

PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Guttersen 6U-203**

Surface Location: Guttersen 6R-403 Pad Sec.6-T2N-R63W

North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4836.0

+N/-S

+E/-W

Northing

Easting

Latitude

Longitude

Slot

0.0

0.0

1308062.46

3287142.94

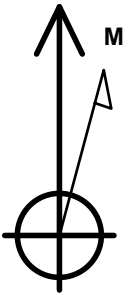
40.174460

-104.472400

RKB - 15' WELL @ 4851.0ft (RKB - 15')

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
BHL 500' FSL, 200' FEL	6558.0	-4706.7	170.5	Point

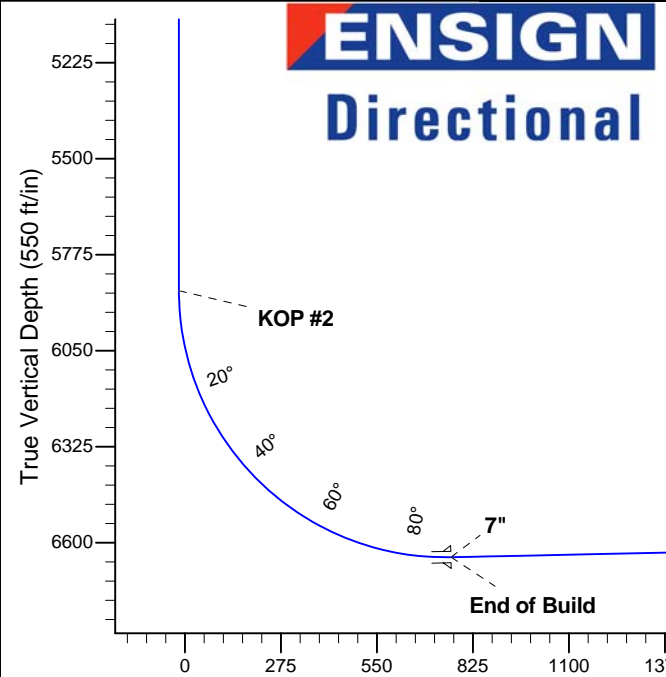
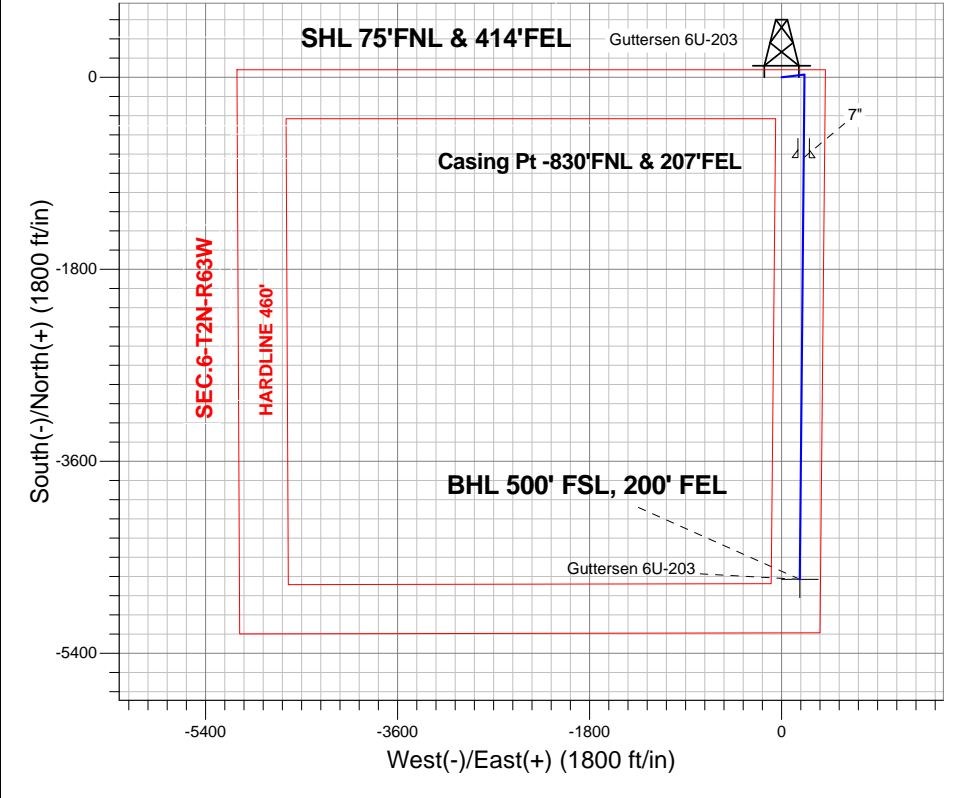


Azimuths to True North
Magnetic North: 8.42°

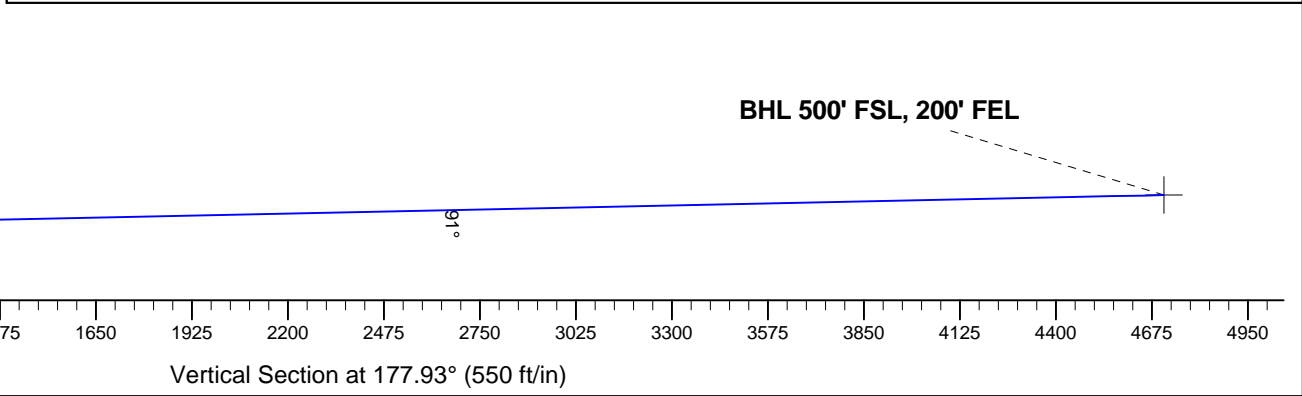
Magnetic Field
Strength: 52837.2snT
Dip Angle: 66.85°
Date: 5/31/2013
Model: IGRF2010

Guttersen 6R-403 Pad Sec.6-T2N-R63W
Guttersen 6U-203
Plan #1 (5-31-13)
16:10, May 31 2013

ANNOTATIONS		
TVD	MD	Annotation
1000.0	1000.0	KOP #1
5877.7	5886.0	KOP #2
6641.5	7102.1	End of Build



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1304.7	4.57	83.34	1304.4	1.4	12.1	1.50	83.34	-1.0	
4	3703.6	4.57	83.34	3695.6	23.6	201.9	0.00	0.00	-16.3	
5	4008.3	0.00	0.00	4000.0	25.0	214.0	1.50	180.00	-17.2	
6	5886.0	0.00	0.00	5877.7	25.0	214.0	0.00	0.00	-17.2	
7	7102.1	91.21	180.53	6641.5	-755.0	206.8	7.50	180.53	762.0	
8	11054.8	91.21	180.53	6558.0	-4706.7	170.5	0.00	0.00	4709.8	BHL 500' FSL, 200' FEL





Directional

PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.6-T2N-R63W

Guttersen 6R-403 Pad Sec.6-T2N-R63W

Guttersen 6U-203

Wellbore #1

Plan: Plan #1 (5-31-13)

Standard Planning Report

31 May, 2013

Database:	Landmark	Local Co-ordinate Reference:	Well Guttersen 6U-203
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4851.0ft (RKB - 15')
Project:	SEC.6-T2N-R63W	MD Reference:	WELL @ 4851.0ft (RKB - 15')
Site:	Guttersen 6R-403 Pad Sec.6-T2N-R63W	North Reference:	True
Well:	Guttersen 6U-203	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (5-31-13)		

Project	SEC.6-T2N-R63W, Weld County, Colorado		
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 Guttersen 6R-403 Pad Sec.6-T2N-R63W					
Site Position:		Northing:	1,308,061.43ft	Latitude:	40.174460
From:	Lat/Long	Easting:	3,287,053.52ft	Longitude:	-104.472720
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.66 °

Well	Guttersen 6U-203					
Well Position	+N-S	0.0 ft	Northing:	1,308,062.46 ft	Latitude:	40.174460
	+E-W	89.4 ft	Easting:	3,287,142.94 ft	Longitude:	-104.472400
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,836.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/31/2013	8.42	66.85	52,837

Design	Plan #1 (5-31-13)			
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	177.93

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	
1,304.7	4.57	83.34	1,304.4	1.4	12.1	1.50	1.50	0.00	83.34	
3,703.6	4.57	83.34	3,695.6	23.6	201.9	0.00	0.00	0.00	0.00	
4,008.3	0.00	0.00	4,000.0	25.0	214.0	1.50	-1.50	0.00	180.00	
5,886.0	0.00	0.00	5,877.7	25.0	214.0	0.00	0.00	0.00	0.00	
7,102.1	91.21	180.53	6,641.5	-755.0	206.8	7.50	7.50	0.00	180.53	
11,054.8	91.21	180.53	6,558.0	-4,706.7	170.5	0.00	0.00	0.00	0.00	BHL 500' FSL, 200'

Database:	Landmark	Local Co-ordinate Reference:	Well Guttersen 6U-203
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4851.0ft (RKB - 15')
Project:	SEC.6-T2N-R63W	MD Reference:	WELL @ 4851.0ft (RKB - 15')
Site:	Guttersen 6R-403 Pad Sec.6-T2N-R63W	North Reference:	True
Well:	Guttersen 6U-203	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (5-31-13)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
40.0	0.00	0.00	40.0	0.0	0.0	0.0	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
160.0	0.00	0.00	160.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	0.00
280.0	0.00	0.00	280.0	0.0	0.0	0.0	0.00	0.00	0.00
320.0	0.00	0.00	320.0	0.0	0.0	0.0	0.00	0.00	0.00
360.0	0.00	0.00	360.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
440.0	0.00	0.00	440.0	0.0	0.0	0.0	0.00	0.00	0.00
480.0	0.00	0.00	480.0	0.0	0.0	0.0	0.00	0.00	0.00
520.0	0.00	0.00	520.0	0.0	0.0	0.0	0.00	0.00	0.00
560.0	0.00	0.00	560.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
640.0	0.00	0.00	640.0	0.0	0.0	0.0	0.00	0.00	0.00
680.0	0.00	0.00	680.0	0.0	0.0	0.0	0.00	0.00	0.00
720.0	0.00	0.00	720.0	0.0	0.0	0.0	0.00	0.00	0.00
760.0	0.00	0.00	760.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
840.0	0.00	0.00	840.0	0.0	0.0	0.0	0.00	0.00	0.00
880.0	0.00	0.00	880.0	0.0	0.0	0.0	0.00	0.00	0.00
920.0	0.00	0.00	920.0	0.0	0.0	0.0	0.00	0.00	0.00
960.0	0.00	0.00	960.0	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									
1,040.0	0.60	83.34	1,040.0	0.0	0.2	0.0	1.50	1.50	0.00
1,080.0	1.20	83.34	1,080.0	0.1	0.8	-0.1	1.50	1.50	0.00
1,120.0	1.80	83.34	1,120.0	0.2	1.9	-0.2	1.50	1.50	0.00
1,160.0	2.40	83.34	1,160.0	0.4	3.3	-0.3	1.50	1.50	0.00
1,200.0	3.00	83.34	1,199.9	0.6	5.2	-0.4	1.50	1.50	0.00
1,240.0	3.60	83.34	1,239.8	0.9	7.5	-0.6	1.50	1.50	0.00
1,280.0	4.20	83.34	1,279.7	1.2	10.2	-0.8	1.50	1.50	0.00
1,304.7	4.57	83.34	1,304.4	1.4	12.1	-1.0	1.50	1.50	0.00
1,320.0	4.57	83.34	1,319.6	1.6	13.3	-1.1	0.00	0.00	0.00
1,360.0	4.57	83.34	1,359.5	1.9	16.4	-1.3	0.00	0.00	0.00
1,400.0	4.57	83.34	1,399.4	2.3	19.6	-1.6	0.00	0.00	0.00
1,440.0	4.57	83.34	1,439.2	2.7	22.8	-1.8	0.00	0.00	0.00
1,480.0	4.57	83.34	1,479.1	3.0	25.9	-2.1	0.00	0.00	0.00
1,520.0	4.57	83.34	1,519.0	3.4	29.1	-2.3	0.00	0.00	0.00
1,560.0	4.57	83.34	1,558.9	3.8	32.3	-2.6	0.00	0.00	0.00
1,600.0	4.57	83.34	1,598.7	4.1	35.4	-2.9	0.00	0.00	0.00
1,640.0	4.57	83.34	1,638.6	4.5	38.6	-3.1	0.00	0.00	0.00
1,680.0	4.57	83.34	1,678.5	4.9	41.8	-3.4	0.00	0.00	0.00
1,720.0	4.57	83.34	1,718.4	5.2	44.9	-3.6	0.00	0.00	0.00
1,760.0	4.57	83.34	1,758.2	5.6	48.1	-3.9	0.00	0.00	0.00
1,800.0	4.57	83.34	1,798.1	6.0	51.3	-4.1	0.00	0.00	0.00
1,840.0	4.57	83.34	1,838.0	6.4	54.4	-4.4	0.00	0.00	0.00
1,880.0	4.57	83.34	1,877.8	6.7	57.6	-4.6	0.00	0.00	0.00
1,920.0	4.57	83.34	1,917.7	7.1	60.8	-4.9	0.00	0.00	0.00
1,960.0	4.57	83.34	1,957.6	7.5	63.9	-5.1	0.00	0.00	0.00
2,000.0	4.57	83.34	1,997.5	7.8	67.1	-5.4	0.00	0.00	0.00

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Project:	SEC.6-T2N-R63W	MD Reference:	WELL @ 4851.0ft (RKB - 15')
Site:	Guttersen 6R-403 Pad Sec.6-T2N-R63W	North Reference:	True
Well:	Guttersen 6U-203	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (5-31-13)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2,040.0	4.57	83.34	2,037.3	8.2	70.3	-5.7	0.00	0.00	0.00
2,080.0	4.57	83.34	2,077.2	8.6	73.4	-5.9	0.00	0.00	0.00
2,120.0	4.57	83.34	2,117.1	8.9	76.6	-6.2	0.00	0.00	0.00
2,160.0	4.57	83.34	2,157.0	9.3	79.8	-6.4	0.00	0.00	0.00
2,200.0	4.57	83.34	2,196.8	9.7	82.9	-6.7	0.00	0.00	0.00
2,240.0	4.57	83.34	2,236.7	10.1	86.1	-6.9	0.00	0.00	0.00
2,280.0	4.57	83.34	2,276.6	10.4	89.3	-7.2	0.00	0.00	0.00
2,320.0	4.57	83.34	2,316.4	10.8	92.4	-7.4	0.00	0.00	0.00
2,360.0	4.57	83.34	2,356.3	11.2	95.6	-7.7	0.00	0.00	0.00
2,400.0	4.57	83.34	2,396.2	11.5	98.8	-8.0	0.00	0.00	0.00
2,440.0	4.57	83.34	2,436.1	11.9	101.9	-8.2	0.00	0.00	0.00
2,480.0	4.57	83.34	2,475.9	12.3	105.1	-8.5	0.00	0.00	0.00
2,520.0	4.57	83.34	2,515.8	12.6	108.3	-8.7	0.00	0.00	0.00
2,560.0	4.57	83.34	2,555.7	13.0	111.4	-9.0	0.00	0.00	0.00
2,600.0	4.57	83.34	2,595.6	13.4	114.6	-9.2	0.00	0.00	0.00
2,640.0	4.57	83.34	2,635.4	13.8	117.8	-9.5	0.00	0.00	0.00
2,680.0	4.57	83.34	2,675.3	14.1	120.9	-9.7	0.00	0.00	0.00
2,720.0	4.57	83.34	2,715.2	14.5	124.1	-10.0	0.00	0.00	0.00
2,760.0	4.57	83.34	2,755.0	14.9	127.3	-10.2	0.00	0.00	0.00
2,800.0	4.57	83.34	2,794.9	15.2	130.4	-10.5	0.00	0.00	0.00
2,840.0	4.57	83.34	2,834.8	15.6	133.6	-10.8	0.00	0.00	0.00
2,880.0	4.57	83.34	2,874.7	16.0	136.7	-11.0	0.00	0.00	0.00
2,920.0	4.57	83.34	2,914.5	16.3	139.9	-11.3	0.00	0.00	0.00
2,960.0	4.57	83.34	2,954.4	16.7	143.1	-11.5	0.00	0.00	0.00
3,000.0	4.57	83.34	2,994.3	17.1	146.2	-11.8	0.00	0.00	0.00
3,040.0	4.57	83.34	3,034.2	17.5	149.4	-12.0	0.00	0.00	0.00
3,080.0	4.57	83.34	3,074.0	17.8	152.6	-12.3	0.00	0.00	0.00
3,120.0	4.57	83.34	3,113.9	18.2	155.7	-12.5	0.00	0.00	0.00
3,160.0	4.57	83.34	3,153.8	18.6	158.9	-12.8	0.00	0.00	0.00
3,200.0	4.57	83.34	3,193.6	18.9	162.1	-13.1	0.00	0.00	0.00
3,240.0	4.57	83.34	3,233.5	19.3	165.2	-13.3	0.00	0.00	0.00
3,280.0	4.57	83.34	3,273.4	19.7	168.4	-13.6	0.00	0.00	0.00
3,320.0	4.57	83.34	3,313.3	20.0	171.6	-13.8	0.00	0.00	0.00
3,360.0	4.57	83.34	3,353.1	20.4	174.7	-14.1	0.00	0.00	0.00
3,400.0	4.57	83.34	3,393.0	20.8	177.9	-14.3	0.00	0.00	0.00
3,440.0	4.57	83.34	3,432.9	21.2	181.1	-14.6	0.00	0.00	0.00
3,480.0	4.57	83.34	3,472.8	21.5	184.2	-14.8	0.00	0.00	0.00
3,520.0	4.57	83.34	3,512.6	21.9	187.4	-15.1	0.00	0.00	0.00
3,560.0	4.57	83.34	3,552.5	22.3	190.6	-15.3	0.00	0.00	0.00
3,600.0	4.57	83.34	3,592.4	22.6	193.7	-15.6	0.00	0.00	0.00
3,640.0	4.57	83.34	3,632.3	23.0	196.9	-15.9	0.00	0.00	0.00
3,680.0	4.57	83.34	3,672.1	23.4	200.1	-16.1	0.00	0.00	0.00
3,703.6	4.57	83.34	3,695.6	23.6	201.9	-16.3	0.00	0.00	0.00
3,720.0	4.32	83.34	3,712.0	23.7	203.2	-16.4	1.50	-1.50	0.00
3,760.0	3.72	83.34	3,751.9	24.1	206.0	-16.6	1.50	-1.50	0.00
3,800.0	3.12	83.34	3,791.8	24.3	208.4	-16.8	1.50	-1.50	0.00
3,840.0	2.52	83.34	3,831.8	24.6	210.3	-16.9	1.50	-1.50	0.00
3,880.0	1.92	83.34	3,871.7	24.8	211.9	-17.1	1.50	-1.50	0.00
3,920.0	1.32	83.34	3,911.7	24.9	213.0	-17.2	1.50	-1.50	0.00
3,960.0	0.72	83.34	3,951.7	25.0	213.7	-17.2	1.50	-1.50	0.00
4,000.0	0.12	83.34	3,991.7	25.0	214.0	-17.2	1.50	-1.50	0.00
4,008.3	0.00	0.00	4,000.0	25.0	214.0	-17.2	1.50	-1.50	0.00
4,040.0	0.00	0.00	4,031.7	25.0	214.0	-17.2	0.00	0.00	0.00

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Site:	Guttersen 6R-403 Pad Sec.6-T2N-R63W	North Reference:	True
Well:	Guttersen 6U-203	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (5-31-13)		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,080.0	0.00	0.00	4,071.7	25.0	214.0	-17.2	0.00	0.00	0.00
4,120.0	0.00	0.00	4,111.7	25.0	214.0	-17.2	0.00	0.00	0.00
4,160.0	0.00	0.00	4,151.7	25.0	214.0	-17.2	0.00	0.00	0.00
4,200.0	0.00	0.00	4,191.7	25.0	214.0	-17.2	0.00	0.00	0.00
4,240.0	0.00	0.00	4,231.7	25.0	214.0	-17.2	0.00	0.00	0.00
4,280.0	0.00	0.00	4,271.7	25.0	214.0	-17.2	0.00	0.00	0.00
4,320.0	0.00	0.00	4,311.7	25.0	214.0	-17.2	0.00	0.00	0.00
4,360.0	0.00	0.00	4,351.7	25.0	214.0	-17.2	0.00	0.00	0.00
4,400.0	0.00	0.00	4,391.7	25.0	214.0	-17.2	0.00	0.00	0.00
4,440.0	0.00	0.00	4,431.7	25.0	214.0	-17.2	0.00	0.00	0.00
4,480.0	0.00	0.00	4,471.7	25.0	214.0	-17.2	0.00	0.00	0.00
4,520.0	0.00	0.00	4,511.7	25.0	214.0	-17.2	0.00	0.00	0.00
4,560.0	0.00	0.00	4,551.7	25.0	214.0	-17.2	0.00	0.00	0.00
4,600.0	0.00	0.00	4,591.7	25.0	214.0	-17.2	0.00	0.00	0.00
4,640.0	0.00	0.00	4,631.7	25.0	214.0	-17.2	0.00	0.00	0.00
4,680.0	0.00	0.00	4,671.7	25.0	214.0	-17.2	0.00	0.00	0.00
4,720.0	0.00	0.00	4,711.7	25.0	214.0	-17.2	0.00	0.00	0.00
4,760.0	0.00	0.00	4,751.7	25.0	214.0	-17.2	0.00	0.00	0.00
4,800.0	0.00	0.00	4,791.7	25.0	214.0	-17.2	0.00	0.00	0.00
4,840.0	0.00	0.00	4,831.7	25.0	214.0	-17.2	0.00	0.00	0.00
4,880.0	0.00	0.00	4,871.7	25.0	214.0	-17.2	0.00	0.00	0.00
4,920.0	0.00	0.00	4,911.7	25.0	214.0	-17.2	0.00	0.00	0.00
4,960.0	0.00	0.00	4,951.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,000.0	0.00	0.00	4,991.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,040.0	0.00	0.00	5,031.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,080.0	0.00	0.00	5,071.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,120.0	0.00	0.00	5,111.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,160.0	0.00	0.00	5,151.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,200.0	0.00	0.00	5,191.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,240.0	0.00	0.00	5,231.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,280.0	0.00	0.00	5,271.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,320.0	0.00	0.00	5,311.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,360.0	0.00	0.00	5,351.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,400.0	0.00	0.00	5,391.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,440.0	0.00	0.00	5,431.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,480.0	0.00	0.00	5,471.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,520.0	0.00	0.00	5,511.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,560.0	0.00	0.00	5,551.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,600.0	0.00	0.00	5,591.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,640.0	0.00	0.00	5,631.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,680.0	0.00	0.00	5,671.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,720.0	0.00	0.00	5,711.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,760.0	0.00	0.00	5,751.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,800.0	0.00	0.00	5,791.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,840.0	0.00	0.00	5,831.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,880.0	0.00	0.00	5,871.7	25.0	214.0	-17.2	0.00	0.00	0.00
5,886.0	0.00	0.00	5,877.7	25.0	214.0	-17.2	0.00	0.00	0.00
KOP #2									
5,920.0	2.55	180.53	5,911.7	24.2	214.0	-16.5	7.51	7.51	0.00
5,960.0	5.55	180.53	5,951.6	21.4	214.0	-13.7	7.50	7.50	0.00
6,000.0	8.55	180.53	5,991.3	16.5	213.9	-8.8	7.50	7.50	0.00
6,040.0	11.55	180.53	6,030.7	9.5	213.9	-1.8	7.50	7.50	0.00
6,080.0	14.55	180.53	6,069.6	0.5	213.8	7.2	7.50	7.50	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Guttersen 6U-203
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4851.0ft (RKB - 15')
Project:	SEC.6-T2N-R63W	MD Reference:	WELL @ 4851.0ft (RKB - 15')
Site:	Guttersen 6R-403 Pad Sec.6-T2N-R63W	North Reference:	True
Well:	Guttersen 6U-203	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (5-31-13)		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,120.0	17.55	180.53	6,108.1	-10.6	213.7	18.3	7.50	7.50	0.00
6,160.0	20.55	180.53	6,145.9	-23.6	213.6	31.3	7.50	7.50	0.00
6,200.0	23.55	180.53	6,183.0	-38.6	213.4	46.3	7.50	7.50	0.00
6,240.0	26.55	180.53	6,219.2	-55.6	213.3	63.3	7.50	7.50	0.00
6,280.0	29.55	180.53	6,254.5	-74.4	213.1	82.0	7.50	7.50	0.00
6,320.0	32.55	180.53	6,288.7	-95.0	212.9	102.7	7.50	7.50	0.00
6,360.0	35.55	180.53	6,321.9	-117.4	212.7	125.0	7.50	7.50	0.00
6,400.0	38.55	180.53	6,353.8	-141.5	212.5	149.1	7.50	7.50	0.00
6,440.0	41.55	180.53	6,384.4	-167.2	212.2	174.8	7.50	7.50	0.00
6,480.0	44.55	180.53	6,413.6	-194.5	212.0	202.1	7.50	7.50	0.00
6,520.0	47.55	180.53	6,441.4	-223.3	211.7	230.9	7.50	7.50	0.00
6,560.0	50.55	180.53	6,467.6	-253.5	211.4	261.0	7.50	7.50	0.00
6,600.0	53.55	180.53	6,492.2	-285.1	211.1	292.5	7.50	7.50	0.00
6,640.0	56.55	180.53	6,515.1	-317.9	210.8	325.3	7.50	7.50	0.00
6,680.0	59.55	180.53	6,536.3	-351.8	210.5	359.2	7.50	7.50	0.00
6,720.0	62.55	180.53	6,555.6	-386.8	210.2	394.2	7.50	7.50	0.00
6,760.0	65.55	180.53	6,573.1	-422.8	209.9	430.1	7.50	7.50	0.00
6,800.0	68.55	180.53	6,588.7	-459.6	209.5	466.9	7.50	7.50	0.00
6,840.0	71.55	180.53	6,602.4	-497.2	209.2	504.4	7.50	7.50	0.00
6,880.0	74.55	180.53	6,614.0	-535.4	208.8	542.6	7.50	7.50	0.00
6,920.0	77.55	180.53	6,623.7	-574.3	208.5	581.4	7.50	7.50	0.00
6,960.0	80.55	180.53	6,631.3	-613.5	208.1	620.6	7.50	7.50	0.00
7,000.0	83.55	180.53	6,636.8	-653.1	207.8	660.2	7.50	7.50	0.00
7,040.0	86.55	180.53	6,640.3	-693.0	207.4	700.0	7.50	7.50	0.00
7,080.0	89.55	180.53	6,641.6	-732.9	207.0	740.0	7.50	7.50	0.00
7,102.1	91.21	180.53	6,641.5	-755.0	206.8	762.0	7.50	7.50	0.00
End of Build - 7"									
7,120.0	91.21	180.53	6,641.1	-772.9	206.7	779.9	0.00	0.00	0.00
7,160.0	91.21	180.53	6,640.2	-812.9	206.3	819.9	0.00	0.00	0.00
7,200.0	91.21	180.53	6,639.4	-852.9	205.9	859.8	0.00	0.00	0.00
7,240.0	91.21	180.53	6,638.6	-892.9	205.6	899.8	0.00	0.00	0.00
7,280.0	91.21	180.53	6,637.7	-932.9	205.2	939.7	0.00	0.00	0.00
7,320.0	91.21	180.53	6,636.9	-972.9	204.8	979.7	0.00	0.00	0.00
7,360.0	91.21	180.53	6,636.0	-1,012.9	204.5	1,019.6	0.00	0.00	0.00
7,400.0	91.21	180.53	6,635.2	-1,052.9	204.1	1,059.6	0.00	0.00	0.00
7,440.0	91.21	180.53	6,634.3	-1,092.8	203.7	1,099.5	0.00	0.00	0.00
7,480.0	91.21	180.53	6,633.5	-1,132.8	203.4	1,139.5	0.00	0.00	0.00
7,520.0	91.21	180.53	6,632.6	-1,172.8	203.0	1,179.4	0.00	0.00	0.00
7,560.0	91.21	180.53	6,631.8	-1,212.8	202.6	1,219.4	0.00	0.00	0.00
7,600.0	91.21	180.53	6,631.0	-1,252.8	202.3	1,259.3	0.00	0.00	0.00
7,640.0	91.21	180.53	6,630.1	-1,292.8	201.9	1,299.3	0.00	0.00	0.00
7,680.0	91.21	180.53	6,629.3	-1,332.8	201.5	1,339.2	0.00	0.00	0.00
7,720.0	91.21	180.53	6,628.4	-1,372.8	201.1	1,379.2	0.00	0.00	0.00
7,760.0	91.21	180.53	6,627.6	-1,412.8	200.8	1,419.1	0.00	0.00	0.00
7,800.0	91.21	180.53	6,626.7	-1,452.8	200.4	1,459.1	0.00	0.00	0.00
7,840.0	91.21	180.53	6,625.9	-1,492.7	200.0	1,499.0	0.00	0.00	0.00
7,880.0	91.21	180.53	6,625.0	-1,532.7	199.7	1,539.0	0.00	0.00	0.00
7,920.0	91.21	180.53	6,624.2	-1,572.7	199.3	1,578.9	0.00	0.00	0.00
7,960.0	91.21	180.53	6,623.4	-1,612.7	198.9	1,618.9	0.00	0.00	0.00
8,000.0	91.21	180.53	6,622.5	-1,652.7	198.6	1,658.8	0.00	0.00	0.00
8,040.0	91.21	180.53	6,621.7	-1,692.7	198.2	1,698.8	0.00	0.00	0.00
8,080.0	91.21	180.53	6,620.8	-1,732.7	197.8	1,738.7	0.00	0.00	0.00
8,120.0	91.21	180.53	6,620.0	-1,772.7	197.5	1,778.7	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Guttersen 6U-203
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4851.0ft (RKB - 15')
Project:	SEC.6-T2N-R63W	MD Reference:	WELL @ 4851.0ft (RKB - 15')
Site:	Guttersen 6R-403 Pad Sec.6-T2N-R63W	North Reference:	True
Well:	Guttersen 6U-203	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (5-31-13)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,160.0	91.21	180.53	6,619.1	-1,812.7	197.1	1,818.6	0.00	0.00	0.00
8,200.0	91.21	180.53	6,618.3	-1,852.6	196.7	1,858.6	0.00	0.00	0.00
8,240.0	91.21	180.53	6,617.4	-1,892.6	196.4	1,898.5	0.00	0.00	0.00
8,280.0	91.21	180.53	6,616.6	-1,932.6	196.0	1,938.5	0.00	0.00	0.00
8,320.0	91.21	180.53	6,615.8	-1,972.6	195.6	1,978.4	0.00	0.00	0.00
8,360.0	91.21	180.53	6,614.9	-2,012.6	195.3	2,018.4	0.00	0.00	0.00
8,400.0	91.21	180.53	6,614.1	-2,052.6	194.9	2,058.3	0.00	0.00	0.00
8,440.0	91.21	180.53	6,613.2	-2,092.6	194.5	2,098.3	0.00	0.00	0.00
8,480.0	91.21	180.53	6,612.4	-2,132.6	194.2	2,138.2	0.00	0.00	0.00
8,520.0	91.21	180.53	6,611.5	-2,172.6	193.8	2,178.2	0.00	0.00	0.00
8,560.0	91.21	180.53	6,610.7	-2,212.6	193.4	2,218.1	0.00	0.00	0.00
8,600.0	91.21	180.53	6,609.8	-2,252.5	193.1	2,258.1	0.00	0.00	0.00
8,640.0	91.21	180.53	6,609.0	-2,292.5	192.7	2,298.0	0.00	0.00	0.00
8,680.0	91.21	180.53	6,608.1	-2,332.5	192.3	2,338.0	0.00	0.00	0.00
8,720.0	91.21	180.53	6,607.3	-2,372.5	192.0	2,377.9	0.00	0.00	0.00
8,760.0	91.21	180.53	6,606.5	-2,412.5	191.6	2,417.9	0.00	0.00	0.00
8,800.0	91.21	180.53	6,605.6	-2,452.5	191.2	2,457.8	0.00	0.00	0.00
8,840.0	91.21	180.53	6,604.8	-2,492.5	190.9	2,497.8	0.00	0.00	0.00
8,880.0	91.21	180.53	6,603.9	-2,532.5	190.5	2,537.7	0.00	0.00	0.00
8,920.0	91.21	180.53	6,603.1	-2,572.5	190.1	2,577.7	0.00	0.00	0.00
8,960.0	91.21	180.53	6,602.2	-2,612.4	189.8	2,617.6	0.00	0.00	0.00
9,000.0	91.21	180.53	6,601.4	-2,652.4	189.4	2,657.6	0.00	0.00	0.00
9,040.0	91.21	180.53	6,600.5	-2,692.4	189.0	2,697.5	0.00	0.00	0.00
9,080.0	91.21	180.53	6,599.7	-2,732.4	188.6	2,737.5	0.00	0.00	0.00
9,120.0	91.21	180.53	6,598.9	-2,772.4	188.3	2,777.4	0.00	0.00	0.00
9,160.0	91.21	180.53	6,598.0	-2,812.4	187.9	2,817.4	0.00	0.00	0.00
9,200.0	91.21	180.53	6,597.2	-2,852.4	187.5	2,857.3	0.00	0.00	0.00
9,240.0	91.21	180.53	6,596.3	-2,892.4	187.2	2,897.3	0.00	0.00	0.00
9,280.0	91.21	180.53	6,595.5	-2,932.4	186.8	2,937.2	0.00	0.00	0.00
9,320.0	91.21	180.53	6,594.6	-2,972.4	186.4	2,977.2	0.00	0.00	0.00
9,360.0	91.21	180.53	6,593.8	-3,012.3	186.1	3,017.1	0.00	0.00	0.00
9,400.0	91.21	180.53	6,592.9	-3,052.3	185.7	3,057.1	0.00	0.00	0.00
9,440.0	91.21	180.53	6,592.1	-3,092.3	185.3	3,097.0	0.00	0.00	0.00
9,480.0	91.21	180.53	6,591.3	-3,132.3	185.0	3,137.0	0.00	0.00	0.00
9,520.0	91.21	180.53	6,590.4	-3,172.3	184.6	3,176.9	0.00	0.00	0.00
9,560.0	91.21	180.53	6,589.6	-3,212.3	184.2	3,216.9	0.00	0.00	0.00
9,600.0	91.21	180.53	6,588.7	-3,252.3	183.9	3,256.8	0.00	0.00	0.00
9,640.0	91.21	180.53	6,587.9	-3,292.3	183.5	3,296.8	0.00	0.00	0.00
9,680.0	91.21	180.53	6,587.0	-3,332.3	183.1	3,336.7	0.00	0.00	0.00
9,720.0	91.21	180.53	6,586.2	-3,372.2	182.8	3,376.7	0.00	0.00	0.00
9,760.0	91.21	180.53	6,585.3	-3,412.2	182.4	3,416.6	0.00	0.00	0.00
9,800.0	91.21	180.53	6,584.5	-3,452.2	182.0	3,456.6	0.00	0.00	0.00
9,840.0	91.21	180.53	6,583.7	-3,492.2	181.7	3,496.5	0.00	0.00	0.00
9,880.0	91.21	180.53	6,582.8	-3,532.2	181.3	3,536.5	0.00	0.00	0.00
9,920.0	91.21	180.53	6,582.0	-3,572.2	180.9	3,576.4	0.00	0.00	0.00
9,960.0	91.21	180.53	6,581.1	-3,612.2	180.6	3,616.4	0.00	0.00	0.00
10,000.0	91.21	180.53	6,580.3	-3,652.2	180.2	3,656.3	0.00	0.00	0.00
10,040.0	91.21	180.53	6,579.4	-3,692.2	179.8	3,696.2	0.00	0.00	0.00
10,080.0	91.21	180.53	6,578.6	-3,732.1	179.5	3,736.2	0.00	0.00	0.00
10,120.0	91.21	180.53	6,577.7	-3,772.1	179.1	3,776.1	0.00	0.00	0.00
10,160.0	91.21	180.53	6,576.9	-3,812.1	178.7	3,816.1	0.00	0.00	0.00
10,200.0	91.21	180.53	6,576.1	-3,852.1	178.4	3,856.0	0.00	0.00	0.00
10,240.0	91.21	180.53	6,575.2	-3,892.1	178.0	3,896.0	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Guttersen 6U-203
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4851.0ft (RKB - 15')
Project:	SEC.6-T2N-R63W	MD Reference:	WELL @ 4851.0ft (RKB - 15')
Site:	Guttersen 6R-403 Pad Sec.6-T2N-R63W	North Reference:	True
Well:	Guttersen 6U-203	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (5-31-13)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,280.0	91.21	180.53	6,574.4	-3,932.1	177.6	3,935.9	0.00	0.00	0.00
10,320.0	91.21	180.53	6,573.5	-3,972.1	177.3	3,975.9	0.00	0.00	0.00
10,360.0	91.21	180.53	6,572.7	-4,012.1	176.9	4,015.8	0.00	0.00	0.00
10,400.0	91.21	180.53	6,571.8	-4,052.1	176.5	4,055.8	0.00	0.00	0.00
10,440.0	91.21	180.53	6,571.0	-4,092.1	176.1	4,095.7	0.00	0.00	0.00
10,480.0	91.21	180.53	6,570.1	-4,132.0	175.8	4,135.7	0.00	0.00	0.00
10,520.0	91.21	180.53	6,569.3	-4,172.0	175.4	4,175.6	0.00	0.00	0.00
10,560.0	91.21	180.53	6,568.4	-4,212.0	175.0	4,215.6	0.00	0.00	0.00
10,600.0	91.21	180.53	6,567.6	-4,252.0	174.7	4,255.5	0.00	0.00	0.00
10,640.0	91.21	180.53	6,566.8	-4,292.0	174.3	4,295.5	0.00	0.00	0.00
10,680.0	91.21	180.53	6,565.9	-4,332.0	173.9	4,335.4	0.00	0.00	0.00
10,720.0	91.21	180.53	6,565.1	-4,372.0	173.6	4,375.4	0.00	0.00	0.00
10,760.0	91.21	180.53	6,564.2	-4,412.0	173.2	4,415.3	0.00	0.00	0.00
10,800.0	91.21	180.53	6,563.4	-4,452.0	172.8	4,455.3	0.00	0.00	0.00
10,840.0	91.21	180.53	6,562.5	-4,491.9	172.5	4,495.2	0.00	0.00	0.00
10,880.0	91.21	180.53	6,561.7	-4,531.9	172.1	4,535.2	0.00	0.00	0.00
10,920.0	91.21	180.53	6,560.8	-4,571.9	171.7	4,575.1	0.00	0.00	0.00
10,960.0	91.21	180.53	6,560.0	-4,611.9	171.4	4,615.1	0.00	0.00	0.00
11,000.0	91.21	180.53	6,559.2	-4,651.9	171.0	4,655.0	0.00	0.00	0.00
11,040.0	91.21	180.53	6,558.3	-4,691.9	170.6	4,695.0	0.00	0.00	0.00
11,054.8	91.21	180.53	6,558.0	-4,706.7	170.5	4,709.8	0.00	0.00	0.00
BHL 500' FSL, 200' FEL									

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
BHL 500' FSL, 200' FI	0.00	0.00	6,558.0	-4,706.7	170.5	1,303,358.25	3,287,367.96	40.161540	-104.471790
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
7,102.1	6,641.5	7"	7	8-3/4	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
1,000.0	1,000.0	0.0	0.0	KOP #1
5,886.0	5,877.7	25.0	214.0	KOP #2
7,102.1	6,641.5	-755.0	206.8	End of Build



Directional

PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.6-T2N-R63W

Guttersen 6R-403 Pad Sec.6-T2N-R63W

Guttersen 6U-203

Wellbore #1

Plan #1 (5-31-13)

Anticollision Report

31 May, 2013



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Guttersen 6U-203
Project:	SEC.6-T2N-R63W	TVD Reference:	WELL @ 4851.0ft (RKB - 15')
Reference Site:	Guttersen 6R-403 Pad Sec.6-T2N-R63W	MD Reference:	WELL @ 4851.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Guttersen 6U-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 #1 (5-31-13)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (5-31-13)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date	5/31/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	11,054.7	Plan #1 (5-31-13) (Wellbore #1)	MWD	MWD - Standard	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Guttersen 6R-403 Pad Sec.6-T2N-R63W						
Guttersen 6R-223 - Wellbore #1 - Plan #1 (5-31-13)	1,000.0	1,000.0	58.7	54.4	13.742	CC, ES
Guttersen 6R-223 - Wellbore #1 - Plan #1 (5-31-13)	11,054.8	11,059.5	637.2	455.1	3.498	SF
Guttersen 6R-403 - Wellbore #1 - Plan #1 (5-31-13)	200.0	200.0	89.4	88.7	132.618	CC, ES
Guttersen 6R-403 - Wellbore #1 - Plan #1 (5-31-13)	11,054.8	11,298.2	1,298.3	1,119.1	7.242	SF
Guttersen 6U-443 - Wellbore #1 - Plan #1 (5-31-13)	1,000.0	1,000.0	30.7	26.5	7.198	CC, ES
Guttersen 6U-443 - Wellbore #1 - Plan #1 (5-31-13)	11,054.8	11,224.6	403.8	253.8	2.693	SF

Offset Design	Guttersen 6R-403 Pad Sec.6-T2N-R63W - Guttersen 6R-223 - Wellbore #1 - Plan #1 (5-31-13)												Offset Site Error:	0.0ft
Survey Program:	0-MWD												Offset Well Error:	0.0ft
Reference	Offset	Semi Major Axis			Distance									Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-90.00	0.0	-58.7	58.7					
100.0	100.0	100.0	100.0	0.1	0.1	-90.00	0.0	-58.7	58.7	58.5	0.22	261.091		
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	0.0	-58.7	58.7	58.0	0.67	87.030		
300.0	300.0	300.0	300.0	0.6	0.6	-90.00	0.0	-58.7	58.7	57.6	1.12	52.218		
400.0	400.0	400.0	400.0	0.8	0.8	-90.00	0.0	-58.7	58.7	57.1	1.57	37.299		
500.0	500.0	500.0	500.0	1.0	1.0	-90.00	0.0	-58.7	58.7	56.7	2.02	29.010		
600.0	600.0	600.0	600.0	1.2	1.2	-90.00	0.0	-58.7	58.7	56.2	2.47	23.736		
700.0	700.0	700.0	700.0	1.5	1.5	-90.00	0.0	-58.7	58.7	55.8	2.92	20.084		
800.0	800.0	800.0	800.0	1.7	1.7	-90.00	0.0	-58.7	58.7	55.3	3.37	17.406		
900.0	900.0	900.0	900.0	1.9	1.9	-90.00	0.0	-58.7	58.7	54.9	3.82	15.358		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-90.00	0.0	-58.7	58.7	54.4	4.27	13.742	CC, ES	
1,100.0	1,100.0	1,097.9	1,097.9	2.3	2.3	-173.37	0.1	-60.4	61.7	57.0	4.69	13.150		
1,200.0	1,199.9	1,195.3	1,195.1	2.6	2.5	-173.43	0.4	-65.3	70.7	65.6	5.10	13.871		
1,304.7	1,304.4	1,296.0	1,295.5	2.8	2.8	-173.51	1.0	-73.9	86.5	80.9	5.53	15.647		
1,400.0	1,399.4	1,389.6	1,388.6	3.0	3.0	-173.59	1.7	-83.7	103.8	97.9	5.92	17.530		
1,500.0	1,499.1	1,487.9	1,486.4	3.2	3.2	-173.65	2.4	-93.9	122.1	115.7	6.34	19.248		
1,600.0	1,598.7	1,586.3	1,584.2	3.5	3.5	-173.69	3.1	-104.1	140.3	133.5	6.77	20.738		
1,700.0	1,698.4	1,684.6	1,681.9	3.7	3.7	-173.73	3.8	-114.3	158.5	151.4	7.19	22.039		
1,800.0	1,798.1	1,782.9	1,779.7	4.0	4.0	-173.75	4.5	-124.6	176.8	169.2	7.63	23.183		
1,900.0	1,897.8	1,881.2	1,877.5	4.2	4.3	-173.77	5.2	-134.8	195.0	187.0	8.06	24.192		
2,000.0	1,997.5	1,979.6	1,975.3	4.5	4.5	-173.79	5.9	-145.0	213.3	204.8	8.50	25.092		

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 Guttersten 6U-203
Project:	SEC.6-T2N-R63W	TVD Reference:	WELL @ 4851.0ft (RKB - 15')
Reference Site:	Guttersten 6R-403 Pad Sec.6-T2N-R63W	MD Reference:	WELL @ 4851.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Guttersten 6U-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 #1 (5-31-13)	Offset TVD Reference:	Offset Datum

Offset Design Guttersten 6R-403 Pad Sec.6-T2N-R63W - Guttersten 6R-223 - Wellbore #1 - Plan #1 (5-31-13)													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
2,100.0	2,097.1	2,077.9	2,073.1	4.7	4.8	-173.81		6.6	-155.2	231.5	222.6	8.94	25.897	
2,200.0	2,196.8	2,176.2	2,170.9	5.0	5.1	-173.82		7.3	-165.5	249.7	240.4	9.38	26.620	
2,300.0	2,296.5	2,274.5	2,268.7	5.2	5.4	-173.83		8.0	-175.7	268.0	258.2	9.83	27.274	
2,400.0	2,396.2	2,372.8	2,366.5	5.5	5.6	-173.84		8.7	-185.9	286.2	276.0	10.27	27.867	
2,500.0	2,495.9	2,471.2	2,464.2	5.7	5.9	-173.85		9.4	-196.1	304.5	293.7	10.72	28.407	
2,600.0	2,595.6	2,569.5	2,562.0	6.0	6.2	-173.86		10.1	-206.3	322.7	311.5	11.17	28.901	
2,700.0	2,695.2	2,667.8	2,659.8	6.3	6.5	-173.86		10.8	-216.6	340.9	329.3	11.61	29.354	
2,800.0	2,794.9	2,766.1	2,757.6	6.5	6.8	-173.87		11.5	-226.8	359.2	347.1	12.06	29.771	
2,900.0	2,894.6	2,864.5	2,855.4	6.8	7.1	-173.87		12.2	-237.0	377.4	364.9	12.52	30.156	
3,000.0	2,994.3	2,962.8	2,953.2	7.0	7.3	-173.88		12.9	-247.2	395.7	382.7	12.97	30.513	
3,100.0	3,094.0	3,061.1	3,051.0	7.3	7.6	-173.88		13.6	-257.5	413.9	400.5	13.42	30.844	
3,200.0	3,193.6	3,159.4	3,148.7	7.6	7.9	-173.89		14.3	-267.7	432.1	418.3	13.87	31.152	
3,300.0	3,293.3	3,257.7	3,246.5	7.8	8.2	-173.89		15.0	-277.9	450.4	436.0	14.32	31.440	
3,400.0	3,393.0	3,356.1	3,344.3	8.1	8.5	-173.90		15.7	-288.1	468.6	453.8	14.78	31.709	
3,500.0	3,492.7	3,454.4	3,442.1	8.4	8.8	-173.90		16.4	-298.4	486.9	471.6	15.23	31.961	
3,600.0	3,592.4	3,552.7	3,539.9	8.6	9.1	-173.90		17.1	-308.6	505.1	489.4	15.69	32.197	
3,703.6	3,695.6	3,654.5	3,641.2	8.9	9.4	-173.90		17.8	-319.2	524.0	507.8	16.16	32.427	
3,800.0	3,791.8	3,749.6	3,735.7	9.1	9.7	-173.92		18.5	-329.1	540.4	523.8	16.60	32.549	
3,900.0	3,891.7	3,848.5	3,834.1	9.3	9.9	-173.90		19.2	-339.3	554.9	537.8	17.03	32.579	
4,008.3	4,000.0	3,956.0	3,941.0	9.5	10.3	-90.51		19.9	-350.5	567.6	550.1	17.49	32.452	
4,100.0	4,091.7	4,047.3	4,031.7	9.7	10.5	-90.44		20.6	-360.0	577.2	559.3	17.89	32.269	
4,200.0	4,191.7	4,146.7	4,130.7	9.9	10.8	-90.36		21.3	-370.4	587.5	569.2	18.33	32.061	
4,300.0	4,291.7	4,246.2	4,229.6	10.1	11.1	-90.29		22.0	-380.7	597.9	579.2	18.77	31.861	
4,400.0	4,391.7	4,345.6	4,328.5	10.3	11.4	-90.22		22.7	-391.0	608.3	589.1	19.21	31.669	
4,500.0	4,491.7	4,445.1	4,427.4	10.5	11.7	-90.15		23.4	-401.4	618.7	599.1	19.65	31.484	
4,600.0	4,591.7	4,551.6	4,533.3	10.7	12.0	-90.08		24.1	-412.3	629.0	608.9	20.10	31.287	
4,700.0	4,691.7	4,679.5	4,660.9	10.9	12.3	-90.02		24.8	-421.3	636.1	615.5	20.56	30.935	
4,800.0	4,791.7	4,808.0	4,789.4	11.1	12.5	-90.00		25.0	-424.7	638.7	617.7	21.00	30.408	
4,900.0	4,891.7	4,910.4	4,891.7	11.3	12.7	-90.00		25.0	-424.7	638.7	617.3	21.42	29.824	
5,000.0	4,991.7	5,010.4	4,991.7	11.5	12.8	-90.00		25.0	-424.7	638.7	616.9	21.83	29.255	
5,100.0	5,091.7	5,110.4	5,091.7	11.7	13.0	-90.00		25.0	-424.7	638.7	616.4	22.25	28.705	
5,200.0	5,191.7	5,210.4	5,191.7	11.9	13.2	-90.00		25.0	-424.7	638.7	616.0	22.67	28.175	
5,300.0	5,291.7	5,310.4	5,291.7	12.1	13.4	-90.00		25.0	-424.7	638.7	615.6	23.09	27.662	
5,400.0	5,391.7	5,410.4	5,391.7	12.3	13.6	-90.00		25.0	-424.7	638.7	615.2	23.51	27.166	
5,500.0	5,491.7	5,510.4	5,491.7	12.5	13.8	-90.00		25.0	-424.7	638.7	614.8	23.93	26.687	
5,600.0	5,591.7	5,610.4	5,591.7	12.7	13.9	-90.00		25.0	-424.7	638.7	614.3	24.36	26.223	
5,700.0	5,691.7	5,710.4	5,691.7	12.9	14.1	-90.00		25.0	-424.7	638.7	613.9	24.78	25.774	
5,800.0	5,791.7	5,810.4	5,791.7	13.1	14.3	-90.00		25.0	-424.7	638.7	613.5	25.21	25.340	
5,857.3	5,849.0	5,867.7	5,849.0	13.2	14.4	-90.00		25.0	-424.7	638.7	613.2	25.45	25.097	
5,886.0	5,877.7	5,896.3	5,877.7	13.3	14.5	-90.00		25.0	-424.7	638.7	613.1	25.57	24.977	
5,900.0	5,891.7	5,910.2	5,891.6	13.3	14.5	89.47		24.9	-424.7	638.7	613.1	25.62	24.925	
5,950.0	5,941.7	5,959.9	5,941.2	13.4	14.6	89.47		22.4	-424.7	638.7	612.9	25.81	24.750	
6,000.0	5,991.3	6,009.5	5,990.5	13.5	14.7	89.48		16.6	-424.8	638.7	612.7	25.98	24.581	
6,050.0	6,040.5	6,059.1	6,039.3	13.6	14.8	89.48		7.7	-424.8	638.7	612.5	26.16	24.417	
6,100.0	6,088.9	6,108.8	6,087.4	13.7	14.8	89.49		-4.4	-424.9	638.7	612.3	26.33	24.252	
6,150.0	6,136.5	6,158.4	6,134.7	13.8	14.9	89.50		-19.5	-425.1	638.7	612.1	26.52	24.084	
6,200.0	6,183.0	6,208.1	6,180.9	13.9	15.0	89.52		-37.7	-425.2	638.7	611.9	26.72	23.904	
6,250.0	6,228.1	6,257.8	6,225.8	14.0	15.1	89.53		-58.9	-425.4	638.7	611.7	26.94	23.708	
6,300.0	6,271.8	6,307.4	6,269.3	14.1	15.2	89.55		-83.0	-425.6	638.6	611.5	27.19	23.489	
6,350.0	6,313.7	6,357.1	6,311.1	14.2	15.3	89.57		-109.8	-425.9	638.6	611.2	27.48	23.240	
6,400.0	6,353.8	6,406.8	6,351.0	14.4	15.5	89.59		-139.3	-426.1	638.6	610.8	27.82	22.956	

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

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Project:	SEC.6-T2N-R63W	TVD Reference:	WELL @ 4851.0ft (RKB - 15')
Reference Site:	Guttersen 6R-403 Pad Sec.6-T2N-R63W	MD Reference:	WELL @ 4851.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Guttersen 6U-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 #1 (5-31-13)	Offset TVD Reference:	Offset Datum

Offset Design		Guttersen 6R-403 Pad Sec.6-T2N-R63W - Guttersen 6R-223 - Wellbore #1 - Plan #1 (5-31-13)											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 +N/-S	Offset Wellbore Centre +E/-W	Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)			
6,450.0	6,391.9	6,456.5	6,389.0	14.5	15.6	89.61	-171.4	-426.4	638.6	610.4	28.22	22.633			
6,500.0	6,427.7	6,506.3	6,424.9	14.7	15.8	89.63	-205.8	-426.7	638.6	609.9	28.68	22.269			
6,550.0	6,461.2	6,556.0	6,458.4	15.0	16.0	89.66	-242.6	-427.1	638.6	609.4	29.21	21.861			
6,600.0	6,492.2	6,605.8	6,489.5	15.3	16.3	89.69	-281.4	-427.4	638.6	608.8	29.82	21.412			
6,650.0	6,520.6	6,655.6	6,518.0	15.6	16.6	89.71	-322.2	-427.8	638.6	608.0	30.52	20.925			
6,700.0	6,546.2	6,705.4	6,543.8	16.0	16.9	89.74	-364.8	-428.2	638.5	607.3	31.29	20.404			
6,750.0	6,568.9	6,755.2	6,566.7	16.4	17.3	89.77	-409.1	-428.5	638.5	606.4	32.16	19.856			
6,800.0	6,588.7	6,805.1	6,586.8	16.8	17.7	89.81	-454.7	-428.9	638.5	605.4	33.10	19.288			
6,850.0	6,605.5	6,854.9	6,603.8	17.3	18.2	89.84	-501.6	-429.4	638.5	604.4	34.13	18.708			
6,900.0	6,619.1	6,904.8	6,617.8	17.9	18.7	89.87	-549.4	-429.8	638.5	603.3	35.23	18.122			
6,950.0	6,629.6	6,954.8	6,628.6	18.5	19.2	89.90	-598.2	-430.2	638.5	602.1	36.40	17.539			
7,000.0	6,636.8	7,004.7	6,636.2	19.1	19.8	89.94	-647.5	-430.7	638.5	600.8	37.64	16.964			
7,050.0	6,640.8	7,054.7	6,640.5	19.7	20.4	89.97	-697.3	-431.1	638.4	599.5	38.92	16.403			
7,102.1	6,641.5	7,106.8	6,641.6	20.4	21.1	90.01	-749.4	-431.6	638.4	598.1	40.31	15.838			
7,200.0	6,639.4	7,204.7	6,639.5	21.7	22.4	90.01	-847.2	-432.4	638.4	595.3	43.05	14.829			
7,300.0	6,637.3	7,304.7	6,637.4	23.2	23.8	90.01	-947.2	-433.3	638.4	592.4	46.00	13.879			
7,400.0	6,635.2	7,404.7	6,635.3	24.7	25.3	90.01	-1,047.2	-434.2	638.3	589.3	49.06	13.010			
7,500.0	6,633.1	7,504.7	6,633.2	26.3	26.8	90.01	-1,147.2	-435.1	638.3	586.1	52.23	12.221			
7,600.0	6,631.0	7,604.7	6,631.1	27.9	28.4	90.01	-1,247.1	-436.0	638.3	582.8	55.48	11.504			
7,700.0	6,628.8	7,704.7	6,629.0	29.6	30.0	90.01	-1,347.1	-436.9	638.2	579.4	58.80	10.854			
7,800.0	6,626.7	7,804.7	6,626.9	31.2	31.7	90.01	-1,447.1	-437.8	638.2	576.0	62.18	10.263			
7,900.0	6,624.6	7,904.7	6,624.7	32.9	33.4	90.01	-1,547.1	-438.7	638.2	572.6	65.61	9.727			
8,000.0	6,622.5	8,004.7	6,622.6	34.7	35.1	90.01	-1,647.0	-439.6	638.2	569.1	69.08	9.237			
8,100.0	6,620.4	8,104.7	6,620.5	36.4	36.8	90.01	-1,747.0	-440.4	638.1	565.5	72.59	8.791			
8,200.0	6,618.3	8,204.7	6,618.4	38.2	38.6	90.01	-1,847.0	-441.3	638.1	562.0	76.13	8.382			
8,300.0	6,616.2	8,304.7	6,616.3	40.0	40.3	90.01	-1,947.0	-442.2	638.1	558.4	79.69	8.006			
8,400.0	6,614.1	8,404.7	6,614.2	41.7	42.1	90.01	-2,046.9	-443.1	638.0	554.7	83.28	7.661			
8,500.0	6,611.9	8,504.7	6,612.1	43.5	43.9	90.01	-2,146.9	-444.0	638.0	551.1	86.89	7.343			
8,600.0	6,609.8	8,604.7	6,610.0	45.4	45.7	90.01	-2,246.9	-444.9	638.0	547.5	90.52	7.048			
8,700.0	6,607.7	8,704.7	6,607.8	47.2	47.5	90.01	-2,346.8	-445.8	637.9	543.8	94.16	6.775			
8,800.0	6,605.6	8,804.7	6,605.7	49.0	49.3	90.01	-2,446.8	-446.7	637.9	540.1	97.82	6.521			
8,900.0	6,603.5	8,904.7	6,603.6	50.8	51.1	90.01	-2,546.8	-447.6	637.9	536.4	101.49	6.285			
9,000.0	6,601.4	9,004.7	6,601.5	52.7	53.0	90.01	-2,646.8	-448.4	637.8	532.7	105.17	6.065			
9,100.0	6,599.3	9,104.7	6,599.4	54.5	54.8	90.01	-2,746.7	-449.3	637.8	529.0	108.86	5.859			
9,200.0	6,597.2	9,204.7	6,597.3	56.4	56.6	90.01	-2,846.7	-450.2	637.8	525.2	112.56	5.666			
9,300.0	6,595.1	9,304.7	6,595.2	58.2	58.5	90.01	-2,946.7	-451.1	637.8	521.5	116.27	5.485			
9,400.0	6,592.9	9,404.7	6,593.1	60.1	60.3	90.01	-3,046.7	-452.0	637.7	517.7	119.99	5.315			
9,500.0	6,590.8	9,504.7	6,591.0	61.9	62.2	90.01	-3,146.6	-452.9	637.7	514.0	123.71	5.155			
9,600.0	6,588.7	9,604.7	6,588.8	63.8	64.0	90.01	-3,246.6	-453.8	637.7	510.2	127.44	5.004			
9,700.0	6,586.6	9,704.7	6,586.7	65.6	65.9	90.01	-3,346.6	-454.7	637.6	506.5	131.18	4.861			
9,800.0	6,584.5	9,804.7	6,584.6	67.5	67.8	90.01	-3,446.6	-455.6	637.6	502.7	134.92	4.726			
9,900.0	6,582.4	9,904.7	6,582.5	69.4	69.6	90.01	-3,546.5	-456.4	637.6	498.9	138.67	4.598			
10,000.0	6,580.3	10,004.7	6,580.4	71.3	71.5	90.01	-3,646.5	-457.3	637.5	495.1	142.42	4.477			
10,100.0	6,578.2	10,104.7	6,578.3	73.1	73.4	90.01	-3,746.5	-458.2	637.5	491.3	146.17	4.361			
10,200.0	6,576.1	10,204.7	6,576.2	75.0	75.2	90.01	-3,846.5	-459.1	637.5	487.6	149.93	4.252			
10,300.0	6,573.9	10,304.7	6,574.1	76.9	77.1	90.01	-3,946.4	-460.0	637.5	483.8	153.69	4.148			
10,400.0	6,571.8	10,404.7	6,571.9	78.8	79.0	90.01	-4,046.4	-460.9	637.4	480.0	157.45	4.048			
10,500.0	6,569.7	10,504.7	6,569.8	80.7	80.9	90.01	-4,146.4	-461.8	637.4	476.2	161.22	3.954			
10,600.0	6,567.6	10,604.7	6,567.7	82.5	82.8	90.01	-4,246.3	-462.7	637.4	472.4	164.99	3.863			
10,700.0	6,565.5	10,704.7	6,565.6	84.4	84.6	90.01	-4,346.3	-463.6	637.3	468.6	168.77	3.776			
10,800.0	6,563.4	10,804.7	6,563.5	86.3	86.5	90.01	-4,446.3	-464.4	637.3	464.8	172.54	3.694			

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 Guttersen 6U-203
Project:	SEC.6-T2N-R63W	TVD Reference:	WELL @ 4851.0ft (RKB - 15')
Reference Site:	Guttersen 6R-403 Pad Sec.6-T2N-R63W	MD Reference:	WELL @ 4851.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Guttersen 6U-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 #1 (5-31-13)	Offset TVD Reference:	Offset Datum

Offset Design Guttersen 6R-403 Pad Sec.6-T2N-R63W - Guttersen 6R-223 - Wellbore #1 - Plan #1 (5-31-13)													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)	Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
Reference	Offset	Reference	Offset	Reference	Offset		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
10,900.0	6,561.3	10,904.7	6,561.4	88.2	88.4	90.01	-4,546.3	-465.3	637.3	461.0	176.32	3.614		
11,000.0	6,559.2	11,004.7	6,559.3	90.1	90.3	90.01	-4,646.2	-466.2	637.2	457.1	180.10	3.538		
11,054.8	6,558.0	11,059.5	6,558.1	91.1	91.3	90.01	-4,701.0	-466.7	637.2	455.1	182.17	3.498 SF		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Guttersten 6U-203
Project:	SEC.6-T2N-R63W	TVD Reference:	WELL @ 4851.0ft (RKB - 15')
Reference Site:	Guttersten 6R-403 Pad Sec.6-T2N-R63W	MD Reference:	WELL @ 4851.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Guttersten 6U-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 #1 (5-31-13)	Offset TVD Reference:	Offset Datum

Offset Design		Guttersen 6R-403 Pad Sec.6-T2N-R63W - Guttersen 6R-403 - Wellbore #1 - Plan #1 (5-31-13)												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)				
0.0	0.0	0.0	0.0	0.0	0.0	-90.00	0.0	-89.4	89.4						
100.0	100.0	100.0	100.0	0.1	0.1	-90.00	0.0	-89.4	89.4	89.2	0.22	397.853			
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	0.0	-89.4	89.4	88.7	0.67	132.618	CC, ES		
300.0	300.0	296.9	296.9	0.6	0.5	-89.98	0.0	-91.1	91.1	90.0	1.11	82.270			
400.0	400.0	393.7	393.5	0.8	0.8	-89.90	0.2	-96.0	96.2	94.6	1.55	62.134			
500.0	500.0	489.9	489.4	1.0	1.0	-89.79	0.4	-104.1	104.6	102.6	2.01	51.967			
600.0	600.0	585.6	584.4	1.2	1.3	-89.67	0.7	-115.3	116.4	113.9	2.51	46.369			
700.0	700.0	680.3	678.1	1.5	1.6	-89.54	1.0	-129.6	131.4	128.4	3.04	43.171			
800.0	800.0	776.8	773.0	1.7	1.9	-89.43	1.5	-146.7	149.2	145.6	3.62	41.198			
900.0	900.0	875.1	869.7	1.9	2.3	-89.33	1.9	-164.5	167.3	163.1	4.23	39.594			
1,000.0	1,000.0	973.5	966.4	2.1	2.7	-89.25	2.4	-182.3	185.4	180.6	4.84	38.329			
1,100.0	1,100.0	1,071.6	1,062.9	2.3	3.1	-172.53	2.8	-200.1	204.8	200.0	4.75	43.118			
1,200.0	1,199.9	1,169.1	1,158.9	2.6	3.5	-172.56	3.3	-217.8	226.7	221.5	5.19	43.690			
1,304.7	1,304.4	1,270.7	1,258.7	2.8	3.9	-172.66	3.8	-236.1	252.4	246.7	5.65	44.687			
1,400.0	1,399.4	1,362.7	1,349.2	3.0	4.3	-172.81	4.2	-252.8	277.0	270.9	6.07	45.633			
1,500.0	1,499.1	1,459.3	1,444.3	3.2	4.7	-172.93	4.7	-270.3	302.8	296.3	6.52	46.460			
1,600.0	1,598.7	1,555.9	1,539.3	3.5	5.1	-173.04	5.1	-287.7	328.6	321.6	6.97	47.158			
1,700.0	1,698.4	1,652.5	1,634.3	3.7	5.5	-173.13	5.6	-305.2	354.4	347.0	7.42	47.752			
1,800.0	1,798.1	1,749.1	1,729.3	4.0	5.9	-173.21	6.0	-322.7	380.3	372.4	7.88	48.263			
1,900.0	1,897.8	1,845.7	1,824.3	4.2	6.3	-173.28	6.5	-340.2	406.1	397.7	8.34	48.707			
2,000.0	1,997.5	1,942.4	1,919.3	4.5	6.7	-173.34	6.9	-357.7	431.9	423.1	8.80	49.095			
2,100.0	2,097.1	2,039.0	2,014.3	4.7	7.1	-173.40	7.4	-375.2	457.7	448.5	9.26	49.437			
2,200.0	2,196.8	2,135.6	2,109.3	5.0	7.5	-173.45	7.8	-392.6	483.6	473.8	9.72	49.741			
2,300.0	2,296.5	2,232.2	2,204.3	5.2	7.9	-173.49	8.3	-410.1	509.4	499.2	10.19	50.011			
2,400.0	2,396.2	2,328.8	2,299.4	5.5	8.3	-173.53	8.7	-427.6	535.2	524.6	10.65	50.254			
2,500.0	2,495.9	2,425.4	2,394.4	5.7	8.7	-173.57	9.2	-445.1	561.0	549.9	11.12	50.473			
2,600.0	2,595.6	2,522.0	2,489.4	6.0	9.1	-173.60	9.6	-462.6	586.9	575.3	11.58	50.671			
2,700.0	2,695.2	2,618.6	2,584.4	6.3	9.5	-173.63	10.1	-480.0	612.7	600.6	12.05	50.851			
2,800.0	2,794.9	2,715.2	2,679.4	6.5	9.9	-173.66	10.5	-497.5	638.5	626.0	12.52	51.015			
2,900.0	2,894.6	2,811.8	2,774.4	6.8	10.3	-173.68	11.0	-515.0	664.3	651.3	12.98	51.165			
3,000.0	2,994.3	2,908.4	2,869.4	7.0	10.7	-173.70	11.4	-532.5	690.2	676.7	13.45	51.303			
3,100.0	3,094.0	3,005.0	2,964.4	7.3	11.1	-173.73	11.9	-550.0	716.0	702.1	13.92	51.430			
3,200.0	3,193.6	3,101.6	3,059.4	7.6	11.5	-173.75	12.3	-567.5	741.8	727.4	14.39	51.548			
3,300.0	3,293.3	3,198.2	3,154.5	7.8	11.9	-173.77	12.8	-584.9	767.6	752.8	14.86	51.656			
3,400.0	3,393.0	3,294.9	3,249.5	8.1	12.3	-173.78	13.2	-602.4	793.5	778.1	15.33	51.757			
3,500.0	3,492.7	3,391.5	3,344.5	8.4	12.7	-173.80	13.7	-619.9	819.3	803.5	15.80	51.851			
3,600.0	3,592.4	3,488.1	3,439.5	8.6	13.1	-173.81	14.1	-637.4	845.1	828.8	16.27	51.939			
3,703.6	3,695.6	3,588.1	3,537.9	8.9	13.5	-173.83	14.6	-655.5	871.9	855.1	16.76	52.024			
3,800.0	3,791.8	3,681.6	3,629.8	9.1	13.9	-173.87	15.0	-672.4	895.6	878.4	17.24	51.954			
3,900.0	3,891.7	3,779.1	3,725.7	9.3	14.3	-173.90	15.5	-690.1	917.7	900.0	17.71	51.831			
4,008.3	4,000.0	3,885.3	3,830.2	9.5	14.7	-90.56	16.0	-709.3	938.8	920.6	18.21	51.556			
4,100.0	4,091.7	3,975.5	3,918.9	9.7	15.1	-90.53	16.4	-725.6	955.4	936.8	18.62	51.306			
4,200.0	4,191.7	4,073.9	4,015.6	9.9	15.5	-90.49	16.8	-743.4	973.5	954.4	19.08	51.020			
4,300.0	4,291.7	4,172.2	4,112.3	10.1	15.9	-90.45	17.3	-761.2	991.6	972.0	19.54	50.745			
4,400.0	4,391.7	4,270.6	4,209.0	10.3	16.3	-90.42	17.8	-779.0	1,009.7	989.7	20.00	50.481			
4,500.0	4,491.7	4,368.9	4,305.8	10.5	16.8	-90.38	18.2	-796.8	1,027.8	1,007.3	20.46	50.227			
4,600.0	4,591.7	4,467.3	4,402.5	10.7	17.2	-90.35	18.7	-814.6	1,045.9	1,024.9	20.92	49.983			
4,700.0	4,691.7	4,565.6	4,499.2	10.9	17.6	-90.32	19.1	-832.4	1,064.0	1,042.6	21.39	49.747			
4,800.0	4,791.7	4,663.9	4,595.9	11.1	18.0	-90.29	19.6	-850.2	1,082.1	1,060.2	21.85	49.521			
4,900.0	4,891.7	4,762.3	4,692.7	11.3	18.4	-90.26	20.0	-868.0	1,100.1	1,077.8	22.31	49.302			
5,000.0	4,991.7	4,860.6	4,789.4	11.5	18.8	-90.23	20.5	-885.8	1,118.2	1,095.5	22.78	49.092			

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 Guttersen 6U-203
Project:	SEC.6-T2N-R63W	TVD Reference:	WELL @ 4851.0ft (RKB - 15')
Reference Site:	Guttersen 6R-403 Pad Sec.6-T2N-R63W	MD Reference:	WELL @ 4851.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Guttersen 6U-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 #1 (5-31-13)	Offset TVD Reference:	Offset Datum

Offset Design Guttersen 6R-403 Pad Sec.6-T2N-R63W - Guttersen 6R-403 - Wellbore #1 - Plan #1 (5-31-13)													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	5,091.7	4,959.0	4,886.1	11.7	19.2	-90.21		21.0	-903.6	1,136.3	1,113.1	23.24	48.888	
5,200.0	5,191.7	5,057.3	4,982.8	11.9	19.6	-90.18		21.4	-921.4	1,154.4	1,130.7	23.71	48.692	
5,300.0	5,291.7	5,155.7	5,079.6	12.1	20.0	-90.16		21.9	-939.2	1,172.5	1,148.4	24.17	48.503	
5,400.0	5,391.7	5,254.0	5,176.3	12.3	20.4	-90.13		22.3	-957.0	1,190.6	1,166.0	24.64	48.319	
5,500.0	5,491.7	5,352.4	5,273.0	12.5	20.8	-90.11		22.8	-974.8	1,208.7	1,183.6	25.11	48.142	
5,600.0	5,591.7	5,450.7	5,369.7	12.7	21.3	-90.08		23.2	-992.6	1,226.8	1,201.2	25.57	47.971	
5,700.0	5,691.7	5,549.1	5,466.4	12.9	21.7	-90.06		23.7	-1,010.4	1,244.9	1,218.9	26.04	47.805	
5,800.0	5,791.7	5,712.8	5,628.1	13.1	22.2	-90.03		24.4	-1,036.2	1,260.9	1,234.3	26.60	47.397	
5,886.0	5,877.7	5,865.9	5,780.4	13.3	22.5	-90.01		24.8	-1,052.0	1,269.7	1,242.7	27.07	46.904	
5,900.0	5,891.7	5,891.1	5,805.5	13.3	22.5	89.40		24.8	-1,053.8	1,270.7	1,243.6	27.14	46.816	
5,950.0	5,941.7	5,980.7	5,895.0	13.4	22.7	89.42		24.9	-1,058.5	1,273.3	1,245.9	27.39	46.494	
6,000.0	5,991.3	6,070.1	5,984.3	13.5	22.8	89.81		25.0	-1,060.4	1,274.4	1,246.7	27.62	46.131	
6,050.0	6,040.5	6,126.2	6,040.5	13.6	22.8	90.26		25.0	-1,060.4	1,274.4	1,246.6	27.81	45.828	
6,100.0	6,088.9	6,175.5	6,089.7	13.7	22.9	90.75		24.2	-1,060.4	1,274.5	1,246.5	27.98	45.552	
6,150.0	6,136.5	6,225.7	6,139.7	13.8	23.0	91.26		20.2	-1,060.5	1,274.7	1,246.5	28.15	45.279	
6,200.0	6,183.0	6,276.6	6,190.1	13.9	23.0	91.77		12.8	-1,060.5	1,275.0	1,246.7	28.33	44.999	
6,250.0	6,228.1	6,328.4	6,240.7	14.0	23.1	92.27		1.9	-1,060.6	1,275.4	1,246.9	28.53	44.705	
6,300.0	6,271.8	6,381.1	6,291.3	14.1	23.1	92.76		-12.7	-1,060.8	1,275.9	1,247.2	28.75	44.386	
6,350.0	6,313.7	6,434.6	6,341.6	14.2	23.2	93.25		-31.1	-1,060.9	1,276.5	1,247.5	28.99	44.033	
6,400.0	6,353.8	6,489.1	6,391.3	14.4	23.3	93.73		-53.4	-1,061.1	1,277.2	1,247.9	29.27	43.634	
6,450.0	6,391.9	6,544.6	6,440.1	14.5	23.4	94.20		-79.6	-1,061.4	1,278.0	1,248.4	29.60	43.178	
6,500.0	6,427.7	6,600.9	6,487.7	14.7	23.5	94.65		-109.9	-1,061.7	1,278.8	1,248.8	29.98	42.656	
6,550.0	6,461.2	6,658.3	6,533.7	15.0	23.6	95.09		-144.2	-1,062.0	1,279.6	1,249.2	30.43	42.057	
6,600.0	6,492.2	6,716.6	6,577.6	15.3	23.7	95.50		-182.5	-1,062.3	1,280.5	1,249.5	30.95	41.378	
6,650.0	6,520.6	6,775.9	6,619.2	15.6	23.8	95.89		-224.7	-1,062.7	1,281.3	1,249.8	31.55	40.618	
6,700.0	6,546.2	6,836.0	6,657.9	16.0	24.0	96.26		-270.7	-1,063.2	1,282.2	1,250.0	32.23	39.780	
6,750.0	6,568.9	6,897.1	6,693.4	16.4	24.2	96.59		-320.4	-1,063.6	1,283.0	1,250.0	33.01	38.867	
6,800.0	6,588.7	6,959.0	6,725.1	16.8	24.5	96.90		-373.5	-1,064.1	1,283.8	1,249.9	33.89	37.883	
6,850.0	6,605.5	7,021.6	6,752.8	17.3	24.8	97.16		-429.7	-1,064.6	1,284.5	1,249.7	34.86	36.845	
6,900.0	6,619.1	7,084.9	6,776.0	17.9	25.1	97.39		-488.6	-1,065.2	1,285.2	1,249.2	35.93	35.768	
6,950.0	6,629.6	7,148.8	6,794.4	18.5	25.5	97.58		-549.8	-1,065.7	1,285.7	1,248.6	37.09	34.667	
7,000.0	6,636.8	7,213.2	6,807.7	19.1	26.0	97.73		-612.7	-1,066.3	1,286.1	1,247.8	38.33	33.552	
7,050.0	6,640.8	7,273.8	6,815.4	19.7	26.5	97.83		-672.8	-1,066.9	1,286.5	1,246.9	39.60	32.485	
7,102.1	6,641.5	7,325.7	6,820.9	20.4	27.0	97.99		-724.4	-1,067.4	1,287.1	1,246.3	40.83	31.521	
7,200.0	6,639.4	7,440.5	6,827.9	21.7	28.1	98.41		-839.0	-1,068.4	1,288.3	1,244.7	43.62	29.532	
7,300.0	6,637.3	7,543.8	6,827.5	23.2	29.2	98.49		-942.3	-1,069.4	1,288.5	1,242.0	46.50	27.711	
7,400.0	6,635.2	7,643.8	6,826.9	24.7	30.4	98.56		-1,042.2	-1,070.3	1,288.8	1,239.3	49.45	26.060	
7,500.0	6,633.1	7,743.8	6,826.4	26.3	31.7	98.62		-1,142.2	-1,071.2	1,289.0	1,236.5	52.51	24.546	
7,600.0	6,631.0	7,843.8	6,825.8	27.9	33.0	98.69		-1,242.2	-1,072.1	1,289.2	1,233.6	55.66	23.162	
7,700.0	6,628.8	7,943.8	6,825.2	29.6	34.4	98.76		-1,342.2	-1,073.0	1,289.5	1,230.6	58.88	21.899	
7,800.0	6,626.7	8,043.8	6,824.7	31.2	35.8	98.83		-1,442.2	-1,074.0	1,289.7	1,227.5	62.17	20.746	
7,900.0	6,624.6	8,143.8	6,824.1	32.9	37.3	98.89		-1,542.1	-1,074.9	1,289.9	1,224.4	65.50	19.693	
8,000.0	6,622.5	8,243.7	6,823.5	34.7	38.9	98.96		-1,642.1	-1,075.8	1,290.2	1,221.3	68.88	18.730	
8,100.0	6,620.4	8,343.7	6,823.0	36.4	40.4	99.03		-1,742.1	-1,076.7	1,290.4	1,218.1	72.30	17.848	
8,200.0	6,618.3	8,443.7	6,822.4	38.2	42.0	99.10		-1,842.1	-1,077.6	1,290.7	1,214.9	75.75	17.038	
8,300.0	6,616.2	8,543.7	6,821.8	40.0	43.6	99.17		-1,942.1	-1,078.6	1,290.9	1,211.7	79.23	16.293	
8,400.0	6,614.1	8,643.7	6,821.2	41.7	45.3	99.23		-2,042.1	-1,079.5	1,291.2	1,208.4	82.74	15.606	
8,500.0	6,611.9	8,743.7	6,820.7	43.5	47.0	99.30		-2,142.0	-1,080.4	1,291.4	1,205.1	86.26	14.971	
8,600.0	6,609.8	8,843.7	6,820.1	45.4	48.6	99.37		-2,242.0	-1,081.3	1,291.6	1,201.8	89.81	14.383	
8,700.0	6,607.7	8,943.7	6,819.5	47.2	50.3	99.43		-2,342.0	-1,082.2	1,291.9	1,198.5	93.37	13.837	
8,800.0	6,605.6	9,043.6	6,819.0	49.0	52.1	99.50		-2,442.0	-1,083.2	1,292.2	1,195.2	96.94	13.329	

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 Guttersen 6U-203
Project:	SEC.6-T2N-R63W	TVD Reference:	WELL @ 4851.0ft (RKB - 15')
Reference Site:	Guttersen 6R-403 Pad Sec.6-T2N-R63W	MD Reference:	WELL @ 4851.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Guttersen 6U-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 #1 (5-31-13)	Offset TVD Reference:	Offset Datum

Offset Design Guttersen 6R-403 Pad Sec.6-T2N-R63W - Guttersen 6R-403 - Wellbore #1 - Plan #1 (5-31-13)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
8,900.0	6,603.5	9,143.6	6,818.4	50.8	53.8	99.57	-2,542.0	-1,084.1	1,292.4	1,191.9	100.53	12.856		
9,000.0	6,601.4	9,243.6	6,817.8	52.7	55.5	99.64	-2,642.0	-1,085.0	1,292.7	1,188.5	104.13	12.414		
9,100.0	6,599.3	9,343.6	6,817.2	54.5	57.3	99.70	-2,741.9	-1,085.9	1,292.9	1,185.2	107.74	12.001		
9,200.0	6,597.2	9,443.6	6,816.7	56.4	59.1	99.77	-2,841.9	-1,086.8	1,293.2	1,181.8	111.36	11.613		
9,300.0	6,595.1	9,543.6	6,816.1	58.2	60.8	99.84	-2,941.9	-1,087.8	1,293.5	1,178.5	114.98	11.249		
9,400.0	6,592.9	9,643.6	6,815.5	60.1	62.6	99.91	-3,041.9	-1,088.7	1,293.7	1,175.1	118.62	10.907		
9,500.0	6,590.8	9,743.6	6,815.0	61.9	64.4	99.97	-3,141.9	-1,089.6	1,294.0	1,171.7	122.26	10.584		
9,600.0	6,588.7	9,843.6	6,814.4	63.8	66.2	100.04	-3,241.8	-1,090.5	1,294.2	1,168.3	125.90	10.280		
9,700.0	6,586.6	9,943.5	6,813.8	65.6	68.0	100.11	-3,341.8	-1,091.4	1,294.5	1,165.0	129.55	9.992		
9,800.0	6,584.5	10,043.5	6,813.2	67.5	69.8	100.17	-3,441.8	-1,092.4	1,294.8	1,161.6	133.20	9.720		
9,900.0	6,582.4	10,143.5	6,812.7	69.4	71.6	100.24	-3,541.8	-1,093.3	1,295.1	1,158.2	136.86	9.463		
10,000.0	6,580.3	10,243.5	6,812.1	71.3	73.5	100.31	-3,641.8	-1,094.2	1,295.3	1,154.8	140.52	9.218		
10,100.0	6,578.2	10,343.5	6,811.5	73.1	75.3	100.38	-3,741.8	-1,095.1	1,295.6	1,151.4	144.19	8.986		
10,200.0	6,576.1	10,443.5	6,811.0	75.0	77.1	100.44	-3,841.7	-1,096.0	1,295.9	1,148.0	147.86	8.765		
10,300.0	6,573.9	10,543.5	6,810.4	76.9	78.9	100.51	-3,941.7	-1,096.9	1,296.2	1,144.6	151.52	8.554		
10,400.0	6,571.8	10,643.5	6,809.8	78.8	80.8	100.58	-4,041.7	-1,097.9	1,296.5	1,141.3	155.20	8.354		
10,500.0	6,569.7	10,743.4	6,809.2	80.7	82.6	100.64	-4,141.7	-1,098.8	1,296.7	1,137.9	158.87	8.162		
10,600.0	6,567.6	10,843.4	6,808.7	82.5	84.5	100.71	-4,241.7	-1,099.7	1,297.0	1,134.5	162.55	7.979		
10,700.0	6,565.5	10,943.4	6,808.1	84.4	86.3	100.78	-4,341.7	-1,100.6	1,297.3	1,131.1	166.22	7.805		
10,800.0	6,563.4	11,043.4	6,807.5	86.3	88.2	100.84	-4,441.6	-1,101.5	1,297.6	1,127.7	169.90	7.637		
10,900.0	6,561.3	11,143.4	6,807.0	88.2	90.0	100.91	-4,541.6	-1,102.5	1,297.9	1,124.3	173.58	7.477		
11,000.0	6,559.2	11,243.4	6,806.4	90.1	91.9	100.98	-4,641.6	-1,103.4	1,298.2	1,120.9	177.26	7.324		
11,054.8	6,558.0	11,298.2	6,806.1	91.1	92.9	101.01	-4,696.4	-1,103.9	1,298.3	1,119.1	179.28	7.242 SF		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Guttersen 6U-203
Project:	SEC.6-T2N-R63W	TVD Reference:	WELL @ 4851.0ft (RKB - 15')
Reference Site:	Guttersen 6R-403 Pad Sec.6-T2N-R63W	MD Reference:	WELL @ 4851.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Guttersen 6U-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 #1 (5-31-13)	Offset TVD Reference:	Offset Datum

Offset Design Guttersen 6R-403 Pad Sec.6-T2N-R63W - Guttersen 6U-443 - Wellbore #1 - Plan #1 (5-31-13)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-90.01	0.0	-30.7	30.7					
100.0	100.0	100.0	100.0	0.1	0.1	-90.01	0.0	-30.7	30.7	30.5	0.22	136.762		
200.0	200.0	200.0	200.0	0.3	0.3	-90.01	0.0	-30.7	30.7	30.1	0.67	45.587		
300.0	300.0	300.0	300.0	0.6	0.6	-90.01	0.0	-30.7	30.7	29.6	1.12	27.352		
400.0	400.0	400.0	400.0	0.8	0.8	-90.01	0.0	-30.7	30.7	29.2	1.57	19.537		
500.0	500.0	500.0	500.0	1.0	1.0	-90.01	0.0	-30.7	30.7	28.7	2.02	15.196		
600.0	600.0	600.0	600.0	1.2	1.2	-90.01	0.0	-30.7	30.7	28.3	2.47	12.433		
700.0	700.0	700.0	700.0	1.5	1.5	-90.01	0.0	-30.7	30.7	27.8	2.92	10.520		
800.0	800.0	800.0	800.0	1.7	1.7	-90.01	0.0	-30.7	30.7	27.4	3.37	9.117		
900.0	900.0	900.0	900.0	1.9	1.9	-90.01	0.0	-30.7	30.7	26.9	3.82	8.045		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-90.01	0.0	-30.7	30.7	26.5	4.27	7.198 CC, ES		
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.4	-173.61	0.0	-30.7	32.0	27.3	4.71	6.807		
1,200.0	1,199.9	1,199.9	1,199.9	2.6	2.6	-174.30	0.0	-30.7	35.9	30.8	5.13	7.003		
1,304.7	1,304.4	1,304.4	1,304.4	2.8	2.8	-175.21	0.0	-30.7	42.8	37.2	5.58	7.677		
1,400.0	1,399.4	1,399.4	1,399.4	3.0	3.0	-175.93	0.0	-30.7	50.4	44.4	5.99	8.412		
1,500.0	1,499.1	1,499.1	1,499.1	3.2	3.3	-176.49	0.0	-30.7	58.4	51.9	6.43	9.078		
1,600.0	1,598.7	1,598.7	1,598.7	3.5	3.5	-176.91	0.0	-30.7	66.3	59.4	6.87	9.656		
1,700.0	1,698.4	1,698.4	1,698.4	3.7	3.7	-177.24	0.0	-30.7	74.3	67.0	7.31	10.163		
1,800.0	1,798.1	1,798.1	1,798.1	4.0	3.9	-177.51	0.0	-30.7	82.2	74.5	7.75	10.610		
1,900.0	1,897.8	1,897.8	1,897.8	4.2	4.2	-177.73	0.0	-30.7	90.2	82.0	8.19	11.007		
2,000.0	1,997.5	1,997.5	1,997.5	4.5	4.4	-177.91	0.0	-30.7	98.2	89.5	8.64	11.361		
2,100.0	2,097.1	2,097.1	2,097.1	4.7	4.6	-178.07	0.0	-30.7	106.1	97.0	9.09	11.680		
2,200.0	2,196.8	2,196.8	2,196.8	5.0	4.8	-178.20	0.0	-30.7	114.1	104.5	9.53	11.968		
2,300.0	2,296.5	2,296.5	2,296.5	5.2	5.0	-178.32	0.0	-30.7	122.0	112.1	9.98	12.229		
2,400.0	2,396.2	2,396.2	2,396.2	5.5	5.3	-178.42	0.0	-30.7	130.0	119.6	10.43	12.467		
2,500.0	2,495.9	2,495.9	2,495.9	5.7	5.5	-178.52	0.0	-30.7	138.0	127.1	10.88	12.685		
2,600.0	2,595.6	2,595.6	2,595.6	6.0	5.7	-178.60	0.0	-30.7	145.9	134.6	11.33	12.885		
2,700.0	2,695.2	2,695.2	2,695.2	6.3	5.9	-178.67	0.0	-30.7	153.9	142.1	11.78	13.069		
2,800.0	2,794.9	2,794.9	2,794.9	6.5	6.2	-178.73	0.0	-30.7	161.9	149.6	12.23	13.239		
2,900.0	2,894.6	2,894.6	2,894.6	6.8	6.4	-178.79	0.0	-30.7	169.8	157.2	12.68	13.397		
3,000.0	2,994.3	2,994.3	2,994.3	7.0	6.6	-178.85	0.0	-30.7	177.8	164.7	13.13	13.543		
3,100.0	3,094.0	3,089.9	3,089.9	7.3	6.8	-178.76	0.3	-31.7	186.8	173.2	13.56	13.772		
3,200.0	3,193.6	3,184.9	3,184.8	7.6	7.0	-178.41	1.4	-35.0	198.0	184.1	13.99	14.159		
3,300.0	3,293.3	3,279.3	3,279.1	7.8	7.2	-177.85	3.2	-40.4	211.6	197.2	14.41	14.681		
3,400.0	3,393.0	3,373.5	3,372.9	8.1	7.4	-177.13	5.7	-48.1	227.4	212.5	14.84	15.326		
3,500.0	3,492.7	3,472.0	3,471.0	8.4	7.6	-176.38	8.6	-57.0	244.1	228.9	15.27	15.990		
3,600.0	3,592.4	3,570.6	3,569.1	8.6	7.9	-175.73	11.6	-65.9	260.9	245.2	15.70	16.618		
3,703.6	3,695.6	3,672.6	3,670.7	8.9	8.1	-175.14	14.6	-75.2	278.4	262.2	16.15	17.233		
3,800.0	3,791.8	3,767.8	3,765.4	9.1	8.3	-174.65	17.5	-83.8	293.4	276.9	16.57	17.711		
3,900.0	3,891.7	3,869.3	3,866.4	9.3	8.6	-174.14	20.4	-92.9	306.4	289.5	16.97	18.059		
4,008.3	4,000.0	3,986.2	3,983.0	9.5	8.8	-90.35	23.1	-100.9	315.3	298.0	17.39	18.134		
4,100.0	4,091.7	4,085.6	4,082.4	9.7	9.0	-90.10	24.4	-105.0	319.2	301.4	17.76	17.970		
4,200.0	4,191.7	4,194.3	4,191.0	9.9	9.2	-90.00	25.0	-106.7	320.7	302.6	18.17	17.653		
4,300.0	4,291.7	4,295.0	4,291.7	10.1	9.4	-90.00	25.0	-106.7	320.7	302.2	18.58	17.264		
4,400.0	4,391.7	4,395.0	4,391.7	10.3	9.6	-90.00	25.0	-106.7	320.7	301.7	19.01	16.872		
4,500.0	4,491.7	4,495.0	4,491.7	10.5	9.8	-90.00	25.0	-106.7	320.7	301.3	19.44	16.495		
4,600.0	4,591.7	4,595.0	4,591.7	10.7	10.0	-90.00	25.0	-106.7	320.7	300.9	19.88	16.135		
4,700.0	4,691.7	4,695.0	4,691.7	10.9	10.3	-90.00	25.0	-106.7	320.7	300.4	20.31	15.789		
4,800.0	4,791.7	4,795.0	4,791.7	11.1	10.5	-90.00	25.0	-106.7	320.7	300.0	20.75	15.458		
4,900.0	4,891.7	4,895.0	4,891.7	11.3	10.7	-90.00	25.0	-106.7	320.7	299.6	21.19	15.140		
5,000.0	4,991.7	4,995.0	4,991.7	11.5	10.9	-90.00	25.0	-106.7	320.7	299.1	21.62	14.834		

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 Guttersen 6U-203
Project:	SEC.6-T2N-R63W	TVD Reference:	WELL @ 4851.0ft (RKB - 15')
Reference Site:	Guttersen 6R-403 Pad Sec.6-T2N-R63W	MD Reference:	WELL @ 4851.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Guttersen 6U-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 #1 (5-31-13)	Offset TVD Reference:	Offset Datum

Offset Design Guttersen 6R-403 Pad Sec.6-T2N-R63W - Guttersen 6U-443 - Wellbore #1 - Plan #1 (5-31-13)													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	5,091.7	5,095.0	5,091.7	11.7	11.2	-90.00		25.0	-106.7	320.7	298.7	22.06	14.540	
5,200.0	5,191.7	5,195.0	5,191.7	11.9	11.4	-90.00		25.0	-106.7	320.7	298.2	22.50	14.257	
5,300.0	5,291.7	5,295.0	5,291.7	12.1	11.6	-90.00		25.0	-106.7	320.7	297.8	22.94	13.985	
5,400.0	5,391.7	5,395.0	5,391.7	12.3	11.8	-90.00		25.0	-106.7	320.7	297.4	23.37	13.722	
5,500.0	5,491.7	5,495.0	5,491.7	12.5	12.0	-90.00		25.0	-106.7	320.7	296.9	23.81	13.469	
5,600.0	5,591.7	5,595.0	5,591.7	12.7	12.3	-90.00		25.0	-106.7	320.7	296.5	24.25	13.225	
5,700.0	5,691.7	5,695.0	5,691.7	12.9	12.5	-90.00		25.0	-106.7	320.7	296.0	24.69	12.990	
5,800.0	5,791.7	5,795.0	5,791.7	13.1	12.7	-90.00		25.0	-106.7	320.7	295.6	25.13	12.762	
5,886.0	5,877.7	5,881.0	5,877.7	13.3	12.9	-90.00		25.0	-106.7	320.7	295.2	25.51	12.573	
5,900.0	5,891.7	5,895.0	5,891.7	13.3	12.9	89.50		25.0	-106.7	320.7	295.2	25.57	12.543	
5,950.0	5,941.7	5,944.9	5,941.7	13.4	13.0	89.95		25.0	-106.7	320.7	295.0	25.77	12.444	
5,953.2	5,944.8	5,948.1	5,944.8	13.4	13.1	90.00		25.0	-106.7	320.7	294.9	25.79	12.438	
6,000.0	5,991.3	5,994.6	5,991.3	13.5	13.2	90.98		25.0	-106.7	320.8	294.8	25.97	12.351	
6,050.0	6,040.5	6,043.7	6,040.5	13.6	13.3	92.54		25.0	-106.7	321.1	294.9	26.17	12.269	
6,100.0	6,088.9	6,093.4	6,090.2	13.7	13.4	94.51		24.2	-106.7	321.8	295.4	26.35	12.210	
6,150.0	6,136.5	6,144.2	6,140.8	13.8	13.5	96.50		20.1	-106.8	322.9	296.4	26.52	12.176	
6,200.0	6,183.0	6,195.8	6,191.8	13.9	13.6	98.46		12.5	-106.8	324.4	297.8	26.68	12.162	
6,250.0	6,228.1	6,248.3	6,243.1	14.0	13.6	100.39		1.3	-106.9	326.3	299.5	26.83	12.164	
6,300.0	6,271.8	6,301.7	6,294.3	14.1	13.7	102.27		-13.7	-107.1	328.6	301.6	26.98	12.180	
6,350.0	6,313.7	6,355.9	6,345.1	14.2	13.8	104.08		-32.6	-107.2	331.1	304.0	27.13	12.207	
6,400.0	6,353.8	6,411.1	6,395.4	14.4	13.9	105.83		-55.4	-107.4	333.9	306.6	27.28	12.239	
6,450.0	6,391.9	6,467.3	6,444.7	14.5	14.0	107.50		-82.3	-107.7	336.9	309.4	27.45	12.271	
6,500.0	6,427.7	6,524.4	6,492.6	14.7	14.2	109.08		-113.3	-107.9	340.0	312.3	27.65	12.296	
6,550.0	6,461.2	6,582.5	6,538.9	15.0	14.4	110.57		-148.4	-108.3	343.2	315.3	27.89	12.306	
6,600.0	6,492.2	6,641.6	6,583.0	15.3	14.6	111.95		-187.6	-108.6	346.4	318.2	28.17	12.295	
6,650.0	6,520.6	6,701.5	6,624.6	15.6	14.8	113.22		-230.7	-109.0	349.5	321.0	28.53	12.254	
6,700.0	6,546.2	6,762.3	6,663.2	16.0	15.2	114.38		-277.7	-109.4	352.6	323.6	28.96	12.173	
6,750.0	6,568.9	6,824.0	6,698.5	16.4	15.6	115.41		-328.3	-109.8	355.4	325.9	29.49	12.051	
6,800.0	6,588.7	6,886.5	6,729.8	16.8	16.1	116.31		-382.3	-110.3	358.0	327.9	30.13	11.883	
6,850.0	6,605.5	6,949.6	6,757.0	17.3	16.6	117.08		-439.3	-110.8	360.3	329.4	30.88	11.670	
6,900.0	6,619.1	7,013.3	6,779.5	17.9	17.2	117.72		-498.9	-111.3	362.3	330.5	31.75	11.409	
6,950.0	6,629.6	7,077.6	6,797.1	18.5	17.9	118.22		-560.7	-111.9	363.8	331.1	32.75	11.109	
7,000.0	6,636.8	7,142.2	6,809.5	19.1	18.7	118.58		-624.1	-112.4	364.9	331.1	33.87	10.776	
7,050.0	6,640.8	7,200.3	6,816.4	19.7	19.4	118.81		-681.7	-112.9	365.8	330.8	35.02	10.446	
7,102.1	6,641.5	7,252.3	6,821.8	20.4	20.1	119.32		-733.4	-113.4	368.1	332.0	36.12	10.191	
7,200.0	6,639.4	7,368.7	6,828.0	21.7	21.7	120.48		-849.7	-114.4	371.7	333.3	38.40	9.680	
7,300.0	6,637.3	7,470.2	6,827.5	23.2	23.1	120.70		-951.2	-115.3	372.5	331.6	40.92	9.103	
7,400.0	6,635.2	7,570.2	6,826.9	24.7	24.6	120.91		-1,051.2	-116.1	373.2	329.7	43.51	8.577	
7,500.0	6,633.1	7,670.2	6,826.3	26.3	26.2	121.11		-1,151.1	-117.0	374.0	327.8	46.19	8.096	
7,600.0	6,631.0	7,770.2	6,825.7	27.9	27.8	121.32		-1,251.1	-117.9	374.7	325.8	48.94	7.657	
7,700.0	6,628.8	7,870.2	6,825.2	29.6	29.5	121.52		-1,351.1	-118.8	375.5	323.8	51.74	7.258	
7,800.0	6,626.7	7,970.2	6,824.6	31.2	31.1	121.72		-1,451.1	-119.6	376.3	321.7	54.58	6.894	
7,900.0	6,624.6	8,070.2	6,824.0	32.9	32.8	121.93		-1,551.1	-120.5	377.1	319.6	57.46	6.562	
8,000.0	6,622.5	8,170.2	6,823.5	34.7	34.6	122.13		-1,651.0	-121.4	377.8	317.5	60.36	6.259	
8,100.0	6,620.4	8,270.1	6,822.9	36.4	36.3	122.33		-1,751.0	-122.3	378.6	315.3	63.29	5.982	
8,200.0	6,618.3	8,370.1	6,822.3	38.2	38.1	122.53		-1,851.0	-123.1	379.4	313.2	66.24	5.728	
8,300.0	6,616.2	8,470.1	6,821.7	40.0	39.8	122.73		-1,951.0	-124.0	380.2	311.0	69.19	5.495	
8,400.0	6,614.1	8,570.1	6,821.2	41.7	41.6	122.93		-2,051.0	-124.9	381.0	308.8	72.16	5.280	
8,500.0	6,611.9	8,670.1	6,820.6	43.5	43.4	123.12		-2,151.0	-125.8	381.8	306.7	75.14	5.081	
8,600.0	6,609.8	8,770.1	6,820.0	45.4	45.2	123.32		-2,250.9	-126.6	382.6	304.5	78.12	4.898	
8,700.0	6,607.7	8,870.1	6,819.5	47.2	47.1	123.52		-2,350.9	-127.5	383.4	302.3	81.10	4.728	

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

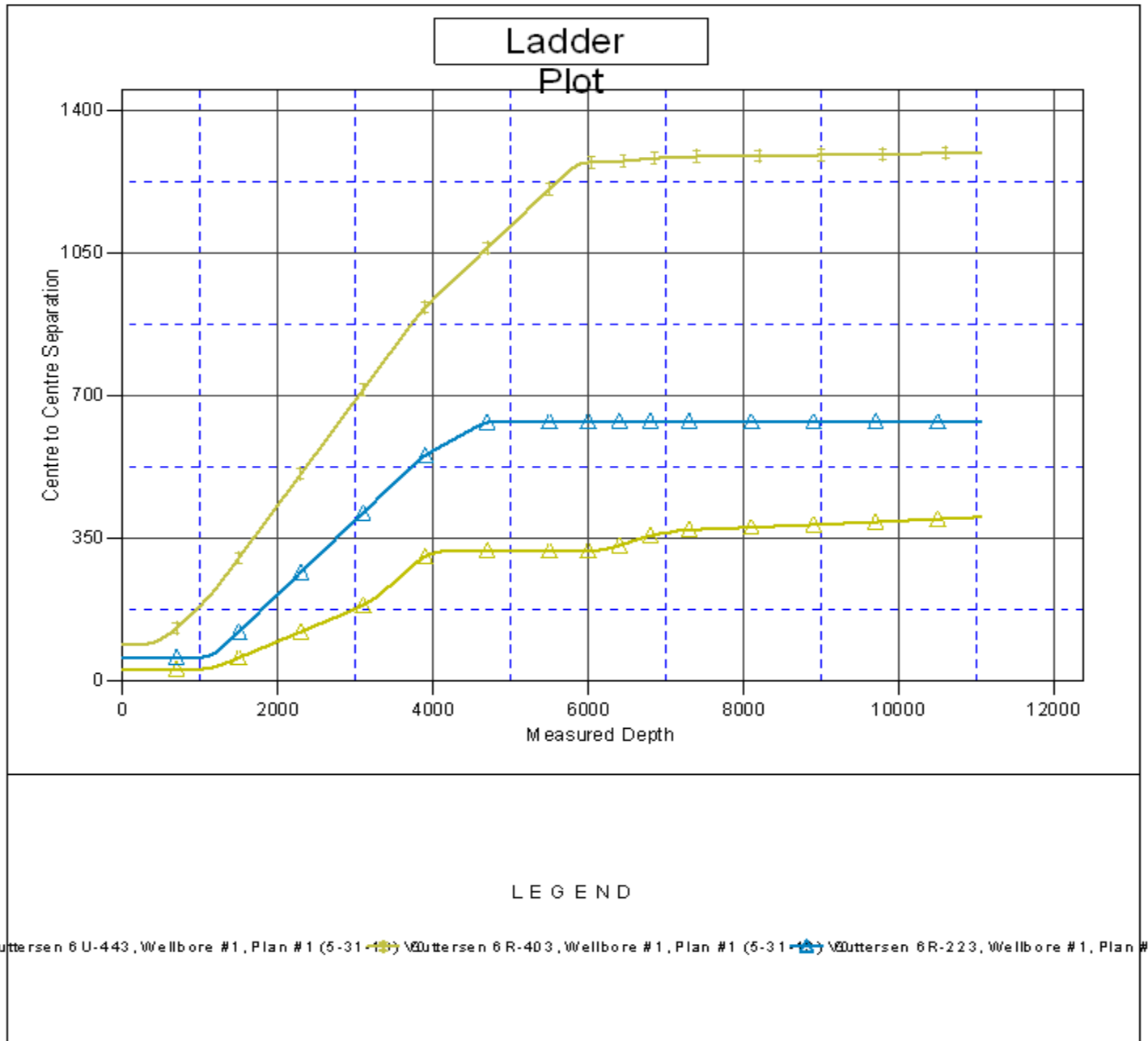
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Guttersen 6U-203
Project:	SEC.6-T2N-R63W	TVD Reference:	WELL @ 4851.0ft (RKB - 15')
Reference Site:	Guttersen 6R-403 Pad Sec.6-T2N-R63W	MD Reference:	WELL @ 4851.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Guttersen 6U-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 #1 (5-31-13)	Offset TVD Reference:	Offset Datum

Offset Design Guttersen 6R-403 Pad Sec.6-T2N-R63W - Guttersen 6U-443 - Wellbore #1 - Plan #1 (5-31-13)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
8,800.0	6,605.6	8,970.1	6,818.9	49.0	48.9	123.71	-2,450.9	-128.4	384.2	300.2	84.09	4.570		
8,900.0	6,603.5	9,070.1	6,818.3	50.8	50.7	123.91	-2,550.9	-129.3	385.1	298.0	87.07	4.422		
9,000.0	6,601.4	9,170.0	6,817.7	52.7	52.5	124.10	-2,650.9	-130.1	385.9	295.8	90.05	4.285		
9,100.0	6,599.3	9,270.0	6,817.2	54.5	54.4	124.29	-2,750.9	-131.0	386.7	293.7	93.04	4.157		
9,200.0	6,597.2	9,370.0	6,816.6	56.4	56.2	124.48	-2,850.8	-131.9	387.5	291.5	96.01	4.036		
9,300.0	6,595.1	9,470.0	6,816.0	58.2	58.1	124.68	-2,950.8	-132.8	388.4	289.4	98.99	3.924		
9,400.0	6,592.9	9,570.0	6,815.5	60.1	59.9	124.87	-3,050.8	-133.6	389.2	287.3	101.96	3.818		
9,500.0	6,590.8	9,670.0	6,814.9	61.9	61.8	125.06	-3,150.8	-134.5	390.1	285.2	104.92	3.718		
9,600.0	6,588.7	9,770.0	6,814.3	63.8	63.7	125.24	-3,250.8	-135.4	390.9	283.0	107.88	3.624		
9,700.0	6,586.6	9,870.0	6,813.7	65.6	65.5	125.43	-3,350.8	-136.3	391.8	280.9	110.83	3.535		
9,800.0	6,584.5	9,969.9	6,813.2	67.5	67.4	125.62	-3,450.7	-137.1	392.6	278.9	113.77	3.451		
9,900.0	6,582.4	10,069.9	6,812.6	69.4	69.3	125.80	-3,550.7	-138.0	393.5	276.8	116.71	3.372		
10,000.0	6,580.3	10,169.9	6,812.0	71.3	71.1	125.99	-3,650.7	-138.9	394.4	274.7	119.64	3.296		
10,100.0	6,578.2	10,269.9	6,811.5	73.1	73.0	126.17	-3,750.7	-139.8	395.2	272.7	122.56	3.225		
10,200.0	6,576.1	10,369.9	6,810.9	75.0	74.9	126.36	-3,850.7	-140.6	396.1	270.6	125.47	3.157		
10,300.0	6,573.9	10,469.9	6,810.3	76.9	76.8	126.54	-3,950.7	-141.5	397.0	268.6	128.38	3.092		
10,400.0	6,571.8	10,569.9	6,809.7	78.8	78.6	126.72	-4,050.6	-142.4	397.9	266.6	131.27	3.031		
10,500.0	6,569.7	10,669.9	6,809.2	80.7	80.5	126.90	-4,150.6	-143.3	398.8	264.6	134.16	2.972		
10,600.0	6,567.6	10,769.8	6,808.6	82.5	82.4	127.08	-4,250.6	-144.1	399.7	262.6	137.04	2.916		
10,700.0	6,565.5	10,869.8	6,808.0	84.4	84.3	127.26	-4,350.6	-145.0	400.6	260.6	139.91	2.863		
10,800.0	6,563.4	10,969.8	6,807.5	86.3	86.2	127.44	-4,450.6	-145.9	401.5	258.7	142.77	2.812		
10,900.0	6,561.3	11,069.8	6,806.9	88.2	88.1	127.62	-4,550.5	-146.8	402.4	256.7	145.62	2.763		
11,000.0	6,559.2	11,169.8	6,806.3	90.1	90.0	127.80	-4,650.5	-147.6	403.3	254.8	148.46	2.716		
11,054.8	6,558.0	11,224.6	6,806.0	91.1	90.9	127.89	-4,705.3	-148.1	403.8	253.8	149.93	2.693 SF		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Guttersen 6U-203
Project:	SEC.6-T2N-R63W	TVD Reference:	WELL @ 4851.0ft (RKB - 15')
Reference Site:	Guttersen 6R-403 Pad Sec.6-T2N-R63W	MD Reference:	WELL @ 4851.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Guttersen 6U-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 #1 (5-31-13)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4851.0ft (RKB - 15')
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Guttersen 6U-203
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.66°



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Guttersen 6U-203
Project:	SEC.6-T2N-R63W	TVD Reference:	WELL @ 4851.0ft (RKB - 15')
Reference Site:	Guttersen 6R-403 Pad Sec.6-T2N-R63W	MD Reference:	WELL @ 4851.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Guttersen 6U-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 #1 (5-31-13)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4851.0ft (RKB - 15')
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Guttersen 6U-203
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.66°

