	113.9	16.19	8.034	
3,700.0	3,692.3	3,700.4	3,696.7	8.9	8.4	-149.25	-149.25	101.5	43.6	133.4	116.7	16.67	8.004	
3,800.0	3,792.0	3,800.3	3,796.5	9.2	8.7	-148.85	-148.85	106.3	47.1	136.8	119.6	17.15	7.976	
3,900.0	3,891.7	3,900.3	3,896.2	9.4	8.9	-148.48	-148.48	111.1	50.6	140.1	122.5	17.63	7.950	
4,000.0	3,991.3	4,000.2	3,996.0	9.7	9.2	-148.12	-148.12	115.9	54.2	143.5	125.4	18.11	7.925	
4,100.0	4,091.0	4,100.2	4,095.8	10.0	9.4	-147.78	-147.78	120.7	57.7	146.9	128.3	18.59	7.901	
4,200.0	4,190.7	4,200.1	4,195.5	10.2	9.7	-147.45	-147.45	125.5	61.2	150.3	131.2	19.07	7.879	
4,300.0	4,290.4	4,300.0	4,295.3	10.5	9.9	-147.14	-147.14	130.2	64.7	153.7	134.1	19.56	7.858	
4,400.0	4,390.1	4,400.0	4,395.0	10.7	10.1	-146.84	-146.84	135.0	68.2	157.0	137.0	20.04	7.837	
4,500.0	4,489.8	4,499.9	4,494.8	11.0	10.4	-146.56	-146.56	139.8	71.7	160.4	139.9	20.52	7.818	
4,600.0	4,589.5	4,599.9	4,594.6	11.3	10.6	-146.28	-146.28	144.6	75.2	163.8	142.8	21.01	7.800	
4,700.0	4,689.2	4,699.8	4,694.3	11.5	10.9	-146.02	-146.02	149.4	78.7	167.3	145.8	21.49	7.782	
4,800.0	4,788.9	4,799.7	4,794.1	11.8	11.1	-145.77	-145.77	154.2	82.3	170.7	148.7	21.98	7.766	
4,900.0	4,888.6	4,897.7	4,892.0	12.1	11.3	-145.72	-145.72	158.4	85.3	174.4	152.0	22.43	7.775	

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 5R-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5R-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 (5-30-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5R-443 - Wellbore #1 - Plan #2 (5-30-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.0	4,988.3	4,994.5	4,988.7	12.3	11.5	-146.52		160.0	86.5	179.8	157.0	22.82	7.879	
5,100.0	5,088.0	5,093.8	5,088.0	12.6	11.7	-147.83		160.0	86.5	186.4	163.1	23.22	8.026	
5,200.0	5,187.7	5,193.5	5,187.7	12.9	11.9	-149.06		160.0	86.5	193.0	169.4	23.64	8.165	
5,289.6	5,277.0	5,282.8	5,277.0	13.1	12.1	-150.09		160.0	86.5	199.0	175.0	24.02	8.287	
5,300.0	5,287.4	5,293.2	5,287.4	13.1	12.1	-150.21		160.0	86.5	199.7	175.6	24.06	8.301	
5,400.0	5,387.2	5,393.0	5,387.2	13.3	12.3	-151.05		160.0	86.5	204.7	180.2	24.44	8.373	
5,500.0	5,487.2	5,493.0	5,487.2	13.5	12.5	-151.36		160.0	86.5	206.6	181.8	24.81	8.325	
5,512.8	5,500.0	5,505.8	5,500.0	13.5	12.6	-90.00		160.0	86.5	206.6	181.7	24.86	8.310	
5,600.0	5,587.2	5,593.0	5,587.2	13.7	12.8	-90.00		160.0	86.5	206.6	181.4	25.22	8.193	
5,700.0	5,687.2	5,693.0	5,687.2	13.9	13.0	-90.00		160.0	86.5	206.6	181.0	25.64	8.058	
5,800.0	5,787.2	5,793.0	5,787.2	14.1	13.2	-90.00		160.0	86.5	206.6	180.5	26.06	7.928	
5,900.0	5,887.2	5,893.0	5,887.2	14.2	13.4	-90.00		160.0	86.5	206.6	180.1	26.48	7.801	
6,000.0	5,987.2	5,993.0	5,987.2	14.4	13.6	-90.00		160.0	86.5	206.6	179.7	26.91	7.678	
6,100.0	6,087.2	6,093.0	6,087.2	14.6	13.8	-90.00		160.0	86.5	206.6	179.3	27.33	7.558	
6,118.9	6,106.1	6,111.9	6,106.1	14.7	13.9	-90.00		160.0	86.5	206.6	179.2	27.42	7.536	
6,123.2	6,110.4	6,116.2	6,110.4	14.7	13.9	90.01		160.0	86.5	206.6	179.2	27.43	7.531	
6,150.0	6,137.2	6,143.0	6,137.2	14.7	13.9	90.18		160.0	86.5	206.6	179.1	27.54	7.501	
6,200.0	6,187.1	6,192.9	6,187.1	14.8	14.0	91.19		160.0	86.5	206.6	178.9	27.75	7.446	
6,250.0	6,236.6	6,242.7	6,236.9	14.9	14.1	93.01		159.7	86.5	206.9	178.9	27.96	7.399	
6,300.0	6,285.5	6,293.1	6,287.2	14.9	14.2	94.98		156.7	86.5	207.4	179.3	28.13	7.372	
6,350.0	6,333.7	6,344.0	6,337.7	15.0	14.3	96.93		150.3	86.5	208.2	179.9	28.28	7.360	
6,400.0	6,380.9	6,395.5	6,388.2	15.0	14.3	98.84		140.5	86.5	209.1	180.7	28.39	7.365	
6,450.0	6,426.9	6,447.4	6,438.4	15.1	14.4	100.70		127.1	86.5	210.3	181.8	28.48	7.385	
6,500.0	6,471.6	6,499.9	6,488.0	15.1	14.5	102.51		110.1	86.5	211.7	183.2	28.54	7.419	
6,550.0	6,514.7	6,552.9	6,536.9	15.2	14.5	104.25		89.6	86.5	213.3	184.7	28.57	7.465	
6,600.0	6,556.0	6,606.4	6,584.6	15.2	14.6	105.91		65.5	86.5	215.0	186.4	28.59	7.519	
6,650.0	6,595.4	6,660.5	6,631.0	15.3	14.6	107.49		37.8	86.5	216.8	188.2	28.60	7.578	
6,700.0	6,632.8	6,715.0	6,675.8	15.4	14.7	108.97		6.6	86.5	218.6	190.0	28.62	7.638	
6,750.0	6,667.8	6,770.0	6,718.5	15.4	14.7	110.36		-28.0	86.5	220.5	191.9	28.67	7.692	
6,800.0	6,700.5	6,825.6	6,759.0	15.6	14.8	111.64		-66.0	86.5	222.4	193.7	28.75	7.736	
6,850.0	6,730.6	6,881.5	6,796.9	15.7	15.0	112.82		-107.2	86.5	224.3	195.4	28.89	7.764	
6,900.0	6,758.1	6,938.0	6,832.0	15.9	15.2	113.88		-151.3	86.5	226.1	197.0	29.10	7.769	
6,950.0	6,782.7	6,994.8	6,863.9	16.2	15.5	114.82		-198.3	86.5	227.7	198.3	29.40	7.746	
7,000.0	6,804.5	7,052.0	6,892.4	16.5	15.8	115.66		-247.9	86.5	229.3	199.5	29.81	7.691	
7,050.0	6,823.2	7,109.5	6,917.3	16.9	16.2	116.37		-299.7	86.5	230.7	200.3	30.34	7.602	
7,100.0	6,838.9	7,167.3	6,938.3	17.3	16.7	116.96		-353.5	86.5	231.8	200.8	31.00	7.479	
7,150.0	6,851.5	7,225.3	6,955.2	17.8	17.2	117.43		-409.0	86.5	232.8	201.0	31.78	7.324	
7,200.0	6,860.8	7,283.5	6,967.9	18.3	17.8	117.78		-465.8	86.5	233.5	200.8	32.70	7.141	
7,250.0	6,866.9	7,341.9	6,976.3	18.8	18.4	118.01		-523.6	86.5	234.0	200.3	33.75	6.934	
7,300.0	6,869.8	7,391.9	6,981.5	19.4	19.0	118.45		-573.3	86.5	235.1	200.4	34.76	6.765	
7,323.7	6,870.0	7,415.5	6,984.0	19.6	19.2	118.86		-596.8	86.5	236.2	201.0	35.21	6.709	
7,400.0	6,869.6	7,500.1	6,989.8	20.6	20.3	120.18		-681.2	86.5	239.0	202.4	36.66	6.520	
7,500.0	6,868.9	7,603.9	6,990.3	21.9	21.7	120.44		-785.0	86.5	239.6	200.6	38.99	6.146	
7,600.0	6,868.3	7,703.9	6,990.4	23.3	23.1	120.57		-885.0	86.5	240.0	198.5	41.44	5.790	
7,700.0	6,867.7	7,803.9	6,990.4	24.8	24.5	120.71		-985.0	86.5	240.3	196.3	44.01	5.460	
7,800.0	6,867.0	7,903.9	6,990.4	26.3	26.1	120.84		-1,085.0	86.5	240.6	193.9	46.67	5.156	
7,900.0	6,866.4	8,003.9	6,990.4	27.9	27.7	120.97		-1,185.0	86.5	240.9	191.5	49.41	4.877	
8,000.0	6,865.8	8,103.9	6,990.4	29.5	29.3	121.10		-1,285.0	86.5	241.3	189.1	52.21	4.621	
8,100.0	6,865.2	8,203.9	6,990.4	31.1	30.9	121.23		-1,385.0	86.5	241.6	186.5	55.06	4.388	
8,200.0	6,864.5	8,303.9	6,990.5	32.8	32.6	121.36		-1,485.0	86.5	241.9	184.0	57.96	4.174	
8,300.0	6,863.9	8,403.9	6,990.5	34.5	34.3	121.49		-1,585.0	86.5	242.3	181.4	60.89	3.979	

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 5R-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5R-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 (5-30-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5R-443 - Wellbore #1 - Plan #2 (5-30-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
8,400.0	6,863.3	8,503.9	6,990.5	36.2	36.1	121.62	121.62	-1,685.0	86.5	242.6	178.8	63.85	3.800	
8,500.0	6,862.6	8,603.9	6,990.5	38.0	37.8	121.75	121.75	-1,785.0	86.5	243.0	176.1	66.84	3.635	
8,600.0	6,862.0	8,703.9	6,990.5	39.7	39.6	121.88	121.88	-1,885.0	86.5	243.3	173.4	69.85	3.483	
8,700.0	6,861.4	8,803.9	6,990.5	41.5	41.4	122.01	122.01	-1,985.0	86.5	243.6	170.8	72.87	3.343	
8,800.0	6,860.8	8,903.9	6,990.6	43.3	43.1	122.14	122.14	-2,085.0	86.5	244.0	168.1	75.91	3.214	
8,900.0	6,860.1	9,003.9	6,990.6	45.1	44.9	122.27	122.27	-2,185.0	86.5	244.3	165.4	78.96	3.094	
9,000.0	6,859.5	9,103.9	6,990.6	46.9	46.8	122.40	122.40	-2,285.0	86.5	244.7	162.6	82.02	2.983	
9,100.0	6,858.9	9,203.9	6,990.6	48.7	48.6	122.53	122.53	-2,385.0	86.5	245.0	159.9	85.08	2.880	
9,200.0	6,858.3	9,303.9	6,990.6	50.5	50.4	122.65	122.65	-2,485.0	86.5	245.4	157.2	88.15	2.783	
9,300.0	6,857.6	9,403.9	6,990.6	52.4	52.2	122.78	122.78	-2,585.0	86.5	245.7	154.5	91.23	2.693	
9,400.0	6,857.0	9,503.9	6,990.7	54.2	54.1	122.91	122.91	-2,685.0	86.5	246.1	151.7	94.31	2.609	
9,500.0	6,856.4	9,603.9	6,990.7	56.0	55.9	123.03	123.03	-2,785.0	86.5	246.4	149.0	97.39	2.530	
9,600.0	6,855.7	9,703.9	6,990.7	57.9	57.8	123.16	123.16	-2,885.0	86.5	246.8	146.3	100.47	2.456	
9,700.0	6,855.1	9,803.9	6,990.7	59.7	59.6	123.28	123.28	-2,985.0	86.5	247.1	143.6	103.55	2.386	
9,800.0	6,854.5	9,903.9	6,990.7	61.6	61.5	123.41	123.41	-3,085.0	86.5	247.5	140.8	106.63	2.321	
9,900.0	6,853.9	10,003.9	6,990.8	63.5	63.3	123.53	123.53	-3,185.0	86.5	247.8	138.1	109.71	2.259	
10,000.0	6,853.2	10,103.9	6,990.8	65.3	65.2	123.66	123.66	-3,285.0	86.5	248.2	135.4	112.79	2.200	
10,100.0	6,852.6	10,203.9	6,990.8	67.2	67.1	123.78	123.78	-3,385.0	86.5	248.5	132.7	115.87	2.145	
10,200.0	6,852.0	10,303.9	6,990.8	69.0	68.9	123.91	123.91	-3,485.0	86.5	248.9	129.9	118.94	2.093	
10,300.0	6,851.3	10,403.9	6,990.8	70.9	70.8	124.03	124.03	-3,585.0	86.5	249.3	127.2	122.02	2.043	
10,400.0	6,850.7	10,503.9	6,990.8	72.8	72.7	124.15	124.15	-3,685.0	86.5	249.6	124.5	125.08	1.996	
10,500.0	6,850.1	10,603.9	6,990.9	74.7	74.6	124.27	124.27	-3,785.0	86.5	250.0	121.8	128.15	1.951	
10,600.0	6,849.5	10,703.9	6,990.9	76.5	76.5	124.40	124.40	-3,885.0	86.5	250.3	119.1	131.21	1.908	
10,700.0	6,848.8	10,803.9	6,990.9	78.4	78.3	124.52	124.52	-3,985.0	86.5	250.7	116.4	134.26	1.867	
10,800.0	6,848.2	10,903.9	6,990.9	80.3	80.2	124.64	124.64	-4,085.0	86.5	251.1	113.8	137.32	1.828	
10,900.0	6,847.6	11,003.9	6,990.9	82.2	82.1	124.76	124.76	-4,184.9	86.5	251.4	111.1	140.36	1.791	
11,000.0	6,846.9	11,103.8	6,990.9	84.1	84.0	124.88	124.88	-4,284.9	86.5	251.8	108.4	143.40	1.756	
11,100.0	6,846.3	11,203.8	6,991.0	86.0	85.9	125.00	125.00	-4,384.9	86.5	252.2	105.7	146.44	1.722	
11,200.0	6,845.7	11,303.8	6,991.0	87.8	87.8	125.12	125.12	-4,484.9	86.5	252.5	103.1	149.47	1.690	
11,308.9	6,845.0	11,412.7	6,991.0	89.9	89.8	125.25	125.25	-4,593.8	86.5	253.0	100.2	152.72	1.656 SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5R-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5R-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 (5-30-14)	<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
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	2.0	2.0	0.0	0.0	90.00	90.00	0.0	935.0	935.0				
100.0	100.0	102.0	102.0	0.1	0.1	90.00	90.00	0.0	935.0	935.0	934.7	0.23	4,078.151	
200.0	200.0	202.0	202.0	0.3	0.3	90.00	90.00	0.0	935.0	935.0	934.3	0.68	1,377.389	
300.0	300.0	302.0	302.0	0.6	0.6	90.00	90.00	0.0	935.0	935.0	933.8	1.13	828.628	
400.0	400.0	402.0	402.0	0.8	0.8	90.00	90.00	0.0	935.0	935.0	933.4	1.58	592.552	
500.0	500.0	502.0	502.0	1.0	1.0	90.00	90.00	0.0	935.0	935.0	932.9	2.03	461.166	
600.0	600.0	602.0	602.0	1.2	1.2	90.00	90.00	0.0	935.0	935.0	932.5	2.48	377.470	
700.0	700.0	702.0	702.0	1.5	1.5	90.00	90.00	0.0	935.0	935.0	932.0	2.93	319.486	
800.0	800.0	802.0	802.0	1.7	1.7	90.00	90.00	0.0	935.0	935.0	931.6	3.38	276.945	
900.0	900.0	902.0	902.0	1.9	1.9	90.00	90.00	0.0	935.0	935.0	931.1	3.83	244.402	
1,000.0	1,000.0	1,002.9	1,002.9	2.1	2.1	90.00	90.00	0.0	935.0	935.0	930.7	4.28	218.615	
1,100.0	1,100.0	1,145.3	1,145.2	2.4	2.5	28.65	28.65	1.5	931.6	931.1	926.3	4.80	193.896	
1,200.0	1,199.8	1,280.1	1,279.7	2.6	2.7	28.72	28.72	5.5	922.5	919.6	914.3	5.31	173.273	
1,223.2	1,223.0	1,303.1	1,302.6	2.6	2.8	28.75	28.75	6.3	920.5	916.2	910.8	5.41	169.440	
1,300.0	1,299.5	1,379.0	1,378.1	2.8	3.0	28.75	28.75	9.1	914.1	904.5	898.7	5.73	157.717	
1,400.0	1,399.2	1,477.8	1,476.5	3.0	3.2	28.75	28.75	12.8	905.7	889.2	883.0	6.17	144.183	
1,500.0	1,498.9	1,576.6	1,574.9	3.3	3.5	28.76	28.76	16.4	897.4	873.9	867.3	6.61	132.309	
1,600.0	1,598.6	1,675.4	1,673.3	3.5	3.7	28.76	28.76	20.1	889.0	858.7	851.6	7.05	121.835	
1,700.0	1,698.3	1,774.3	1,771.7	3.7	4.0	28.76	28.76	23.7	880.6	843.4	835.9	7.49	112.544	
1,800.0	1,798.0	1,873.1	1,870.1	4.0	4.2	28.77	28.77	27.4	872.2	828.2	820.2	7.94	104.246	
1,900.0	1,897.7	1,971.9	1,968.5	4.2	4.5	28.77	28.77	31.0	863.9	812.9	804.5	8.40	96.819	
2,000.0	1,997.4	2,070.8	2,066.9	4.5	4.8	28.77	28.77	34.7	855.5	797.7	788.8	8.85	90.124	
2,100.0	2,097.1	2,169.6	2,165.4	4.8	5.0	28.78	28.78	38.3	847.1	782.4	773.1	9.31	84.066	
2,200.0	2,196.8	2,268.4	2,263.8	5.0	5.3	28.78	28.78	42.0	838.8	767.2	757.4	9.77	78.561	
2,300.0	2,296.5	2,367.3	2,362.2	5.3	5.6	28.79	28.79	45.6	830.4	751.9	741.7	10.22	73.540	
2,400.0	2,396.2	2,466.1	2,460.6	5.5	5.8	28.79	28.79	49.3	822.0	736.7	726.0	10.69	68.942	
2,500.0	2,495.9	2,564.9	2,559.0	5.8	6.1	28.80	28.80	52.9	813.7	721.4	710.2	11.15	64.717	
2,600.0	2,595.6	2,663.7	2,657.4	6.0	6.4	28.80	28.80	56.6	805.3	706.1	694.5	11.61	60.824	
2,700.0	2,695.3	2,762.6	2,755.8	6.3	6.6	28.81	28.81	60.2	796.9	690.9	678.8	12.07	57.225	
2,800.0	2,795.0	2,861.4	2,854.2	6.6	6.9	28.81	28.81	63.9	788.6	675.6	663.1	12.54	53.889	
2,900.0	2,894.7	2,960.2	2,952.6	6.8	7.2	28.82	28.82	67.5	780.2	660.4	647.4	13.00	50.789	
3,000.0	2,994.4	3,059.1	3,051.0	7.1	7.5	28.82	28.82	71.2	771.8	645.1	631.7	13.47	47.901	
3,100.0	3,094.1	3,157.9	3,149.4	7.3	7.7	28.83	28.83	74.8	763.5	629.9	615.9	13.93	45.203	
3,200.0	3,193.8	3,256.7	3,247.8	7.6	8.0	28.83	28.83	78.5	755.1	614.6	600.2	14.40	42.679	
3,300.0	3,293.5	3,355.6	3,346.2	7.9	8.3	28.84	28.84	82.1	746.7	599.4	584.5	14.87	40.312	
3,400.0	3,393.2	3,454.4	3,444.6	8.1	8.6	28.85	28.85	85.7	738.4	584.1	568.8	15.34	38.089	
3,500.0	3,492.9	3,553.2	3,543.1	8.4	8.8	28.85	28.85	89.4	730.0	568.8	553.0	15.80	35.996	
3,600.0	3,592.6	3,652.0	3,641.5	8.6	9.1	28.86	28.86	93.0	721.6	553.6	537.3	16.27	34.022	
3,700.0	3,692.3	3,750.9	3,739.9	8.9	9.4	28.87	28.87	96.7	713.3	538.3	521.6	16.74	32.159	
3,800.0	3,792.0	3,849.7	3,838.3	9.2	9.7	28.88	28.88	100.3	704.9	523.1	505.9	17.21	30.396	
3,900.0	3,891.7	3,948.5	3,936.7	9.4	9.9	28.89	28.89	104.0	696.5	507.8	490.1	17.68	28.727	
4,000.0	3,991.3	4,047.4	4,035.1	9.7	10.2	28.90	28.90	107.6	688.2	492.6	474.4	18.15	27.143	
4,100.0	4,091.0	4,146.2	4,133.5	10.0	10.5	28.91	28.91	111.3	679.8	477.3	458.7	18.62	25.639	
4,200.0	4,190.7	4,245.0	4,231.9	10.2	10.8	28.92	28.92	114.9	671.4	462.1	443.0	19.09	24.208	
4,300.0	4,290.4	4,343.8	4,330.3	10.5	11.0	28.93	28.93	118.6	663.1	446.8	427.2	19.56	22.847	
4,400.0	4,390.1	4,442.7	4,428.7	10.7	11.3	28.94	28.94	122.2	654.7	431.5	411.5	20.03	21.548	
4,500.0	4,489.8	4,541.5	4,527.1	11.0	11.6	28.96	28.96	125.9	646.3	416.3	395.8	20.50	20.310	
4,600.0	4,589.5	4,640.3	4,625.5	11.3	11.9	28.97	28.97	129.5	637.9	401.0	380.1	20.97	19.126	
4,700.0	4,689.2	4,739.2	4,723.9	11.5	12.2	28.99	28.99	133.2	629.6	385.8	364.3	21.44	17.995	
4,800.0	4,788.9	4,838.0	4,822.3	11.8	12.4	29.00	29.00	136.8	621.2	370.5	348.6	21.91	16.912	
4,900.0	4,888.6	4,936.8	4,920.7	12.1	12.7	29.02	29.02	140.5	612.8	355.3	332.9	22.38	15.874	

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 5R-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5R-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 (5-30-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
5,000.0	4,988.3	5,035.7	5,019.2	12.3	13.0	29.04	144.1	604.5	340.0	317.2	22.85	14.879		
5,100.0	5,088.0	5,134.5	5,117.6	12.6	13.3	29.06	147.8	596.1	324.8	301.4	23.32	13.925		
5,200.0	5,187.7	5,233.3	5,216.0	12.9	13.5	29.09	151.4	587.7	309.5	285.7	23.79	13.008		
5,289.6	5,277.0	5,315.8	5,298.2	13.1	13.7	29.16	154.2	581.4	296.5	272.4	24.18	12.263		
5,300.0	5,287.4	5,325.3	5,307.6	13.1	13.8	29.17	154.4	580.8	295.2	271.0	24.23	12.185		
5,400.0	5,387.2	5,416.3	5,398.5	13.3	13.9	29.21	156.3	576.5	285.5	260.9	24.61	11.603		
5,500.0	5,487.2	5,507.9	5,490.1	13.5	14.1	29.23	157.0	574.9	281.8	256.9	24.96	11.291		
5,512.8	5,500.0	5,519.8	5,502.0	13.5	14.1	90.60	157.0	574.9	281.8	256.8	25.00	11.270		
5,600.0	5,587.2	5,607.0	5,589.2	13.7	14.2	90.60	157.0	574.9	281.8	256.4	25.34	11.121		
5,700.0	5,687.2	5,707.0	5,689.2	13.9	14.4	90.60	157.0	574.9	281.8	256.0	25.75	10.944		
5,800.0	5,787.2	5,807.0	5,789.2	14.1	14.6	90.60	157.0	574.9	281.8	255.6	26.16	10.772		
5,900.0	5,887.2	5,907.0	5,889.2	14.2	14.8	90.60	157.0	574.9	281.8	255.2	26.57	10.604		
6,000.0	5,987.2	6,007.0	5,989.2	14.4	15.0	90.60	157.0	574.9	281.8	254.8	26.99	10.441		
6,050.6	6,037.8	6,057.6	6,039.8	14.5	15.1	90.60	157.0	574.9	281.8	254.6	27.20	10.361 CC		
6,100.0	6,087.2	6,106.8	6,089.0	14.6	15.2	90.78	156.2	574.9	281.8	254.4	27.39	10.288		
6,118.9	6,106.1	6,125.6	6,107.7	14.7	15.2	91.01	155.0	574.9	281.8	254.3	27.46	10.263		
6,150.0	6,137.2	6,156.4	6,138.4	14.7	15.2	-88.53	152.2	574.9	281.9	254.3	27.56	10.227		
6,200.0	6,187.1	6,205.7	6,187.2	14.8	15.3	-87.81	145.1	574.9	282.0	254.3	27.70	10.180		
6,250.0	6,236.6	6,254.7	6,235.1	14.9	15.4	-87.10	134.9	574.9	282.1	254.3	27.82	10.141		
6,300.0	6,285.5	6,303.6	6,282.2	14.9	15.4	-86.40	121.7	574.9	282.3	254.4	27.92	10.111		
6,350.0	6,333.7	6,352.2	6,328.1	15.0	15.5	-85.71	105.6	574.9	282.6	254.5	28.02	10.085		
6,400.0	6,380.9	6,400.0	6,372.1	15.0	15.5	-85.06	87.0	574.9	282.8	254.7	28.10	10.063		
6,450.0	6,426.9	6,448.9	6,415.8	15.1	15.5	-84.41	65.1	574.9	283.1	254.9	28.19	10.041		
6,500.0	6,471.6	6,497.0	6,457.3	15.1	15.6	-83.80	40.9	574.9	283.4	255.1	28.29	10.017		
6,550.0	6,514.7	6,544.9	6,497.1	15.2	15.6	-83.21	14.3	574.9	283.8	255.3	28.41	9.987		
6,600.0	6,556.0	6,592.6	6,535.1	15.2	15.7	-82.66	-14.7	574.9	284.1	255.5	28.55	9.949		
6,650.0	6,595.4	6,640.2	6,571.0	15.3	15.7	-82.13	-45.9	574.9	284.4	255.7	28.73	9.900		
6,700.0	6,632.8	6,687.7	6,604.8	15.4	15.8	-81.64	-79.2	574.9	284.8	255.8	28.96	9.836		
6,750.0	6,667.8	6,735.0	6,636.4	15.4	15.9	-81.19	-114.4	574.9	285.1	255.9	29.23	9.755		
6,800.0	6,700.5	6,782.2	6,665.7	15.6	16.0	-80.77	-151.4	574.9	285.5	255.9	29.57	9.655		
6,850.0	6,730.6	6,829.2	6,692.6	15.7	16.2	-80.38	-190.0	574.9	285.8	255.8	29.97	9.535		
6,900.0	6,758.1	6,876.2	6,717.0	15.9	16.4	-80.04	-230.1	574.9	286.1	255.6	30.45	9.395		
6,950.0	6,782.7	6,923.1	6,738.9	16.2	16.6	-79.74	-271.6	574.9	286.3	255.3	31.01	9.235		
7,000.0	6,804.5	6,969.9	6,758.1	16.5	16.9	-79.48	-314.3	574.9	286.6	254.9	31.64	9.057		
7,050.0	6,823.2	7,016.7	6,774.7	16.9	17.3	-79.26	-358.0	574.9	286.8	254.4	32.36	8.862		
7,100.0	6,838.9	7,063.4	6,788.5	17.3	17.7	-79.08	-402.6	574.9	287.0	253.8	33.16	8.653		
7,150.0	6,851.5	7,110.0	6,799.6	17.8	18.1	-78.95	-447.9	574.9	287.1	253.0	34.04	8.433		
7,200.0	6,860.8	7,156.6	6,807.9	18.3	18.5	-78.86	-493.7	574.9	287.2	252.2	35.00	8.206		
7,250.0	6,866.9	7,203.3	6,813.4	18.8	19.0	-78.81	-540.0	574.9	287.2	251.2	36.02	7.974		
7,300.0	6,869.8	7,250.0	6,816.1	19.4	19.6	-78.81	-586.7	574.9	287.2	250.1	37.11	7.741		
7,323.7	6,870.0	7,271.9	6,816.4	19.6	19.8	-78.82	-608.6	574.9	287.2	249.6	37.64	7.630		
7,327.0	6,870.0	7,275.0	6,816.4	19.7	19.8	-78.83	-611.7	574.9	287.2	249.5	37.72	7.615		
7,400.0	6,869.6	7,347.5	6,815.3	20.6	20.7	-78.71	-684.2	574.9	287.3	247.8	39.51	7.273		
7,500.0	6,868.9	7,447.5	6,813.9	21.9	22.0	-78.55	-784.2	574.9	287.5	245.4	42.11	6.826		
7,600.0	6,868.3	7,547.5	6,812.4	23.3	23.4	-78.38	-884.2	574.9	287.7	242.8	44.88	6.409		
7,700.0	6,867.7	7,647.5	6,810.9	24.8	24.9	-78.22	-984.2	574.9	287.8	240.0	47.78	6.024		
7,800.0	6,867.0	7,747.5	6,809.5	26.3	26.4	-78.06	-1,084.2	574.9	288.0	237.2	50.79	5.670		
7,900.0	6,866.4	7,847.5	6,808.0	27.9	28.0	-77.89	-1,184.1	574.9	288.2	234.3	53.89	5.348		
8,000.0	6,865.8	7,947.5	6,806.5	29.5	29.6	-77.73	-1,284.1	574.9	288.3	231.3	57.06	5.053		
8,100.0	6,865.2	8,047.5	6,805.1	31.1	31.2	-77.57	-1,384.1	574.9	288.5	228.2	60.29	4.785		
8,200.0	6,864.5	8,147.5	6,803.6	32.8	32.9	-77.41	-1,484.1	574.9	288.7	225.1	63.58	4.541		

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 5R-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5R-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 (5-30-14)	<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
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
8,300.0	6,863.9	8,247.5	6,802.1	34.5	34.6	-77.25	-1,584.1	574.9	288.9	222.0	66.90	4.318		
8,400.0	6,863.3	8,347.5	6,800.7	36.2	36.3	-77.08	-1,684.1	574.9	289.1	218.8	70.27	4.114		
8,500.0	6,862.6	8,447.5	6,799.2	38.0	38.0	-76.92	-1,784.1	574.9	289.3	215.6	73.66	3.927		
8,600.0	6,862.0	8,547.5	6,797.7	39.7	39.8	-76.76	-1,884.0	574.9	289.5	212.4	77.08	3.755		
8,700.0	6,861.4	8,647.5	6,796.3	41.5	41.6	-76.60	-1,984.0	574.9	289.7	209.1	80.52	3.597		
8,800.0	6,860.8	8,747.5	6,794.8	43.3	43.3	-76.44	-2,084.0	574.9	289.8	205.9	83.98	3.451		
8,900.0	6,860.1	8,847.5	6,793.3	45.1	45.1	-76.28	-2,184.0	574.9	290.0	202.6	87.46	3.316		
9,000.0	6,859.5	8,947.5	6,791.9	46.9	46.9	-76.12	-2,284.0	574.9	290.2	199.3	90.94	3.191		
9,100.0	6,858.9	9,047.5	6,790.4	48.7	48.7	-75.96	-2,384.0	574.9	290.4	196.0	94.44	3.075		
9,200.0	6,858.3	9,147.5	6,788.9	50.5	50.6	-75.80	-2,484.0	574.9	290.6	192.7	97.95	2.967		
9,300.0	6,857.6	9,247.5	6,787.5	52.4	52.4	-75.64	-2,583.9	574.9	290.9	189.4	101.47	2.867		
9,400.0	6,857.0	9,347.5	6,786.0	54.2	54.2	-75.48	-2,683.9	574.9	291.1	186.1	104.99	2.772		
9,500.0	6,856.4	9,447.5	6,784.5	56.0	56.1	-75.32	-2,783.9	574.9	291.3	182.8	108.52	2.684		
9,600.0	6,855.7	9,547.5	6,783.1	57.9	57.9	-75.16	-2,883.9	574.9	291.5	179.4	112.05	2.601		
9,700.0	6,855.1	9,647.5	6,781.6	59.7	59.8	-75.00	-2,983.9	574.9	291.7	176.1	115.58	2.524		
9,800.0	6,854.5	9,747.5	6,780.1	61.6	61.6	-74.84	-3,083.9	574.9	291.9	172.8	119.12	2.451		
9,900.0	6,853.9	9,847.5	6,778.7	63.5	63.5	-74.68	-3,183.9	574.9	292.1	169.5	122.66	2.382		
10,000.0	6,853.2	9,947.5	6,777.2	65.3	65.3	-74.52	-3,283.8	574.9	292.4	166.2	126.20	2.317		
10,100.0	6,852.6	10,047.5	6,775.7	67.2	67.2	-74.36	-3,383.8	574.9	292.6	162.9	129.74	2.255		
10,200.0	6,852.0	10,147.4	6,774.3	69.0	69.1	-74.21	-3,483.8	574.9	292.8	159.5	133.28	2.197		
10,300.0	6,851.3	10,247.4	6,772.8	70.9	70.9	-74.05	-3,583.8	574.9	293.0	156.2	136.82	2.142		
10,400.0	6,850.7	10,347.4	6,771.3	72.8	72.8	-73.89	-3,683.8	574.9	293.3	152.9	140.35	2.090		
10,500.0	6,850.1	10,447.4	6,769.9	74.7	74.7	-73.73	-3,783.8	574.9	293.5	149.6	143.89	2.040		
10,600.0	6,849.5	10,547.4	6,768.4	76.5	76.5	-73.58	-3,883.8	574.9	293.7	146.3	147.43	1.993		
10,700.0	6,848.8	10,647.4	6,766.9	78.4	78.4	-73.42	-3,983.7	574.9	294.0	143.0	150.96	1.947		
10,800.0	6,848.2	10,747.4	6,765.5	80.3	80.3	-73.26	-4,083.7	574.9	294.2	139.7	154.49	1.905		
10,900.0	6,847.6	10,847.4	6,764.0	82.2	82.2	-73.11	-4,183.7	574.9	294.5	136.5	158.02	1.864		
11,000.0	6,846.9	10,947.4	6,762.5	84.1	84.1	-72.95	-4,283.7	574.9	294.7	133.2	161.54	1.824		
11,100.0	6,846.3	11,047.4	6,761.1	86.0	86.0	-72.80	-4,383.7	574.9	295.0	129.9	165.06	1.787		
11,200.0	6,845.7	11,147.4	6,759.6	87.8	87.8	-72.64	-4,483.7	574.9	295.2	126.6	168.58	1.751		
11,308.9	6,845.0	11,256.3	6,758.0	89.9	89.9	-72.47	-4,592.5	574.9	295.5	123.1	172.40	1.714 ES, SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5R-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5R-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 (5-30-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Existing Wells Sec.5-T3N-R64W - Becker 12-10I (Exist) - Wellbore #1 - Wellbore #1											Offset Site Error:	0.0 ft
Survey Program: 7600-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)			
8,200.0	6,864.5	6,823.0	6,823.0	32.8	136.5	-92.46	-2,440.8	432.6	965.9	797.1	168.77	5.723		
8,300.0	6,863.9	6,822.4	6,822.4	34.5	136.4	-92.21	-2,440.8	432.6	867.1	696.6	170.51	5.085		
8,400.0	6,863.3	6,821.8	6,821.8	36.2	136.4	-91.95	-2,440.8	432.6	768.6	596.3	172.26	4.462		
8,500.0	6,862.6	6,821.1	6,821.1	38.0	136.4	-91.69	-2,440.8	432.6	670.5	496.4	174.03	3.853		
8,600.0	6,862.0	6,820.5	6,820.5	39.7	136.4	-91.43	-2,440.8	432.6	573.0	397.2	175.81	3.259		
8,700.0	6,861.4	6,819.9	6,819.9	41.5	136.4	-91.18	-2,440.8	432.6	476.7	299.1	177.61	2.684		
8,800.0	6,860.8	6,819.3	6,819.3	43.3	136.4	-90.92	-2,440.8	432.6	382.2	202.8	179.41	2.130		
8,900.0	6,860.1	6,818.6	6,818.6	45.1	136.4	-90.66	-2,440.8	432.6	291.4	110.2	181.22	1.608		
9,000.0	6,859.5	6,818.0	6,818.0	46.9	136.4	-90.40	-2,440.8	432.6	209.1	26.1	183.03	1.143 Level 2		
9,100.0	6,858.9	6,817.4	6,817.4	48.7	136.3	-90.14	-2,440.8	432.6	150.3	-34.6	184.85	0.813 Level 1		
9,155.8	6,858.5	6,817.0	6,817.0	49.7	136.3	-90.00	-2,440.8	432.6	139.5	-46.3	185.86	0.751 Level 1, CC, ES, SF		
9,200.0	6,858.3	6,816.8	6,816.8	50.5	136.3	-89.89	-2,440.8	432.6	146.4	-40.3	186.67	0.784 Level 1		
9,300.0	6,857.6	6,816.1	6,816.1	52.4	136.3	-89.63	-2,440.8	432.6	200.7	12.2	188.49	1.065 Level 2		
9,400.0	6,857.0	6,815.5	6,815.5	54.2	136.3	-89.37	-2,440.8	432.6	281.3	90.9	190.32	1.478 Level 3		
9,500.0	6,856.4	6,814.9	6,814.9	56.0	136.3	-89.11	-2,440.8	432.6	371.4	179.3	192.15	1.933		
9,600.0	6,855.7	6,814.2	6,814.2	57.9	136.3	-88.85	-2,440.8	432.6	465.6	271.6	193.98	2.400		
9,700.0	6,855.1	6,813.6	6,813.6	59.7	136.3	-88.60	-2,440.8	432.6	561.8	366.0	195.81	2.869		
9,800.0	6,854.5	6,813.0	6,813.0	61.6	136.3	-88.34	-2,440.8	432.6	659.1	461.5	197.63	3.335		
9,900.0	6,853.9	6,812.4	6,812.4	63.5	136.2	-88.08	-2,440.8	432.6	757.2	557.7	199.46	3.796		
10,000.0	6,853.2	6,811.7	6,811.7	65.3	136.2	-87.82	-2,440.8	432.6	855.6	654.4	201.29	4.251		
10,100.0	6,852.6	6,811.1	6,811.1	67.2	136.2	-87.57	-2,440.8	432.6	954.4	751.3	203.11	4.699		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5R-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5R-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 (5-30-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.5-T3N-R64W - Becker 6 (Exist.) - Wellbore #1 - Wellbore #1										Offset Site Error:		0.0 ft	
Survey Program: 7167-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)		
9,500.0	6,856.4	6,807.9	6,807.9	56.0	136.2	-93.23	-3,737.7	399.2	958.6	766.9	191.67	5.001	
9,600.0	6,855.7	6,807.2	6,807.2	57.9	136.1	-92.89	-3,737.7	399.2	859.3	665.7	193.57	4.439	
9,700.0	6,855.1	6,806.6	6,806.6	59.7	136.1	-92.55	-3,737.7	399.2	760.2	564.7	195.47	3.889	
9,800.0	6,854.5	6,806.0	6,806.0	61.6	136.1	-92.21	-3,737.7	399.2	661.3	463.9	197.37	3.351	
9,900.0	6,853.9	6,805.4	6,805.4	63.5	136.1	-91.88	-3,737.7	399.2	562.8	363.6	199.26	2.825	
10,000.0	6,853.2	6,804.7	6,804.7	65.3	136.1	-91.54	-3,737.7	399.2	465.0	263.8	201.15	2.312	
10,100.0	6,852.6	6,804.1	6,804.1	67.2	136.1	-91.20	-3,737.7	399.2	368.3	165.3	203.04	1.814	
10,200.0	6,852.0	6,803.5	6,803.5	69.0	136.1	-90.86	-3,737.7	399.2	274.1	69.2	204.93	1.337	Level 3
10,300.0	6,851.3	6,802.8	6,802.8	70.9	136.1	-90.52	-3,737.7	399.2	186.0	-20.9	206.81	0.899	Level 1
10,400.0	6,850.7	6,802.2	6,802.2	72.8	136.0	-90.18	-3,737.7	399.2	118.5	-90.2	208.69	0.568	Level 1
10,452.7	6,850.4	6,801.9	6,801.9	73.8	136.0	-90.00	-3,737.7	399.2	106.1	-103.6	209.68	0.506	Level 1, CC, ES, SF
10,500.0	6,850.1	6,801.6	6,801.6	74.7	136.0	-89.84	-3,737.7	399.2	116.1	-94.4	210.56	0.551	Level 1
10,600.0	6,849.5	6,801.0	6,801.0	76.5	136.0	-89.50	-3,737.7	399.2	181.5	-31.0	212.43	0.854	Level 1
10,700.0	6,848.8	6,800.3	6,800.3	78.4	136.0	-89.16	-3,737.7	399.2	269.0	54.8	214.29	1.256	Level 3
10,800.0	6,848.2	6,799.7	6,799.7	80.3	136.0	-88.82	-3,737.7	399.2	363.1	146.9	216.15	1.680	
10,900.0	6,847.6	6,799.1	6,799.1	82.2	136.0	-88.48	-3,737.7	399.2	459.7	241.7	218.00	2.109	
11,000.0	6,846.9	6,798.4	6,798.4	84.1	136.0	-88.14	-3,737.7	399.2	557.4	337.6	219.84	2.536	
11,100.0	6,846.3	6,797.8	6,797.8	86.0	136.0	-87.80	-3,737.7	399.2	655.9	434.2	221.68	2.959	
11,200.0	6,845.7	6,797.2	6,797.2	87.8	135.9	-87.47	-3,737.7	399.2	754.7	531.2	223.51	3.377	
11,308.9	6,845.0	6,796.5	6,796.5	89.9	135.9	-87.10	-3,737.7	399.2	862.7	637.2	225.50	3.826	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5R-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5R-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 (5-30-14)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.5-T3N-R64W - Becker 8 (Exist) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 7600-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
6,850.0	6,730.6	6,719.1	6,719.1	15.7	134.4	-14.52	-1,136.6	438.2	983.4	890.3	93.12	10.561	
6,900.0	6,758.1	6,746.6	6,746.6	15.9	134.9	-16.65	-1,136.6	438.2	942.1	853.7	88.39	10.659	
6,950.0	6,782.7	6,771.2	6,771.2	16.2	135.4	-19.40	-1,136.6	438.2	899.2	814.1	85.03	10.575	
7,000.0	6,804.5	6,793.0	6,793.0	16.5	135.9	-23.02	-1,136.6	438.2	854.8	770.6	84.13	10.160	
7,050.0	6,823.2	6,811.7	6,811.7	16.9	136.2	-27.86	-1,136.6	438.2	809.2	722.0	87.18	9.282	
7,100.0	6,838.9	6,827.4	6,827.4	17.3	136.5	-34.44	-1,136.6	438.2	762.5	666.9	95.64	7.973	
7,150.0	6,851.5	6,840.0	6,840.0	17.8	136.8	-43.38	-1,136.6	438.2	715.1	605.0	110.09	6.495	
7,200.0	6,860.8	6,849.3	6,849.3	18.3	137.0	-55.18	-1,136.6	438.2	667.0	538.3	128.76	5.180	
7,250.0	6,866.9	6,855.4	6,855.4	18.8	137.1	-69.53	-1,136.6	438.2	618.7	472.5	146.17	4.233	
7,300.0	6,869.8	6,858.3	6,858.3	19.4	137.2	-84.63	-1,136.6	438.2	570.3	414.8	155.48	3.668	
7,323.7	6,870.0	6,858.5	6,858.5	19.6	137.2	-91.31	-1,136.6	438.2	547.4	391.1	156.29	3.503	
7,400.0	6,869.6	6,858.1	6,858.1	20.6	137.2	-91.12	-1,136.6	438.2	474.3	317.1	157.24	3.016	
7,500.0	6,868.9	6,857.4	6,857.4	21.9	137.1	-90.87	-1,136.6	438.2	380.3	221.7	158.58	2.398	
7,600.0	6,868.3	6,856.8	6,856.8	23.3	137.1	-90.62	-1,136.6	438.2	290.4	130.4	160.00	1.815	
7,700.0	6,867.7	6,856.2	6,856.2	24.8	137.1	-90.38	-1,136.6	438.2	209.8	48.3	161.49	1.299 Level 3	
7,800.0	6,867.0	6,855.5	6,855.5	26.3	137.1	-90.13	-1,136.6	438.2	154.0	-9.0	163.03	0.945 Level 1	
7,851.6	6,866.7	6,855.2	6,855.2	27.1	137.1	-90.00	-1,136.6	438.2	145.1	-18.8	163.85	0.886 Level 1, CC, ES, SF	
7,900.0	6,866.4	6,854.9	6,854.9	27.9	137.1	-89.88	-1,136.6	438.2	153.0	-11.6	164.61	0.929 Level 1	
8,000.0	6,865.8	6,854.3	6,854.3	29.5	137.1	-89.63	-1,136.6	438.2	207.6	41.3	166.24	1.249 Level 2	
8,100.0	6,865.2	6,853.7	6,853.7	31.1	137.1	-89.38	-1,136.6	438.2	287.7	119.8	167.89	1.714	
8,200.0	6,864.5	6,853.0	6,853.0	32.8	137.1	-89.14	-1,136.6	438.2	377.4	207.9	169.56	2.226	
8,300.0	6,863.9	6,852.4	6,852.4	34.5	137.0	-88.89	-1,136.6	438.2	471.3	300.1	171.26	2.752	
8,400.0	6,863.3	6,851.8	6,851.8	36.2	137.0	-88.64	-1,136.6	438.2	567.3	394.3	172.97	3.280	
8,500.0	6,862.6	6,851.1	6,851.1	38.0	137.0	-88.39	-1,136.6	438.2	664.5	489.8	174.70	3.803	
8,600.0	6,862.0	6,850.5	6,850.5	39.7	137.0	-88.14	-1,136.6	438.2	762.4	585.9	176.44	4.321	
8,700.0	6,861.4	6,849.9	6,849.9	41.5	137.0	-87.90	-1,136.6	438.2	860.7	682.5	178.19	4.831	
8,800.0	6,860.8	6,849.3	6,849.3	43.3	137.0	-87.65	-1,136.6	438.2	959.4	779.5	179.94	5.332	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5R-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5R-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 (5-30-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4792.5ft (RKB - 12.5')

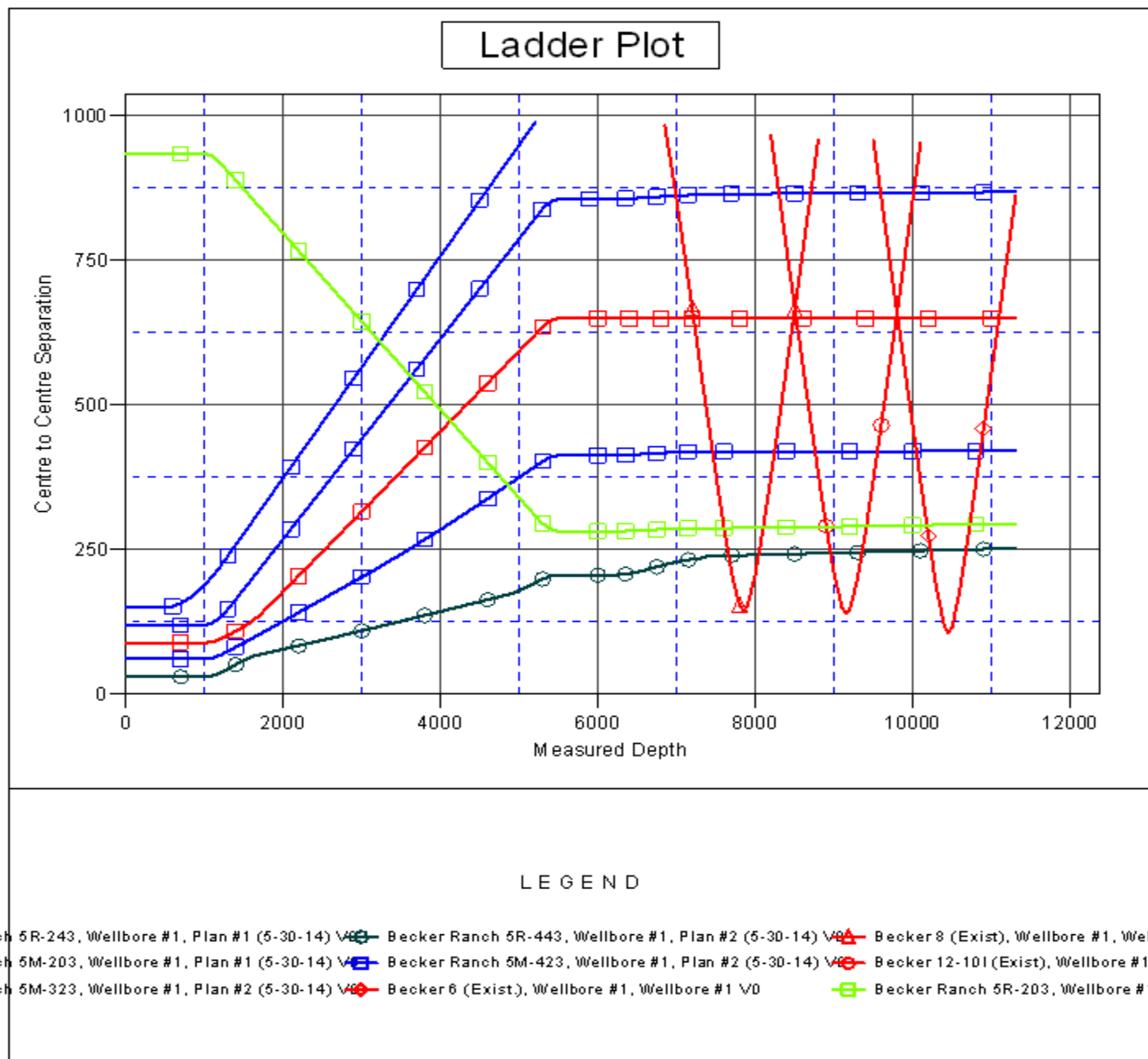
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Becker Ranch 5R-303

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.60°



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Becker Ranch 5R-303
<b>Project:</b>	SEC.5-T3N-R64W	<b>TVD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Reference Site:</b>	Becker Ranch 5MR-HZ Pad Sec.5-T3N-R64W	<b>MD Reference:</b>	WELL @ 4792.5ft (RKB - 12.5')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Becker Ranch 5R-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 (5-30-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4792.5ft (RKB - 12.5')

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Becker Ranch 5R-303

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