

PETROLEUM DEVELOPMENT CORP Weld County CO

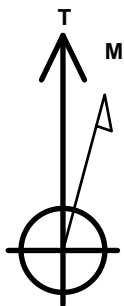
Well Name: **Becker Ranch 5R-203**

Surface Location: Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
 Ground Elevation: 4782.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1339355.39	3260014.66	40.261180	-104.568300	
RKB - 12.5' WELL @ 4794.5ft (RKB - 12.5')						

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 207'FNL, 820'FEL	1.0	0.0	0.0	Point
BHL 500'FSL, 1157'FEL	6758.0	-4593.8	-360.1	Point



Azimuths to True North
 Magnetic North: 8.35°

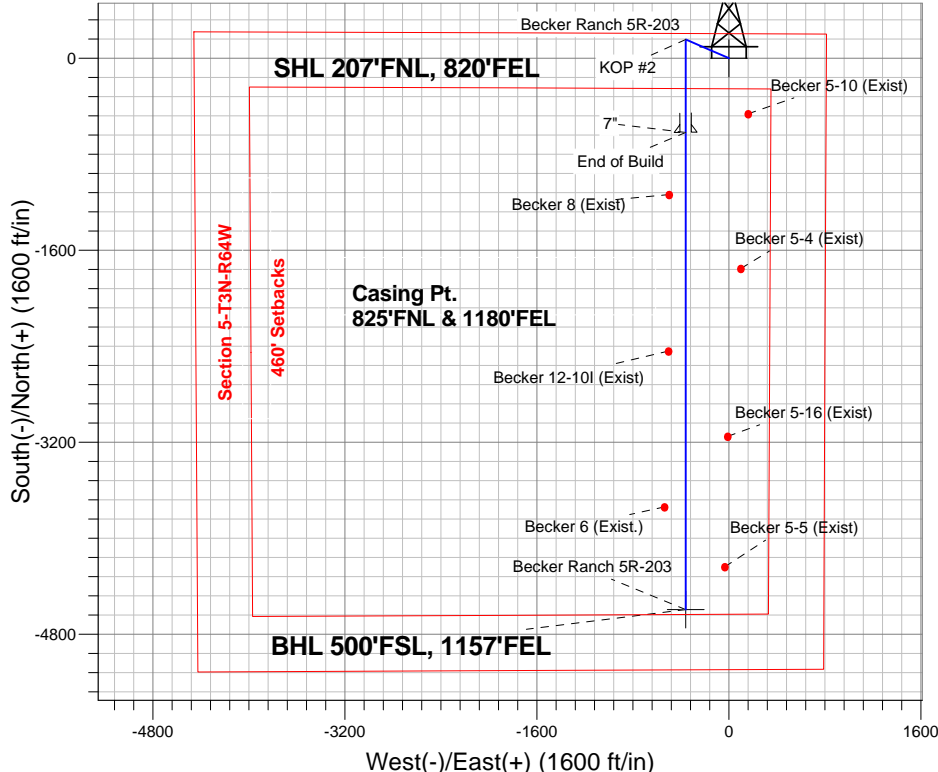
Magnetic Field
 Strength: 52768.6snT
 Dip Angle: 66.87°
 Date: 5/28/2014
 Model: IGRF2010

ANNOTATIONS

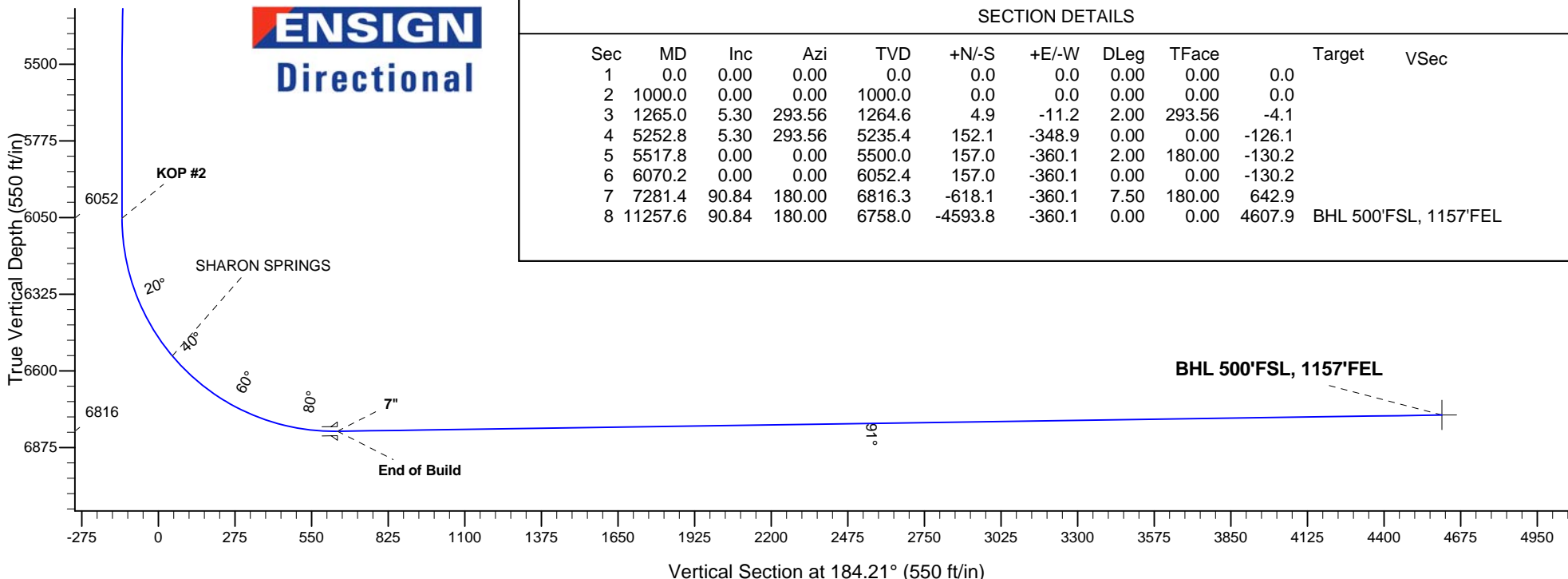
TVD	MD	Annotation
1000.0	1000.0	KOP #1
6052.4	6070.2	KOP #2
6816.3	7281.4	End of Build

Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W
 Becker Ranch 5R-203
 Plan #2 (5-28-14)
 8:18, June 02 2014

South(-)/North(+) (1600 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	1265.0	5.30	293.56	1264.6	4.9	-11.2	2.00	293.56	-4.1	
4	5252.8	5.30	293.56	5235.4	152.1	-348.9	0.00	0.00	-126.1	
5	5517.8	0.00	0.00	5500.0	157.0	-360.1	2.00	180.00	-130.2	
6	6070.2	0.00	0.00	6052.4	157.0	-360.1	0.00	0.00	-130.2	
7	7281.4	90.84	180.00	6816.3	-618.1	-360.1	7.50	180.00	642.9	
8	11257.6	90.84	180.00	6758.0	-4593.8	-360.1	0.00	0.00	4607.9	BHL 500'FSL, 1157'FEL



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.5-T3N-R64W

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

Becker Ranch 5R-203

Wellbore #1

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

Standard Planning Report

02 June, 2014

Database:	Landmark	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Project:	SEC.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	North Reference:	True
Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (5-28-14)		

Project	SEC.5-T3N-R64W, Weld County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

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

Well	Becker Ranch 5R-203					
Well Position	+N/-S	0.0 ft	Northing:	1,339,355.39 ft	Latitude:	40.261180
	+E/-W	-30.7 ft	Easting:	3,260,014.66 ft	Longitude:	-104.568300
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,782.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/28/2014	8.35	66.87	52,769

Design	Plan #2 (5-28-14)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	184.21

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,265.0	5.30	293.56	1,264.6	4.9	-11.2	2.00	2.00	0.00	293.56	
5,252.8	5.30	293.56	5,235.4	152.1	-348.9	0.00	0.00	0.00	0.00	
5,517.8	0.00	0.00	5,500.0	157.0	-360.1	2.00	-2.00	0.00	180.00	
6,070.2	0.00	0.00	6,052.4	157.0	-360.1	0.00	0.00	0.00	0.00	
7,281.4	90.84	180.00	6,816.3	-618.1	-360.1	7.50	7.50	0.00	180.00	
11,257.6	90.84	180.00	6,758.0	-4,593.8	-360.1	0.00	0.00	0.00	0.00	BHL 500'FSL, 1157

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Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Project:	SEC.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	North Reference:	True
Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (5-28-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00
SHL 207°FNL, 820°FEL									
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
KOP #1									
1,100.0	2.00	293.56	1,100.0	0.7	-1.6	-0.6	2.00	2.00	0.00
1,200.0	4.00	293.56	1,199.8	2.8	-6.4	-2.3	2.00	2.00	0.00
1,265.0	5.30	293.56	1,264.6	4.9	-11.2	-4.1	2.00	2.00	0.00
1,300.0	5.30	293.56	1,299.5	6.2	-14.2	-5.1	0.00	0.00	0.00
1,400.0	5.30	293.56	1,399.0	9.9	-22.7	-8.2	0.00	0.00	0.00
1,500.0	5.30	293.56	1,498.6	13.6	-31.1	-11.3	0.00	0.00	0.00
1,600.0	5.30	293.56	1,598.2	17.3	-39.6	-14.3	0.00	0.00	0.00
1,700.0	5.30	293.56	1,697.8	21.0	-48.1	-17.4	0.00	0.00	0.00
1,800.0	5.30	293.56	1,797.3	24.6	-56.5	-20.4	0.00	0.00	0.00
1,900.0	5.30	293.56	1,896.9	28.3	-65.0	-23.5	0.00	0.00	0.00
2,000.0	5.30	293.56	1,996.5	32.0	-73.5	-26.6	0.00	0.00	0.00
2,100.0	5.30	293.56	2,096.1	35.7	-81.9	-29.6	0.00	0.00	0.00
2,200.0	5.30	293.56	2,195.6	39.4	-90.4	-32.7	0.00	0.00	0.00
2,300.0	5.30	293.56	2,295.2	43.1	-98.9	-35.7	0.00	0.00	0.00
2,400.0	5.30	293.56	2,394.8	46.8	-107.3	-38.8	0.00	0.00	0.00
2,500.0	5.30	293.56	2,494.3	50.5	-115.8	-41.9	0.00	0.00	0.00
2,600.0	5.30	293.56	2,593.9	54.2	-124.3	-44.9	0.00	0.00	0.00
2,700.0	5.30	293.56	2,693.5	57.9	-132.7	-48.0	0.00	0.00	0.00
2,800.0	5.30	293.56	2,793.1	61.6	-141.2	-51.0	0.00	0.00	0.00
2,900.0	5.30	293.56	2,892.6	65.3	-149.7	-54.1	0.00	0.00	0.00
3,000.0	5.30	293.56	2,992.2	68.9	-158.1	-57.2	0.00	0.00	0.00
3,100.0	5.30	293.56	3,091.8	72.6	-166.6	-60.2	0.00	0.00	0.00
3,200.0	5.30	293.56	3,191.4	76.3	-175.1	-63.3	0.00	0.00	0.00
3,300.0	5.30	293.56	3,290.9	80.0	-183.5	-66.3	0.00	0.00	0.00
3,400.0	5.30	293.56	3,390.5	83.7	-192.0	-69.4	0.00	0.00	0.00
3,500.0	5.30	293.56	3,490.1	87.4	-200.5	-72.5	0.00	0.00	0.00
3,600.0	5.30	293.56	3,589.6	91.1	-208.9	-75.5	0.00	0.00	0.00
3,700.0	5.30	293.56	3,689.2	94.8	-217.4	-78.6	0.00	0.00	0.00
3,710.8	5.30	293.56	3,700.0	95.2	-218.3	-78.9	0.00	0.00	0.00
PARKMAN									
3,800.0	5.30	293.56	3,788.8	98.5	-225.9	-81.6	0.00	0.00	0.00
3,900.0	5.30	293.56	3,888.4	102.2	-234.3	-84.7	0.00	0.00	0.00
4,000.0	5.30	293.56	3,987.9	105.9	-242.8	-87.8	0.00	0.00	0.00
4,100.0	5.30	293.56	4,087.5	109.5	-251.3	-90.8	0.00	0.00	0.00
4,200.0	5.30	293.56	4,187.1	113.2	-259.7	-93.9	0.00	0.00	0.00
4,300.0	5.30	293.56	4,286.6	116.9	-268.2	-97.0	0.00	0.00	0.00
4,400.0	5.30	293.56	4,386.2	120.6	-276.7	-100.0	0.00	0.00	0.00
4,413.8	5.30	293.56	4,400.0	121.1	-277.8	-100.4	0.00	0.00	0.00
SUSSEX									

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Project:	SEC.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	North Reference:	True
Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (5-28-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,500.0	5.30	293.56	4,485.8	124.3	-285.1	-103.1	0.00	0.00	0.00
4,600.0	5.30	293.56	4,585.4	128.0	-293.6	-106.1	0.00	0.00	0.00
4,700.0	5.30	293.56	4,684.9	131.7	-302.1	-109.2	0.00	0.00	0.00
4,800.0	5.30	293.56	4,784.5	135.4	-310.5	-112.3	0.00	0.00	0.00
4,900.0	5.30	293.56	4,884.1	139.1	-319.0	-115.3	0.00	0.00	0.00
5,000.0	5.30	293.56	4,983.7	142.8	-327.5	-118.4	0.00	0.00	0.00
5,100.0	5.30	293.56	5,083.2	146.5	-335.9	-121.4	0.00	0.00	0.00
5,116.8	5.30	293.56	5,100.0	147.1	-337.4	-122.0	0.00	0.00	0.00
SHANNON									
5,200.0	5.30	293.56	5,182.8	150.2	-344.4	-124.5	0.00	0.00	0.00
5,252.8	5.30	293.56	5,235.4	152.1	-348.9	-126.1	0.00	0.00	0.00
5,300.0	4.36	293.56	5,282.4	153.7	-352.5	-127.4	2.00	-2.00	0.00
5,400.0	2.36	293.56	5,382.2	156.0	-357.9	-129.4	2.00	-2.00	0.00
5,500.0	0.36	293.56	5,482.2	157.0	-360.0	-130.2	2.00	-2.00	0.00
5,517.8	0.00	0.00	5,500.0	157.0	-360.1	-130.2	2.00	-2.00	0.00
5,600.0	0.00	0.00	5,582.2	157.0	-360.1	-130.2	0.00	0.00	0.00
5,700.0	0.00	0.00	5,682.2	157.0	-360.1	-130.2	0.00	0.00	0.00
5,800.0	0.00	0.00	5,782.2	157.0	-360.1	-130.2	0.00	0.00	0.00
5,900.0	0.00	0.00	5,882.2	157.0	-360.1	-130.2	0.00	0.00	0.00
6,000.0	0.00	0.00	5,982.2	157.0	-360.1	-130.2	0.00	0.00	0.00
6,070.2	0.00	0.00	6,052.4	157.0	-360.1	-130.2	0.00	0.00	0.00
KOP #2									
6,100.0	2.23	180.00	6,082.2	156.4	-360.1	-129.6	7.49	7.49	0.00
6,200.0	9.73	180.00	6,181.6	146.0	-360.1	-119.2	7.50	7.50	0.00
6,300.0	17.23	180.00	6,278.7	122.7	-360.1	-96.0	7.50	7.50	0.00
6,400.0	24.73	180.00	6,372.1	86.9	-360.1	-60.3	7.50	7.50	0.00
6,500.0	32.23	180.00	6,459.9	39.3	-360.1	-12.8	7.50	7.50	0.00
6,600.0	39.73	180.00	6,540.7	-19.4	-360.1	45.8	7.50	7.50	0.00
6,606.9	40.25	180.00	6,546.0	-23.9	-360.1	50.2	7.50	7.50	0.00
SHARON SPRINGS									
6,700.0	47.23	180.00	6,613.3	-88.2	-360.1	114.4	7.50	7.50	0.00
6,800.0	54.73	180.00	6,676.2	-165.8	-360.1	191.8	7.50	7.50	0.00
6,900.0	62.23	180.00	6,728.4	-251.0	-360.1	276.8	7.50	7.50	0.00
7,000.0	69.73	180.00	6,769.1	-342.3	-360.1	367.8	7.50	7.50	0.00
7,100.0	77.23	180.00	6,797.5	-438.1	-360.1	463.3	7.50	7.50	0.00
7,200.0	84.73	180.00	6,813.1	-536.8	-360.1	561.8	7.50	7.50	0.00
7,281.4	90.84	180.00	6,816.3	-618.1	-360.1	642.9	7.50	7.50	0.00
End of Build - 7"									
7,300.0	90.84	180.00	6,816.0	-636.7	-360.1	661.4	0.01	0.01	0.00
7,400.0	90.84	180.00	6,814.6	-736.7	-360.1	761.1	0.00	0.00	0.00
7,500.0	90.84	180.00	6,813.1	-836.7	-360.1	860.8	0.00	0.00	0.00
7,600.0	90.84	180.00	6,811.6	-936.7	-360.1	960.6	0.00	0.00	0.00
7,700.0	90.84	180.00	6,810.2	-1,036.7	-360.1	1,060.3	0.00	0.00	0.00
7,800.0	90.84	180.00	6,808.7	-1,136.7	-360.1	1,160.0	0.00	0.00	0.00
7,900.0	90.84	180.00	6,807.2	-1,236.6	-360.1	1,259.7	0.00	0.00	0.00
8,000.0	90.84	180.00	6,805.8	-1,336.6	-360.1	1,359.4	0.00	0.00	0.00
8,100.0	90.84	180.00	6,804.3	-1,436.6	-360.1	1,459.2	0.00	0.00	0.00
8,200.0	90.84	180.00	6,802.8	-1,536.6	-360.1	1,558.9	0.00	0.00	0.00
8,300.0	90.84	180.00	6,801.4	-1,636.6	-360.1	1,658.6	0.00	0.00	0.00
8,400.0	90.84	180.00	6,799.9	-1,736.6	-360.1	1,758.3	0.00	0.00	0.00
8,500.0	90.84	180.00	6,798.4	-1,836.6	-360.1	1,858.0	0.00	0.00	0.00
8,600.0	90.84	180.00	6,797.0	-1,936.6	-360.1	1,957.8	0.00	0.00	0.00

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Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	North Reference:	True
Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (5-28-14)		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,700.0	90.84	180.00	6,795.5	-2,036.6	-360.1	2,057.5	0.00	0.00	0.00
8,800.0	90.84	180.00	6,794.0	-2,136.5	-360.1	2,157.2	0.00	0.00	0.00
8,900.0	90.84	180.00	6,792.6	-2,236.5	-360.1	2,256.9	0.00	0.00	0.00
9,000.0	90.84	180.00	6,791.1	-2,336.5	-360.1	2,356.6	0.00	0.00	0.00
9,100.0	90.84	180.00	6,789.6	-2,436.5	-360.1	2,456.4	0.00	0.00	0.00
9,200.0	90.84	180.00	6,788.2	-2,536.5	-360.1	2,556.1	0.00	0.00	0.00
9,300.0	90.84	180.00	6,786.7	-2,636.5	-360.1	2,655.8	0.00	0.00	0.00
9,400.0	90.84	180.00	6,785.2	-2,736.5	-360.1	2,755.5	0.00	0.00	0.00
9,500.0	90.84	180.00	6,783.8	-2,836.5	-360.1	2,855.2	0.00	0.00	0.00
9,600.0	90.84	180.00	6,782.3	-2,936.5	-360.1	2,955.0	0.00	0.00	0.00
9,700.0	90.84	180.00	6,780.8	-3,036.5	-360.1	3,054.7	0.00	0.00	0.00
9,800.0	90.84	180.00	6,779.4	-3,136.4	-360.1	3,154.4	0.00	0.00	0.00
9,900.0	90.84	180.00	6,777.9	-3,236.4	-360.1	3,254.1	0.00	0.00	0.00
10,000.0	90.84	180.00	6,776.4	-3,336.4	-360.1	3,353.8	0.00	0.00	0.00
10,100.0	90.84	180.00	6,775.0	-3,436.4	-360.1	3,453.6	0.00	0.00	0.00
10,200.0	90.84	180.00	6,773.5	-3,536.4	-360.1	3,553.3	0.00	0.00	0.00
10,300.0	90.84	180.00	6,772.0	-3,636.4	-360.1	3,653.0	0.00	0.00	0.00
10,400.0	90.84	180.00	6,770.6	-3,736.4	-360.1	3,752.7	0.00	0.00	0.00
10,500.0	90.84	180.00	6,769.1	-3,836.4	-360.1	3,852.4	0.00	0.00	0.00
10,600.0	90.84	180.00	6,767.6	-3,936.4	-360.1	3,952.2	0.00	0.00	0.00
10,700.0	90.84	180.00	6,766.2	-4,036.3	-360.1	4,051.9	0.00	0.00	0.00
10,800.0	90.84	180.00	6,764.7	-4,136.3	-360.1	4,151.6	0.00	0.00	0.00
10,900.0	90.84	180.00	6,763.2	-4,236.3	-360.1	4,251.3	0.00	0.00	0.00
11,000.0	90.84	180.00	6,761.8	-4,336.3	-360.1	4,351.0	0.00	0.00	0.00
11,100.0	90.84	180.00	6,760.3	-4,436.3	-360.1	4,450.8	0.00	0.00	0.00
11,200.0	90.84	180.00	6,758.8	-4,536.3	-360.1	4,550.5	0.00	0.00	0.00
11,257.6	90.84	180.00	6,758.0	-4,593.8	-360.1	4,607.9	0.00	0.00	0.00
BHL 500'FSL, 1157'FEL									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,281.4	6,816.3	7"	7	7-1/2

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,710.8	3,700.0	PARKMAN			
4,413.8	4,400.0	SUSSEX			
5,116.8	5,100.0	SHANNON			
6,606.9	6,546.0	SHARON SPRINGS			

Database:	Landmark	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Project:	SEC.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	North Reference:	True
Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (5-28-14)		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,000.0	1,000.0	0.0	0.0	KOP #1
6,070.2	6,052.4	157.0	-360.1	KOP #2
7,281.4	6,816.3	-618.1	-360.1	End of Build



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.5-T3N-R64W

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

Becker Ranch 5R-203

Wellbore #1

Plan #2 (5-28-14)

Anticollision Report

02 June, 2014



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Project:	SEC.5-T3N-R64W	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Reference Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-28-14)	Offset TVD Reference:	Offset Datum

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

Survey Tool Program	Date 6/2/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	11,257.6	Plan #2 (5-28-14) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W						
Becker Ranch 5R-323 - Wellbore #1 - Plan #2 (5-28-14)	1,000.0	1,001.0	30.7	26.4	7.185	CC, ES
Becker Ranch 5R-323 - Wellbore #1 - Plan #2 (5-28-14)	11,257.6	11,332.8	226.7	58.3	1.346	Level 3, SF
Becker Ranch 5U-243 - Wellbore #1 - Plan #1 (5-28-14)	1,000.0	1,002.0	58.6	54.3	13.710	CC, ES
Becker Ranch 5U-243 - Wellbore #1 - Plan #1 (5-28-14)	11,257.6	11,243.6	575.0	395.6	3.205	SF
Becker Ranch 5U-303 - Wellbore #1 - Plan #2 (5-28-14)	966.3	967.3	120.0	115.9	29.118	CC
Becker Ranch 5U-303 - Wellbore #1 - Plan #2 (5-28-14)	1,000.0	1,000.0	120.0	115.7	28.103	ES
Becker Ranch 5U-303 - Wellbore #1 - Plan #2 (5-28-14)	11,257.6	11,348.0	992.0	813.2	5.547	SF
Becker Ranch 5U-443 - Wellbore #1 - Plan #2 (5-28-14)	1,000.0	1,002.0	89.3	85.0	20.891	CC, ES
Becker Ranch 5U-443 - Wellbore #1 - Plan #2 (5-28-14)	11,257.6	11,407.7	813.3	639.9	4.689	SF
Existing Wells Sec.5-T3N-R64W						
Becker 12-10I (Exist) - Wellbore #1 - Wellbore #1	9,104.3	6,746.1	142.3	-42.1	0.772	Level 1, CC, ES, SF
Becker 5-10 (Exist) - Wellbore #1 - Wellbore #1	1,000.0	982.5	490.2	468.4	22.499	CC
Becker 5-10 (Exist) - Wellbore #1 - Wellbore #1	7,125.1	6,785.1	522.0	368.8	3.408	ES, SF
Becker 5-16 (Exist) - Wellbore #1 - Wellbore #1	9,814.8	6,725.7	351.7	154.6	1.784	CC, ES, SF
Becker 5-4 (Exist) - Wellbore #1 - Wellbore #1	8,415.7	6,777.2	460.6	288.0	2.668	CC, ES, SF
Becker 5-5 (Exist) - Wellbore #1 - Wellbore #1	10,900.5	6,694.7	326.6	109.7	1.506	CC, ES, SF
Becker 6 (Exist.) - Wellbore #1 - Wellbore #1	10,401.4	6,720.1	175.8	-32.1	0.845	Level 1, CC, ES, SF
Becker 8 (Exist) - Wellbore #1 - Wellbore #1	7,800.0	6,795.2	136.7	-25.9	0.841	Level 1, CC
Becker 8 (Exist) - Wellbore #1 - Wellbore #1	7,800.0	6,795.2	136.7	-25.9	0.841	Level 1, ES, SF

Offset Design												
Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5R-323 - Wellbore #1 - Plan #2 (5-28-14)												
Survey Program: 0-MWD												
Reference		Offset		Semi Major Axis		Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor
0.0	0.0	1.0	1.0	0.0	0.0	90.02	0.0	30.7	30.7	30.7	0.00	N/A
100.0	100.0	101.0	101.0	0.1	0.1	90.02	0.0	30.7	30.7	30.5	0.23	135.235
200.0	200.0	201.0	201.0	0.3	0.3	90.02	0.0	30.7	30.7	30.0	0.68	45.378
300.0	300.0	301.0	301.0	0.6	0.6	90.02	0.0	30.7	30.7	29.6	1.13	27.263
400.0	400.0	401.0	401.0	0.8	0.8	90.02	0.0	30.7	30.7	29.1	1.58	19.485
500.0	500.0	501.0	501.0	1.0	1.0	90.02	0.0	30.7	30.7	28.7	2.03	15.160
600.0	600.0	601.0	601.0	1.2	1.2	90.02	0.0	30.7	30.7	28.2	2.47	12.406

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Project:	SEC.5-T3N-R64W	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Reference Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-28-14)	Offset TVD Reference:	Offset Datum

Offset Design Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5R-323 - Wellbore #1 - Plan #2 (5-28-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
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
700.0	700.0	701.0	701.0	1.5	1.5	90.02	90.02	0.0	30.7	30.7	27.8	2.92	10.499	
800.0	800.0	801.0	801.0	1.7	1.7	90.02	90.02	0.0	30.7	30.7	27.3	3.37	9.100	
900.0	900.0	901.0	901.0	1.9	1.9	90.02	90.02	0.0	30.7	30.7	26.9	3.82	8.030	
1,000.0	1,000.0	1,001.0	1,001.0	2.1	2.1	90.02	90.02	0.0	30.7	30.7	26.4	4.27	7.185 CC, ES	
1,100.0	1,100.0	1,101.0	1,101.0	2.4	2.4	157.68	157.68	0.0	30.7	32.3	27.6	4.71	6.855	
1,200.0	1,199.8	1,200.8	1,200.8	2.6	2.6	160.71	160.71	0.0	30.7	37.2	32.1	5.14	7.232	
1,300.0	1,299.5	1,300.5	1,300.5	2.8	2.8	164.24	164.24	0.0	30.7	45.3	39.7	5.58	8.128	
1,400.0	1,399.0	1,400.0	1,400.0	3.0	3.0	166.89	166.89	0.0	30.7	54.3	48.3	6.01	9.024	
1,500.0	1,498.6	1,499.6	1,499.6	3.3	3.3	168.78	168.78	0.0	30.7	63.3	56.8	6.45	9.807	
1,600.0	1,598.2	1,599.2	1,599.2	3.5	3.5	170.21	170.21	0.0	30.7	72.4	65.5	6.90	10.494	
1,700.0	1,697.8	1,698.8	1,698.8	3.8	3.7	171.31	171.31	0.0	30.7	81.5	74.2	7.34	11.100	
1,800.0	1,797.3	1,798.3	1,798.3	4.0	3.9	172.19	172.19	0.0	30.7	90.6	82.9	7.79	11.638	
1,900.0	1,896.9	1,897.9	1,897.9	4.3	4.2	172.91	172.91	0.0	30.7	99.8	91.6	8.24	12.118	
2,000.0	1,996.5	1,997.5	1,997.5	4.6	4.4	173.51	173.51	0.0	30.7	109.0	100.3	8.68	12.548	
2,100.0	2,096.1	2,097.1	2,097.1	4.8	4.6	174.02	174.02	0.0	30.7	118.2	109.0	9.13	12.936	
2,200.0	2,195.6	2,196.6	2,196.6	5.1	4.8	174.45	174.45	0.0	30.7	127.3	117.8	9.58	13.288	
2,300.0	2,295.2	2,296.2	2,296.2	5.4	5.0	174.83	174.83	0.0	30.7	136.5	126.5	10.03	13.608	
2,400.0	2,394.8	2,395.8	2,395.8	5.6	5.3	175.15	175.15	0.0	30.7	145.7	135.3	10.49	13.899	
2,500.0	2,494.3	2,495.3	2,495.3	5.9	5.5	175.44	175.44	0.0	30.7	155.0	144.0	10.94	14.167	
2,600.0	2,593.9	2,594.9	2,594.9	6.2	5.7	175.70	175.70	0.0	30.7	164.2	152.8	11.39	14.413	
2,700.0	2,693.5	2,694.5	2,694.5	6.5	5.9	175.93	175.93	0.0	30.7	173.4	161.5	11.84	14.640	
2,800.0	2,793.1	2,794.1	2,794.1	6.7	6.2	176.13	176.13	0.0	30.7	182.6	170.3	12.30	14.850	
2,900.0	2,892.6	2,893.6	2,893.6	7.0	6.4	176.32	176.32	0.0	30.7	191.8	179.1	12.75	15.045	
3,000.0	2,992.2	2,993.2	2,993.2	7.3	6.6	176.49	176.49	0.0	30.7	201.0	187.8	13.20	15.227	
3,100.0	3,091.8	3,092.8	3,092.8	7.6	6.9	176.69	176.69	1.1	29.4	208.7	195.1	13.66	15.275	
3,200.0	3,191.4	3,206.9	3,206.7	7.8	7.1	176.10	176.10	4.9	25.0	213.0	198.8	14.12	15.078	
3,300.0	3,290.9	3,314.1	3,313.5	8.1	7.3	175.35	175.35	11.2	17.7	213.7	199.1	14.59	14.653	
3,400.0	3,390.5	3,414.1	3,412.9	8.4	7.6	174.46	174.46	18.3	9.4	212.8	197.8	15.03	14.158	
3,500.0	3,490.1	3,514.0	3,512.2	8.7	7.8	173.57	173.57	25.4	1.2	212.0	196.5	15.48	13.693	
3,600.0	3,589.6	3,614.0	3,611.6	9.0	8.0	172.67	172.67	32.5	-7.1	211.3	195.3	15.94	13.256	
3,700.0	3,689.2	3,713.9	3,710.9	9.2	8.3	171.77	171.77	39.5	-15.3	210.5	194.1	16.39	12.843	
3,800.0	3,788.8	3,813.9	3,810.3	9.5	8.5	170.86	170.86	46.6	-23.5	209.9	193.0	16.85	12.454	
3,900.0	3,888.4	3,913.8	3,909.6	9.8	8.8	169.94	169.94	53.7	-31.8	209.3	191.9	17.31	12.086	
4,000.0	3,987.9	4,013.7	4,009.0	10.1	9.0	169.02	169.02	60.8	-40.0	208.7	190.9	17.78	11.739	
4,100.0	4,087.5	4,113.7	4,108.3	10.4	9.3	168.10	168.10	67.9	-48.3	208.2	189.9	18.25	11.410	
4,200.0	4,187.1	4,213.6	4,207.7	10.6	9.5	167.16	167.16	75.0	-56.5	207.7	189.0	18.72	11.098	
4,300.0	4,286.6	4,313.6	4,307.0	10.9	9.8	166.23	166.23	82.1	-64.7	207.3	188.2	19.19	10.803	
4,400.0	4,386.2	4,413.5	4,406.4	11.2	10.0	165.29	165.29	89.1	-73.0	207.0	187.3	19.67	10.522	
4,500.0	4,485.8	4,513.4	4,505.7	11.5	10.3	164.35	164.35	96.2	-81.2	206.7	186.6	20.16	10.256	
4,600.0	4,585.4	4,613.4	4,605.1	11.8	10.6	163.41	163.41	103.3	-89.4	206.5	185.9	20.64	10.004	
4,700.0	4,684.9	4,713.3	4,704.4	12.0	10.9	162.47	162.47	110.4	-97.7	206.3	185.2	21.13	9.763	
4,800.0	4,784.5	4,813.3	4,803.8	12.3	11.1	161.52	161.52	117.5	-105.9	206.2	184.6	21.63	9.535	
4,900.0	4,884.1	4,913.2	4,903.1	12.6	11.4	160.57	160.57	124.6	-114.2	206.1	184.0	22.12	9.318	
4,955.2	4,939.0	4,968.4	4,957.9	12.8	11.5	160.05	160.05	128.5	-118.7	206.1	183.7	22.40	9.202	
5,000.0	4,983.7	5,013.2	5,002.5	12.9	11.7	159.63	159.63	131.6	-122.4	206.1	183.5	22.63	9.110	
5,100.0	5,083.2	5,113.1	5,101.8	13.2	11.9	158.68	158.68	138.7	-130.6	206.2	183.1	23.13	8.913	
5,200.0	5,182.8	5,212.4	5,200.5	13.4	12.2	157.75	157.75	145.8	-138.8	206.3	182.7	23.64	8.728	
5,300.0	5,282.4	5,307.1	5,294.8	13.7	12.4	157.17	157.17	151.2	-145.1	207.7	183.6	24.10	8.620	
5,400.0	5,382.2	5,400.0	5,387.6	13.9	12.6	156.85	156.85	154.6	-149.0	208.9	184.4	24.47	8.536	
5,500.0	5,482.2	5,496.5	5,484.1	14.1	12.8	156.72	156.72	156.0	-150.7	209.4	184.6	24.81	8.440	
5,600.0	5,582.2	5,595.6	5,583.2	14.2	13.0	90.28	90.28	156.0	-150.7	209.4	184.2	25.18	8.316	

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Project:	SEC.5-T3N-R64W	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Reference Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-28-14)	Offset TVD Reference:	Offset Datum

Offset Design Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5R-323 - Wellbore #1 - Plan #2 (5-28-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
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
5,700.0	5,682.2	5,695.6	5,683.2	14.4	13.2	90.28		156.0	-150.7	209.4	183.8	25.60	8.180	
5,800.0	5,782.2	5,795.6	5,783.2	14.6	13.4	90.28		156.0	-150.7	209.4	183.4	26.02	8.048	
5,900.0	5,882.2	5,895.6	5,883.2	14.8	13.6	90.28		156.0	-150.7	209.4	183.0	26.44	7.919	
6,000.0	5,982.2	5,995.6	5,983.2	15.0	13.8	90.28		156.0	-150.7	209.4	182.5	26.87	7.795	
6,100.0	6,082.2	6,095.6	6,083.2	15.2	14.0	-89.88		156.0	-150.7	209.4	182.1	27.29	7.674	
6,108.8	6,091.0	6,104.4	6,092.0	15.2	14.0	-89.99		156.0	-150.7	209.4	182.1	27.32	7.664	
6,200.0	6,181.6	6,195.6	6,183.1	15.3	14.2	-92.29		154.4	-150.7	209.6	181.9	27.70	7.567	
6,300.0	6,278.7	6,296.8	6,283.4	15.4	14.3	-95.14		141.3	-150.7	210.3	182.2	28.01	7.507	
6,400.0	6,372.1	6,399.6	6,382.5	15.5	14.5	-97.89		114.5	-150.7	211.4	183.2	28.23	7.490	
6,500.0	6,459.9	6,503.7	6,478.4	15.6	14.5	-100.49		74.0	-150.7	213.0	184.6	28.38	7.506	
6,600.0	6,540.7	6,609.3	6,569.1	15.7	14.6	-102.88		20.1	-150.7	214.8	186.3	28.52	7.532	
6,700.0	6,613.3	6,716.3	6,652.5	15.9	14.8	-105.03		-46.8	-150.7	216.9	188.1	28.76	7.540	
6,800.0	6,676.2	6,824.6	6,726.6	16.1	15.0	-106.89		-125.6	-150.7	218.9	189.7	29.20	7.496	
6,900.0	6,728.4	6,934.0	6,789.4	16.5	15.4	-108.43		-215.1	-150.7	220.8	190.8	29.96	7.368	
7,000.0	6,769.1	7,044.3	6,839.1	17.1	16.2	-109.64		-313.5	-150.7	222.3	191.2	31.14	7.140	
7,100.0	6,797.5	7,155.4	6,874.3	18.0	17.1	-110.49		-418.7	-150.7	223.5	190.7	32.80	6.816	
7,200.0	6,813.1	7,267.0	6,894.0	19.0	18.3	-110.97		-528.5	-150.7	224.2	189.3	34.92	6.421	
7,300.0	6,816.0	7,376.4	6,897.8	20.1	19.6	-111.09		-637.8	-150.7	224.4	187.0	37.39	6.003	
7,400.0	6,814.6	7,476.4	6,896.5	21.4	20.9	-111.13		-737.8	-150.7	224.5	184.7	39.83	5.636	
7,500.0	6,813.1	7,576.4	6,895.2	22.8	22.2	-111.17		-837.8	-150.7	224.5	182.1	42.43	5.292	
7,600.0	6,811.6	7,676.4	6,893.9	24.2	23.7	-111.21		-937.7	-150.7	224.6	179.4	45.17	4.972	
7,700.0	6,810.2	7,776.4	6,892.6	25.7	25.2	-111.24		-1,037.7	-150.7	224.7	176.6	48.03	4.678	
7,800.0	6,808.7	7,876.4	6,891.2	27.2	26.8	-111.28		-1,137.7	-150.7	224.7	173.7	50.98	4.408	
7,900.0	6,807.2	7,976.4	6,889.9	28.8	28.4	-111.32		-1,237.7	-150.7	224.8	170.8	54.00	4.162	
8,000.0	6,805.8	8,076.4	6,888.6	30.4	30.0	-111.36		-1,337.7	-150.7	224.8	167.7	57.10	3.938	
8,100.0	6,804.3	8,176.4	6,887.3	32.1	31.7	-111.39		-1,437.7	-150.7	224.9	164.6	60.25	3.733	
8,200.0	6,802.8	8,276.4	6,886.0	33.8	33.4	-111.43		-1,537.7	-150.7	224.9	161.5	63.44	3.545	
8,300.0	6,801.4	8,376.4	6,884.7	35.5	35.1	-111.47		-1,637.7	-150.7	225.0	158.3	66.68	3.374	
8,400.0	6,799.9	8,476.4	6,883.4	37.2	36.9	-111.51		-1,737.7	-150.7	225.0	155.1	69.95	3.217	
8,500.0	6,798.4	8,576.4	6,882.1	39.0	38.6	-111.54		-1,837.7	-150.7	225.1	151.9	73.25	3.073	
8,600.0	6,797.0	8,676.4	6,880.8	40.7	40.4	-111.58		-1,937.7	-150.7	225.2	148.6	76.57	2.940	
8,700.0	6,795.5	8,776.4	6,879.5	42.5	42.2	-111.62		-2,037.6	-150.7	225.2	145.3	79.92	2.818	
8,800.0	6,794.0	8,876.4	6,878.2	44.3	44.0	-111.66		-2,137.6	-150.7	225.3	142.0	83.29	2.705	
8,900.0	6,792.6	8,976.4	6,876.8	46.1	45.8	-111.69		-2,237.6	-150.7	225.3	138.7	86.67	2.600	
9,000.0	6,791.1	9,076.4	6,875.5	47.9	47.6	-111.73		-2,337.6	-150.7	225.4	135.3	90.07	2.503	
9,100.0	6,789.6	9,176.4	6,874.2	49.7	49.4	-111.77		-2,437.6	-150.7	225.4	132.0	93.47	2.412	
9,200.0	6,788.2	9,276.4	6,872.9	51.5	51.3	-111.80		-2,537.6	-150.7	225.5	128.6	96.90	2.327	
9,300.0	6,786.7	9,376.4	6,871.6	53.4	53.1	-111.84		-2,637.6	-150.7	225.6	125.2	100.33	2.248	
9,400.0	6,785.2	9,476.4	6,870.3	55.2	54.9	-111.88		-2,737.6	-150.7	225.6	121.9	103.77	2.174	
9,500.0	6,783.8	9,576.4	6,869.0	57.0	56.8	-111.92		-2,837.6	-150.7	225.7	118.5	107.21	2.105	
9,600.0	6,782.3	9,676.4	6,867.7	58.9	58.6	-111.95		-2,937.6	-150.7	225.7	115.1	110.67	2.040	
9,700.0	6,780.8	9,776.4	6,866.4	60.7	60.5	-111.99		-3,037.6	-150.7	225.8	111.7	114.13	1.978	
9,800.0	6,779.4	9,876.4	6,865.1	62.6	62.4	-112.03		-3,137.6	-150.7	225.9	108.3	117.60	1.921	
9,900.0	6,777.9	9,976.4	6,863.8	64.4	64.2	-112.06		-3,237.5	-150.7	225.9	104.8	121.07	1.866	
10,000.0	6,776.4	10,076.4	6,862.4	66.3	66.1	-112.10		-3,337.5	-150.7	226.0	101.4	124.54	1.814	
10,100.0	6,775.0	10,176.4	6,861.1	68.2	68.0	-112.14		-3,437.5	-150.7	226.0	98.0	128.02	1.766	
10,200.0	6,773.5	10,276.4	6,859.8	70.0	69.8	-112.17		-3,537.5	-150.7	226.1	94.6	131.50	1.719	
10,300.0	6,772.0	10,376.4	6,858.5	71.9	71.7	-112.21		-3,637.5	-150.7	226.1	91.2	134.99	1.675	
10,400.0	6,770.6	10,476.4	6,857.2	73.8	73.6	-112.25		-3,737.5	-150.7	226.2	87.7	138.48	1.634	
10,500.0	6,769.1	10,576.4	6,855.9	75.7	75.5	-112.29		-3,837.5	-150.7	226.3	84.3	141.97	1.594	
10,600.0	6,767.6	10,676.4	6,854.6	77.5	77.3	-112.32		-3,937.5	-150.7	226.3	80.9	145.46	1.556	

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Project:	SEC.5-T3N-R64W	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Reference Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-28-14)	Offset TVD Reference:	Offset Datum

Offset Design Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5R-323 - Wellbore #1 - Plan #2 (5-28-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
10,700.0	6,766.2	10,776.4	6,853.3	79.4	79.2	-112.36	-4,037.5	-150.7	226.4	77.4	148.95	1.520		
10,800.0	6,764.7	10,876.4	6,852.0	81.3	81.1	-112.40	-4,137.5	-150.7	226.4	74.0	152.45	1.485 Level 3		
10,900.0	6,763.2	10,976.4	6,850.7	83.2	83.0	-112.43	-4,237.5	-150.7	226.5	70.6	155.94	1.452 Level 3		
11,000.0	6,761.8	11,076.4	6,849.4	85.1	84.9	-112.47	-4,337.4	-150.7	226.6	67.1	159.44	1.421 Level 3		
11,100.0	6,760.3	11,176.4	6,848.0	86.9	86.8	-112.51	-4,437.4	-150.7	226.6	63.7	162.94	1.391 Level 3		
11,200.0	6,758.8	11,276.4	6,846.7	88.8	88.7	-112.54	-4,537.4	-150.7	226.7	60.2	166.44	1.362 Level 3		
11,228.5	6,758.4	11,304.9	6,846.4	89.4	89.2	-112.55	-4,566.0	-150.7	226.7	59.3	167.44	1.354 Level 3		
11,257.6	6,758.0	11,332.8	6,846.0	89.9	89.7	-112.56	-4,593.8	-150.7	226.7	58.3	168.44	1.346 Level 3, SF		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Project:	SEC.5-T3N-R64W	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Reference Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-28-14)	Offset TVD Reference:	Offset Datum

Offset Design Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5U-243 - Wellbore #1 - Plan #1 (5-28-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
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	90.02	90.02	0.0	58.6	58.6	58.6	0.00	N/A	
100.0	100.0	102.0	102.0	0.1	0.1	90.02	90.02	0.0	58.6	58.6	58.4	0.23	255.645	
200.0	200.0	202.0	202.0	0.3	0.3	90.02	90.02	0.0	58.6	58.6	57.9	0.68	86.344	
300.0	300.0	302.0	302.0	0.6	0.6	90.02	90.02	0.0	58.6	58.6	57.5	1.13	51.944	
400.0	400.0	402.0	402.0	0.8	0.8	90.02	90.02	0.0	58.6	58.6	57.0	1.58	37.145	
500.0	500.0	502.0	502.0	1.0	1.0	90.02	90.02	0.0	58.6	58.6	56.6	2.03	28.909	
600.0	600.0	602.0	602.0	1.2	1.2	90.02	90.02	0.0	58.6	58.6	56.1	2.48	23.662	
700.0	700.0	702.0	702.0	1.5	1.5	90.02	90.02	0.0	58.6	58.6	55.7	2.93	20.028	
800.0	800.0	802.0	802.0	1.7	1.7	90.02	90.02	0.0	58.6	58.6	55.2	3.38	17.361	
900.0	900.0	902.0	902.0	1.9	1.9	90.02	90.02	0.0	58.6	58.6	54.8	3.83	15.321	
1,000.0	1,000.0	1,002.0	1,002.0	2.1	2.1	90.02	90.02	0.0	58.6	58.6	54.3	4.28	13.710 CC, ES	
1,100.0	1,100.0	1,102.0	1,102.0	2.4	2.4	157.11	157.11	0.0	58.6	60.2	55.5	4.72	12.770	
1,200.0	1,199.8	1,201.8	1,201.8	2.6	2.6	158.87	158.87	0.0	58.6	65.1	59.9	5.15	12.643	
1,300.0	1,299.5	1,301.5	1,301.5	2.8	2.8	161.24	161.24	0.0	58.6	73.1	67.5	5.58	13.098	
1,400.0	1,399.0	1,401.0	1,401.0	3.0	3.0	163.32	163.32	0.0	58.6	81.9	75.9	6.02	13.606	
1,500.0	1,498.6	1,500.6	1,500.6	3.3	3.3	164.99	164.99	0.0	58.6	90.8	84.3	6.46	14.053	
1,600.0	1,598.2	1,600.2	1,600.2	3.5	3.5	166.37	166.37	0.0	58.6	99.7	92.8	6.90	14.448	
1,700.0	1,697.8	1,699.8	1,699.8	3.8	3.7	167.51	167.51	0.0	58.6	108.7	101.4	7.35	14.798	
1,800.0	1,797.3	1,799.3	1,799.3	4.0	3.9	168.48	168.48	0.0	58.6	117.7	110.0	7.79	15.110	
1,900.0	1,896.9	1,898.9	1,898.9	4.3	4.2	169.32	169.32	0.0	58.6	126.8	118.6	8.24	15.389	
2,000.0	1,996.5	1,998.5	1,998.5	4.6	4.4	170.04	170.04	0.0	58.6	135.9	127.2	8.69	15.641	
2,100.0	2,096.1	2,098.1	2,098.1	4.8	4.6	170.12	170.12	1.1	59.7	145.9	136.7	9.13	15.977	
2,200.0	2,195.6	2,197.6	2,197.6	5.1	4.8	169.17	169.17	4.5	63.2	157.5	148.0	9.57	16.464	
2,300.0	2,295.2	2,297.2	2,297.2	5.4	5.0	168.02	168.02	8.8	67.4	169.9	159.9	10.01	16.965	
2,400.0	2,394.8	2,396.8	2,396.8	5.6	5.2	167.03	167.03	13.0	71.7	182.3	171.8	10.46	17.424	
2,500.0	2,494.3	2,496.3	2,496.3	5.9	5.5	166.16	166.16	17.3	76.0	194.7	183.8	10.91	17.845	
2,600.0	2,593.9	2,595.9	2,595.9	6.2	5.7	165.40	165.40	21.6	80.2	207.2	195.8	11.36	18.233	
2,700.0	2,693.5	2,695.5	2,695.5	6.5	5.9	164.72	164.72	25.8	84.5	219.7	207.9	11.82	18.591	
2,800.0	2,793.1	2,795.1	2,795.1	6.7	6.2	164.12	164.12	30.1	88.8	232.3	220.0	12.27	18.922	
2,900.0	2,892.6	2,894.6	2,894.6	7.0	6.4	163.58	163.58	34.3	93.0	244.8	232.1	12.73	19.228	
3,000.0	2,992.2	2,994.2	2,994.2	7.3	6.6	163.09	163.09	38.6	97.3	257.4	244.2	13.19	19.513	
3,100.0	3,091.8	3,093.8	3,093.8	7.6	6.8	162.65	162.65	42.9	101.6	270.0	256.4	13.65	19.778	
3,200.0	3,191.4	3,193.4	3,193.4	7.8	7.1	162.25	162.25	47.1	105.8	282.6	268.5	14.11	20.025	
3,300.0	3,290.9	3,292.9	3,292.9	8.1	7.3	161.88	161.88	51.4	110.1	295.2	280.7	14.58	20.256	
3,400.0	3,390.5	3,392.5	3,392.5	8.4	7.5	161.54	161.54	55.6	114.4	307.9	292.8	15.04	20.472	
3,500.0	3,490.1	3,492.1	3,492.1	8.7	7.8	161.23	161.23	59.9	118.6	320.5	305.0	15.50	20.675	
3,600.0	3,589.6	3,591.6	3,591.6	9.0	8.0	160.94	160.94	64.2	122.9	333.2	317.2	15.97	20.866	
3,700.0	3,689.2	3,691.2	3,691.2	9.2	8.3	160.67	160.67	68.4	127.2	345.9	329.4	16.43	21.045	
3,800.0	3,788.8	3,790.8	3,790.8	9.5	8.5	160.43	160.43	72.7	131.4	358.5	341.6	16.90	21.215	
3,900.0	3,888.4	3,890.4	3,890.4	9.8	8.7	160.19	160.19	76.9	135.7	371.2	353.8	17.37	21.375	
4,000.0	3,987.9	3,989.9	3,989.9	10.1	9.0	159.98	159.98	81.2	140.0	383.9	366.1	17.83	21.526	
4,100.0	4,087.5	4,089.5	4,089.5	10.4	9.2	159.78	159.78	85.4	144.3	396.6	378.3	18.30	21.669	
4,200.0	4,187.1	4,189.1	4,189.1	10.6	9.5	159.59	159.59	89.7	148.5	409.3	390.5	18.77	21.805	
4,300.0	4,286.6	4,288.6	4,288.6	10.9	9.7	159.41	159.41	94.0	152.8	422.0	402.7	19.24	21.933	
4,400.0	4,386.2	4,388.2	4,388.2	11.2	9.9	159.24	159.24	98.2	157.1	434.7	415.0	19.71	22.056	
4,500.0	4,485.8	4,487.8	4,487.8	11.5	10.2	159.08	159.08	102.5	161.3	447.4	427.2	20.18	22.172	
4,600.0	4,585.4	4,587.4	4,587.4	11.8	10.4	158.93	158.93	106.7	165.6	460.1	439.4	20.65	22.283	
4,700.0	4,684.9	4,686.9	4,686.9	12.0	10.7	158.79	158.79	111.0	169.9	472.8	451.7	21.12	22.389	
4,800.0	4,784.5	4,786.5	4,786.5	12.3	10.9	158.66	158.66	115.3	174.1	485.5	463.9	21.59	22.491	
4,900.0	4,884.1	4,886.1	4,886.1	12.6	11.1	158.53	158.53	119.5	178.4	498.2	476.2	22.06	22.587	
5,000.0	4,983.7	4,985.7	4,985.7	12.9	11.4	158.41	158.41	123.8	182.7	510.9	488.4	22.53	22.680	

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Project:	SEC.5-T3N-R64W	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Reference Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-28-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		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)						
5,100.0	5,083.2	5,068.9	5,063.5	13.2	11.6	158.30	128.0	186.9	523.6	500.6	23.00	22.768		
5,200.0	5,182.8	5,168.1	5,162.5	13.4	11.9	158.19	132.3	191.2	536.4	512.9	23.47	22.853		
5,300.0	5,282.4	5,267.3	5,261.5	13.7	12.1	158.11	136.6	195.5	548.7	524.8	23.95	22.915		
5,400.0	5,382.2	5,366.9	5,360.8	13.9	12.4	157.95	140.8	199.8	558.3	533.9	24.39	22.896		
5,500.0	5,482.2	5,466.6	5,460.4	14.1	12.6	157.64	145.1	204.0	564.7	539.9	24.80	22.773		
5,600.0	5,582.2	5,566.4	5,560.0	14.2	12.8	90.77	149.4	208.3	569.0	543.8	25.22	22.558		
5,700.0	5,682.2	5,671.8	5,665.2	14.4	13.1	90.33	153.7	212.7	573.1	547.4	25.67	22.326		
5,800.0	5,782.2	5,788.2	5,781.6	14.6	13.3	90.11	155.9	214.9	575.0	548.9	26.09	22.037		
5,900.0	5,882.2	5,890.8	5,884.2	14.8	13.5	90.10	156.0	214.9	575.0	548.5	26.49	21.705		
6,000.0	5,982.2	5,990.8	5,984.2	15.0	13.7	90.10	156.0	214.9	575.0	548.1	26.91	21.367		
6,100.0	6,082.2	6,090.8	6,084.1	15.2	13.9	-89.90	155.4	214.9	575.0	547.7	27.32	21.049		
6,200.0	6,181.6	6,190.6	6,183.4	15.3	14.1	-89.90	145.0	214.9	575.0	547.4	27.60	20.836		
6,300.0	6,278.7	6,290.5	6,280.5	15.4	14.2	-89.90	121.8	214.9	575.0	547.2	27.81	20.680		
6,400.0	6,372.1	6,390.4	6,373.7	15.5	14.3	-89.91	86.1	214.9	575.0	547.0	27.99	20.547		
6,500.0	6,459.9	6,490.3	6,461.4	15.6	14.4	-89.91	38.5	214.9	575.0	546.8	28.20	20.389		
6,600.0	6,540.7	6,590.1	6,542.2	15.7	14.5	-89.92	-20.1	214.9	575.0	546.5	28.53	20.152		
6,700.0	6,613.3	6,690.0	6,614.7	15.9	14.7	-89.93	-88.7	214.9	575.0	546.0	29.06	19.786		
6,800.0	6,676.2	6,790.0	6,677.6	16.1	15.0	-89.94	-166.2	214.9	575.0	545.2	29.86	19.256		
6,900.0	6,728.4	6,889.9	6,729.9	16.5	15.6	-89.95	-251.3	214.9	575.0	544.0	30.99	18.555		
7,000.0	6,769.1	6,989.8	6,770.7	17.1	16.3	-89.96	-342.5	214.9	575.0	542.6	32.47	17.710		
7,100.0	6,797.5	7,089.8	6,799.2	18.0	17.2	-89.97	-438.2	214.9	575.0	540.7	34.29	16.768		
7,200.0	6,813.1	7,189.7	6,815.0	19.0	18.3	-89.98	-536.8	214.9	575.0	538.6	36.42	15.788		
7,300.0	6,816.0	7,289.7	6,818.0	20.1	19.5	-89.99	-636.7	214.9	575.0	536.2	38.80	14.821		
7,400.0	6,814.6	7,389.7	6,816.5	21.4	20.8	-89.99	-736.7	214.9	575.0	533.6	41.40	13.891		
7,500.0	6,813.1	7,489.7	6,815.0	22.8	22.2	-89.99	-836.7	214.9	575.0	530.9	44.17	13.018		
7,600.0	6,811.6	7,589.7	6,813.6	24.2	23.6	-89.99	-936.7	214.9	575.0	527.9	47.09	12.210		
7,700.0	6,810.2	7,689.7	6,812.1	25.7	25.2	-89.99	-1,036.7	214.9	575.0	524.9	50.14	11.468		
7,800.0	6,808.7	7,789.7	6,810.6	27.2	26.7	-89.99	-1,136.7	214.9	575.0	521.7	53.29	10.790		
7,900.0	6,807.2	7,889.7	6,809.2	28.8	28.3	-89.99	-1,236.6	214.9	575.0	518.5	56.53	10.173		
8,000.0	6,805.8	7,989.7	6,807.7	30.4	30.0	-89.99	-1,336.6	214.9	575.0	515.2	59.83	9.611		
8,100.0	6,804.3	8,089.7	6,806.2	32.1	31.7	-89.99	-1,436.6	214.9	575.0	511.8	63.20	9.099		
8,200.0	6,802.8	8,189.7	6,804.8	33.8	33.4	-89.99	-1,536.6	214.9	575.0	508.4	66.61	8.632		
8,300.0	6,801.4	8,289.7	6,803.3	35.5	35.1	-89.99	-1,636.6	214.9	575.0	505.0	70.08	8.206		
8,400.0	6,799.9	8,389.7	6,801.8	37.2	36.9	-89.99	-1,736.6	214.9	575.0	501.5	73.57	7.816		
8,500.0	6,798.4	8,489.7	6,800.4	39.0	38.6	-89.99	-1,836.6	214.9	575.0	497.9	77.10	7.458		
8,600.0	6,797.0	8,589.7	6,798.9	40.7	40.4	-89.99	-1,936.6	214.9	575.0	494.4	80.66	7.129		
8,700.0	6,795.5	8,689.7	6,797.4	42.5	42.2	-89.99	-2,036.6	214.9	575.0	490.8	84.24	6.826		
8,800.0	6,794.0	8,789.7	6,796.0	44.3	44.0	-89.99	-2,136.5	214.9	575.0	487.2	87.85	6.546		
8,900.0	6,792.6	8,889.7	6,794.5	46.1	45.8	-89.99	-2,236.5	214.9	575.0	483.6	91.47	6.286		
9,000.0	6,791.1	8,989.7	6,793.0	47.9	47.6	-89.99	-2,336.5	214.9	575.0	479.9	95.11	6.046		
9,100.0	6,789.6	9,089.7	6,791.6	49.7	49.4	-89.99	-2,436.5	214.9	575.0	476.3	98.77	5.822		
9,200.0	6,788.2	9,189.7	6,790.1	51.5	51.3	-89.99	-2,536.5	214.9	575.0	472.6	102.44	5.614		
9,300.0	6,786.7	9,289.7	6,788.6	53.4	53.1	-89.99	-2,636.5	214.9	575.0	468.9	106.12	5.419		
9,400.0	6,785.2	9,389.7	6,787.2	55.2	55.0	-89.99	-2,736.5	214.9	575.0	465.2	109.81	5.237		
9,500.0	6,783.8	9,489.7	6,785.7	57.0	56.8	-89.99	-2,836.5	214.9	575.0	461.5	113.51	5.066		
9,600.0	6,782.3	9,589.7	6,784.2	58.9	58.7	-89.99	-2,936.5	214.9	575.0	457.8	117.22	4.906		
9,700.0	6,780.8	9,689.7	6,782.8	60.7	60.5	-89.99	-3,036.5	214.9	575.0	454.1	120.94	4.755		
9,800.0	6,779.4	9,789.7	6,781.3	62.6	62.4	-89.99	-3,136.4	214.9	575.0	450.4	124.66	4.613		
9,900.0	6,777.9	9,889.7	6,779.8	64.4	64.2	-89.99	-3,236.4	214.9	575.0	446.6	128.39	4.479		
10,000.0	6,776.4	9,989.7	6,778.4	66.3	66.1	-89.99	-3,336.4	214.9	575.0	442.9	132.13	4.352		
10,100.0	6,775.0	10,089.7	6,776.9	68.2	68.0	-89.99	-3,436.4	214.9	575.0	439.2	135.87	4.232		

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Project:	SEC.5-T3N-R64W	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Reference Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-28-14)	Offset TVD Reference:	Offset Datum

Offset Design										Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5U-243 - Wellbore #1 - Plan #1 (5-28-14)				Offset Site Error:		0.0 ft	
Survey Program: 0-MWD												Offset Well Error:		0.0 ft			
Reference		Offset		Semi Major Axis		Distance							Warning				
Measured Depth	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)						
10,200.0	6,773.5	10,189.7	6,775.5	70.0	69.9	-89.99	-3,536.4	214.9	575.0	435.4	139.62	4.118					
10,300.0	6,772.0	10,289.7	6,774.0	71.9	71.7	-89.99	-3,636.4	214.9	575.0	431.7	143.37	4.011					
10,400.0	6,770.6	10,389.7	6,772.5	73.8	73.6	-89.99	-3,736.4	214.9	575.0	427.9	147.13	3.908					
10,500.0	6,769.1	10,489.7	6,771.1	75.7	75.5	-89.99	-3,836.4	214.9	575.0	424.1	150.89	3.811					
10,600.0	6,767.6	10,589.7	6,769.6	77.5	77.4	-89.99	-3,936.4	214.9	575.0	420.4	154.66	3.718					
10,700.0	6,766.2	10,689.7	6,768.1	79.4	79.3	-89.99	-4,036.3	214.9	575.0	416.6	158.43	3.630					
10,800.0	6,764.7	10,789.7	6,766.7	81.3	81.1	-89.99	-4,136.3	214.9	575.0	412.8	162.20	3.545					
10,900.0	6,763.2	10,889.7	6,765.2	83.2	83.0	-89.99	-4,236.3	214.9	575.0	409.1	165.97	3.465					
11,000.0	6,761.8	10,989.7	6,763.7	85.1	84.9	-89.99	-4,336.3	214.9	575.0	405.3	169.75	3.387					
11,100.0	6,760.3	11,089.7	6,762.3	86.9	86.8	-89.99	-4,436.3	214.9	575.0	401.5	173.53	3.314					
11,200.0	6,758.8	11,189.7	6,760.8	88.8	88.7	-89.99	-4,536.3	214.9	575.0	397.7	177.31	3.243					
11,242.1	6,758.2	11,231.8	6,760.2	89.6	89.5	-89.99	-4,578.4	214.9	575.0	396.1	178.91	3.214					
11,257.6	6,758.0	11,243.6	6,760.0	89.9	89.7	-89.99	-4,590.2	214.9	575.0	395.6	179.42	3.205 SF					

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Reference Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-28-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	1.0	1.0	0.0	0.0	90.01	90.01	0.0	120.0	120.0	120.0	0.00	N/A	
100.0	100.0	101.0	101.0	0.1	0.1	90.01	90.01	0.0	120.0	120.0	119.8	0.23	528.647	
200.0	200.0	201.0	201.0	0.3	0.3	90.01	90.01	0.0	120.0	120.0	119.3	0.68	177.387	
300.0	300.0	301.0	301.0	0.6	0.6	90.01	90.01	0.0	120.0	120.0	118.9	1.13	106.574	
400.0	400.0	401.0	401.0	0.8	0.8	90.01	90.01	0.0	120.0	120.0	118.4	1.58	76.167	
500.0	500.0	501.0	501.0	1.0	1.0	90.01	90.01	0.0	120.0	120.0	118.0	2.03	59.260	
600.0	600.0	601.0	601.0	1.2	1.2	90.01	90.01	0.0	120.0	120.0	117.5	2.47	48.495	
700.0	700.0	701.0	701.0	1.5	1.5	90.01	90.01	0.0	120.0	120.0	117.1	2.92	41.040	
800.0	800.0	801.0	801.0	1.7	1.7	90.01	90.01	0.0	120.0	120.0	116.6	3.37	35.572	
900.0	900.0	901.0	901.0	1.9	1.9	90.01	90.01	0.0	120.0	120.0	116.2	3.82	31.389	
966.3	966.3	967.3	967.3	2.1	2.1	90.01	90.01	0.0	120.0	120.0	115.9	4.12	29.118 CC	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	90.01	90.01	0.0	120.0	120.0	115.7	4.27	28.103 ES	
1,100.0	1,100.0	1,097.0	1,097.0	2.4	2.3	156.51	156.51	0.5	121.6	123.2	118.5	4.70	26.245	
1,200.0	1,199.8	1,192.5	1,192.3	2.6	2.5	156.69	156.69	1.9	126.2	132.9	127.8	5.11	26.011	
1,300.0	1,299.5	1,286.8	1,286.3	2.8	2.8	156.94	156.94	4.2	133.7	148.6	143.1	5.52	26.899	
1,400.0	1,399.0	1,380.8	1,379.6	3.0	3.0	156.97	156.97	7.4	144.1	168.1	162.1	5.95	28.239	
1,500.0	1,498.6	1,478.6	1,476.7	3.3	3.2	156.89	156.89	11.0	156.1	188.6	182.2	6.38	29.548	
1,600.0	1,598.2	1,576.5	1,573.8	3.5	3.5	156.83	156.83	14.6	168.0	209.2	202.3	6.82	30.673	
1,700.0	1,697.8	1,674.4	1,670.8	3.8	3.8	156.77	156.77	18.3	179.9	229.7	222.4	7.26	31.639	
1,800.0	1,797.3	1,772.2	1,767.9	4.0	4.1	156.73	156.73	21.9	191.9	250.3	242.5	7.71	32.475	
1,900.0	1,896.9	1,870.1	1,865.0	4.3	4.3	156.69	156.69	25.6	203.8	270.8	262.6	8.16	33.201	
2,000.0	1,996.5	1,967.9	1,962.0	4.6	4.6	156.66	156.66	29.2	215.7	291.4	282.7	8.61	33.843	
2,100.0	2,096.1	2,065.8	2,059.1	4.8	4.9	156.63	156.63	32.8	227.6	311.9	302.8	9.06	34.409	
2,200.0	2,195.6	2,163.7	2,156.2	5.1	5.2	156.61	156.61	36.5	239.6	332.5	322.9	9.52	34.912	
2,300.0	2,295.2	2,261.5	2,253.2	5.4	5.5	156.59	156.59	40.1	251.5	353.0	343.0	9.98	35.362	
2,400.0	2,394.8	2,359.4	2,350.3	5.6	5.8	156.57	156.57	43.8	263.4	373.6	363.1	10.44	35.766	
2,500.0	2,494.3	2,457.3	2,447.4	5.9	6.1	156.55	156.55	47.4	275.4	394.1	383.2	10.91	36.131	
2,600.0	2,593.9	2,555.1	2,544.5	6.2	6.4	156.53	156.53	51.0	287.3	414.7	403.3	11.37	36.461	
2,700.0	2,693.5	2,653.0	2,641.5	6.5	6.7	156.52	156.52	54.7	299.2	435.2	423.4	11.84	36.762	
2,800.0	2,793.1	2,750.9	2,738.6	6.7	7.0	156.51	156.51	58.3	311.2	455.8	443.4	12.31	37.037	
2,900.0	2,892.6	2,848.7	2,835.7	7.0	7.4	156.49	156.49	62.0	323.1	476.3	463.5	12.77	37.290	
3,000.0	2,992.2	2,946.6	2,932.7	7.3	7.7	156.48	156.48	65.6	335.0	496.9	483.6	13.24	37.521	
3,100.0	3,091.8	3,044.5	3,029.8	7.6	8.0	156.47	156.47	69.2	346.9	517.4	503.7	13.71	37.735	
3,200.0	3,191.4	3,142.3	3,126.9	7.8	8.3	156.46	156.46	72.9	358.9	538.0	523.8	14.18	37.933	
3,300.0	3,290.9	3,240.2	3,223.9	8.1	8.6	156.46	156.46	76.5	370.8	558.5	543.8	14.65	38.117	
3,400.0	3,390.5	3,338.1	3,321.0	8.4	8.9	156.45	156.45	80.2	382.7	579.1	563.9	15.12	38.287	
3,500.0	3,490.1	3,435.9	3,418.1	8.7	9.2	156.44	156.44	83.8	394.7	599.6	584.0	15.60	38.446	
3,600.0	3,589.6	3,533.8	3,515.1	9.0	9.5	156.43	156.43	87.4	406.6	620.2	604.1	16.07	38.595	
3,700.0	3,689.2	3,631.7	3,612.2	9.2	9.9	156.43	156.43	91.1	418.5	640.7	624.2	16.54	38.734	
3,800.0	3,788.8	3,729.5	3,709.3	9.5	10.2	156.42	156.42	94.7	430.5	661.3	644.2	17.01	38.864	
3,900.0	3,888.4	3,827.4	3,806.3	9.8	10.5	156.42	156.42	98.4	442.4	681.8	664.3	17.49	38.986	
4,000.0	3,987.9	3,925.3	3,903.4	10.1	10.8	156.41	156.41	102.0	454.3	702.4	684.4	17.96	39.101	
4,100.0	4,087.5	4,023.1	4,000.5	10.4	11.1	156.41	156.41	105.6	466.2	722.9	704.5	18.44	39.210	
4,200.0	4,187.1	4,121.0	4,097.5	10.6	11.4	156.40	156.40	109.3	478.2	743.5	724.5	18.91	39.312	
4,300.0	4,286.6	4,218.9	4,194.6	10.9	11.8	156.40	156.40	112.9	490.1	764.0	744.6	19.39	39.409	
4,400.0	4,386.2	4,316.7	4,291.7	11.2	12.1	156.39	156.39	116.5	502.0	784.6	764.7	19.86	39.501	
4,500.0	4,485.8	4,414.6	4,388.7	11.5	12.4	156.39	156.39	120.2	514.0	805.1	784.8	20.34	39.588	
4,600.0	4,585.4	4,512.5	4,485.8	11.8	12.7	156.39	156.39	123.8	525.9	825.6	804.8	20.81	39.670	
4,700.0	4,684.9	4,610.3	4,582.9	12.0	13.0	156.38	156.38	127.5	537.8	846.2	824.9	21.29	39.748	
4,800.0	4,784.5	4,708.2	4,679.9	12.3	13.3	156.38	156.38	131.1	549.8	866.7	845.0	21.77	39.823	
4,900.0	4,884.1	4,806.1	4,777.0	12.6	13.7	156.37	156.37	134.7	561.7	887.3	865.1	22.24	39.894	

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Project:	SEC.5-T3N-R64W	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Reference Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-28-14)	Offset TVD Reference:	Offset Datum

Offset Design Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5U-303 - 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	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.0	4,983.7	4,903.9	4,874.1	12.9	14.0	156.37	156.37	138.4	573.6	907.8	885.1	22.72	39.961	
5,100.0	5,083.2	5,001.8	4,971.1	13.2	14.3	156.37	156.37	142.0	585.5	928.4	905.2	23.20	40.026	
5,200.0	5,182.8	5,099.7	5,068.2	13.4	14.6	156.37	156.37	145.7	597.5	948.9	925.3	23.67	40.087	
5,300.0	5,282.4	5,212.3	5,179.9	13.7	15.0	156.43	156.43	149.8	610.9	968.9	944.7	24.19	40.059	
5,400.0	5,382.2	5,359.2	5,326.3	13.9	15.3	156.52	156.52	153.4	623.0	982.5	957.8	24.69	39.789	
5,500.0	5,482.2	5,507.9	5,474.9	14.1	15.5	156.56	156.56	155.0	627.9	988.0	962.8	25.16	39.274	
5,600.0	5,582.2	5,616.2	5,583.2	14.2	15.7	90.12	90.12	155.0	628.0	988.1	962.6	25.55	38.678	
5,700.0	5,682.2	5,716.2	5,683.2	14.4	15.9	90.12	90.12	155.0	628.0	988.1	962.2	25.95	38.078	
5,800.0	5,782.2	5,816.2	5,783.2	14.6	16.0	90.12	90.12	155.0	628.0	988.1	961.8	26.35	37.495	
5,900.0	5,882.2	5,916.2	5,883.2	14.8	16.2	90.12	90.12	155.0	628.0	988.1	961.4	26.76	36.927	
6,000.0	5,982.2	6,016.2	5,983.2	15.0	16.4	90.12	90.12	155.0	628.0	988.1	960.9	27.17	36.374	
6,100.0	6,082.2	6,116.2	6,083.2	15.2	16.5	-89.92	-89.92	155.0	628.0	988.1	960.5	27.57	35.844	
6,121.2	6,103.3	6,137.3	6,104.3	15.2	16.6	-89.98	-89.98	155.0	628.0	988.1	960.5	27.64	35.750	
6,200.0	6,181.6	6,216.1	6,183.1	15.3	16.7	-90.43	-90.43	153.4	628.0	988.1	960.2	27.89	35.428	
6,300.0	6,278.7	6,317.2	6,283.2	15.4	16.8	-91.03	-91.03	140.2	628.0	988.3	960.1	28.13	35.135	
6,400.0	6,372.1	6,419.8	6,382.2	15.5	16.9	-91.61	-91.61	113.4	628.0	988.5	960.2	28.32	34.905	
6,500.0	6,459.9	6,523.8	6,477.9	15.6	17.0	-92.18	-92.18	72.9	628.0	988.8	960.3	28.53	34.665	
6,600.0	6,540.7	6,629.2	6,568.4	15.7	17.1	-92.70	-92.70	19.1	628.0	989.2	960.4	28.82	34.325	
6,700.0	6,613.3	6,736.0	6,651.7	15.9	17.2	-93.18	-93.18	-47.7	628.0	989.6	960.4	29.29	33.791	
6,800.0	6,676.2	6,844.0	6,725.6	16.1	17.4	-93.61	-93.61	-126.4	628.0	990.1	960.1	30.02	32.981	
6,900.0	6,728.4	6,953.2	6,788.3	16.5	17.8	-93.97	-93.97	-215.6	628.0	990.5	959.4	31.09	31.861	
7,000.0	6,769.1	7,063.4	6,838.1	17.1	18.3	-94.26	-94.26	-313.8	628.0	990.9	958.3	32.54	30.451	
7,100.0	6,797.5	7,174.3	6,873.3	18.0	19.0	-94.47	-94.47	-418.9	628.0	991.1	956.8	34.37	28.837	
7,200.0	6,813.1	7,285.7	6,893.1	19.0	20.0	-94.59	-94.59	-528.4	628.0	991.3	954.8	36.55	27.125	
7,300.0	6,816.0	7,395.2	6,897.1	20.1	21.2	-94.63	-94.63	-637.7	628.0	991.4	952.4	38.98	25.432	
7,400.0	6,814.6	7,495.2	6,895.8	21.4	22.4	-94.64	-94.64	-737.7	628.0	991.4	949.8	41.54	23.863	
7,500.0	6,813.1	7,595.2	6,894.5	22.8	23.7	-94.65	-94.65	-837.7	628.0	991.4	947.1	44.29	22.384	
7,600.0	6,811.6	7,695.2	6,893.2	24.2	25.0	-94.66	-94.66	-937.7	628.0	991.4	944.2	47.18	21.011	
7,700.0	6,810.2	7,795.2	6,891.9	25.7	26.5	-94.67	-94.67	-1,037.7	628.0	991.4	941.2	50.20	19.747	
7,800.0	6,808.7	7,895.2	6,890.6	27.2	28.0	-94.68	-94.68	-1,137.7	628.0	991.4	938.1	53.33	18.591	
7,900.0	6,807.2	7,995.2	6,889.3	28.8	29.5	-94.69	-94.69	-1,237.7	628.0	991.4	934.9	56.54	17.536	
8,000.0	6,805.8	8,095.2	6,888.0	30.4	31.1	-94.70	-94.70	-1,337.7	628.0	991.5	931.6	59.82	16.574	
8,100.0	6,804.3	8,195.2	6,886.7	32.1	32.7	-94.71	-94.71	-1,437.7	628.0	991.5	928.3	63.16	15.697	
8,200.0	6,802.8	8,295.2	6,885.4	33.8	34.4	-94.72	-94.72	-1,537.7	628.0	991.5	924.9	66.56	14.896	
8,300.0	6,801.4	8,395.2	6,884.1	35.5	36.1	-94.73	-94.73	-1,637.6	628.0	991.5	921.5	70.00	14.165	
8,400.0	6,799.9	8,495.2	6,882.8	37.2	37.8	-94.74	-94.74	-1,737.6	628.0	991.5	918.0	73.48	13.494	
8,500.0	6,798.4	8,595.2	6,881.6	39.0	39.5	-94.75	-94.75	-1,837.6	628.0	991.5	914.5	76.99	12.879	
8,600.0	6,797.0	8,695.2	6,880.3	40.7	41.2	-94.76	-94.76	-1,937.6	628.0	991.6	911.0	80.53	12.313	
8,700.0	6,795.5	8,795.2	6,879.0	42.5	43.0	-94.77	-94.77	-2,037.6	628.0	991.6	907.5	84.09	11.792	
8,800.0	6,794.0	8,895.2	6,877.7	44.3	44.8	-94.78	-94.78	-2,137.6	628.0	991.6	903.9	87.68	11.310	
8,900.0	6,792.6	8,995.2	6,876.4	46.1	46.5	-94.79	-94.79	-2,237.6	628.0	991.6	900.3	91.28	10.863	
9,000.0	6,791.1	9,095.2	6,875.1	47.9	48.3	-94.80	-94.80	-2,337.6	628.0	991.6	896.7	94.90	10.449	
9,100.0	6,789.6	9,195.2	6,873.8	49.7	50.1	-94.81	-94.81	-2,437.6	628.0	991.6	893.1	98.54	10.063	
9,200.0	6,788.2	9,295.2	6,872.5	51.5	51.9	-94.82	-94.82	-2,537.6	628.0	991.6	889.5	102.19	9.704	
9,300.0	6,786.7	9,395.2	6,871.2	53.4	53.8	-94.83	-94.83	-2,637.6	628.0	991.7	885.8	105.86	9.368	
9,400.0	6,785.2	9,495.2	6,869.9	55.2	55.6	-94.84	-94.84	-2,737.6	628.0	991.7	882.1	109.53	9.054	
9,500.0	6,783.8	9,595.2	6,868.6	57.0	57.4	-94.85	-94.85	-2,837.5	628.0	991.7	878.5	113.21	8.759	
9,600.0	6,782.3	9,695.2	6,867.3	58.9	59.2	-94.86	-94.86	-2,937.5	628.0	991.7	874.8	116.91	8.483	
9,700.0	6,780.8	9,795.2	6,866.1	60.7	61.1	-94.87	-94.87	-3,037.5	628.0	991.7	871.1	120.61	8.223	
9,800.0	6,779.4	9,895.2	6,864.8	62.6	62.9	-94.88	-94.88	-3,137.5	628.0	991.7	867.4	124.32	7.978	
9,900.0	6,777.9	9,995.2	6,863.5	64.4	64.8	-94.89	-94.89	-3,237.5	628.0	991.8	863.7	128.03	7.746	

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Project:	SEC.5-T3N-R64W	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Reference Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-28-14)	Offset TVD Reference:	Offset Datum

Offset Design Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5U-303 - 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	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,000.0	6,776.4	10,095.2	6,862.2	66.3	66.6	-94.90	-3,337.5	628.0	991.8	860.0	131.75	7.528	
10,100.0	6,775.0	10,195.2	6,860.9	68.2	68.5	-94.91	-3,437.5	628.0	991.8	856.3	135.48	7.321	
10,200.0	6,773.5	10,295.2	6,859.6	70.0	70.3	-94.92	-3,537.5	628.0	991.8	852.6	139.21	7.124	
10,300.0	6,772.0	10,395.2	6,858.3	71.9	72.2	-94.93	-3,637.5	628.0	991.8	848.9	142.95	6.938	
10,400.0	6,770.6	10,495.2	6,857.0	73.8	74.1	-94.94	-3,737.5	628.0	991.8	845.1	146.69	6.761	
10,500.0	6,769.1	10,595.2	6,855.7	75.7	75.9	-94.95	-3,837.5	628.0	991.8	841.4	150.43	6.593	
10,600.0	6,767.6	10,695.2	6,854.4	77.5	77.8	-94.96	-3,937.5	628.0	991.9	837.7	154.18	6.433	
10,700.0	6,766.2	10,795.2	6,853.1	79.4	79.7	-94.97	-4,037.4	628.0	991.9	833.9	157.93	6.280	
10,800.0	6,764.7	10,895.2	6,851.8	81.3	81.6	-94.98	-4,137.4	628.0	991.9	830.2	161.69	6.135	
10,900.0	6,763.2	10,995.2	6,850.6	83.2	83.4	-94.99	-4,237.4	628.1	991.9	826.5	165.45	5.995	
11,000.0	6,761.8	11,095.2	6,849.3	85.1	85.3	-95.00	-4,337.4	628.1	991.9	822.7	169.21	5.862	
11,100.0	6,760.3	11,195.2	6,848.0	86.9	87.2	-95.01	-4,437.4	628.1	991.9	819.0	172.97	5.735	
11,200.0	6,758.8	11,295.2	6,846.7	88.8	89.1	-95.02	-4,537.4	628.1	992.0	815.2	176.74	5.613	
11,230.0	6,758.4	11,325.1	6,846.3	89.4	89.6	-95.03	-4,567.4	628.1	992.0	814.1	177.87	5.577	
11,257.6	6,758.0	11,348.0	6,846.0	89.9	90.1	-95.03	-4,590.2	628.1	992.0	813.2	178.82	5.547 SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Project:	SEC.5-T3N-R64W	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Reference Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-28-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Warning						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	2.0	2.0	0.0	0.0	90.01	0.0	89.3	89.3	89.3	0.00	N/A		
100.0	100.0	102.0	102.0	0.1	0.1	90.01	0.0	89.3	89.3	89.1	0.23	389.555		
200.0	200.0	202.0	202.0	0.3	0.3	90.01	0.0	89.3	89.3	88.6	0.68	131.571		
300.0	300.0	302.0	302.0	0.6	0.6	90.01	0.0	89.3	89.3	88.2	1.13	79.153		
400.0	400.0	402.0	402.0	0.8	0.8	90.01	0.0	89.3	89.3	87.7	1.58	56.602		
500.0	500.0	502.0	502.0	1.0	1.0	90.01	0.0	89.3	89.3	87.3	2.03	44.052		
600.0	600.0	602.0	602.0	1.2	1.2	90.01	0.0	89.3	89.3	86.8	2.48	36.057		
700.0	700.0	702.0	702.0	1.5	1.5	90.01	0.0	89.3	89.3	86.4	2.93	30.518		
800.0	800.0	802.0	802.0	1.7	1.7	90.01	0.0	89.3	89.3	85.9	3.38	26.454		
900.0	900.0	902.0	902.0	1.9	1.9	90.01	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	90.01	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	156.88	0.0	89.3	90.9	86.2	4.72	19.280		
1,200.0	1,199.8	1,201.8	1,201.8	2.6	2.6	158.07	0.0	89.3	95.7	90.6	5.15	18.604		
1,300.0	1,299.5	1,301.5	1,301.5	2.8	2.8	159.79	0.0	89.3	103.7	98.1	5.58	18.587		
1,400.0	1,399.0	1,401.0	1,401.0	3.0	3.0	161.42	0.0	89.3	112.4	106.4	6.02	18.679		
1,500.0	1,498.6	1,500.0	1,500.0	3.3	3.3	162.80	0.0	89.3	121.2	114.7	6.46	18.768		
1,600.0	1,598.2	1,596.5	1,596.5	3.5	3.5	163.58	0.7	90.8	131.5	124.6	6.89	19.086		
1,700.0	1,697.8	1,691.7	1,691.6	3.8	3.7	163.55	2.7	95.1	144.6	137.2	7.32	19.762		
1,800.0	1,797.3	1,786.2	1,785.7	4.0	3.9	162.92	6.1	102.2	160.4	152.7	7.74	20.715		
1,900.0	1,896.9	1,882.3	1,881.2	4.3	4.1	161.93	10.6	111.9	178.7	170.5	8.18	21.838		
2,000.0	1,996.5	1,980.5	1,978.8	4.6	4.3	161.05	15.4	122.2	197.3	188.7	8.62	22.879		
2,100.0	2,096.1	2,078.7	2,076.4	4.8	4.6	160.32	20.2	132.4	216.0	206.9	9.07	23.811		
2,200.0	2,195.6	2,176.9	2,173.9	5.1	4.8	159.71	25.0	142.6	234.7	225.1	9.52	24.649		
2,300.0	2,295.2	2,275.2	2,271.5	5.4	5.1	159.19	29.8	152.8	253.4	243.4	9.97	25.404		
2,400.0	2,394.8	2,373.4	2,369.0	5.6	5.4	158.74	34.6	163.1	272.1	261.7	10.43	26.090		
2,500.0	2,494.3	2,471.6	2,466.6	5.9	5.6	158.35	39.4	173.3	290.8	279.9	10.89	26.714		
2,600.0	2,593.9	2,569.8	2,564.1	6.2	5.9	158.00	44.2	183.5	309.6	298.2	11.35	27.283		
2,700.0	2,693.5	2,668.0	2,661.7	6.5	6.2	157.70	49.0	193.7	328.3	316.5	11.81	27.804		
2,800.0	2,793.1	2,766.2	2,759.3	6.7	6.5	157.43	53.8	204.0	347.1	334.8	12.27	28.282		
2,900.0	2,892.6	2,864.4	2,856.8	7.0	6.7	157.18	58.6	214.2	365.9	353.1	12.74	28.724		
3,000.0	2,992.2	2,962.6	2,954.4	7.3	7.0	156.96	63.4	224.4	384.7	371.5	13.20	29.131		
3,100.0	3,091.8	3,060.8	3,051.9	7.6	7.3	156.76	68.2	234.6	403.4	389.8	13.67	29.509		
3,200.0	3,191.4	3,159.0	3,149.5	7.8	7.6	156.58	73.0	244.9	422.2	408.1	14.14	29.859		
3,300.0	3,290.9	3,257.3	3,247.1	8.1	7.9	156.42	77.8	255.1	441.0	426.4	14.61	30.186		
3,400.0	3,390.5	3,355.5	3,344.6	8.4	8.2	156.26	82.6	265.3	459.8	444.7	15.08	30.491		
3,500.0	3,490.1	3,453.7	3,442.2	8.7	8.4	156.12	87.5	275.6	478.6	463.1	15.55	30.775		
3,600.0	3,589.6	3,551.9	3,539.7	9.0	8.7	155.99	92.3	285.8	497.4	481.4	16.02	31.042		
3,700.0	3,689.2	3,650.1	3,637.3	9.2	9.0	155.87	97.1	296.0	516.2	499.7	16.50	31.293		
3,800.0	3,788.8	3,748.3	3,734.8	9.5	9.3	155.76	101.9	306.2	535.0	518.1	16.97	31.528		
3,900.0	3,888.4	3,846.5	3,832.4	9.8	9.6	155.65	106.7	316.5	553.8	536.4	17.44	31.750		
4,000.0	3,987.9	3,944.7	3,930.0	10.1	9.9	155.56	111.5	326.7	572.7	554.7	17.92	31.959		
4,100.0	4,087.5	4,042.9	4,027.5	10.4	10.2	155.47	116.3	336.9	591.5	573.1	18.39	32.157		
4,200.0	4,187.1	4,141.2	4,125.1	10.6	10.5	155.38	121.1	347.1	610.3	591.4	18.87	32.344		
4,300.0	4,286.6	4,239.4	4,222.6	10.9	10.8	155.30	125.9	357.4	629.1	609.7	19.34	32.521		
4,400.0	4,386.2	4,337.6	4,320.2	11.2	11.1	155.22	130.7	367.6	647.9	628.1	19.82	32.690		
4,500.0	4,485.8	4,435.8	4,417.8	11.5	11.4	155.15	135.5	377.8	666.7	646.4	20.30	32.849		
4,600.0	4,585.4	4,534.0	4,515.3	11.8	11.7	155.08	140.3	388.0	685.5	664.8	20.77	33.001		
4,700.0	4,684.9	4,632.2	4,612.9	12.0	12.0	155.02	145.1	398.3	704.4	683.1	21.25	33.146		
4,800.0	4,784.5	4,742.5	4,722.5	12.3	12.3	154.97	150.3	409.3	722.8	701.1	21.73	33.258		
4,900.0	4,884.1	4,871.4	4,851.0	12.6	12.5	155.06	154.3	418.0	738.0	715.8	22.22	33.216		
5,000.0	4,983.7	5,001.6	4,981.2	12.9	12.8	155.33	156.0	421.5	749.1	726.4	22.69	33.011		

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Project:	SEC.5-T3N-R64W	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Reference Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-28-14)	Offset TVD Reference:	Offset Datum

Offset Design Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5U-443 - Wellbore #1 - Plan #2 (5-28-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,083.2	5,105.7	5,085.2	13.2	12.9	155.63		156.0	421.5	757.5	734.4	23.13	32.755	
5,200.0	5,182.8	5,205.2	5,184.8	13.4	13.1	155.92		156.0	421.5	765.9	742.4	23.57	32.495	
5,300.0	5,282.4	5,304.9	5,284.4	13.7	13.3	156.21		156.0	421.5	774.0	750.0	24.03	32.215	
5,400.0	5,382.2	5,404.7	5,384.2	13.9	13.5	156.43		156.0	421.5	779.4	754.9	24.45	31.876	
5,500.0	5,482.2	5,504.6	5,484.2	14.1	13.7	156.52		156.0	421.5	781.6	756.7	24.85	31.457	
5,600.0	5,582.2	5,604.6	5,584.2	14.2	13.9	90.07		156.0	421.5	781.6	756.4	25.24	30.965	
5,700.0	5,682.2	5,704.6	5,684.2	14.4	14.1	90.07		156.0	421.5	781.6	756.0	25.65	30.467	
5,800.0	5,782.2	5,804.6	5,784.2	14.6	14.3	90.07		156.0	421.5	781.6	755.5	26.07	29.982	
5,900.0	5,882.2	5,904.6	5,884.2	14.8	14.5	90.07		156.0	421.5	781.6	755.1	26.48	29.512	
6,000.0	5,982.2	6,004.6	5,984.2	15.0	14.7	90.07		156.0	421.5	781.6	754.7	26.90	29.055	
6,100.0	6,082.2	6,104.6	6,084.2	15.2	14.9	-89.97		156.0	421.5	781.6	754.3	27.31	28.618	
6,114.5	6,096.7	6,119.1	6,098.7	15.2	14.9	-90.02		156.0	421.5	781.6	754.2	27.36	28.564	
6,200.0	6,181.6	6,204.0	6,183.6	15.3	15.1	-90.72		156.0	421.5	781.7	754.0	27.66	28.256	
6,300.0	6,278.7	6,304.4	6,283.8	15.4	15.2	-92.11		151.9	421.5	782.2	754.2	27.94	27.994	
6,400.0	6,372.1	6,407.8	6,385.6	15.5	15.3	-93.50		134.2	421.5	783.1	755.0	28.15	27.823	
6,500.0	6,459.9	6,514.1	6,486.8	15.6	15.4	-94.85		101.9	421.5	784.5	756.2	28.33	27.687	
6,600.0	6,540.7	6,623.5	6,585.2	15.7	15.5	-96.13		54.4	421.5	786.2	757.7	28.57	27.516	
6,700.0	6,613.3	6,735.9	6,678.2	15.9	15.7	-97.31		-8.6	421.5	788.2	759.2	28.95	27.221	
6,800.0	6,676.2	6,851.3	6,763.0	16.1	15.8	-98.37		-86.7	421.5	790.2	760.6	29.57	26.724	
6,900.0	6,728.4	6,969.4	6,836.6	16.5	16.2	-99.27		-179.0	421.5	792.1	761.5	30.53	25.944	
7,000.0	6,769.1	7,090.0	6,896.2	17.1	16.7	-99.99		-283.7	421.5	793.7	761.8	31.90	24.882	
7,100.0	6,797.5	7,212.5	6,939.1	18.0	17.6	-100.51		-398.3	421.5	795.0	761.3	33.71	23.580	
7,200.0	6,813.1	7,336.3	6,963.3	19.0	18.8	-100.80		-519.6	421.5	795.7	759.8	35.95	22.135	
7,300.0	6,816.0	7,440.6	6,974.0	20.1	20.0	-101.27		-623.3	421.5	797.1	758.9	38.26	20.835	
7,400.0	6,814.6	7,553.9	6,978.3	21.4	21.4	-101.69		-736.4	421.5	798.2	757.3	40.90	19.516	
7,500.0	6,813.1	7,653.9	6,978.4	22.8	22.8	-101.80		-836.4	421.5	798.5	754.9	43.59	18.317	
7,600.0	6,811.6	7,753.8	6,978.6	24.2	24.2	-101.92		-936.4	421.5	798.8	752.4	46.43	17.207	
7,700.0	6,810.2	7,853.8	6,978.8	25.7	25.7	-102.03		-1,036.4	421.5	799.2	749.8	49.38	16.184	
7,800.0	6,808.7	7,953.8	6,979.0	27.2	27.2	-102.15		-1,136.4	421.5	799.5	747.1	52.44	15.248	
7,900.0	6,807.2	8,053.8	6,979.1	28.8	28.8	-102.26		-1,236.4	421.5	799.9	744.3	55.57	14.393	
8,000.0	6,805.8	8,153.8	6,979.3	30.4	30.4	-102.38		-1,336.3	421.5	800.2	741.4	58.78	13.614	
8,100.0	6,804.3	8,253.8	6,979.5	32.1	32.1	-102.49		-1,436.3	421.5	800.6	738.5	62.04	12.903	
8,200.0	6,802.8	8,353.8	6,979.7	33.8	33.7	-102.61		-1,536.3	421.5	800.9	735.6	65.36	12.255	
8,300.0	6,801.4	8,453.7	6,979.8	35.5	35.4	-102.72		-1,636.3	421.5	801.3	732.6	68.71	11.662	
8,400.0	6,799.9	8,553.7	6,980.0	37.2	37.2	-102.84		-1,736.3	421.5	801.6	729.5	72.10	11.119	
8,500.0	6,798.4	8,653.7	6,980.2	39.0	38.9	-102.95		-1,836.3	421.5	802.0	726.5	75.51	10.621	
8,600.0	6,797.0	8,753.7	6,980.4	40.7	40.7	-103.07		-1,936.3	421.5	802.4	723.4	78.96	10.162	
8,700.0	6,795.5	8,853.7	6,980.5	42.5	42.5	-103.18		-2,036.2	421.5	802.7	720.3	82.42	9.740	
8,800.0	6,794.0	8,953.7	6,980.7	44.3	44.2	-103.29		-2,136.2	421.5	803.1	717.2	85.90	9.349	
8,900.0	6,792.6	9,053.7	6,980.9	46.1	46.0	-103.41		-2,236.2	421.5	803.5	714.1	89.40	8.987	
9,000.0	6,791.1	9,153.7	6,981.1	47.9	47.8	-103.52		-2,336.2	421.5	803.9	711.0	92.92	8.652	
9,100.0	6,789.6	9,253.6	6,981.2	49.7	49.7	-103.63		-2,436.2	421.5	804.3	707.8	96.44	8.340	
9,200.0	6,788.2	9,353.6	6,981.4	51.5	51.5	-103.75		-2,536.2	421.5	804.7	704.7	99.97	8.049	
9,300.0	6,786.7	9,453.6	6,981.6	53.4	53.3	-103.86		-2,636.2	421.5	805.0	701.5	103.52	7.777	
9,400.0	6,785.2	9,553.6	6,981.8	55.2	55.1	-103.97		-2,736.1	421.5	805.4	698.4	107.07	7.523	
9,500.0	6,783.8	9,653.6	6,981.9	57.0	57.0	-104.09		-2,836.1	421.5	805.8	695.2	110.63	7.284	
9,600.0	6,782.3	9,753.6	6,982.1	58.9	58.8	-104.20		-2,936.1	421.5	806.2	692.1	114.19	7.061	
9,700.0	6,780.8	9,853.6	6,982.3	60.7	60.7	-104.31		-3,036.1	421.5	806.6	688.9	117.76	6.850	
9,800.0	6,779.4	9,953.5	6,982.5	62.6	62.5	-104.43		-3,136.1	421.5	807.1	685.7	121.33	6.652	
9,900.0	6,777.9	10,053.5	6,982.6	64.4	64.4	-104.54		-3,236.1	421.5	807.5	682.6	124.90	6.465	
10,000.0	6,776.4	10,153.5	6,982.8	66.3	66.2	-104.65		-3,336.1	421.5	807.9	679.4	128.48	6.288	

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Project:	SEC.5-T3N-R64W	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Reference Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-28-14)	Offset TVD Reference:	Offset Datum

Offset Design Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W - Becker Ranch 5U-443 - Wellbore #1 - Plan #2 (5-28-14)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
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
10,100.0	6,775.0	10,253.5	6,983.0	68.2	68.1	-104.76	-3,436.1	421.5	808.3	676.2	132.06	6.121	
10,200.0	6,773.5	10,353.5	6,983.2	70.0	70.0	-104.88	-3,536.0	421.5	808.7	673.1	135.64	5.962	
10,300.0	6,772.0	10,453.5	6,983.3	71.9	71.8	-104.99	-3,636.0	421.5	809.1	669.9	139.22	5.812	
10,400.0	6,770.6	10,553.5	6,983.5	73.8	73.7	-105.10	-3,736.0	421.5	809.6	666.8	142.80	5.669	
10,500.0	6,769.1	10,653.4	6,983.7	75.7	75.6	-105.21	-3,836.0	421.5	810.0	663.6	146.38	5.533	
10,600.0	6,767.6	10,753.4	6,983.9	77.5	77.5	-105.33	-3,936.0	421.5	810.4	660.5	149.97	5.404	
10,700.0	6,766.2	10,853.4	6,984.0	79.4	79.4	-105.44	-4,036.0	421.5	810.9	657.3	153.55	5.281	
10,800.0	6,764.7	10,953.4	6,984.2	81.3	81.2	-105.55	-4,136.0	421.5	811.3	654.2	157.13	5.163	
10,900.0	6,763.2	11,053.4	6,984.4	83.2	83.1	-105.66	-4,235.9	421.5	811.7	651.0	160.71	5.051	
11,000.0	6,761.8	11,153.4	6,984.6	85.1	85.0	-105.77	-4,335.9	421.5	812.2	647.9	164.29	4.943	
11,100.0	6,760.3	11,253.4	6,984.7	86.9	86.9	-105.88	-4,435.9	421.5	812.6	644.8	167.87	4.841	
11,200.0	6,758.8	11,353.4	6,984.9	88.8	88.8	-105.99	-4,535.9	421.5	813.1	641.6	171.45	4.742	
11,257.6	6,758.0	11,407.7	6,985.0	89.9	89.8	-106.05	-4,590.2	421.5	813.3	639.9	173.45	4.689 SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Project:	SEC.5-T3N-R64W	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Reference Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-28-14)	Offset TVD Reference:	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
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
8,200.0	6,802.8	6,759.3	6,759.3	33.8	135.2	95.32	95.32	-2,440.8	-502.4	915.3	747.7	167.68	5.459	
8,300.0	6,801.4	6,757.9	6,757.9	35.5	135.2	94.74	94.74	-2,440.8	-502.4	816.7	647.2	169.54	4.817	
8,400.0	6,799.9	6,756.4	6,756.4	37.2	135.1	94.15	94.15	-2,440.8	-502.4	718.5	547.1	171.40	4.192	
8,500.0	6,798.4	6,754.9	6,754.9	39.0	135.1	93.56	93.56	-2,440.8	-502.4	620.8	447.5	173.26	3.583	
8,600.0	6,797.0	6,753.5	6,753.5	40.7	135.1	92.97	92.97	-2,440.8	-502.4	523.9	348.8	175.11	2.992	
8,700.0	6,795.5	6,752.0	6,752.0	42.5	135.0	92.38	92.38	-2,440.8	-502.4	428.6	251.6	176.97	2.422	
8,800.0	6,794.0	6,750.5	6,750.5	44.3	135.0	91.80	91.80	-2,440.8	-502.4	335.9	157.1	178.82	1.879	
8,900.0	6,792.6	6,749.1	6,749.1	46.1	135.0	91.21	91.21	-2,440.8	-502.4	249.0	68.3	180.66	1.378	Level 3
9,000.0	6,791.1	6,747.6	6,747.6	47.9	135.0	90.62	90.62	-2,440.8	-502.4	176.4	-6.0	182.49	0.967	Level 1
9,100.0	6,789.6	6,746.1	6,746.1	49.7	134.9	90.03	90.03	-2,440.8	-502.4	142.4	-41.9	184.31	0.773	Level 1
9,104.3	6,789.6	6,746.1	6,746.1	49.8	134.9	90.00	90.00	-2,440.8	-502.4	142.3	-42.1	184.39	0.772	Level 1, CC, ES, SF
9,200.0	6,788.2	6,744.7	6,744.7	51.5	134.9	89.44	89.44	-2,440.8	-502.4	171.5	-14.6	186.12	0.921	Level 1
9,300.0	6,786.7	6,743.2	6,743.2	53.4	134.9	88.85	88.85	-2,440.8	-502.4	242.0	54.0	187.91	1.288	Level 3
9,400.0	6,785.2	6,741.7	6,741.7	55.2	134.8	88.26	88.26	-2,440.8	-502.4	328.1	138.4	189.69	1.730	
9,500.0	6,783.8	6,740.3	6,740.3	57.0	134.8	87.67	87.67	-2,440.8	-502.4	420.5	229.0	191.46	2.196	
9,600.0	6,782.3	6,738.8	6,738.8	58.9	134.8	87.08	87.08	-2,440.8	-502.4	515.7	322.5	193.20	2.669	
9,700.0	6,780.8	6,737.3	6,737.3	60.7	134.7	86.49	86.49	-2,440.8	-502.4	612.4	417.5	194.94	3.142	
9,800.0	6,779.4	6,735.9	6,735.9	62.6	134.7	85.90	85.90	-2,440.8	-502.4	710.0	513.4	196.65	3.611	
9,900.0	6,777.9	6,734.4	6,734.4	64.4	134.7	85.31	85.31	-2,440.8	-502.4	808.2	609.9	198.35	4.075	
10,000.0	6,776.4	6,732.9	6,732.9	66.3	134.7	84.73	84.73	-2,440.8	-502.4	906.8	706.8	200.02	4.534	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Project:	SEC.5-T3N-R64W	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Reference Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-28-14)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.5-T3N-R64W - Becker 5-10 (Exist) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7600-UNKNOWN													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	160.72	160.72	-462.7	161.9	490.5				
100.0	100.0	82.5	82.5	0.1	1.7	160.72	160.72	-462.7	161.9	490.2	488.4	1.76	278.091	
200.0	200.0	182.5	182.5	0.3	3.7	160.72	160.72	-462.7	161.9	490.2	486.2	3.99	122.929	
300.0	300.0	282.5	282.5	0.6	5.7	160.72	160.72	-462.7	161.9	490.2	483.9	6.21	78.904	
400.0	400.0	382.5	382.5	0.8	7.7	160.72	160.72	-462.7	161.9	490.2	481.7	8.44	58.097	
500.0	500.0	482.5	482.5	1.0	9.7	160.72	160.72	-462.7	161.9	490.2	479.5	10.66	45.974	
600.0	600.0	582.5	582.5	1.2	11.7	160.72	160.72	-462.7	161.9	490.2	477.3	12.89	38.037	
700.0	700.0	682.5	682.5	1.5	13.7	160.72	160.72	-462.7	161.9	490.2	475.0	15.11	32.437	
800.0	800.0	782.5	782.5	1.7	15.7	160.72	160.72	-462.7	161.9	490.2	472.8	17.34	28.274	
900.0	900.0	882.5	882.5	1.9	17.7	160.72	160.72	-462.7	161.9	490.2	470.6	19.56	25.058	
1,000.0	1,000.0	982.5	982.5	2.1	19.7	160.72	160.72	-462.7	161.9	490.2	468.4	21.79	22.499 CC	
1,100.0	1,100.0	1,082.5	1,082.5	2.4	21.6	-132.97	-132.97	-462.7	161.9	491.3	467.4	24.00	20.476	
1,200.0	1,199.8	1,182.3	1,182.3	2.6	23.6	-133.36	-133.36	-462.7	161.9	494.9	468.7	26.18	18.902	
1,300.0	1,299.5	1,282.0	1,282.0	2.8	25.6	-134.02	-134.02	-462.7	161.9	500.8	472.4	28.37	17.652	
1,400.0	1,399.0	1,381.5	1,381.5	3.0	27.6	-134.77	-134.77	-462.7	161.9	507.3	476.7	30.59	16.585	
1,500.0	1,498.6	1,481.1	1,481.1	3.3	29.6	-135.50	-135.50	-462.7	161.9	513.8	481.0	32.81	15.663	
1,600.0	1,598.2	1,580.7	1,580.7	3.5	31.6	-136.21	-136.21	-462.7	161.9	520.5	485.5	35.03	14.859	
1,700.0	1,697.8	1,680.3	1,680.3	3.8	33.6	-136.90	-136.90	-462.7	161.9	527.2	490.0	37.25	14.152	
1,800.0	1,797.3	1,779.8	1,779.8	4.0	35.6	-137.58	-137.58	-462.7	161.9	534.0	494.5	39.48	13.526	
1,900.0	1,896.9	1,879.4	1,879.4	4.3	37.6	-138.23	-138.23	-462.7	161.9	540.9	499.2	41.71	12.969	
2,000.0	1,996.5	1,979.0	1,979.0	4.6	39.6	-138.88	-138.88	-462.7	161.9	547.8	503.9	43.93	12.469	
2,100.0	2,096.1	2,078.6	2,078.6	4.8	41.6	-139.50	-139.50	-462.7	161.9	554.8	508.7	46.16	12.019	
2,200.0	2,195.6	2,178.1	2,178.1	5.1	43.6	-140.11	-140.11	-462.7	161.9	561.9	513.5	48.39	11.611	
2,300.0	2,295.2	2,277.7	2,277.7	5.4	45.6	-140.71	-140.71	-462.7	161.9	569.0	518.4	50.62	11.241	
2,400.0	2,394.8	2,377.3	2,377.3	5.6	47.5	-141.29	-141.29	-462.7	161.9	576.2	523.4	52.85	10.902	
2,500.0	2,494.3	2,476.8	2,476.8	5.9	49.5	-141.86	-141.86	-462.7	161.9	583.5	528.4	55.08	10.593	
2,600.0	2,593.9	2,576.4	2,576.4	6.2	51.5	-142.41	-142.41	-462.7	161.9	590.8	533.4	57.31	10.308	
2,700.0	2,693.5	2,676.0	2,676.0	6.5	53.5	-142.95	-142.95	-462.7	161.9	598.1	538.6	59.54	10.046	
2,800.0	2,793.1	2,775.6	2,775.6	6.7	55.5	-143.47	-143.47	-462.7	161.9	605.5	543.8	61.77	9.803	
2,900.0	2,892.6	2,875.1	2,875.1	7.0	57.5	-143.99	-143.99	-462.7	161.9	613.0	549.0	63.99	9.579	
3,000.0	2,992.2	2,974.7	2,974.7	7.3	59.5	-144.49	-144.49	-462.7	161.9	620.5	554.3	66.22	9.370	
3,100.0	3,091.8	3,074.3	3,074.3	7.6	61.5	-144.98	-144.98	-462.7	161.9	628.0	559.6	68.45	9.175	
3,200.0	3,191.4	3,173.9	3,173.9	7.8	63.5	-145.45	-145.45	-462.7	161.9	635.6	565.0	70.68	8.994	
3,300.0	3,290.9	3,273.4	3,273.4	8.1	65.5	-145.92	-145.92	-462.7	161.9	643.3	570.4	72.90	8.824	
3,400.0	3,390.5	3,373.0	3,373.0	8.4	67.5	-146.37	-146.37	-462.7	161.9	651.0	575.8	75.13	8.664	
3,500.0	3,490.1	3,472.6	3,472.6	8.7	69.5	-146.82	-146.82	-462.7	161.9	658.7	581.3	77.36	8.515	
3,600.0	3,589.6	3,572.1	3,572.1	9.0	71.4	-147.25	-147.25	-462.7	161.9	666.4	586.9	79.58	8.374	
3,700.0	3,689.2	3,671.7	3,671.7	9.2	73.4	-147.68	-147.68	-462.7	161.9	674.2	592.4	81.81	8.242	
3,800.0	3,788.8	3,771.3	3,771.3	9.5	75.4	-148.09	-148.09	-462.7	161.9	682.1	598.0	84.03	8.117	
3,900.0	3,888.4	3,870.9	3,870.9	9.8	77.4	-148.50	-148.50	-462.7	161.9	689.9	603.7	86.26	7.999	
4,000.0	3,987.9	3,970.4	3,970.4	10.1	79.4	-148.89	-148.89	-462.7	161.9	697.8	609.4	88.48	7.887	
4,100.0	4,087.5	4,070.0	4,070.0	10.4	81.4	-149.28	-149.28	-462.7	161.9	705.8	615.1	90.70	7.781	
4,200.0	4,187.1	4,169.6	4,169.6	10.6	83.4	-149.66	-149.66	-462.7	161.9	713.7	620.8	92.93	7.681	
4,300.0	4,286.6	4,269.1	4,269.1	10.9	85.4	-150.03	-150.03	-462.7	161.9	721.7	626.6	95.15	7.585	
4,400.0	4,386.2	4,368.7	4,368.7	11.2	87.4	-150.39	-150.39	-462.7	161.9	729.8	632.4	97.37	7.494	
4,500.0	4,485.8	4,468.3	4,468.3	11.5	89.4	-150.74	-150.74	-462.7	161.9	737.8	638.2	99.60	7.408	
4,600.0	4,585.4	4,567.9	4,567.9	11.8	91.4	-151.09	-151.09	-462.7	161.9	745.9	644.1	101.82	7.326	
4,700.0	4,684.9	4,667.4	4,667.4	12.0	93.3	-151.43	-151.43	-462.7	161.9	754.0	650.0	104.04	7.247	
4,800.0	4,784.5	4,767.0	4,767.0	12.3	95.3	-151.76	-151.76	-462.7	161.9	762.1	655.9	106.26	7.172	
4,900.0	4,884.1	4,866.6	4,866.6	12.6	97.3	-152.09	-152.09	-462.7	161.9	770.3	661.8	108.48	7.100	
5,000.0	4,983.7	4,966.2	4,966.2	12.9	99.3	-152.40	-152.40	-462.7	161.9	778.5	667.8	110.70	7.032	

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

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Project:	SEC.5-T3N-R64W	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Reference Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-28-14)	Offset TVD Reference:	Offset Datum

Offset Design		Existing Wells Sec.5-T3N-R64W - Becker 5-10 (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)					
5,100.0	5,083.2	5,065.7	5,065.7	13.2	101.3	-152.71	-462.7	161.9	786.7	673.7	112.93	6.966				
5,200.0	5,182.8	5,165.3	5,165.3	13.4	103.3	-153.02	-462.7	161.9	794.9	679.7	115.15	6.903				
5,300.0	5,282.4	5,264.9	5,264.9	13.7	105.3	-153.34	-462.7	161.9	802.8	685.3	117.47	6.834				
5,400.0	5,382.2	5,364.7	5,364.7	13.9	107.3	-153.57	-462.7	161.9	808.0	688.2	119.80	6.745				
5,500.0	5,482.2	5,464.7	5,464.7	14.1	109.3	-153.66	-462.7	161.9	810.2	688.1	122.02	6.639				
5,600.0	5,582.2	5,564.7	5,564.7	14.2	111.3	139.89	-462.7	161.9	810.2	686.0	124.20	6.523				
5,700.0	5,682.2	5,664.7	5,664.7	14.4	113.3	139.89	-462.7	161.9	810.2	683.8	126.41	6.410				
5,800.0	5,782.2	5,764.7	5,764.7	14.6	115.3	139.89	-462.7	161.9	810.2	681.6	128.61	6.300				
5,900.0	5,882.2	5,864.7	5,864.7	14.8	117.3	139.89	-462.7	161.9	810.2	679.4	130.81	6.194				
6,000.0	5,982.2	5,964.7	5,964.7	15.0	119.3	139.89	-462.7	161.9	810.2	677.2	133.02	6.091				
6,100.0	6,082.2	6,064.7	6,064.7	15.2	121.3	-40.16	-462.7	161.9	809.8	674.6	135.14	5.992				
6,200.0	6,181.6	6,164.1	6,164.1	15.3	123.3	-41.03	-462.7	161.9	801.8	665.7	136.18	5.888				
6,300.0	6,278.7	6,261.2	6,261.2	15.4	125.2	-43.03	-462.7	161.9	784.3	648.2	136.05	5.765				
6,400.0	6,372.1	6,354.6	6,354.6	15.5	127.1	-46.28	-462.7	161.9	758.0	622.7	135.30	5.602				
6,500.0	6,459.9	6,442.4	6,442.4	15.6	128.8	-50.88	-462.7	161.9	724.1	589.3	134.87	5.369				
6,600.0	6,540.7	6,523.2	6,523.2	15.7	130.5	-56.86	-462.7	161.9	684.8	548.9	135.86	5.040				
6,700.0	6,613.3	6,595.8	6,595.8	15.9	131.9	-64.03	-462.7	161.9	642.4	503.5	138.87	4.626				
6,800.0	6,676.2	6,658.7	6,658.7	16.1	133.2	-71.82	-462.7	161.9	600.5	457.1	143.34	4.189				
6,900.0	6,728.4	6,710.9	6,710.9	16.5	134.2	-79.30	-462.7	161.9	563.2	415.5	147.74	3.812				
7,000.0	6,769.1	6,751.6	6,751.6	17.1	135.0	-85.43	-462.7	161.9	535.7	384.8	150.87	3.551				
7,100.0	6,797.5	6,780.0	6,780.0	18.0	135.6	-89.40	-462.7	161.9	522.6	369.8	152.77	3.421				
7,125.1	6,802.6	6,785.1	6,785.1	18.2	135.7	-90.00	-462.7	161.9	522.0	368.8	153.15	3.408 ES, SF				
7,200.0	6,813.1	6,795.6	6,795.6	19.0	135.9	-90.75	-462.7	161.9	527.2	373.1	154.15	3.420				
7,300.0	6,816.0	6,798.5	6,798.5	20.1	136.0	-89.72	-462.7	161.9	550.2	394.8	155.39	3.541				
7,400.0	6,814.6	6,797.1	6,797.1	21.4	135.9	-89.56	-462.7	161.9	589.5	432.9	156.65	3.763				
7,500.0	6,813.1	6,795.6	6,795.6	22.8	135.9	-89.40	-462.7	161.9	642.2	484.2	158.00	4.064				
7,600.0	6,811.6	6,794.1	6,794.1	24.2	135.9	-89.24	-462.7	161.9	705.1	545.7	159.42	4.423				
7,700.0	6,810.2	6,792.7	6,792.7	25.7	135.9	-89.08	-462.7	161.9	775.9	615.0	160.90	4.822				
7,800.0	6,808.7	6,791.2	6,791.2	27.2	135.8	-88.92	-462.7	161.9	852.5	690.1	162.43	5.248				
7,900.0	6,807.2	6,789.7	6,789.7	28.8	135.8	-88.75	-462.7	161.9	933.6	769.5	164.01	5.692				

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Project:	SEC.5-T3N-R64W	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Reference Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-28-14)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.5-T3N-R64W - Becker 5-16 (Exist) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7600-UNKNOWN													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
8,900.0	6,792.6	6,739.1	6,739.1	46.1	134.8	-92.18	-3,151.2	-8.4	980.0	799.5	180.44	5.431		
9,000.0	6,791.1	6,737.6	6,737.6	47.9	134.8	-91.94	-3,151.2	-8.4	887.4	705.1	182.25	4.869		
9,100.0	6,789.6	6,736.1	6,736.1	49.7	134.7	-91.71	-3,151.2	-8.4	796.6	612.5	184.07	4.328		
9,200.0	6,788.2	6,734.7	6,734.7	51.5	134.7	-91.47	-3,151.2	-8.4	708.2	522.3	185.88	3.810		
9,300.0	6,786.7	6,733.2	6,733.2	53.4	134.7	-91.23	-3,151.2	-8.4	623.4	435.7	187.71	3.321		
9,400.0	6,785.2	6,731.7	6,731.7	55.2	134.6	-90.99	-3,151.2	-8.4	543.8	354.3	189.53	2.869		
9,500.0	6,783.8	6,730.3	6,730.3	57.0	134.6	-90.75	-3,151.2	-8.4	472.0	280.6	191.36	2.466		
9,600.0	6,782.3	6,728.8	6,728.8	58.9	134.6	-90.51	-3,151.2	-8.4	412.1	218.9	193.19	2.133		
9,700.0	6,780.8	6,727.3	6,727.3	60.7	134.5	-90.27	-3,151.2	-8.4	370.0	175.0	195.02	1.897		
9,800.0	6,779.4	6,725.9	6,725.9	62.6	134.5	-90.04	-3,151.2	-8.4	352.0	155.2	196.85	1.788		
9,814.8	6,779.2	6,725.7	6,725.7	62.9	134.5	-90.00	-3,151.2	-8.4	351.7	154.6	197.12	1.784 CC, ES, SF		
9,900.0	6,777.9	6,724.4	6,724.4	64.4	134.5	-89.80	-3,151.2	-8.4	361.9	163.2	198.68	1.822		
10,000.0	6,776.4	6,722.9	6,722.9	66.3	134.5	-89.56	-3,151.2	-8.4	397.5	197.0	200.51	1.983		
10,100.0	6,775.0	6,721.5	6,721.5	68.2	134.4	-89.32	-3,151.2	-8.4	452.8	250.5	202.34	2.238		
10,200.0	6,773.5	6,720.0	6,720.0	70.0	134.4	-89.08	-3,151.2	-8.4	521.6	317.4	204.16	2.555		
10,300.0	6,772.0	6,718.5	6,718.5	71.9	134.4	-88.84	-3,151.2	-8.4	599.3	393.3	205.99	2.909		
10,400.0	6,770.6	6,717.1	6,717.1	73.8	134.3	-88.60	-3,151.2	-8.4	682.7	474.9	207.82	3.285		
10,500.0	6,769.1	6,715.6	6,715.6	75.7	134.3	-88.36	-3,151.2	-8.4	770.2	560.5	209.64	3.674		
10,600.0	6,767.6	6,714.1	6,714.1	77.5	134.3	-88.13	-3,151.2	-8.4	860.3	648.9	211.46	4.068		
10,700.0	6,766.2	6,712.7	6,712.7	79.4	134.3	-87.89	-3,151.2	-8.4	952.5	739.2	213.28	4.466		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Project:	SEC.5-T3N-R64W	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Reference Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-28-14)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.5-T3N-R64W - Becker 5-4 (Exist) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 7600-UNKNOWN													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
7,600.0	6,811.6	6,789.1	6,789.1	24.2	135.8	-91.49	-1,752.3	100.5	936.7	777.3	159.33	5.879		
7,700.0	6,810.2	6,787.7	6,787.7	25.7	135.8	-91.30	-1,752.3	100.5	851.0	690.2	160.83	5.292		
7,800.0	6,808.7	6,786.2	6,786.2	27.2	135.7	-91.12	-1,752.3	100.5	768.9	606.5	162.38	4.735		
7,900.0	6,807.2	6,784.7	6,784.7	28.8	135.7	-90.94	-1,752.3	100.5	691.4	527.4	163.97	4.217		
8,000.0	6,805.8	6,783.3	6,783.3	30.4	135.7	-90.76	-1,752.3	100.5	620.4	454.8	165.60	3.747		
8,100.0	6,804.3	6,781.8	6,781.8	32.1	135.6	-90.58	-1,752.3	100.5	558.4	391.1	167.25	3.339		
8,200.0	6,802.8	6,780.3	6,780.3	33.8	135.6	-90.39	-1,752.3	100.5	508.6	339.6	168.93	3.011		
8,300.0	6,801.4	6,778.9	6,778.9	35.5	135.6	-90.21	-1,752.3	100.5	474.9	304.3	170.63	2.783		
8,400.0	6,799.9	6,777.4	6,777.4	37.2	135.5	-90.03	-1,752.3	100.5	460.8	288.5	172.34	2.674		
8,415.7	6,799.7	6,777.2	6,777.2	37.5	135.5	-90.00	-1,752.3	100.5	460.6	288.0	172.61	2.668 CC, ES, SF		
8,500.0	6,798.4	6,775.9	6,775.9	39.0	135.5	-89.85	-1,752.3	100.5	468.2	294.2	174.07	2.690		
8,600.0	6,797.0	6,774.5	6,774.5	40.7	135.5	-89.66	-1,752.3	100.5	496.1	320.3	175.82	2.822		
8,700.0	6,795.5	6,773.0	6,773.0	42.5	135.5	-89.48	-1,752.3	100.5	541.2	363.7	177.57	3.048		
8,800.0	6,794.0	6,771.5	6,771.5	44.3	135.4	-89.30	-1,752.3	100.5	599.8	420.5	179.33	3.345		
8,900.0	6,792.6	6,770.1	6,770.1	46.1	135.4	-89.12	-1,752.3	100.5	668.3	487.2	181.10	3.690		
9,000.0	6,791.1	6,768.6	6,768.6	47.9	135.4	-88.93	-1,752.3	100.5	744.0	561.1	182.88	4.068		
9,100.0	6,789.6	6,767.1	6,767.1	49.7	135.3	-88.75	-1,752.3	100.5	824.8	640.1	184.66	4.467		
9,200.0	6,788.2	6,765.7	6,765.7	51.5	135.3	-88.57	-1,752.3	100.5	909.5	723.0	186.45	4.878		
9,300.0	6,786.7	6,764.2	6,764.2	53.4	135.3	-88.39	-1,752.3	100.5	997.0	808.7	188.24	5.296		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Project:	SEC.5-T3N-R64W	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Reference Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-28-14)	Offset TVD Reference:	Offset Datum

Offset Design										Existing Wells Sec.5-T3N-R64W - Becker 5-5 (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)					
10,000.0	6,776.4	6,707.9	6,707.9	66.3	134.2	-92.31	-4,236.8	-33.5	957.8	757.7	200.11	4.786				
10,100.0	6,775.0	6,706.5	6,706.5	68.2	134.1	-92.06	-4,236.8	-33.5	864.5	662.5	201.98	4.280				
10,200.0	6,773.5	6,705.0	6,705.0	70.0	134.1	-91.80	-4,236.8	-33.5	772.8	569.0	203.85	3.791				
10,300.0	6,772.0	6,703.5	6,703.5	71.9	134.1	-91.54	-4,236.8	-33.5	683.5	477.8	205.72	3.323				
10,400.0	6,770.6	6,702.1	6,702.1	73.8	134.0	-91.29	-4,236.8	-33.5	597.6	390.0	207.58	2.879				
10,500.0	6,769.1	6,700.6	6,700.6	75.7	134.0	-91.03	-4,236.8	-33.5	516.8	307.3	209.44	2.467				
10,600.0	6,767.6	6,699.1	6,699.1	77.5	134.0	-90.77	-4,236.8	-33.5	443.8	232.5	211.31	2.100				
10,700.0	6,766.2	6,697.7	6,697.7	79.4	134.0	-90.52	-4,236.8	-33.5	383.2	170.1	213.16	1.798				
10,800.0	6,764.7	6,696.2	6,696.2	81.3	133.9	-90.26	-4,236.8	-33.5	341.7	126.7	215.02	1.589				
10,900.0	6,763.2	6,694.7	6,694.7	83.2	133.9	-90.00	-4,236.8	-33.5	326.6	109.7	216.88	1.506				
10,900.5	6,763.2	6,694.7	6,694.7	83.2	133.9	-90.00	-4,236.8	-33.5	326.6	109.7	216.89	1.506 CC, ES, SF				
11,000.0	6,761.8	6,693.3	6,693.3	85.1	133.9	-89.74	-4,236.8	-33.5	341.4	122.7	218.73	1.561				
11,100.0	6,760.3	6,691.8	6,691.8	86.9	133.8	-89.49	-4,236.8	-33.5	382.7	162.1	220.58	1.735				
11,200.0	6,758.8	6,690.3	6,690.3	88.8	133.8	-89.23	-4,236.8	-33.5	443.1	220.7	222.42	1.992				
11,257.6	6,758.0	6,689.5	6,689.5	89.9	133.8	-89.08	-4,236.8	-33.5	483.9	260.4	223.49	2.165				

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Project:	SEC.5-T3N-R64W	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Reference Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-28-14)	Offset TVD Reference:	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
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
9,500.0	6,783.8	6,733.3	6,733.3	57.0	134.7	94.30	94.30	-3,737.7	-535.9	918.3	727.4	190.82	4.812	
9,600.0	6,782.3	6,731.8	6,731.8	58.9	134.6	93.82	93.82	-3,737.7	-535.9	820.3	627.6	192.76	4.256	
9,700.0	6,780.8	6,730.3	6,730.3	60.7	134.6	93.35	93.35	-3,737.7	-535.9	723.0	528.3	194.69	3.714	
9,800.0	6,779.4	6,728.9	6,728.9	62.6	134.6	92.87	92.87	-3,737.7	-535.9	626.5	429.9	196.61	3.186	
9,900.0	6,777.9	6,727.4	6,727.4	64.4	134.5	92.39	92.39	-3,737.7	-535.9	531.3	332.7	198.53	2.676	
10,000.0	6,776.4	6,725.9	6,725.9	66.3	134.5	91.92	91.92	-3,737.7	-535.9	438.1	237.7	200.44	2.186	
10,100.0	6,775.0	6,724.5	6,724.5	68.2	134.5	91.44	91.44	-3,737.7	-535.9	348.9	146.5	202.33	1.724	
10,200.0	6,773.5	6,723.0	6,723.0	70.0	134.5	90.96	90.96	-3,737.7	-535.9	267.3	63.1	204.22	1.309	Level 3
10,300.0	6,772.0	6,721.5	6,721.5	71.9	134.4	90.48	90.48	-3,737.7	-535.9	203.0	-3.1	206.10	0.985	Level 1
10,400.0	6,770.6	6,720.1	6,720.1	73.8	134.4	90.01	90.01	-3,737.7	-535.9	175.8	-32.1	207.96	0.846	Level 1
10,401.4	6,770.6	6,720.1	6,720.1	73.8	134.4	90.00	90.00	-3,737.7	-535.9	175.8	-32.1	207.99	0.845	Level 1, CC, ES, SF
10,500.0	6,769.1	6,718.6	6,718.6	75.7	134.4	89.53	89.53	-3,737.7	-535.9	201.6	-8.2	209.82	0.961	Level 1
10,600.0	6,767.6	6,717.1	6,717.1	77.5	134.3	89.05	89.05	-3,737.7	-535.9	265.3	53.6	211.66	1.253	Level 3
10,700.0	6,766.2	6,715.7	6,715.7	79.4	134.3	88.57	88.57	-3,737.7	-535.9	346.5	133.0	213.49	1.623	
10,800.0	6,764.7	6,714.2	6,714.2	81.3	134.3	88.10	88.10	-3,737.7	-535.9	435.7	220.4	215.31	2.023	
10,900.0	6,763.2	6,712.7	6,712.7	83.2	134.3	87.62	87.62	-3,737.7	-535.9	528.7	311.6	217.11	2.435	
11,000.0	6,761.8	6,711.3	6,711.3	85.1	134.2	87.14	87.14	-3,737.7	-535.9	623.9	405.0	218.90	2.850	
11,100.0	6,760.3	6,709.8	6,709.8	86.9	134.2	86.67	86.67	-3,737.7	-535.9	720.4	499.7	220.67	3.264	
11,200.0	6,758.8	6,708.3	6,708.3	88.8	134.2	86.19	86.19	-3,737.7	-535.9	817.7	595.3	222.43	3.676	
11,257.6	6,758.0	6,707.5	6,707.5	89.9	134.2	85.92	85.92	-3,737.7	-535.9	874.0	650.5	223.44	3.912	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Project:	SEC.5-T3N-R64W	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Reference Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-28-14)	Offset TVD Reference:	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							Warning	
Measured Depth Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
6,800.0	6,676.2	6,662.7	6,662.7	16.1	133.3	13.71	-1,136.6	-496.8	980.3	888.1	92.25	10.627		
6,900.0	6,728.4	6,714.9	6,714.9	16.5	134.3	18.33	-1,136.6	-496.8	896.1	812.6	83.50	10.731		
7,000.0	6,769.1	6,755.6	6,755.6	17.1	135.1	26.42	-1,136.6	-496.8	806.0	721.7	84.32	9.558		
7,100.0	6,797.5	6,784.0	6,784.0	18.0	135.7	41.53	-1,136.6	-496.8	711.7	605.7	106.10	6.708		
7,200.0	6,813.1	6,799.6	6,799.6	19.0	136.0	68.06	-1,136.6	-496.8	615.2	471.4	143.75	4.280		
7,300.0	6,816.0	6,802.5	6,802.5	20.1	136.1	93.07	-1,136.6	-496.8	518.3	363.1	155.20	3.339		
7,400.0	6,814.6	6,801.1	6,801.1	21.4	136.0	92.46	-1,136.6	-496.8	422.6	266.1	156.55	2.700		
7,500.0	6,813.1	6,799.6	6,799.6	22.8	136.0	91.84	-1,136.6	-496.8	329.6	171.6	157.98	2.086		
7,600.0	6,811.6	6,798.1	6,798.1	24.2	136.0	91.23	-1,136.6	-496.8	242.2	82.7	159.47	1.519		
7,700.0	6,810.2	6,796.7	6,796.7	25.7	135.9	90.61	-1,136.6	-496.8	169.3	8.3	161.00	1.052 Level 2		
7,800.0	6,808.7	6,795.2	6,795.2	27.2	135.9	90.00	-1,136.6	-496.8	136.7	-25.9	162.56	0.841 Level 1, CC		
7,800.0	6,808.7	6,795.2	6,795.2	27.2	135.9	90.00	-1,136.6	-496.8	136.7	-25.9	162.56	0.841 Level 1, ES, SF		
7,900.0	6,807.2	6,793.7	6,793.7	28.8	135.9	89.39	-1,136.6	-496.8	169.4	5.2	164.16	1.032 Level 2		
8,000.0	6,805.8	6,792.3	6,792.3	30.4	135.8	88.77	-1,136.6	-496.8	242.3	76.5	165.76	1.462 Level 3		
8,100.0	6,804.3	6,790.8	6,790.8	32.1	135.8	88.16	-1,136.6	-496.8	329.7	162.3	167.38	1.970		
8,200.0	6,802.8	6,789.3	6,789.3	33.8	135.8	87.54	-1,136.6	-496.8	422.7	253.7	169.01	2.501		
8,300.0	6,801.4	6,787.9	6,787.9	35.5	135.8	86.93	-1,136.6	-496.8	518.3	347.7	170.63	3.038		
8,400.0	6,799.9	6,786.4	6,786.4	37.2	135.7	86.32	-1,136.6	-496.8	615.4	443.1	172.26	3.572		
8,500.0	6,798.4	6,784.9	6,784.9	39.0	135.7	85.71	-1,136.6	-496.8	713.2	539.3	173.88	4.102		
8,600.0	6,797.0	6,783.5	6,783.5	40.7	135.7	85.10	-1,136.6	-496.8	811.6	636.1	175.49	4.624		
8,700.0	6,795.5	6,782.0	6,782.0	42.5	135.6	84.49	-1,136.6	-496.8	910.3	733.2	177.09	5.140		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Project:	SEC.5-T3N-R64W	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Reference Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-28-14)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4794.5ft (RKB - 12.5')

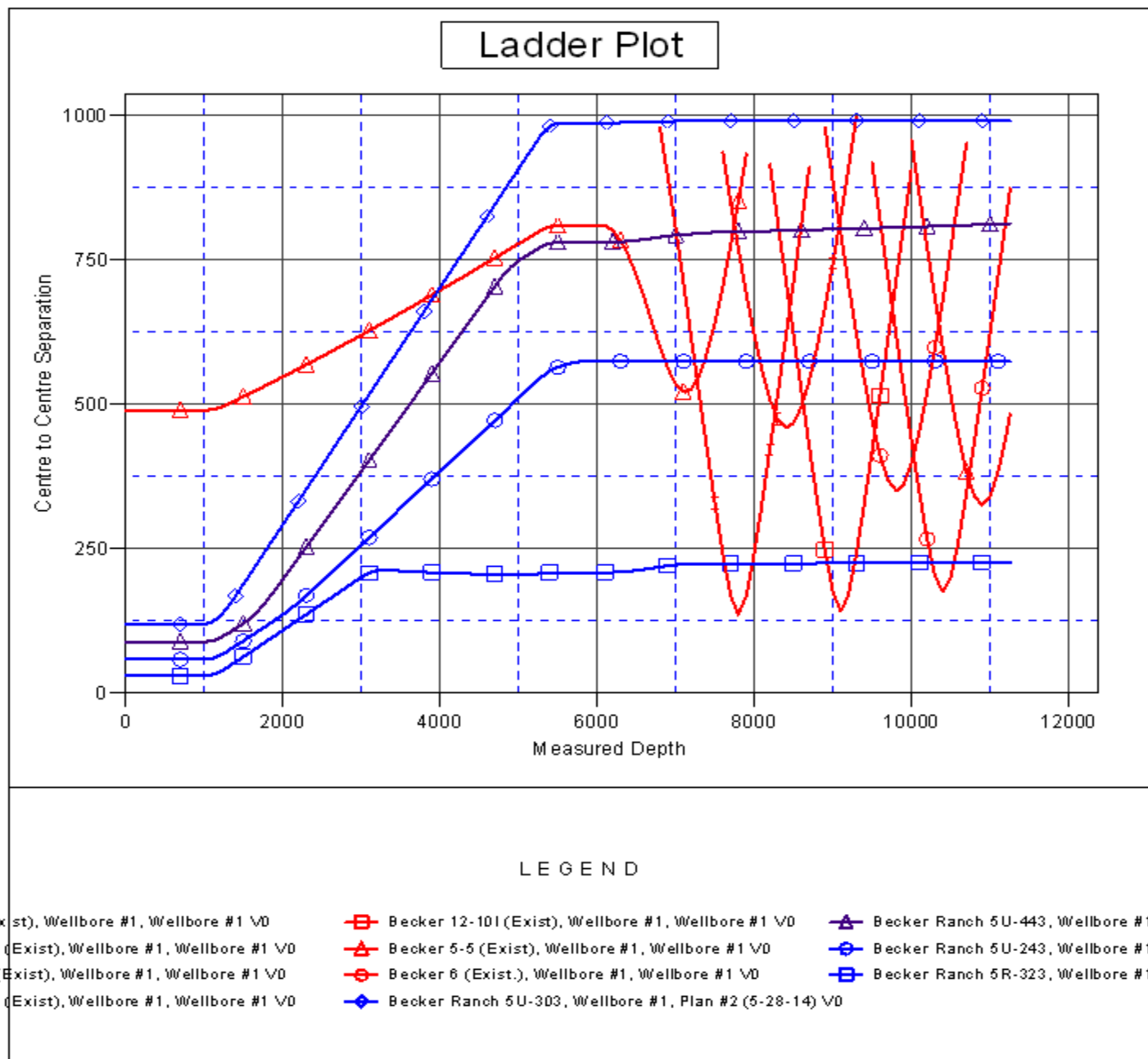
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Becker Ranch 5R-203

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.60°



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Becker Ranch 5R-203
Project:	SEC.5-T3N-R64W	TVD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Reference Site:	Becker Ranch 5RU-HZ Pad Sec.5-T3N-R64W	MD Reference:	WELL @ 4794.5ft (RKB - 12.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Becker Ranch 5R-203	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-28-14)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4794.5ft (RKB - 12.5')

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Becker Ranch 5R-203

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.60°

