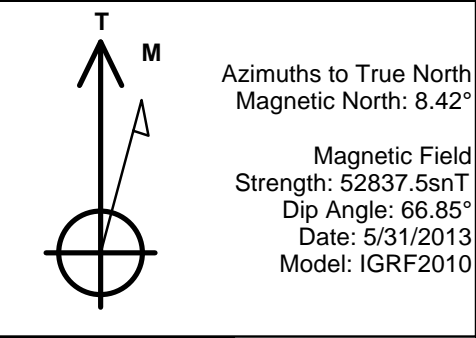


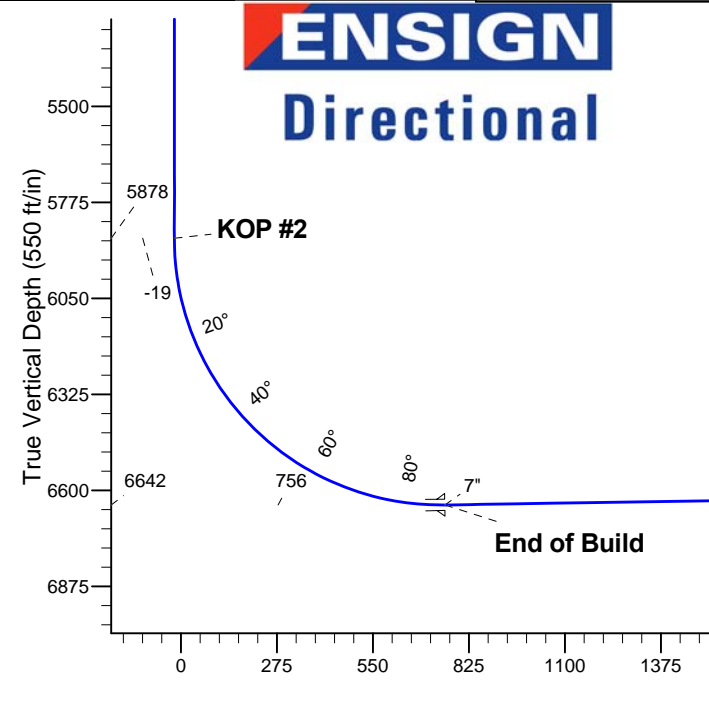
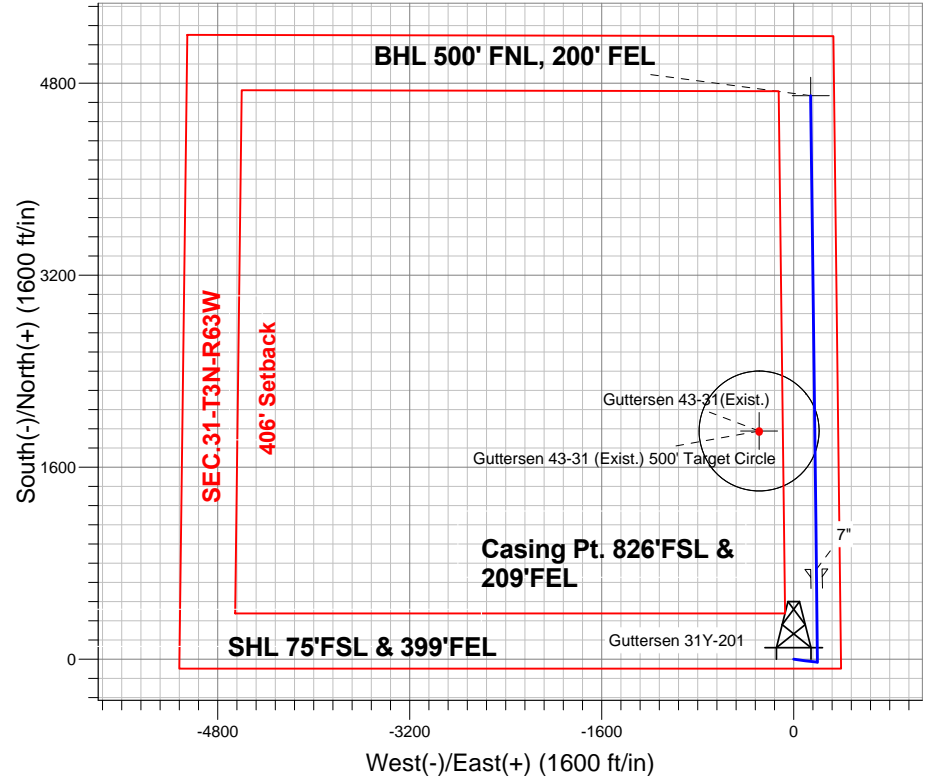
PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Guttersen 31Y-201**  
Surface Location: Guttersen 31Y-201 Pad Sec.31-T3N-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 1308211.96 3287155.18 40.174870 -104.472350  
RKB - 15' WELL @ 4851.0ft (RKB - 15')

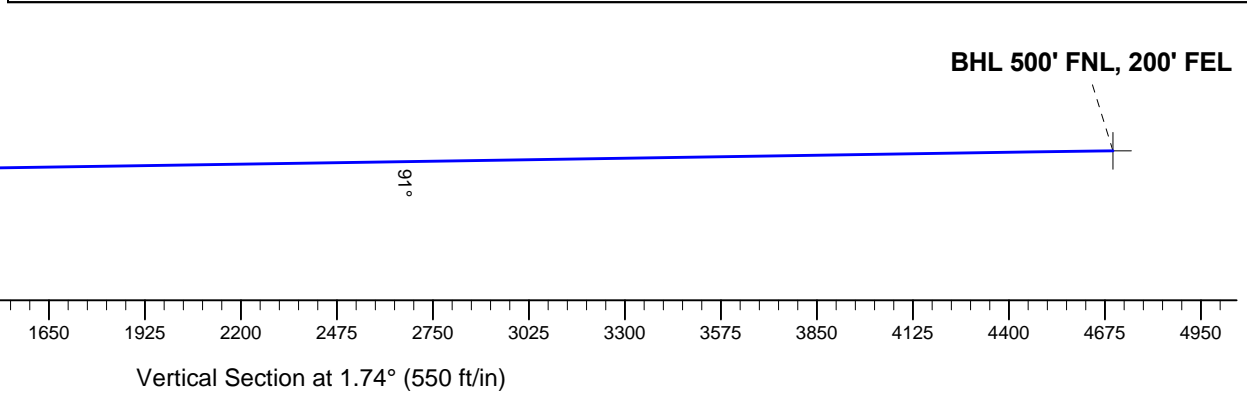
WELLBORE TARGET DETAILS				
Name	TVD	+N/-S	+E/-W	Shape
BHL 500' FNL, 200' FEL	6581.0	4695.8	142.5	Point



Guttersen 31Y-201 Pad Sec.31-T3N-R63W Guttersen 31Y-201 Plan #1 (5-31-13) 13:22, May 31 2013		
ANNOTATIONS		
TVD	MD	Annotation
1000.0	1000.0	KOP #1
5877.8	5884.9	KOP #2
6641.6	7096.6	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	1281.3	4.22	97.16	1281.0	-1.3	10.3	1.50	97.16	-1.0	
4	3725.8	4.22	97.16	3719.0	-23.7	188.7	0.00	0.00	-18.0	
5	4007.1	0.00	0.00	4000.0	-25.0	199.0	1.50	180.00	-19.0	
6	5884.9	0.00	0.00	5877.7	-25.0	199.0	0.00	0.00	-19.0	
7	7096.6	90.88	359.31	6641.6	750.6	189.7	7.50	359.31	756.0	
8	11042.6	90.88	359.31	6581.0	4695.8	142.5	0.00	0.00	4698.0	BHL 500' FNL, 200' FEL





# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.31-T3N-R63W**

**Guttersen 31Y-201 Pad Sec.31-T3N-R63W**

**Guttersen 31Y-201**

**Wellbore #1**

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

## **Standard Planning Report**

**31 May, 2013**

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Guttersen 31Y-201
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Project:</b>	SEC.31-T3N-R63W	<b>MD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Site:</b>	Guttersen 31Y-201 Pad Sec.31-T3N-R63W	<b>North Reference:</b>	True
<b>Well:</b>	Guttersen 31Y-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (5-31-13)		

<b>Project</b>	SEC.31-T3N-R63W, Weld County, Colorado		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site Guttersen 31Y-201 Pad Sec.31-T3N-R63W					
Site Position:		Northing:	1,308,211.98ft	Latitude:	40.174870
From:	Lat/Long	Easting:	3,287,155.18ft	Longitude:	-104.472350
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.66 °

Well	Guttersen 31Y-201					
Well Position	+N/-S	0.0 ft	Northing:	1,308,211.96 ft	Latitude:	40.174870
	+E/-W	0.0 ft	Easting:	3,287,155.18 ft	Longitude:	-104.472350
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,836.0 ft

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

<b>Design</b>	Plan #1 (5-31-13)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	1.74

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,281.3	4.22	97.16	1,281.0	-1.3	10.3	1.50	1.50	0.00	97.16	
3,725.8	4.22	97.16	3,719.0	-23.7	188.7	0.00	0.00	0.00	0.00	
4,007.1	0.00	0.00	4,000.0	-25.0	199.0	1.50	-1.50	0.00	180.00	
5,884.9	0.00	0.00	5,877.7	-25.0	199.0	0.00	0.00	0.00	0.00	
7,096.6	90.88	359.31	6,641.6	750.6	189.7	7.50	7.50	0.00	359.31	
11,042.6	90.88	359.31	6,581.0	4,695.8	142.5	0.00	0.00	0.00	0.00	BHL 500' FNL, 200'

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Guttersen 31Y-201
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Project:</b>	SEC.31-T3N-R63W	<b>MD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Site:</b>	Guttersen 31Y-201 Pad Sec.31-T3N-R63W	<b>North Reference:</b>	True
<b>Well:</b>	Guttersen 31Y-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00
Guttersen 43-31 (Exist.) 500' Target Circle									
14.0	0.00	0.00	14.0	0.0	0.0	0.0	0.00	0.00	0.00
Cuykendall 1-31 (Exist) 500' Target Circle - Guttersen 33-31 (Exist.) 500' Target Circle									
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	97.16	1,040.0	0.0	0.2	0.0	1.50	1.50	0.00
1,080.0	1.20	97.16	1,080.0	-0.1	0.8	-0.1	1.50	1.50	0.00
1,120.0	1.80	97.16	1,120.0	-0.2	1.9	-0.2	1.50	1.50	0.00
1,160.0	2.40	97.16	1,160.0	-0.4	3.3	-0.3	1.50	1.50	0.00
1,200.0	3.00	97.16	1,199.9	-0.7	5.2	-0.5	1.50	1.50	0.00
1,240.0	3.60	97.16	1,239.8	-0.9	7.5	-0.7	1.50	1.50	0.00
1,280.0	4.20	97.16	1,279.7	-1.3	10.2	-1.0	1.50	1.50	0.00
1,281.3	4.22	97.16	1,281.0	-1.3	10.3	-1.0	1.50	1.50	0.00
1,320.0	4.22	97.16	1,319.6	-1.6	13.1	-1.2	0.00	0.00	0.00
1,360.0	4.22	97.16	1,359.5	-2.0	16.0	-1.5	0.00	0.00	0.00
1,400.0	4.22	97.16	1,399.4	-2.4	18.9	-1.8	0.00	0.00	0.00
1,440.0	4.22	97.16	1,439.3	-2.7	21.9	-2.1	0.00	0.00	0.00
1,480.0	4.22	97.16	1,479.2	-3.1	24.8	-2.4	0.00	0.00	0.00
1,520.0	4.22	97.16	1,519.1	-3.5	27.7	-2.6	0.00	0.00	0.00
1,560.0	4.22	97.16	1,559.0	-3.8	30.6	-2.9	0.00	0.00	0.00
1,600.0	4.22	97.16	1,598.9	-4.2	33.5	-3.2	0.00	0.00	0.00
1,640.0	4.22	97.16	1,638.8	-4.6	36.5	-3.5	0.00	0.00	0.00
1,680.0	4.22	97.16	1,678.7	-4.9	39.4	-3.8	0.00	0.00	0.00
1,720.0	4.22	97.16	1,718.6	-5.3	42.3	-4.0	0.00	0.00	0.00
1,760.0	4.22	97.16	1,758.4	-5.7	45.2	-4.3	0.00	0.00	0.00
1,800.0	4.22	97.16	1,798.3	-6.0	48.1	-4.6	0.00	0.00	0.00
1,840.0	4.22	97.16	1,838.2	-6.4	51.1	-4.9	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Guttersen 31Y-201
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<b>Project:</b>	SEC.31-T3N-R63W	<b>MD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Site:</b>	Guttersen 31Y-201 Pad Sec.31-T3N-R63W	<b>North Reference:</b>	True
<b>Well:</b>	Guttersen 31Y-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)
1,880.0	4.22	97.16	1,878.1	-6.8	54.0	-5.1	0.00	0.00	0.00
1,920.0	4.22	97.16	1,918.0	-7.1	56.9	-5.4	0.00	0.00	0.00
1,960.0	4.22	97.16	1,957.9	-7.5	59.8	-5.7	0.00	0.00	0.00
2,000.0	4.22	97.16	1,997.8	-7.9	62.7	-6.0	0.00	0.00	0.00
2,040.0	4.22	97.16	2,037.7	-8.2	65.7	-6.3	0.00	0.00	0.00
2,080.0	4.22	97.16	2,077.6	-8.6	68.6	-6.5	0.00	0.00	0.00
2,120.0	4.22	97.16	2,117.5	-9.0	71.5	-6.8	0.00	0.00	0.00
2,160.0	4.22	97.16	2,157.4	-9.3	74.4	-7.1	0.00	0.00	0.00
2,200.0	4.22	97.16	2,197.3	-9.7	77.3	-7.4	0.00	0.00	0.00
2,240.0	4.22	97.16	2,237.1	-10.1	80.3	-7.6	0.00	0.00	0.00
2,280.0	4.22	97.16	2,277.0	-10.4	83.2	-7.9	0.00	0.00	0.00
2,320.0	4.22	97.16	2,316.9	-10.8	86.1	-8.2	0.00	0.00	0.00
2,360.0	4.22	97.16	2,356.8	-11.2	89.0	-8.5	0.00	0.00	0.00
2,400.0	4.22	97.16	2,396.7	-11.6	91.9	-8.8	0.00	0.00	0.00
2,440.0	4.22	97.16	2,436.6	-11.9	94.9	-9.0	0.00	0.00	0.00
2,480.0	4.22	97.16	2,476.5	-12.3	97.8	-9.3	0.00	0.00	0.00
2,520.0	4.22	97.16	2,516.4	-12.7	100.7	-9.6	0.00	0.00	0.00
2,560.0	4.22	97.16	2,556.3	-13.0	103.6	-9.9	0.00	0.00	0.00
2,600.0	4.22	97.16	2,596.2	-13.4	106.5	-10.1	0.00	0.00	0.00
2,640.0	4.22	97.16	2,636.1	-13.8	109.5	-10.4	0.00	0.00	0.00
2,680.0	4.22	97.16	2,676.0	-14.1	112.4	-10.7	0.00	0.00	0.00
2,720.0	4.22	97.16	2,715.8	-14.5	115.3	-11.0	0.00	0.00	0.00
2,760.0	4.22	97.16	2,755.7	-14.9	118.2	-11.3	0.00	0.00	0.00
2,800.0	4.22	97.16	2,795.6	-15.2	121.1	-11.5	0.00	0.00	0.00
2,840.0	4.22	97.16	2,835.5	-15.6	124.1	-11.8	0.00	0.00	0.00
2,880.0	4.22	97.16	2,875.4	-16.0	127.0	-12.1	0.00	0.00	0.00
2,920.0	4.22	97.16	2,915.3	-16.3	129.9	-12.4	0.00	0.00	0.00
2,960.0	4.22	97.16	2,955.2	-16.7	132.8	-12.6	0.00	0.00	0.00
3,000.0	4.22	97.16	2,995.1	-17.1	135.7	-12.9	0.00	0.00	0.00
3,040.0	4.22	97.16	3,035.0	-17.4	138.7	-13.2	0.00	0.00	0.00
3,080.0	4.22	97.16	3,074.9	-17.8	141.6	-13.5	0.00	0.00	0.00
3,120.0	4.22	97.16	3,114.8	-18.2	144.5	-13.8	0.00	0.00	0.00
3,160.0	4.22	97.16	3,154.7	-18.5	147.4	-14.0	0.00	0.00	0.00
3,200.0	4.22	97.16	3,194.5	-18.9	150.3	-14.3	0.00	0.00	0.00
3,240.0	4.22	97.16	3,234.4	-19.3	153.3	-14.6	0.00	0.00	0.00
3,280.0	4.22	97.16	3,274.3	-19.6	156.2	-14.9	0.00	0.00	0.00
3,320.0	4.22	97.16	3,314.2	-20.0	159.1	-15.2	0.00	0.00	0.00
3,360.0	4.22	97.16	3,354.1	-20.4	162.0	-15.4	0.00	0.00	0.00
3,400.0	4.22	97.16	3,394.0	-20.7	164.9	-15.7	0.00	0.00	0.00
3,440.0	4.22	97.16	3,433.9	-21.1	167.9	-16.0	0.00	0.00	0.00
3,480.0	4.22	97.16	3,473.8	-21.5	170.8	-16.3	0.00	0.00	0.00
3,520.0	4.22	97.16	3,513.7	-21.8	173.7	-16.5	0.00	0.00	0.00
3,560.0	4.22	97.16	3,553.6	-22.2	176.6	-16.8	0.00	0.00	0.00
3,600.0	4.22	97.16	3,593.5	-22.6	179.5	-17.1	0.00	0.00	0.00
3,640.0	4.22	97.16	3,633.4	-22.9	182.5	-17.4	0.00	0.00	0.00
3,680.0	4.22	97.16	3,673.2	-23.3	185.4	-17.7	0.00	0.00	0.00
3,720.0	4.22	97.16	3,713.1	-23.7	188.3	-17.9	0.00	0.00	0.00
3,725.8	4.22	97.16	3,719.0	-23.7	188.7	-18.0	0.00	0.00	0.00
3,760.0	3.71	97.16	3,753.0	-24.0	191.1	-18.2	1.50	-1.50	0.00
3,800.0	3.11	97.16	3,793.0	-24.3	193.4	-18.4	1.50	-1.50	0.00
3,840.0	2.51	97.16	3,832.9	-24.5	195.4	-18.6	1.50	-1.50	0.00
3,880.0	1.91	97.16	3,872.9	-24.7	196.9	-18.8	1.50	-1.50	0.00
3,920.0	1.31	97.16	3,912.9	-24.9	198.0	-18.9	1.50	-1.50	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Guttersen 31Y-201
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Project:</b>	SEC.31-T3N-R63W	<b>MD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Site:</b>	Guttersen 31Y-201 Pad Sec.31-T3N-R63W	<b>North Reference:</b>	True
<b>Well:</b>	Guttersen 31Y-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)
3,960.0	0.71	97.16	3,952.9	-25.0	198.7	-18.9	1.50	-1.50	0.00
4,000.0	0.11	97.16	3,992.9	-25.0	199.0	-19.0	1.50	-1.50	0.00
4,007.1	0.00	0.00	4,000.0	-25.0	199.0	-19.0	1.50	-1.50	0.00
4,040.0	0.00	0.00	4,032.9	-25.0	199.0	-19.0	0.00	0.00	0.00
4,080.0	0.00	0.00	4,072.9	-25.0	199.0	-19.0	0.00	0.00	0.00
4,120.0	0.00	0.00	4,112.9	-25.0	199.0	-19.0	0.00	0.00	0.00
4,160.0	0.00	0.00	4,152.9	-25.0	199.0	-19.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,192.9	-25.0	199.0	-19.0	0.00	0.00	0.00
4,240.0	0.00	0.00	4,232.9	-25.0	199.0	-19.0	0.00	0.00	0.00
4,280.0	0.00	0.00	4,272.9	-25.0	199.0	-19.0	0.00	0.00	0.00
4,320.0	0.00	0.00	4,312.9	-25.0	199.0	-19.0	0.00	0.00	0.00
4,360.0	0.00	0.00	4,352.9	-25.0	199.0	-19.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,392.9	-25.0	199.0	-19.0	0.00	0.00	0.00
4,440.0	0.00	0.00	4,432.9	-25.0	199.0	-19.0	0.00	0.00	0.00
4,480.0	0.00	0.00	4,472.9	-25.0	199.0	-19.0	0.00	0.00	0.00
4,520.0	0.00	0.00	4,512.9	-25.0	199.0	-19.0	0.00	0.00	0.00
4,560.0	0.00	0.00	4,552.9	-25.0	199.0	-19.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,592.9	-25.0	199.0	-19.0	0.00	0.00	0.00
4,640.0	0.00	0.00	4,632.9	-25.0	199.0	-19.0	0.00	0.00	0.00
4,680.0	0.00	0.00	4,672.9	-25.0	199.0	-19.0	0.00	0.00	0.00
4,720.0	0.00	0.00	4,712.9	-25.0	199.0	-19.0	0.00	0.00	0.00
4,760.0	0.00	0.00	4,752.9	-25.0	199.0	-19.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,792.9	-25.0	199.0	-19.0	0.00	0.00	0.00
4,840.0	0.00	0.00	4,832.9	-25.0	199.0	-19.0	0.00	0.00	0.00
4,880.0	0.00	0.00	4,872.9	-25.0	199.0	-19.0	0.00	0.00	0.00
4,920.0	0.00	0.00	4,912.9	-25.0	199.0	-19.0	0.00	0.00	0.00
4,960.0	0.00	0.00	4,952.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,000.0	0.00	0.00	4,992.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,040.0	0.00	0.00	5,032.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,080.0	0.00	0.00	5,072.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,120.0	0.00	0.00	5,112.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,160.0	0.00	0.00	5,152.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,192.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,240.0	0.00	0.00	5,232.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,280.0	0.00	0.00	5,272.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,320.0	0.00	0.00	5,312.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,360.0	0.00	0.00	5,352.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,392.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,440.0	0.00	0.00	5,432.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,480.0	0.00	0.00	5,472.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,520.0	0.00	0.00	5,512.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,560.0	0.00	0.00	5,552.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,592.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,640.0	0.00	0.00	5,632.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,680.0	0.00	0.00	5,672.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,720.0	0.00	0.00	5,712.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,760.0	0.00	0.00	5,752.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,792.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,840.0	0.00	0.00	5,832.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,880.0	0.00	0.00	5,872.9	-25.0	199.0	-19.0	0.00	0.00	0.00
5,884.9	0.00	0.00	5,877.8	-25.0	199.0	-19.0	0.00	0.00	0.00
<b>KOP #2</b>									
5,920.0	2.63	359.31	5,912.9	-24.2	199.0	-18.1	7.50	7.50	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Guttersen 31Y-201
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Project:</b>	SEC.31-T3N-R63W	<b>MD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Site:</b>	Guttersen 31Y-201 Pad Sec.31-T3N-R63W	<b>North Reference:</b>	True
<b>Well:</b>	Guttersen 31Y-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)
5,960.0	5.63	359.31	5,952.7	-21.3	199.0	-15.3	7.50	7.50	0.00
6,000.0	8.63	359.31	5,992.4	-16.3	198.9	-10.3	7.50	7.50	0.00
6,040.0	11.63	359.31	6,031.8	-9.3	198.8	-3.3	7.50	7.50	0.00
6,080.0	14.63	359.31	6,070.8	-0.2	198.7	5.8	7.50	7.50	0.00
6,120.0	17.63	359.31	6,109.2	10.9	198.6	16.9	7.50	7.50	0.00
6,160.0	20.63	359.31	6,147.0	24.0	198.4	30.0	7.50	7.50	0.00
6,200.0	23.63	359.31	6,184.0	39.1	198.2	45.1	7.50	7.50	0.00
6,240.0	26.63	359.31	6,220.2	56.1	198.0	62.0	7.50	7.50	0.00
6,280.0	29.63	359.31	6,255.5	74.9	197.8	80.9	7.50	7.50	0.00
6,320.0	32.63	359.31	6,289.7	95.6	197.6	101.5	7.50	7.50	0.00
6,360.0	35.63	359.31	6,322.8	118.0	197.3	124.0	7.50	7.50	0.00
6,400.0	38.63	359.31	6,354.7	142.2	197.0	148.1	7.50	7.50	0.00
6,440.0	41.63	359.31	6,385.3	168.0	196.7	173.8	7.50	7.50	0.00
6,480.0	44.63	359.31	6,414.5	195.3	196.4	201.2	7.50	7.50	0.00
6,520.0	47.63	359.31	6,442.2	224.1	196.0	230.0	7.50	7.50	0.00
6,560.0	50.63	359.31	6,468.4	254.4	195.7	260.2	7.50	7.50	0.00
6,600.0	53.63	359.31	6,492.9	285.9	195.3	291.7	7.50	7.50	0.00
6,640.0	56.63	359.31	6,515.8	318.8	194.9	324.5	7.50	7.50	0.00
6,680.0	59.63	359.31	6,536.9	352.7	194.5	358.5	7.50	7.50	0.00
6,720.0	62.63	359.31	6,556.2	387.7	194.1	393.5	7.50	7.50	0.00
6,760.0	65.63	359.31	6,573.6	423.7	193.6	429.4	7.50	7.50	0.00
6,800.0	68.63	359.31	6,589.2	460.6	193.2	466.2	7.50	7.50	0.00
6,840.0	71.63	359.31	6,602.8	498.2	192.7	503.8	7.50	7.50	0.00
6,880.0	74.63	359.31	6,614.4	536.5	192.3	542.1	7.50	7.50	0.00
6,920.0	77.63	359.31	6,624.0	575.3	191.8	580.8	7.50	7.50	0.00
6,960.0	80.63	359.31	6,631.5	614.6	191.3	620.1	7.50	7.50	0.00
7,000.0	83.63	359.31	6,637.0	654.2	190.9	659.7	7.50	7.50	0.00
7,040.0	86.63	359.31	6,640.4	694.0	190.4	699.5	7.50	7.50	0.00
7,080.0	89.63	359.31	6,641.7	734.0	189.9	739.4	7.50	7.50	0.00
7,096.6	90.88	359.31	6,641.6	750.6	189.7	756.0	7.50	7.50	0.00
End of Build - 7"									
7,120.0	90.88	359.31	6,641.2	774.0	189.4	779.4	0.01	0.01	0.00
7,160.0	90.88	359.31	6,640.6	814.0	189.0	819.3	0.00	0.00	0.00
7,200.0	90.88	359.31	6,640.0	854.0	188.5	859.3	0.00	0.00	0.00
7,240.0	90.88	359.31	6,639.4	894.0	188.0	899.3	0.00	0.00	0.00
7,280.0	90.88	359.31	6,638.8	934.0	187.5	939.2	0.00	0.00	0.00
7,320.0	90.88	359.31	6,638.2	974.0	187.0	979.2	0.00	0.00	0.00
7,360.0	90.88	359.31	6,637.6	1,014.0	186.6	1,019.1	0.00	0.00	0.00
7,400.0	90.88	359.31	6,636.9	1,053.9	186.1	1,059.1	0.00	0.00	0.00
7,440.0	90.88	359.31	6,636.3	1,093.9	185.6	1,099.1	0.00	0.00	0.00
7,480.0	90.88	359.31	6,635.7	1,133.9	185.1	1,139.0	0.00	0.00	0.00
7,520.0	90.88	359.31	6,635.1	1,173.9	184.6	1,179.0	0.00	0.00	0.00
7,560.0	90.88	359.31	6,634.5	1,213.9	184.2	1,218.9	0.00	0.00	0.00
7,600.0	90.88	359.31	6,633.9	1,253.9	183.7	1,258.9	0.00	0.00	0.00
7,640.0	90.88	359.31	6,633.3	1,293.9	183.2	1,298.9	0.00	0.00	0.00
7,680.0	90.88	359.31	6,632.6	1,333.9	182.7	1,338.8	0.00	0.00	0.00
7,720.0	90.88	359.31	6,632.0	1,373.9	182.3	1,378.8	0.00	0.00	0.00
7,760.0	90.88	359.31	6,631.4	1,413.9	181.8	1,418.7	0.00	0.00	0.00
7,800.0	90.88	359.31	6,630.8	1,453.9	181.3	1,458.7	0.00	0.00	0.00
7,840.0	90.88	359.31	6,630.2	1,493.9	180.8	1,498.7	0.00	0.00	0.00
7,880.0	90.88	359.31	6,629.6	1,533.9	180.3	1,538.6	0.00	0.00	0.00
7,920.0	90.88	359.31	6,629.0	1,573.8	179.9	1,578.6	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Guttersen 31Y-201
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Project:</b>	SEC.31-T3N-R63W	<b>MD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Site:</b>	Guttersen 31Y-201 Pad Sec.31-T3N-R63W	<b>North Reference:</b>	True
<b>Well:</b>	Guttersen 31Y-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)
7,960.0	90.88	359.31	6,628.3	1,613.8	179.4	1,618.5	0.00	0.00	0.00
8,000.0	90.88	359.31	6,627.7	1,653.8	178.9	1,658.5	0.00	0.00	0.00
8,040.0	90.88	359.31	6,627.1	1,693.8	178.4	1,698.5	0.00	0.00	0.00
8,080.0	90.88	359.31	6,626.5	1,733.8	177.9	1,738.4	0.00	0.00	0.00
8,120.0	90.88	359.31	6,625.9	1,773.8	177.5	1,778.4	0.00	0.00	0.00
8,160.0	90.88	359.31	6,625.3	1,813.8	177.0	1,818.3	0.00	0.00	0.00
8,200.0	90.88	359.31	6,624.7	1,853.8	176.5	1,858.3	0.00	0.00	0.00
8,240.0	90.88	359.31	6,624.0	1,893.8	176.0	1,898.3	0.00	0.00	0.00
8,280.0	90.88	359.31	6,623.4	1,933.8	175.6	1,938.2	0.00	0.00	0.00
8,320.0	90.88	359.31	6,622.8	1,973.8	175.1	1,978.2	0.00	0.00	0.00
8,360.0	90.88	359.31	6,622.2	2,013.8	174.6	2,018.1	0.00	0.00	0.00
8,400.0	90.88	359.31	6,621.6	2,053.8	174.1	2,058.1	0.00	0.00	0.00
8,440.0	90.88	359.31	6,621.0	2,093.8	173.6	2,098.1	0.00	0.00	0.00
8,480.0	90.88	359.31	6,620.4	2,133.7	173.2	2,138.0	0.00	0.00	0.00
8,520.0	90.88	359.31	6,619.7	2,173.7	172.7	2,178.0	0.00	0.00	0.00
8,560.0	90.88	359.31	6,619.1	2,213.7	172.2	2,217.9	0.00	0.00	0.00
8,600.0	90.88	359.31	6,618.5	2,253.7	171.7	2,257.9	0.00	0.00	0.00
8,640.0	90.88	359.31	6,617.9	2,293.7	171.2	2,297.9	0.00	0.00	0.00
8,680.0	90.88	359.31	6,617.3	2,333.7	170.8	2,337.8	0.00	0.00	0.00
8,720.0	90.88	359.31	6,616.7	2,373.7	170.3	2,377.8	0.00	0.00	0.00
8,760.0	90.88	359.31	6,616.1	2,413.7	169.8	2,417.7	0.00	0.00	0.00
8,800.0	90.88	359.31	6,615.4	2,453.7	169.3	2,457.7	0.00	0.00	0.00
8,840.0	90.88	359.31	6,614.8	2,493.7	168.9	2,497.6	0.00	0.00	0.00
8,880.0	90.88	359.31	6,614.2	2,533.7	168.4	2,537.6	0.00	0.00	0.00
8,920.0	90.88	359.31	6,613.6	2,573.7	167.9	2,577.6	0.00	0.00	0.00
8,960.0	90.88	359.31	6,613.0	2,613.7	167.4	2,617.5	0.00	0.00	0.00
9,000.0	90.88	359.31	6,612.4	2,653.6	166.9	2,657.5	0.00	0.00	0.00
9,040.0	90.88	359.31	6,611.8	2,693.6	166.5	2,697.4	0.00	0.00	0.00
9,080.0	90.88	359.31	6,611.1	2,733.6	166.0	2,737.4	0.00	0.00	0.00
9,120.0	90.88	359.31	6,610.5	2,773.6	165.5	2,777.4	0.00	0.00	0.00
9,160.0	90.88	359.31	6,609.9	2,813.6	165.0	2,817.3	0.00	0.00	0.00
9,200.0	90.88	359.31	6,609.3	2,853.6	164.5	2,857.3	0.00	0.00	0.00
9,240.0	90.88	359.31	6,608.7	2,893.6	164.1	2,897.2	0.00	0.00	0.00
9,280.0	90.88	359.31	6,608.1	2,933.6	163.6	2,937.2	0.00	0.00	0.00
9,320.0	90.88	359.31	6,607.5	2,973.6	163.1	2,977.2	0.00	0.00	0.00
9,360.0	90.88	359.31	6,606.8	3,013.6	162.6	3,017.1	0.00	0.00	0.00
9,400.0	90.88	359.31	6,606.2	3,053.6	162.1	3,057.1	0.00	0.00	0.00
9,440.0	90.88	359.31	6,605.6	3,093.6	161.7	3,097.0	0.00	0.00	0.00
9,480.0	90.88	359.31	6,605.0	3,133.6	161.2	3,137.0	0.00	0.00	0.00
9,520.0	90.88	359.31	6,604.4	3,173.5	160.7	3,177.0	0.00	0.00	0.00
9,560.0	90.88	359.31	6,603.8	3,213.5	160.2	3,216.9	0.00	0.00	0.00
9,600.0	90.88	359.31	6,603.2	3,253.5	159.8	3,256.9	0.00	0.00	0.00
9,640.0	90.88	359.31	6,602.5	3,293.5	159.3	3,296.8	0.00	0.00	0.00
9,680.0	90.88	359.31	6,601.9	3,333.5	158.8	3,336.8	0.00	0.00	0.00
9,720.0	90.88	359.31	6,601.3	3,373.5	158.3	3,376.8	0.00	0.00	0.00
9,760.0	90.88	359.31	6,600.7	3,413.5	157.8	3,416.7	0.00	0.00	0.00
9,800.0	90.88	359.31	6,600.1	3,453.5	157.4	3,456.7	0.00	0.00	0.00
9,840.0	90.88	359.31	6,599.5	3,493.5	156.9	3,496.6	0.00	0.00	0.00
9,880.0	90.88	359.31	6,598.9	3,533.5	156.4	3,536.6	0.00	0.00	0.00
9,920.0	90.88	359.31	6,598.2	3,573.5	155.9	3,576.6	0.00	0.00	0.00
9,960.0	90.88	359.31	6,597.6	3,613.5	155.4	3,616.5	0.00	0.00	0.00
10,000.0	90.88	359.31	6,597.0	3,653.5	155.0	3,656.5	0.00	0.00	0.00
10,040.0	90.88	359.31	6,596.4	3,693.4	154.5	3,696.4	0.00	0.00	0.00



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Guttersen 31Y-201
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Project:</b>	SEC.31-T3N-R63W	<b>MD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Site:</b>	Guttersen 31Y-201 Pad Sec.31-T3N-R63W	<b>North Reference:</b>	True
<b>Well:</b>	Guttersen 31Y-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)
10,080.0	90.88	359.31	6,595.8	3,733.4	154.0	3,736.4	0.00	0.00	0.00
10,120.0	90.88	359.31	6,595.2	3,773.4	153.5	3,776.4	0.00	0.00	0.00
10,160.0	90.88	359.31	6,594.6	3,813.4	153.1	3,816.3	0.00	0.00	0.00
10,200.0	90.88	359.31	6,593.9	3,853.4	152.6	3,856.3	0.00	0.00	0.00
10,240.0	90.88	359.31	6,593.3	3,893.4	152.1	3,896.2	0.00	0.00	0.00
10,280.0	90.88	359.31	6,592.7	3,933.4	151.6	3,936.2	0.00	0.00	0.00
10,320.0	90.88	359.31	6,592.1	3,973.4	151.1	3,976.2	0.00	0.00	0.00
10,360.0	90.88	359.31	6,591.5	4,013.4	150.7	4,016.1	0.00	0.00	0.00
10,400.0	90.88	359.31	6,590.9	4,053.4	150.2	4,056.1	0.00	0.00	0.00
10,440.0	90.88	359.31	6,590.3	4,093.4	149.7	4,096.0	0.00	0.00	0.00
10,480.0	90.88	359.31	6,589.6	4,133.4	149.2	4,136.0	0.00	0.00	0.00
10,520.0	90.88	359.31	6,589.0	4,173.4	148.7	4,175.9	0.00	0.00	0.00
10,560.0	90.88	359.31	6,588.4	4,213.3	148.3	4,215.9	0.00	0.00	0.00
10,600.0	90.88	359.31	6,587.8	4,253.3	147.8	4,255.9	0.00	0.00	0.00
10,640.0	90.88	359.31	6,587.2	4,293.3	147.3	4,295.8	0.00	0.00	0.00
10,680.0	90.88	359.31	6,586.6	4,333.3	146.8	4,335.8	0.00	0.00	0.00
10,720.0	90.88	359.31	6,586.0	4,373.3	146.4	4,375.7	0.00	0.00	0.00
10,760.0	90.88	359.31	6,585.3	4,413.3	145.9	4,415.7	0.00	0.00	0.00
10,800.0	90.88	359.31	6,584.7	4,453.3	145.4	4,455.7	0.00	0.00	0.00
10,840.0	90.88	359.31	6,584.1	4,493.3	144.9	4,495.6	0.00	0.00	0.00
10,880.0	90.88	359.31	6,583.5	4,533.3	144.4	4,535.6	0.00	0.00	0.00
10,920.0	90.88	359.31	6,582.9	4,573.3	144.0	4,575.5	0.00	0.00	0.00
10,960.0	90.88	359.31	6,582.3	4,613.3	143.5	4,615.5	0.00	0.00	0.00
11,000.0	90.88	359.31	6,581.7	4,653.3	143.0	4,655.5	0.00	0.00	0.00
11,040.0	90.88	359.31	6,581.0	4,693.3	142.5	4,695.4	0.00	0.00	0.00
11,042.6	90.88	359.31	6,581.0	4,695.8	142.5	4,698.0	0.00	0.00	0.00
BHL 500' FNL, 200' FEL									

#### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,096.6	6,641.6	7"	7	8-3/4

#### 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
5,884.9	5,877.8	-25.0	199.0	KOP #2
7,096.6	6,641.6	750.6	189.7	End of Build



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.31-T3N-R63W**

**Guttersen 31Y-201 Pad Sec.31-T3N-R63W**

**Guttersen 31Y-201**

**Wellbore #1**

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

## **Anticollision Report**

**31 May, 2013**



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Guttersten 31Y-201
<b>Project:</b>	SEC.31-T3N-R63W	<b>TVD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Reference Site:</b>	Guttersten 31Y-201 Pad Sec.31-T3N-R63W	<b>MD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Guttersten 31Y-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (5-31-13)	<b>Offset TVD Reference:</b>	Reference Datum

Offset Design Guttersten 31Y-201 Pad Sec.31-T3N-R63W - Guttersten 31T-221 - 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)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-90.00	-90.00	0.0	-58.7	58.7				
100.0	100.0	100.0	100.0	0.1	0.1	-90.00	-90.00	0.0	-58.7	58.7	58.5	0.22	261.089	
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	-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	-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	-90.00	0.0	-58.7	58.7	57.1	1.57	37.298	
500.0	500.0	500.0	500.0	1.0	1.0	-90.00	-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	-90.00	0.0	-58.7	58.7	56.2	2.47	23.735	
700.0	700.0	700.0	700.0	1.5	1.5	-90.00	-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	-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	-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	-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	172.88	172.88	-0.1	-60.4	61.7	57.0	4.69	13.165	
1,200.0	1,199.9	1,195.3	1,195.1	2.5	2.5	172.97	172.97	-0.4	-65.3	70.7	65.6	5.08	13.909	
1,281.3	1,281.0	1,273.6	1,273.2	2.7	2.7	173.06	173.06	-0.9	-71.7	82.4	76.9	5.41	15.227	
1,300.0	1,299.7	1,291.5	1,291.0	2.8	2.8	173.08	173.08	-1.0	-73.5	85.6	80.1	5.48	15.598	
1,400.0	1,399.4	1,389.6	1,388.6	3.0	3.0	173.15	173.15	-1.7	-83.8	103.3	97.4	5.90	17.516	
1,500.0	1,499.2	1,488.0	1,486.4	3.2	3.2	173.20	173.20	-2.4	-94.1	121.0	114.7	6.31	19.180	
1,600.0	1,598.9	1,586.4	1,584.3	3.4	3.5	173.23	173.23	-3.1	-104.5	138.8	132.1	6.73	20.621	
1,700.0	1,698.6	1,684.8	1,682.2	3.7	3.7	173.26	173.26	-3.8	-114.8	156.5	149.4	7.16	21.876	
1,800.0	1,798.3	1,783.3	1,780.0	3.9	4.0	173.28	173.28	-4.5	-125.2	174.3	166.7	7.59	22.978	
1,900.0	1,898.1	1,881.7	1,877.9	4.2	4.3	173.30	173.30	-5.2	-135.5	192.1	184.0	8.02	23.949	
2,000.0	1,997.8	1,980.1	1,975.7	4.4	4.5	173.32	173.32	-5.9	-145.9	209.8	201.3	8.46	24.814	
2,100.0	2,097.5	2,078.5	2,073.6	4.7	4.8	173.33	173.33	-6.6	-156.2	227.6	218.7	8.89	25.585	
2,200.0	2,197.3	2,176.9	2,171.5	4.9	5.1	173.34	173.34	-7.3	-166.6	245.3	236.0	9.34	26.277	
2,300.0	2,297.0	2,275.3	2,269.3	5.2	5.4	173.35	173.35	-8.0	-177.0	263.1	253.3	9.78	26.901	
2,400.0	2,396.7	2,373.7	2,367.2	5.4	5.6	173.36	173.36	-8.7	-187.3	280.8	270.6	10.22	27.467	
2,500.0	2,496.4	2,472.1	2,465.1	5.7	5.9	173.36	173.36	-9.4	-197.7	298.6	287.9	10.67	27.981	
2,600.0	2,596.2	2,570.5	2,562.9	5.9	6.2	173.37	173.37	-10.1	-208.0	316.3	305.2	11.12	28.451	
2,700.0	2,695.9	2,669.0	2,660.8	6.2	6.5	173.38	173.38	-10.8	-218.4	334.1	322.5	11.57	28.881	
2,800.0	2,795.6	2,767.4	2,758.6	6.4	6.8	173.38	173.38	-11.5	-228.7	351.8	339.8	12.02	29.276	
2,900.0	2,895.4	2,865.8	2,856.5	6.7	7.1	173.39	173.39	-12.2	-239.1	369.6	357.1	12.47	29.641	
3,000.0	2,995.1	2,964.2	2,954.4	6.9	7.4	173.39	173.39	-12.9	-249.4	387.3	374.4	12.92	29.978	
3,100.0	3,094.8	3,062.6	3,052.2	7.2	7.6	173.39	173.39	-13.6	-259.8	405.1	391.7	13.37	30.291	
3,200.0	3,194.5	3,161.0	3,150.1	7.5	7.9	173.40	173.40	-14.3	-270.1	422.9	409.0	13.83	30.582	
3,300.0	3,294.3	3,259.4	3,248.0	7.7	8.2	173.40	173.40	-15.0	-280.5	440.6	426.3	14.28	30.853	
3,400.0	3,394.0	3,357.8	3,345.8	8.0	8.5	173.40	173.40	-15.7	-290.9	458.4	443.6	14.74	31.106	
3,500.0	3,493.7	3,456.2	3,443.7	8.2	8.8	173.41	173.41	-16.4	-301.2	476.1	460.9	15.19	31.343	
3,600.0	3,593.5	3,554.7	3,541.5	8.5	9.1	173.41	173.41	-17.1	-311.6	493.9	478.2	15.65	31.565	
3,700.0	3,693.2	3,653.1	3,639.4	8.7	9.4	173.41	173.41	-17.8	-321.9	511.6	495.5	16.10	31.774	
3,725.8	3,719.0	3,678.5	3,664.7	8.8	9.5	173.41	173.41	-18.0	-324.6	516.2	500.0	16.22	31.825	
3,800.0	3,793.0	3,751.6	3,737.4	9.0	9.7	173.43	173.43	-18.5	-332.3	528.7	512.1	16.56	31.921	
3,900.0	3,892.9	3,850.5	3,835.8	9.2	10.0	173.41	173.41	-19.2	-342.7	543.2	526.2	16.99	31.967	
4,007.1	4,000.0	3,956.9	3,941.5	9.4	10.3	-89.48	-89.48	-19.9	-353.9	556.0	538.5	17.46	31.851	
4,007.1	4,000.0	3,956.9	3,941.5	9.4	10.3	-89.48	-89.48	-19.9	-353.9	556.0	538.5	17.46	31.851	
4,100.0	4,092.9	4,049.2	4,033.4	9.5	10.6	-89.55	-89.55	-20.6	-363.6	565.8	547.9	17.86	31.681	
4,200.0	4,192.9	4,148.7	4,132.3	9.7	10.9	-89.63	-89.63	-21.3	-374.1	576.3	558.0	18.30	31.498	
4,300.0	4,292.9	4,248.1	4,231.1	9.9	11.2	-89.71	-89.71	-22.0	-384.5	586.8	568.1	18.73	31.322	
4,400.0	4,392.9	4,347.6	4,330.0	10.1	11.5	-89.78	-89.78	-22.7	-395.0	597.3	578.1	19.17	31.152	
4,500.0	4,492.9	4,447.0	4,428.9	10.3	11.8	-89.85	-89.85	-23.4	-405.4	607.8	588.2	19.61	30.988	
4,600.0	4,592.9	4,554.7	4,536.0	10.5	12.1	-89.92	-89.92	-24.2	-416.5	618.1	598.1	20.07	30.806	
4,700.0	4,692.9	4,682.0	4,663.1	10.7	12.3	-89.98	-89.98	-24.8	-425.4	625.1	604.6	20.52	30.467	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Guttersen 31Y-201
<b>Project:</b>	SEC.31-T3N-R63W	<b>TVD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Reference Site:</b>	Guttersen 31Y-201 Pad Sec.31-T3N-R63W	<b>MD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Guttersen 31Y-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (5-31-13)	<b>Offset TVD Reference:</b>	Reference Datum

Offset Design Guttersen 31Y-201 Pad Sec.31-T3N-R63W - Guttersen 31T-221 - 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)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,800.0	4,792.9	4,809.9	4,790.9	10.9	12.5	-90.00	-90.00	-25.0	-428.7	627.7	606.7	20.96	29.952	
4,900.0	4,892.9	4,911.9	4,892.9	11.1	12.7	-90.00	-90.00	-25.0	-428.7	627.7	606.3	21.35	29.398	
5,000.0	4,992.9	5,011.9	4,992.9	11.3	12.9	-90.00	-90.00	-25.0	-428.7	627.7	605.9	21.76	28.842	
5,100.0	5,092.9	5,111.9	5,092.9	11.5	13.1	-90.00	-90.00	-25.0	-428.7	627.7	605.5	22.18	28.305	
5,200.0	5,192.9	5,211.9	5,192.9	11.7	13.2	-90.00	-90.00	-25.0	-428.7	627.7	605.1	22.59	27.785	
5,300.0	5,292.9	5,311.9	5,292.9	11.9	13.4	-90.00	-90.00	-25.0	-428.7	627.7	604.7	23.01	27.283	
5,400.0	5,392.9	5,411.9	5,392.9	12.1	13.6	-90.00	-90.00	-25.0	-428.7	627.7	604.3	23.42	26.798	
5,500.0	5,492.9	5,511.9	5,492.9	12.3	13.8	-90.00	-90.00	-25.0	-428.7	627.7	603.8	23.84	26.328	
5,600.0	5,592.9	5,611.9	5,592.9	12.6	14.0	-90.00	-90.00	-25.0	-428.7	627.7	603.4	24.26	25.873	
5,700.0	5,692.9	5,711.9	5,692.9	12.8	14.2	-90.00	-90.00	-25.0	-428.7	627.7	603.0	24.68	25.432	
5,800.0	5,792.9	5,811.9	5,792.9	13.0	14.3	-90.00	-90.00	-25.0	-428.7	627.7	602.6	25.10	25.005	
5,856.5	5,849.4	5,868.5	5,849.4	13.1	14.4	-90.00	-90.00	-25.0	-428.7	627.7	602.3	25.34	24.770	
5,884.9	5,877.7	5,896.8	5,877.7	13.1	14.5	-90.00	-90.00	-25.0	-428.7	627.7	602.2	25.46	24.653	
5,900.0	5,892.9	5,911.8	5,892.7	13.2	14.5	-89.31	-89.31	-24.9	-428.7	627.7	602.2	25.52	24.594	
5,950.0	5,942.8	5,961.3	5,942.1	13.3	14.6	-89.32	-89.32	-22.3	-428.7	627.7	602.0	25.73	24.394	
6,000.0	5,992.4	6,010.8	5,991.3	13.4	14.7	-89.32	-89.32	-16.5	-428.8	627.7	601.7	25.94	24.202	
6,050.0	6,041.6	6,060.3	6,040.0	13.5	14.8	-89.33	-89.33	-7.5	-428.9	627.7	601.5	26.14	24.015	
6,100.0	6,090.0	6,109.8	6,088.0	13.6	14.9	-89.34	-89.34	4.5	-429.0	627.7	601.3	26.34	23.832	
6,150.0	6,137.6	6,159.3	6,135.1	13.7	15.0	-89.35	-89.35	19.7	-429.2	627.7	601.2	26.54	23.653	
6,200.0	6,184.0	6,208.9	6,181.2	13.8	15.1	-89.37	-89.37	37.9	-429.4	627.7	601.0	26.74	23.477	
6,250.0	6,229.1	6,258.4	6,226.0	13.9	15.2	-89.39	-89.39	59.1	-429.7	627.7	600.8	26.94	23.299	
6,300.0	6,272.7	6,308.0	6,269.3	14.0	15.3	-89.41	-89.41	83.1	-430.0	627.7	600.5	27.15	23.120	
6,350.0	6,314.7	6,357.6	6,311.1	14.1	15.4	-89.43	-89.43	109.8	-430.3	627.7	600.3	27.37	22.936	
6,400.0	6,354.7	6,407.1	6,351.0	14.2	15.5	-89.46	-89.46	139.3	-430.7	627.7	600.1	27.60	22.746	
6,450.0	6,392.7	6,456.8	6,388.9	14.4	15.7	-89.48	-89.48	171.3	-431.1	627.7	599.9	27.84	22.546	
6,459.9	6,400.0	6,466.6	6,396.1	14.4	15.7	-89.49	-89.49	177.9	-431.2	627.7	599.8	27.90	22.502	
6,500.0	6,428.5	6,506.4	6,424.7	14.6	15.8	-89.51	-89.51	205.7	-431.5	627.7	599.6	28.10	22.335	
6,550.0	6,462.0	6,556.1	6,458.1	14.9	16.0	-89.55	-89.55	242.3	-431.9	627.7	599.3	28.39	22.112	
6,600.0	6,492.9	6,605.7	6,489.2	15.1	16.2	-89.58	-89.58	281.1	-432.4	627.7	599.0	28.70	21.874	
6,612.1	6,500.0	6,617.8	6,496.3	15.2	16.3	-89.59	-89.59	290.8	-432.5	627.7	598.9	28.78	21.811	
6,650.0	6,521.2	6,655.5	6,517.7	15.5	16.5	-89.62	-89.62	321.8	-432.9	627.7	598.7	29.03	21.622	
6,700.0	6,546.8	6,705.2	6,543.4	15.9	16.8	-89.66	-89.66	364.3	-433.4	627.7	598.3	29.40	21.354	
6,750.0	6,569.5	6,755.0	6,566.4	16.3	17.2	-89.70	-89.70	408.5	-434.0	627.7	597.9	29.79	21.072	
6,800.0	6,589.2	6,804.7	6,586.5	16.8	17.6	-89.74	-89.74	454.0	-434.5	627.7	597.5	30.22	20.776	
6,850.0	6,605.9	6,854.6	6,603.5	17.3	18.1	-89.78	-89.78	500.8	-435.1	627.8	597.1	30.67	20.467	
6,900.0	6,619.4	6,904.4	6,617.5	17.8	18.6	-89.82	-89.82	548.7	-435.7	627.8	596.6	31.16	20.146	
6,950.0	6,629.8	6,954.3	6,628.3	18.4	19.1	-89.87	-89.87	597.4	-436.3	627.8	596.1	31.68	19.818	
7,000.0	6,637.0	7,004.2	6,636.0	19.0	19.7	-89.91	-89.91	646.7	-436.9	627.8	595.6	32.22	19.483	
7,050.0	6,640.9	7,054.2	6,640.4	19.7	20.3	-89.95	-89.95	696.4	-437.5	627.8	595.0	32.79	19.144	
7,096.6	6,641.6	7,100.8	6,641.6	20.3	20.9	-90.00	-90.00	743.0	-438.0	627.8	594.5	33.35	18.827	
7,100.0	6,641.6	7,104.1	6,641.5	20.3	21.0	-90.00	-90.00	746.4	-438.1	627.8	594.4	33.39	18.803	
7,200.0	6,640.0	7,204.1	6,641.1	21.7	22.3	-90.10	-90.10	846.3	-439.3	627.8	593.2	34.66	18.112	
7,300.0	6,638.5	7,304.1	6,640.7	23.2	23.7	-90.20	-90.20	946.3	-440.5	627.8	591.8	36.05	17.417	
7,400.0	6,636.9	7,404.1	6,640.3	24.7	25.2	-90.31	-90.31	1,046.3	-441.7	627.9	590.3	37.53	16.729	
7,500.0	6,635.4	7,504.1	6,639.9	26.3	26.8	-90.41	-90.41	1,146.3	-442.9	627.9	588.8	39.10	16.057	
7,600.0	6,633.9	7,604.1	6,639.5	27.9	28.4	-90.51	-90.51	1,246.3	-444.2	627.9	587.2	40.75	15.408	
7,700.0	6,632.3	7,704.1	6,639.0	29.6	30.0	-90.61	-90.61	1,346.3	-445.4	628.0	585.5	42.47	14.785	
7,800.0	6,630.8	7,804.1	6,638.6	31.3	31.7	-90.71	-90.71	1,446.3	-446.6	628.0	583.7	44.25	14.192	
7,900.0	6,629.3	7,904.1	6,638.2	33.0	33.4	-90.81	-90.81	1,546.2	-447.8	628.0	581.9	46.08	13.628	
8,000.0	6,627.7	8,004.1	6,637.8	34.7	35.1	-90.92	-90.92	1,646.2	-449.0	628.1	580.1	47.96	13.095	
8,100.0	6,626.2	8,104.1	6,637.4	36.5	36.8	-91.02	-91.02	1,746.2	-450.2	628.1	578.2	49.88	12.592	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Guttersen 31Y-201
<b>Project:</b>	SEC.31-T3N-R63W	<b>TVD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Reference Site:</b>	Guttersen 31Y-201 Pad Sec.31-T3N-R63W	<b>MD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Guttersen 31Y-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (5-31-13)	<b>Offset TVD Reference:</b>	Reference Datum

Offset Design Guttersen 31Y-201 Pad Sec.31-T3N-R63W - Guttersen 31T-221 - 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
8,200.0	6,624.7	8,204.1	6,636.9	38.2	38.6	-91.12	1,846.2	-451.5	628.1	576.3	51.84	12.118	
8,300.0	6,623.1	8,304.1	6,636.5	40.0	40.3	-91.22	1,946.2	-452.7	628.2	574.4	53.83	11.671	
8,400.0	6,621.6	8,404.1	6,636.1	41.8	42.1	-91.32	2,046.2	-453.9	628.2	572.4	55.85	11.250	
8,500.0	6,620.0	8,504.1	6,635.7	43.6	43.9	-91.43	2,146.2	-455.1	628.3	570.4	57.89	10.853	
8,600.0	6,618.5	8,604.1	6,635.3	45.4	45.7	-91.53	2,246.1	-456.3	628.3	568.4	59.96	10.480	
8,700.0	6,617.0	8,704.0	6,634.8	47.3	47.5	-91.63	2,346.1	-457.6	628.4	566.3	62.05	10.128	
8,800.0	6,615.4	8,804.0	6,634.4	49.1	49.4	-91.73	2,446.1	-458.8	628.4	564.3	64.15	9.796	
8,900.0	6,613.9	8,904.0	6,634.0	50.9	51.2	-91.83	2,546.1	-460.0	628.5	562.2	66.28	9.483	
9,000.0	6,612.4	9,004.0	6,633.6	52.8	53.0	-91.93	2,646.1	-461.2	628.5	560.1	68.41	9.187	
9,100.0	6,610.8	9,104.0	6,633.2	54.6	54.9	-92.04	2,746.1	-462.4	628.6	558.0	70.56	8.908	
9,200.0	6,609.3	9,204.0	6,632.7	56.5	56.7	-92.14	2,846.1	-463.6	628.7	555.9	72.73	8.644	
9,300.0	6,607.8	9,304.0	6,632.3	58.3	58.6	-92.24	2,946.0	-464.9	628.7	553.8	74.90	8.394	
9,400.0	6,606.2	9,404.0	6,631.9	60.2	60.4	-92.34	3,046.0	-466.1	628.8	551.7	77.09	8.157	
9,500.0	6,604.7	9,504.0	6,631.5	62.1	62.3	-92.44	3,146.0	-467.3	628.9	549.6	79.28	7.932	
9,600.0	6,603.2	9,604.0	6,631.1	63.9	64.2	-92.54	3,246.0	-468.5	628.9	547.4	81.48	7.719	
9,700.0	6,601.6	9,704.0	6,630.7	65.8	66.0	-92.65	3,346.0	-469.7	629.0	545.3	83.69	7.516	
9,800.0	6,600.1	9,804.0	6,630.2	67.7	67.9	-92.75	3,446.0	-470.9	629.1	543.2	85.90	7.323	
9,900.0	6,598.5	9,904.0	6,629.8	69.6	69.8	-92.85	3,546.0	-472.2	629.1	541.0	88.12	7.139	
10,000.0	6,597.0	10,004.0	6,629.4	71.5	71.6	-92.95	3,645.9	-473.4	629.2	538.9	90.35	6.964	
10,100.0	6,595.5	10,104.0	6,629.0	73.3	73.5	-93.05	3,745.9	-474.6	629.3	536.7	92.58	6.797	
10,200.0	6,593.9	10,204.0	6,628.6	75.2	75.4	-93.15	3,845.9	-475.8	629.4	534.6	94.82	6.638	
10,300.0	6,592.4	10,303.9	6,628.1	77.1	77.3	-93.25	3,945.9	-477.0	629.5	532.4	97.05	6.486	
10,400.0	6,590.9	10,403.9	6,627.7	79.0	79.2	-93.36	4,045.9	-478.2	629.6	530.3	99.30	6.340	
10,500.0	6,589.3	10,503.9	6,627.3	80.9	81.1	-93.46	4,145.9	-479.5	629.6	528.1	101.54	6.201	
10,600.0	6,587.8	10,603.9	6,626.9	82.8	82.9	-93.56	4,245.9	-480.7	629.7	525.9	103.79	6.067	
10,700.0	6,586.3	10,703.9	6,626.5	84.7	84.8	-93.66	4,345.8	-481.9	629.8	523.8	106.04	5.940	
10,800.0	6,584.7	10,803.9	6,626.0	86.6	86.7	-93.76	4,445.8	-483.1	629.9	521.6	108.29	5.817	
10,900.0	6,583.2	10,903.9	6,625.6	88.5	88.6	-93.86	4,545.8	-484.3	630.0	519.5	110.54	5.699	
11,000.0	6,581.7	11,003.9	6,625.2	90.4	90.5	-93.96	4,645.8	-485.5	630.1	517.3	112.79	5.586	
11,042.6	6,581.0	11,046.5	6,625.0	91.0	91.3	-94.01	4,688.4	-486.1	630.1	516.6	113.51	5.551 SF	

Offset Design      Guttersen 31Y-201 Pad Sec.31-T3N-R63W -    Guttersen 31T-401 - 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	397.850		
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	0.0	-89.4	89.4	88.7	0.67	132.617	CC, ES	
300.0	300.0	296.9	296.9	0.6	0.5	-90.04	-0.1	-91.1	91.1	90.0	1.11	82.323		
400.0	400.0	393.7	393.5	0.8	0.8	-90.15	-0.2	-96.0	96.2	94.6	1.55	62.182		
500.0	500.0	489.9	489.4	1.0	1.0	-90.31	-0.6	-104.1	104.6	102.6	2.01	51.986		
600.0	600.0	585.9	584.7	1.2	1.3	-90.49	-1.0	-115.3	116.4	113.8	2.51	46.383		
700.0	700.0	685.0	683.0	1.5	1.6	-90.67	-1.5	-128.3	129.5	126.4	3.04	42.581		
800.0	800.0	784.2	781.3	1.7	1.9	-90.81	-2.0	-141.3	142.6	139.0	3.58	39.816		
900.0	900.0	883.3	879.6	1.9	2.2	-90.92	-2.5	-154.3	155.7	151.6	4.13	37.727		
1,000.0	1,000.0	982.4	977.9	2.1	2.5	-91.02	-3.0	-167.3	168.8	164.1	4.68	36.100		
1,100.0	1,100.0	1,081.4	1,076.0	2.3	2.9	171.76	-3.5	-180.3	183.2	178.5	4.71	38.867		
1,200.0	1,199.9	1,180.0	1,173.7	2.5	3.2	171.81	-4.0	-193.2	200.2	195.0	5.14	38.933		
1,281.3	1,281.0	1,259.7	1,252.7	2.7	3.5	171.91	-4.4	-203.7	215.8	210.4	5.49	39.318		
1,300.0	1,299.7	1,278.0	1,270.9	2.8	3.5	171.95	-4.5	-206.1	219.6	214.1	5.57	39.429		
1,400.0	1,399.4	1,375.9	1,368.0	3.0	3.8	172.12	-5.0	-218.9	239.9	233.9	6.01	39.954		
1,500.0	1,499.2	1,473.9	1,465.0	3.2	4.2	172.26	-5.5	-231.8	260.3	253.8	6.45	40.378		
1,600.0	1,598.9	1,571.8	1,562.1	3.4	4.5	172.39	-6.0	-244.6	280.6	273.7	6.89	40.727		
1,700.0	1,698.6	1,669.7	1,659.2	3.7	4.8	172.49	-6.4	-257.4	300.9	293.5	7.34	41.018		
1,800.0	1,798.3	1,767.6	1,756.2	3.9	5.2	172.59	-6.9	-270.3	321.2	313.4	7.78	41.264		
1,900.0	1,898.1	1,865.5	1,853.3	4.2	5.5	172.67	-7.4	-283.1	341.5	333.3	8.23	41.472		
2,000.0	1,997.8	1,963.4	1,950.4	4.4	5.8	172.74	-7.9	-295.9	361.8	353.1	8.69	41.651		
2,100.0	2,097.5	2,061.3	2,047.4	4.7	6.1	172.81	-8.4	-308.8	382.1	373.0	9.14	41.806		
2,200.0	2,197.3	2,159.3	2,144.5	4.9	6.5	172.87	-8.9	-321.6	402.4	392.8	9.60	41.940		
2,300.0	2,297.0	2,257.2	2,241.6	5.2	6.8	172.92	-9.4	-334.5	422.7	412.7	10.05	42.058		
2,400.0	2,396.7	2,355.1	2,338.6	5.4	7.1	172.97	-9.9	-347.3	443.1	432.6	10.51	42.162		
2,500.0	2,496.4	2,453.0	2,435.7	5.7	7.5	173.01	-10.4	-360.1	463.4	452.4	10.97	42.255		
2,600.0	2,596.2	2,550.9	2,532.8	5.9	7.8	173.05	-10.9	-373.0	483.7	472.3	11.42	42.337		
2,700.0	2,695.9	2,648.8	2,629.8	6.2	8.1	173.09	-11.4	-385.8	504.0	492.1	11.88	42.411		
2,800.0	2,795.6	2,746.7	2,726.9	6.4	8.5	173.12	-11.9	-398.6	524.3	512.0	12.34	42.477		
2,900.0	2,895.4	2,844.7	2,824.0	6.7	8.8	173.16	-12.4	-411.5	544.6	531.8	12.80	42.536		
3,000.0	2,995.1	2,942.6	2,921.0	6.9	9.1	173.18	-12.9	-424.3	564.9	551.7	13.26	42.590		
3,100.0	3,094.8	3,040.5	3,018.1	7.2	9.4	173.21	-13.3	-437.2	585.3	571.5	13.73	42.640		
3,200.0	3,194.5	3,138.4	3,115.2	7.5	9.8	173.24	-13.8	-450.0	605.6	591.4	14.19	42.684		
3,300.0	3,294.3	3,236.3	3,212.2	7.7	10.1	173.26	-14.3	-462.8	625.9	611.2	14.65	42.725		
3,400.0	3,394.0	3,334.2	3,309.3	8.0	10.4	173.28	-14.8	-475.7	646.2	631.1	15.11	42.763		
3,500.0	3,493.7	3,432.1	3,406.4	8.2	10.8	173.30	-15.3	-488.5	666.5	651.0	15.57	42.798		
3,600.0	3,593.5	3,530.1	3,503.4	8.5	11.1	173.32	-15.8	-501.3	686.8	670.8	16.04	42.829		
3,700.0	3,693.2	3,628.0	3,600.5	8.7	11.4	173.34	-16.3	-514.2	707.2	690.7	16.50	42.859		
3,725.8	3,719.0	3,653.3	3,625.6	8.8	11.5	173.35	-16.4	-517.5	712.4	695.8	16.62	42.866		
3,800.0	3,793.0	3,726.0	3,697.7	9.0	11.8	173.38	-16.8	-527.0	726.8	709.8	16.97	42.816		
3,900.0	3,892.9	3,824.5	3,795.4	9.2	12.1	173.40	-17.3	-540.0	743.9	726.5	17.42	42.695		
4,007.1	4,000.0	3,930.5	3,900.5	9.4	12.4	-89.45	-17.8	-553.8	759.4	741.5	17.91	42.406		
4,007.1	4,000.0	3,930.5	3,900.5	9.4	12.4	-89.45	-17.8	-553.8	759.4	741.5	17.91	42.406		
4,100.0	4,092.9	4,022.6	3,991.7	9.5	12.8	-89.50	-18.3	-565.9	771.6	753.3	18.32	42.125		
4,200.0	4,192.9	4,121.7	4,090.0	9.7	13.1	-89.54	-18.8	-578.9	784.7	765.9	18.76	41.825		
4,300.0	4,292.9	4,220.9	4,188.3	9.9	13.4	-89.59	-19.3	-591.9	797.8	778.6	19.21	41.536		
4,400.0	4,392.9	4,320.0	4,286.6	10.1	13.8	-89.63	-19.8	-604.9	810.9	791.3	19.65	41.259		
4,500.0	4,492.9	4,419.2	4,384.9	10.3	14.1	-89.67	-20.3	-617.9	824.0	803.9	20.10	40.992		
4,600.0	4,592.9	4,518.3	4,483.1	10.5	14.4	-89.71	-20.8	-630.9	837.1	816.6	20.55	40.736		
4,700.0	4,692.9	4,617.4	4,581.4	10.7	14.8	-89.75	-21.3	-643.9	850.2	829.2	21.00	40.489		

COMPASS 2003.21 Build 46



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Guttersen 31Y-201
<b>Project:</b>	SEC.31-T3N-R63W	<b>TVD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Reference Site:</b>	Guttersen 31Y-201 Pad Sec.31-T3N-R63W	<b>MD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Guttersen 31Y-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (5-31-13)	<b>Offset TVD Reference:</b>	Reference Datum

Offset Design Guttersen 31Y-201 Pad Sec.31-T3N-R63W - Guttersen 31T-401 - 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	
4,800.0	4,792.9	4,716.6	4,679.7	10.9	15.1	-89.78	-21.8	-656.9	863.4	841.9	21.45	40.252		
4,900.0	4,892.9	4,815.7	4,778.0	11.1	15.4	-89.82	-22.3	-669.9	876.5	854.6	21.90	40.023		
5,000.0	4,992.9	4,914.8	4,876.2	11.3	15.8	-89.86	-22.8	-682.9	889.6	867.2	22.35	39.802		
5,100.0	5,092.9	5,014.0	4,974.5	11.5	16.1	-89.89	-23.3	-695.9	902.7	879.9	22.80	39.589		
5,200.0	5,192.9	5,113.1	5,072.8	11.7	16.4	-89.92	-23.8	-708.9	915.8	892.5	23.25	39.383		
5,300.0	5,292.9	5,234.9	5,193.7	11.9	16.8	-89.96	-24.4	-724.0	928.3	904.6	23.73	39.121		
5,400.0	5,392.9	5,382.6	5,340.9	12.1	17.1	-89.99	-24.8	-736.0	936.4	912.2	24.20	38.688		
5,500.0	5,492.9	5,531.2	5,489.4	12.3	17.3	-90.00	-25.0	-740.4	939.4	914.7	24.67	38.079		
5,600.0	5,592.9	5,634.7	5,592.9	12.6	17.4	-90.00	-25.0	-740.4	939.4	914.4	25.06	37.483		
5,700.0	5,692.9	5,734.7	5,692.9	12.8	17.6	-90.00	-25.0	-740.4	939.4	914.0	25.46	36.895		
5,800.0	5,792.9	5,834.7	5,792.9	13.0	17.7	-90.00	-25.0	-740.4	939.4	913.6	25.86	36.322		
5,884.9	5,877.7	5,919.6	5,877.7	13.1	17.9	-90.00	-25.0	-740.4	939.4	913.2	26.21	35.848		
5,900.0	5,892.9	5,934.7	5,892.9	13.2	17.9	-89.32	-25.0	-740.4	939.4	913.2	26.26	35.776		
5,950.0	5,942.8	5,984.6	5,942.8	13.3	18.0	-89.48	-25.0	-740.4	939.4	912.9	26.46	35.505		
6,000.0	5,992.4	6,034.3	5,992.4	13.4	18.0	-89.84	-25.0	-740.4	939.4	912.7	26.65	35.243		
6,016.1	6,008.4	6,050.2	6,008.4	13.4	18.1	-90.00	-25.0	-740.4	939.4	912.6	26.72	35.160		
6,050.0	6,041.6	6,083.4	6,041.6	13.5	18.1	-90.39	-25.0	-740.4	939.4	912.5	26.85	34.992		
6,100.0	6,090.0	6,132.6	6,090.7	13.6	18.2	-91.08	-24.5	-740.4	939.5	912.5	27.03	34.753		
6,150.0	6,137.6	6,182.7	6,140.7	13.7	18.3	-91.80	-21.0	-740.5	939.8	912.6	27.22	34.523		
6,200.0	6,184.0	6,233.6	6,191.2	13.8	18.3	-92.51	-14.0	-740.6	940.3	912.9	27.41	34.302		
6,250.0	6,229.1	6,285.5	6,242.0	13.9	18.4	-93.22	-3.6	-740.7	940.9	913.3	27.60	34.087		
6,300.0	6,272.7	6,338.2	6,292.8	14.0	18.5	-93.92	10.6	-740.8	941.7	913.9	27.80	33.874		
6,350.0	6,314.7	6,392.0	6,343.4	14.1	18.6	-94.62	28.6	-741.1	942.6	914.6	28.00	33.662		
6,400.0	6,354.7	6,446.6	6,393.4	14.2	18.7	-95.29	50.5	-741.3	943.6	915.4	28.21	33.452		
6,450.0	6,392.7	6,502.3	6,442.7	14.4	18.8	-95.95	76.5	-741.6	944.7	916.3	28.43	33.231		
6,459.9	6,400.0	6,513.5	6,452.3	14.4	18.8	-96.08	82.1	-741.7	944.9	916.4	28.48	33.183		
6,500.0	6,428.5	6,559.0	6,490.8	14.6	18.9	-96.59	106.5	-742.0	945.9	917.2	28.66	33.003		
6,550.0	6,462.0	6,616.8	6,537.3	14.9	19.0	-97.20	140.7	-742.4	947.1	918.2	28.91	32.765		
6,600.0	6,492.9	6,675.5	6,581.9	15.1	19.1	-97.79	178.9	-742.8	948.4	919.2	29.17	32.512		
6,612.1	6,500.0	6,689.9	6,592.3	15.2	19.2	-97.92	188.8	-743.0	948.7	919.5	29.24	32.447		
6,650.0	6,521.2	6,735.3	6,624.1	15.5	19.3	-98.34	221.2	-743.3	949.7	920.2	29.45	32.244		
6,700.0	6,546.8	6,796.0	6,663.4	15.9	19.5	-98.85	267.5	-743.9	950.9	921.2	29.75	31.959		
6,750.0	6,569.5	6,857.7	6,699.5	16.3	19.7	-99.32	317.5	-744.5	952.2	922.1	30.08	31.650		
6,800.0	6,589.2	6,920.3	6,731.8	16.8	20.0	-99.75	371.1	-745.1	953.3	922.9	30.44	31.317		
6,850.0	6,605.9	6,983.7	6,760.0	17.3	20.4	-100.12	427.8	-745.8	954.3	923.5	30.82	30.963		
6,900.0	6,619.4	7,047.8	6,783.6	17.8	20.8	-100.44	487.4	-746.5	955.3	924.0	31.23	30.587		
6,950.0	6,629.8	7,112.6	6,802.3	18.4	21.3	-100.71	549.4	-747.2	956.0	924.4	31.67	30.183		
7,000.0	6,637.0	7,177.8	6,815.8	19.0	21.9	-100.91	613.2	-748.0	956.6	924.5	32.15	29.757		
7,050.0	6,640.9	7,238.8	6,823.6	19.7	22.5	-101.05	673.7	-748.7	957.1	924.4	32.63	29.331		
7,096.6	6,641.6	7,285.2	6,828.4	20.3	23.0	-101.23	719.8	-749.3	957.9	924.8	33.03	28.997		
7,100.0	6,641.6	7,288.6	6,828.8	20.3	23.1	-101.25	723.2	-749.3	958.0	924.9	33.07	28.971		
7,200.0	6,640.0	7,406.6	6,836.0	21.7	24.5	-101.78	840.9	-750.7	959.5	925.3	34.21	28.044		
7,300.0	6,638.5	7,508.9	6,835.9	23.2	25.8	-101.87	943.2	-751.9	959.8	924.3	35.46	27.065		
7,400.0	6,636.9	7,608.9	6,835.7	24.7	27.2	-101.95	1,043.2	-753.1	960.0	923.3	36.79	26.097		
7,500.0	6,635.4	7,708.8	6,835.6	26.3	28.6	-102.03	1,143.1	-754.3	960.3	922.1	38.20	25.141		
7,600.0	6,633.9	7,808.8	6,835.4	27.9	30.1	-102.11	1,243.1	-755.5	960.6	920.9	39.68	24.208		
7,700.0	6,632.3	7,908.8	6,835.3	29.6	31.6	-102.19	1,343.1	-756.6	960.9	919.6	41.23	23.306		
7,800.0	6,630.8	8,008.8	6,835.1	31.3	33.2	-102.27	1,443.1	-757.8	961.1	918.3	42.83	22.438		
7,900.0	6,629.3	8,108.8	6,835.0	33.0	34.8	-102.35	1,543.1	-759.0	961.4	916.9	44.49	21.609		
8,000.0	6,627.7	8,208.8	6,834.8	34.7	36.5	-102.43	1,643.1	-760.2	961.7	915.5	46.19	20.819		
8,100.0	6,626.2	8,308.8	6,834.6	36.5	38.2	-102.51	1,743.0	-761.4	962.0	914.1	47.94	20.068		

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



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Guttersen 31Y-201
<b>Project:</b>	SEC.31-T3N-R63W	<b>TVD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Reference Site:</b>	Guttersen 31Y-201 Pad Sec.31-T3N-R63W	<b>MD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Guttersen 31Y-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (5-31-13)	<b>Offset TVD Reference:</b>	Reference Datum

Offset Design Guttersen 31Y-201 Pad Sec.31-T3N-R63W - Guttersen 31T-401 - 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	
8,200.0	6,624.7	8,408.8	6,834.5	38.2	39.9	-102.59	1,843.0	-762.6	962.3	912.6	49.71	19.357		
8,300.0	6,623.1	8,508.8	6,834.3	40.0	41.6	-102.67	1,943.0	-763.7	962.6	911.0	51.52	18.683		
8,400.0	6,621.6	8,608.8	6,834.2	41.8	43.3	-102.75	2,043.0	-764.9	962.9	909.5	53.36	18.046		
8,500.0	6,620.0	8,708.8	6,834.0	43.6	45.1	-102.83	2,143.0	-766.1	963.1	907.9	55.21	17.444		
8,600.0	6,618.5	8,808.7	6,833.9	45.4	46.8	-102.91	2,243.0	-767.3	963.4	906.3	57.09	16.874		
8,700.0	6,617.0	8,908.7	6,833.7	47.3	48.6	-102.99	2,342.9	-768.5	963.7	904.7	58.99	16.336		
8,800.0	6,615.4	9,008.7	6,833.5	49.1	50.4	-103.07	2,442.9	-769.6	964.0	903.1	60.91	15.827		
8,900.0	6,613.9	9,108.7	6,833.4	50.9	52.2	-103.15	2,542.9	-770.8	964.3	901.5	62.84	15.346		
9,000.0	6,612.4	9,208.7	6,833.2	52.8	54.0	-103.23	2,642.9	-772.0	964.6	899.8	64.78	14.890		
9,100.0	6,610.8	9,308.7	6,833.1	54.6	55.8	-103.31	2,742.9	-773.2	964.9	898.2	66.74	14.458		
9,200.0	6,609.3	9,408.7	6,832.9	56.5	57.6	-103.39	2,842.9	-774.4	965.2	896.5	68.70	14.049		
9,300.0	6,607.8	9,508.7	6,832.8	58.3	59.5	-103.47	2,942.8	-775.6	965.5	894.9	70.68	13.661		
9,400.0	6,606.2	9,608.7	6,832.6	60.2	61.3	-103.55	3,042.8	-776.7	965.9	893.2	72.66	13.293		
9,500.0	6,604.7	9,708.7	6,832.4	62.1	63.1	-103.63	3,142.8	-777.9	966.2	891.5	74.65	12.943		
9,600.0	6,603.2	9,808.6	6,832.3	63.9	65.0	-103.71	3,242.8	-779.1	966.5	889.8	76.64	12.610		
9,700.0	6,601.6	9,908.6	6,832.1	65.8	66.8	-103.79	3,342.8	-780.3	966.8	888.1	78.64	12.293		
9,800.0	6,600.1	10,008.6	6,832.0	67.7	68.7	-103.87	3,442.8	-781.5	967.1	886.5	80.65	11.992		
9,900.0	6,598.5	10,108.6	6,831.8	69.6	70.5	-103.95	3,542.7	-782.7	967.4	884.8	82.66	11.704		
10,000.0	6,597.0	10,208.6	6,831.7	71.5	72.4	-104.03	3,642.7	-783.8	967.7	883.1	84.67	11.430		
10,100.0	6,595.5	10,308.6	6,831.5	73.3	74.3	-104.11	3,742.7	-785.0	968.1	881.4	86.68	11.168		
10,200.0	6,593.9	10,408.6	6,831.3	75.2	76.1	-104.19	3,842.7	-786.2	968.4	879.7	88.70	10.918		
10,300.0	6,592.4	10,508.6	6,831.2	77.1	78.0	-104.27	3,942.7	-787.4	968.7	878.0	90.71	10.679		
10,400.0	6,590.9	10,608.6	6,831.0	79.0	79.9	-104.35	4,042.7	-788.6	969.0	876.3	92.73	10.450		
10,500.0	6,589.3	10,708.6	6,830.9	80.9	81.7	-104.43	4,142.6	-789.7	969.4	874.6	94.75	10.231		
10,600.0	6,587.8	10,808.6	6,830.7	82.8	83.6	-104.51	4,242.6	-790.9	969.7	872.9	96.77	10.020		
10,700.0	6,586.3	10,908.5	6,830.6	84.7	85.5	-104.59	4,342.6	-792.1	970.0	871.2	98.79	9.819		
10,800.0	6,584.7	11,008.5	6,830.4	86.6	87.4	-104.66	4,442.6	-793.3	970.4	869.6	100.81	9.625		
10,900.0	6,583.2	11,108.5	6,830.2	88.5	89.2	-104.74	4,542.6	-794.5	970.7	867.9	102.83	9.440		
11,000.0	6,581.7	11,208.5	6,830.1	90.4	91.1	-104.82	4,642.6	-795.7	971.0	866.2	104.85	9.261		
11,042.6	6,581.0	11,251.1	6,830.0	91.0	91.9	-104.86	4,685.1	-796.2	971.2	865.7	105.46	9.209 SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Guttersen 31Y-201
<b>Project:</b>	SEC.31-T3N-R63W	<b>TVD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Reference Site:</b>	Guttersen 31Y-201 Pad Sec.31-T3N-R63W	<b>MD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Guttersen 31Y-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (5-31-13)	<b>Offset TVD Reference:</b>	Reference Datum

Offset Design Guttersen 31Y-201 Pad Sec.31-T3N-R63W - Guttersen 31Y-441 - 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)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-89.99	-89.99	0.0	-30.7	30.7				
100.0	100.0	100.0	100.0	0.1	0.1	-89.99	-89.99	0.0	-30.7	30.7	30.5	0.22	136.761	
200.0	200.0	200.0	200.0	0.3	0.3	-89.99	-89.99	0.0	-30.7	30.7	30.1	0.67	45.587	
300.0	300.0	300.0	300.0	0.6	0.6	-89.99	-89.99	0.0	-30.7	30.7	29.6	1.12	27.352	
400.0	400.0	400.0	400.0	0.8	0.8	-89.99	-89.99	0.0	-30.7	30.7	29.2	1.57	19.537	
500.0	500.0	500.0	500.0	1.0	1.0	-89.99	-89.99	0.0	-30.7	30.7	28.7	2.02	15.196	
600.0	600.0	600.0	600.0	1.2	1.2	-89.99	-89.99	0.0	-30.7	30.7	28.3	2.47	12.433	
700.0	700.0	700.0	700.0	1.5	1.5	-89.99	-89.99	0.0	-30.7	30.7	27.8	2.92	10.520	
800.0	800.0	800.0	800.0	1.7	1.7	-89.99	-89.99	0.0	-30.7	30.7	27.4	3.37	9.117	
900.0	900.0	900.0	900.0	1.9	1.9	-89.99	-89.99	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	-89.99	-89.99	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	173.14	173.14	0.0	-30.7	32.0	27.3	4.70	6.811 SF	
1,200.0	1,199.9	1,199.9	1,199.9	2.5	2.6	173.88	173.88	0.0	-30.7	35.9	30.8	5.12	7.015	
1,281.3	1,281.0	1,281.0	1,281.0	2.7	2.8	174.63	174.63	0.0	-30.7	41.0	35.6	5.47	7.507	
1,300.0	1,299.7	1,299.7	1,299.7	2.8	2.8	174.81	174.81	0.0	-30.7	42.4	36.9	5.55	7.646	
1,400.0	1,399.4	1,399.4	1,399.4	3.0	3.0	175.57	175.57	0.0	-30.7	49.7	43.8	5.97	8.324	
1,500.0	1,499.2	1,499.2	1,499.2	3.2	3.3	176.14	176.14	0.0	-30.7	57.1	50.7	6.41	8.907	
1,600.0	1,598.9	1,598.9	1,598.9	3.4	3.5	176.58	176.58	0.0	-30.7	64.4	57.6	6.84	9.413	
1,700.0	1,698.6	1,698.6	1,698.6	3.7	3.7	176.93	176.93	0.0	-30.7	71.8	64.5	7.28	9.856	
1,800.0	1,798.3	1,798.3	1,798.3	3.9	3.9	177.22	177.22	0.0	-30.7	79.1	71.4	7.72	10.246	
1,900.0	1,898.1	1,898.1	1,898.1	4.2	4.2	177.46	177.46	0.0	-30.7	86.5	78.3	8.16	10.592	
2,000.0	1,997.8	1,997.8	1,997.8	4.4	4.4	177.66	177.66	0.0	-30.7	93.8	85.2	8.61	10.901	
2,100.0	2,097.5	2,097.5	2,097.5	4.7	4.6	177.83	177.83	0.0	-30.7	101.2	92.1	9.05	11.179	
2,200.0	2,197.3	2,197.3	2,197.3	4.9	4.8	177.97	177.97	0.0	-30.7	108.5	99.0	9.49	11.429	
2,300.0	2,297.0	2,297.0	2,297.0	5.2	5.1	178.10	178.10	0.0	-30.7	115.9	105.9	9.94	11.656	
2,400.0	2,396.7	2,396.7	2,396.7	5.4	5.3	178.22	178.22	0.0	-30.7	123.2	112.8	10.39	11.863	
2,500.0	2,496.4	2,496.4	2,496.4	5.7	5.5	178.32	178.32	0.0	-30.7	130.6	119.7	10.83	12.052	
2,600.0	2,596.2	2,596.2	2,596.2	5.9	5.7	178.41	178.41	0.0	-30.7	137.9	126.6	11.28	12.225	
2,700.0	2,695.9	2,695.9	2,695.9	6.2	5.9	178.49	178.49	0.0	-30.7	145.3	133.6	11.73	12.385	
2,800.0	2,795.6	2,795.6	2,795.6	6.4	6.2	178.56	178.56	0.0	-30.7	152.6	140.5	12.18	12.532	
2,900.0	2,895.4	2,895.4	2,895.4	6.7	6.4	178.63	178.63	0.0	-30.7	160.0	147.4	12.63	12.669	
3,000.0	2,995.1	2,995.1	2,995.1	6.9	6.6	178.69	178.69	0.0	-30.7	167.4	154.3	13.08	12.796	
3,100.0	3,094.8	3,089.7	3,089.7	7.2	6.8	178.57	178.57	-0.4	-32.1	176.1	162.6	13.50	13.042	
3,200.0	3,194.5	3,183.5	3,183.3	7.5	7.0	178.12	178.12	-1.6	-36.4	187.9	174.0	13.91	13.506	
3,300.0	3,294.3	3,276.4	3,276.0	7.7	7.2	177.41	177.41	-3.6	-43.6	202.7	188.4	14.32	14.156	
3,400.0	3,394.0	3,370.0	3,369.0	8.0	7.4	176.53	176.53	-6.5	-53.6	220.4	205.7	14.73	14.965	
3,500.0	3,493.7	3,468.2	3,466.4	8.2	7.6	175.67	175.67	-9.7	-65.0	239.1	223.9	15.15	15.781	
3,600.0	3,593.5	3,566.3	3,563.9	8.5	7.8	174.93	174.93	-13.0	-76.4	257.8	242.2	15.57	16.554	
3,700.0	3,693.2	3,664.5	3,661.4	8.7	8.0	174.29	174.29	-16.2	-87.7	276.5	260.5	16.00	17.284	
3,725.8	3,719.0	3,689.9	3,686.5	8.8	8.1	174.14	174.14	-17.0	-90.7	281.4	265.3	16.11	17.467	
3,800.0	3,793.0	3,763.3	3,759.4	9.0	8.3	173.74	173.74	-19.4	-99.2	294.6	278.2	16.42	17.939	
3,900.0	3,892.9	3,873.5	3,869.0	9.2	8.5	173.26	173.26	-22.4	-109.8	308.2	291.4	16.84	18.305	
4,007.1	4,000.0	3,992.8	3,988.1	9.4	8.8	-89.89	-89.89	-24.4	-116.6	315.9	298.6	17.28	18.279	
4,007.1	4,000.0	3,992.8	3,988.1	9.4	8.8	-89.89	-89.89	-24.4	-116.6	315.9	298.6	17.28	18.279	
4,100.0	4,092.9	4,096.7	4,092.0	9.5	9.0	-90.00	-90.00	-25.0	-118.7	317.7	300.1	17.67	17.985	
4,200.0	4,192.9	4,197.6	4,192.9	9.7	9.2	-90.00	-90.00	-25.0	-118.7	317.7	299.7	18.06	17.596	
4,300.0	4,292.9	4,297.6	4,292.9	9.9	9.4	-90.00	-90.00	-25.0	-118.7	317.7	299.3	18.49	17.188	
4,400.0	4,392.9	4,397.6	4,392.9	10.1	9.6	-90.00	-90.00	-25.0	-118.7	317.7	298.8	18.92	16.798	
4,500.0	4,492.9	4,497.6	4,492.9	10.3	9.8	-90.00	-90.00	-25.0	-118.7	317.7	298.4	19.35	16.424	
4,600.0	4,592.9	4,597.6	4,592.9	10.5	10.0	-90.00	-90.00	-25.0	-118.7	317.7	298.0	19.78	16.066	
4,700.0	4,692.9	4,697.6	4,692.9	10.7	10.3	-90.00	-90.00	-25.0	-118.7	317.7	297.5	20.21	15.723	

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Guttersen 31Y-201
<b>Project:</b>	SEC.31-T3N-R63W	<b>TVD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Reference Site:</b>	Guttersen 31Y-201 Pad Sec.31-T3N-R63W	<b>MD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Guttersen 31Y-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (5-31-13)	<b>Offset TVD Reference:</b>	Reference Datum

Offset Design Guttersen 31Y-201 Pad Sec.31-T3N-R63W - Guttersen 31Y-441 - 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)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
4,800.0	4,792.9	4,797.6	4,792.9	10.9	10.5	-90.00	-25.0	-118.7	317.7	297.1	20.64	15.393		
4,900.0	4,892.9	4,897.6	4,892.9	11.1	10.7	-90.00	-25.0	-118.7	317.7	296.7	21.08	15.076		
5,000.0	4,992.9	4,997.6	4,992.9	11.3	10.9	-90.00	-25.0	-118.7	317.7	296.2	21.51	14.772		
5,100.0	5,092.9	5,097.6	5,092.9	11.5	11.1	-90.00	-25.0	-118.7	317.7	295.8	21.94	14.479		
5,200.0	5,192.9	5,197.6	5,192.9	11.7	11.4	-90.00	-25.0	-118.7	317.7	295.4	22.38	14.198		
5,300.0	5,292.9	5,297.6	5,292.9	11.9	11.6	-90.00	-25.0	-118.7	317.7	294.9	22.82	13.926		
5,400.0	5,392.9	5,397.6	5,392.9	12.1	11.8	-90.00	-25.0	-118.7	317.7	294.5	23.25	13.665		
5,500.0	5,492.9	5,497.6	5,492.9	12.3	12.0	-90.00	-25.0	-118.7	317.7	294.1	23.69	13.413		
5,600.0	5,592.9	5,597.6	5,592.9	12.6	12.3	-90.00	-25.0	-118.7	317.7	293.6	24.13	13.170		
5,700.0	5,692.9	5,697.6	5,692.9	12.8	12.5	-90.00	-25.0	-118.7	317.7	293.2	24.56	12.935		
5,800.0	5,792.9	5,797.6	5,792.9	13.0	12.7	-90.00	-25.0	-118.7	317.7	292.7	25.00	12.708		
5,884.9	5,877.7	5,882.4	5,877.7	13.1	12.9	-90.00	-25.0	-118.7	317.7	292.4	25.37	12.522		
5,900.0	5,892.9	5,897.6	5,892.9	13.2	12.9	-89.34	-25.0	-118.7	317.7	292.3	25.44	12.489		
5,950.0	5,942.8	5,947.5	5,942.8	13.3	13.0	-89.81	-25.0	-118.7	317.7	292.1	25.66	12.381		
5,961.2	5,953.9	5,958.6	5,953.9	13.3	13.1	-90.00	-25.0	-118.7	317.7	292.0	25.71	12.358		
6,000.0	5,992.4	5,997.1	5,992.4	13.4	13.1	-90.86	-25.0	-118.7	317.8	291.9	25.88	12.278		
6,050.0	6,041.6	6,046.3	6,041.6	13.5	13.3	-92.46	-25.0	-118.7	318.0	291.9	26.10	12.187		
6,100.0	6,090.0	6,095.7	6,091.0	13.6	13.4	-94.50	-24.5	-118.7	318.8	292.4	26.31	12.115		
6,150.0	6,137.6	6,146.4	6,141.5	13.7	13.5	-96.59	-20.9	-118.8	320.0	293.4	26.52	12.067		
6,200.0	6,184.0	6,197.9	6,192.5	13.8	13.6	-98.66	-13.8	-118.9	321.6	294.9	26.71	12.041		
6,250.0	6,229.1	6,250.3	6,243.8	13.9	13.7	-100.68	-3.1	-119.0	323.6	296.8	26.88	12.038		
6,300.0	6,272.7	6,303.6	6,295.1	14.0	13.8	-102.66	11.4	-119.2	326.1	299.0	27.04	12.059		
6,350.0	6,314.7	6,357.9	6,346.2	14.1	13.9	-104.58	29.8	-119.4	328.8	301.6	27.17	12.102		
6,400.0	6,354.7	6,413.2	6,396.8	14.2	14.1	-106.42	52.2	-119.6	331.9	304.6	27.28	12.167		
6,450.0	6,392.7	6,469.5	6,446.4	14.4	14.2	-108.18	78.7	-119.9	335.1	307.8	27.36	12.250		
6,459.9	6,400.0	6,480.8	6,456.2	14.4	14.2	-108.52	84.4	-120.0	335.8	308.4	27.37	12.268		
6,500.0	6,428.5	6,526.9	6,494.9	14.6	14.3	-109.85	109.3	-120.3	338.5	311.1	27.41	12.351		
6,550.0	6,462.0	6,585.2	6,541.7	14.9	14.5	-111.41	144.2	-120.7	342.0	314.6	27.44	12.465		
6,600.0	6,492.9	6,644.6	6,586.4	15.1	14.8	-112.87	183.2	-121.1	345.6	318.1	27.45	12.588		
6,612.1	6,500.0	6,659.1	6,596.8	15.2	14.8	-113.20	193.2	-121.3	346.4	319.0	27.46	12.617		
6,650.0	6,521.2	6,704.9	6,628.6	15.5	15.0	-114.21	226.3	-121.6	349.0	321.6	27.45	12.716		
6,700.0	6,546.8	6,766.3	6,667.9	15.9	15.4	-115.42	273.4	-122.2	352.4	324.9	27.44	12.842		
6,750.0	6,569.5	6,828.5	6,703.8	16.3	15.8	-116.51	324.2	-122.8	355.5	328.1	27.43	12.961		
6,800.0	6,589.2	6,891.5	6,735.8	16.8	16.3	-117.46	378.5	-123.4	358.4	331.0	27.43	13.067		
6,850.0	6,605.9	6,955.4	6,763.5	17.3	16.8	-118.28	436.0	-124.0	360.9	333.5	27.44	13.152		
6,900.0	6,619.4	7,019.9	6,786.6	17.8	17.4	-118.95	496.2	-124.7	363.1	335.6	27.49	13.207		
6,950.0	6,629.8	7,084.9	6,804.6	18.4	18.1	-119.48	558.6	-125.5	364.8	337.3	27.58	13.226		
7,000.0	6,637.0	7,150.4	6,817.3	19.0	18.9	-119.86	622.8	-126.2	366.1	338.4	27.72	13.205		
7,050.0	6,640.9	7,209.1	6,824.3	19.7	19.6	-120.11	681.1	-126.9	367.1	339.2	27.91	13.150		
7,096.6	6,641.6	7,255.5	6,829.1	20.3	20.2	-120.54	727.3	-127.4	369.2	341.1	28.02	13.175		
7,100.0	6,641.6	7,258.8	6,829.5	20.3	20.2	-120.59	730.6	-127.4	369.4	341.4	28.02	13.183		
7,200.0	6,640.0	7,378.4	6,836.0	21.7	21.8	-121.69	849.9	-128.8	373.0	344.8	28.21	13.223		
7,300.0	6,638.5	7,479.1	6,835.8	23.2	23.3	-121.88	950.6	-130.0	373.7	344.9	28.73	13.005		
7,400.0	6,636.9	7,579.1	6,835.7	24.7	24.8	-122.06	1,050.6	-131.1	374.3	345.1	29.29	12.781		
7,500.0	6,635.4	7,679.1	6,835.5	26.3	26.3	-122.24	1,150.6	-132.3	375.0	345.2	29.88	12.550		
7,600.0	6,633.9	7,779.1	6,835.4	27.9	27.9	-122.43	1,250.6	-133.4	375.7	345.2	30.51	12.317		
7,700.0	6,632.3	7,879.1	6,835.2	29.6	29.6	-122.61	1,350.5	-134.6	376.5	345.3	31.15	12.085		
7,800.0	6,630.8	7,979.1	6,835.1	31.3	31.3	-122.79	1,450.5	-135.8	377.2	345.3	31.82	11.855		
7,900.0	6,629.3	8,079.0	6,834.9	33.0	33.0	-122.97	1,550.5	-136.9	377.9	345.4	32.49	11.629		
8,000.0	6,627.7	8,179.0	6,834.7	34.7	34.7	-123.15	1,650.5	-138.1	378.6	345.4	33.18	11.409		
8,100.0	6,626.2	8,279.0	6,834.6	36.5	36.4	-123.32	1,750.5	-139.2	379.3	345.4	33.88	11.196		

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

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Guttersen 31Y-201
<b>Project:</b>	SEC.31-T3N-R63W	<b>TVD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Reference Site:</b>	Guttersen 31Y-201 Pad Sec.31-T3N-R63W	<b>MD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Guttersen 31Y-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (5-31-13)	<b>Offset TVD Reference:</b>	Reference Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
8,200.0	6,624.7	8,379.0	6,834.4	38.2	38.2	-123.50	1,850.5	-140.4	380.0	345.5	34.58	10.991	
8,300.0	6,623.1	8,479.0	6,834.3	40.0	40.0	-123.68	1,950.4	-141.5	380.8	345.5	35.28	10.794	
8,400.0	6,621.6	8,579.0	6,834.1	41.8	41.8	-123.85	2,050.4	-142.7	381.5	345.5	35.97	10.605	
8,500.0	6,620.0	8,679.0	6,834.0	43.6	43.6	-124.03	2,150.4	-143.8	382.2	345.6	36.66	10.426	
8,600.0	6,618.5	8,779.0	6,833.8	45.4	45.4	-124.20	2,250.4	-145.0	383.0	345.6	37.35	10.255	
8,700.0	6,617.0	8,879.0	6,833.7	47.3	47.2	-124.38	2,350.4	-146.1	383.7	345.7	38.02	10.093	
8,800.0	6,615.4	8,979.0	6,833.5	49.1	49.0	-124.55	2,450.4	-147.3	384.5	345.8	38.68	9.940	
8,900.0	6,613.9	9,079.0	6,833.3	50.9	50.8	-124.72	2,550.3	-148.5	385.2	345.9	39.32	9.797	
9,000.0	6,612.4	9,178.9	6,833.2	52.8	52.7	-124.89	2,650.3	-149.6	386.0	346.0	39.95	9.661	
9,100.0	6,610.8	9,278.9	6,833.0	54.6	54.5	-125.07	2,750.3	-150.8	386.7	346.2	40.56	9.535	
9,200.0	6,609.3	9,378.9	6,832.9	56.5	56.4	-125.24	2,850.3	-151.9	387.5	346.3	41.15	9.416	
9,300.0	6,607.8	9,478.9	6,832.7	58.3	58.2	-125.41	2,950.3	-153.1	388.2	346.5	41.72	9.306	
9,400.0	6,606.2	9,578.9	6,832.6	60.2	60.1	-125.58	3,050.3	-154.2	389.0	346.7	42.27	9.204	
9,500.0	6,604.7	9,678.9	6,832.4	62.1	62.0	-125.74	3,150.3	-155.4	389.8	347.0	42.79	9.109	
9,600.0	6,603.2	9,778.9	6,832.3	63.9	63.8	-125.91	3,250.2	-156.5	390.6	347.3	43.29	9.023	
9,700.0	6,601.6	9,878.9	6,832.1	65.8	65.7	-126.08	3,350.2	-157.7	391.3	347.6	43.76	8.944	
9,800.0	6,600.1	9,978.9	6,831.9	67.7	67.6	-126.25	3,450.2	-158.8	392.1	347.9	44.20	8.872	
9,900.0	6,598.5	10,078.9	6,831.8	69.6	69.4	-126.41	3,550.2	-160.0	392.9	348.3	44.61	8.808	
10,000.0	6,597.0	10,178.8	6,831.6	71.5	71.3	-126.58	3,650.2	-161.2	393.7	348.7	44.99	8.751	
10,100.0	6,595.5	10,278.8	6,831.5	73.3	73.2	-126.74	3,750.2	-162.3	394.5	349.1	45.34	8.701	
10,200.0	6,593.9	10,378.8	6,831.3	75.2	75.1	-126.91	3,850.1	-163.5	395.3	349.6	45.65	8.658	
10,300.0	6,592.4	10,478.8	6,831.2	77.1	77.0	-127.07	3,950.1	-164.6	396.1	350.1	45.93	8.623	
10,400.0	6,590.9	10,578.8	6,831.0	79.0	78.9	-127.23	4,050.1	-165.8	396.9	350.7	46.18	8.595	
10,500.0	6,589.3	10,678.8	6,830.8	80.9	80.7	-127.39	4,150.1	-166.9	397.7	351.3	46.38	8.574	
10,600.0	6,587.8	10,778.8	6,830.7	82.8	82.6	-127.56	4,250.1	-168.1	398.5	351.9	46.55	8.561	
10,700.0	6,586.3	10,878.8	6,830.5	84.7	84.5	-127.72	4,350.1	-169.2	399.3	352.6	46.67	8.555	
10,800.0	6,584.7	10,978.8	6,830.4	86.6	86.4	-127.88	4,450.0	-170.4	400.1	353.3	46.76	8.557	
10,900.0	6,583.2	11,078.8	6,830.2	88.5	88.3	-128.04	4,550.0	-171.5	400.9	354.1	46.80	8.567	
11,000.0	6,581.7	11,178.8	6,830.1	90.4	90.2	-128.19	4,650.0	-172.7	401.7	354.9	46.79	8.586	
11,042.6	6,581.0	11,221.3	6,830.0	91.0	91.0	-128.26	4,692.6	-173.2	402.1	355.8	46.33	8.679	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Guttersten 31Y-201
<b>Project:</b>	SEC.31-T3N-R63W	<b>TVD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Reference Site:</b>	Guttersten 31Y-201 Pad Sec.31-T3N-R63W	<b>MD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Guttersten 31Y-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (5-31-13)	<b>Offset TVD Reference:</b>	Reference Datum

<b>Offset Design</b> Guttersten 31Y-201 Pad Sec.31-T3N-R63W - Guttersten 43-31(Exist.) - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
<b>Survey Program:</b> 7300-UNKNOWN												<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,400.0	6,636.9	6,636.9	6,636.9	24.7	132.7	-91.62	1,901.6	-287.8	971.2	819.8	151.42	6.414	
7,500.0	6,635.4	6,635.4	6,635.4	26.3	132.7	-91.43	1,901.6	-287.8	884.6	732.4	152.19	5.813	
7,600.0	6,633.9	6,633.9	6,633.9	27.9	132.7	-91.24	1,901.6	-287.8	801.2	648.2	152.99	5.237	
7,700.0	6,632.3	6,632.3	6,632.3	29.6	132.6	-91.05	1,901.6	-287.8	722.0	568.1	153.83	4.693	
7,800.0	6,630.8	6,630.8	6,630.8	31.3	132.6	-90.86	1,901.6	-287.8	648.5	493.8	154.70	4.192	
7,900.0	6,629.3	6,629.3	6,629.3	33.0	132.6	-90.67	1,901.6	-287.8	583.0	427.4	155.59	3.747	
8,000.0	6,627.7	6,627.7	6,627.7	34.7	132.6	-90.48	1,901.6	-287.8	528.4	371.9	156.51	3.376	
8,100.0	6,626.2	6,626.2	6,626.2	36.5	132.5	-90.29	1,901.6	-287.8	488.4	331.0	157.44	3.102	
8,200.0	6,624.7	6,624.7	6,624.7	38.2	132.5	-90.10	1,901.6	-287.8	466.8	308.4	158.39	2.947	
8,253.4	6,623.8	6,623.8	6,623.8	39.2	132.5	-90.00	1,901.6	-287.8	463.7	304.8	158.91	2.918 CC, ES, SF	
8,300.0	6,623.1	6,623.1	6,623.1	40.0	132.5	-89.91	1,901.6	-287.8	466.0	306.7	159.36	2.925	
8,400.0	6,621.6	6,621.6	6,621.6	41.8	132.4	-89.72	1,901.6	-287.8	486.3	326.0	160.34	3.033	
8,500.0	6,620.0	6,620.0	6,620.0	43.6	132.4	-89.53	1,901.6	-287.8	525.2	363.9	161.33	3.255	
8,600.0	6,618.5	6,618.5	6,618.5	45.4	132.4	-89.34	1,901.6	-287.8	578.9	416.6	162.33	3.566	
8,700.0	6,617.0	6,617.0	6,617.0	47.3	132.3	-89.15	1,901.6	-287.8	643.8	480.4	163.33	3.941	
8,800.0	6,615.4	6,615.4	6,615.4	49.1	132.3	-88.96	1,901.6	-287.8	716.7	552.4	164.35	4.361	
8,900.0	6,613.9	6,613.9	6,613.9	50.9	132.3	-88.77	1,901.6	-287.8	795.6	630.3	165.37	4.811	
9,000.0	6,612.4	6,612.4	6,612.4	52.8	132.2	-88.58	1,901.6	-287.8	878.8	712.4	166.39	5.282	
9,100.0	6,610.8	6,610.8	6,610.8	54.6	132.2	-88.39	1,901.6	-287.8	965.2	797.8	167.42	5.765	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Gutteresen 31Y-201
<b>Project:</b>	SEC.31-T3N-R63W	<b>TVD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Reference Site:</b>	Gutteresen 31Y-201 Pad Sec.31-T3N-R63W	<b>MD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Gutteresen 31Y-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (5-31-13)	<b>Offset TVD Reference:</b>	Reference Datum

Reference Depths are relative to WELL @ 4851.0ft (RKB - 15')

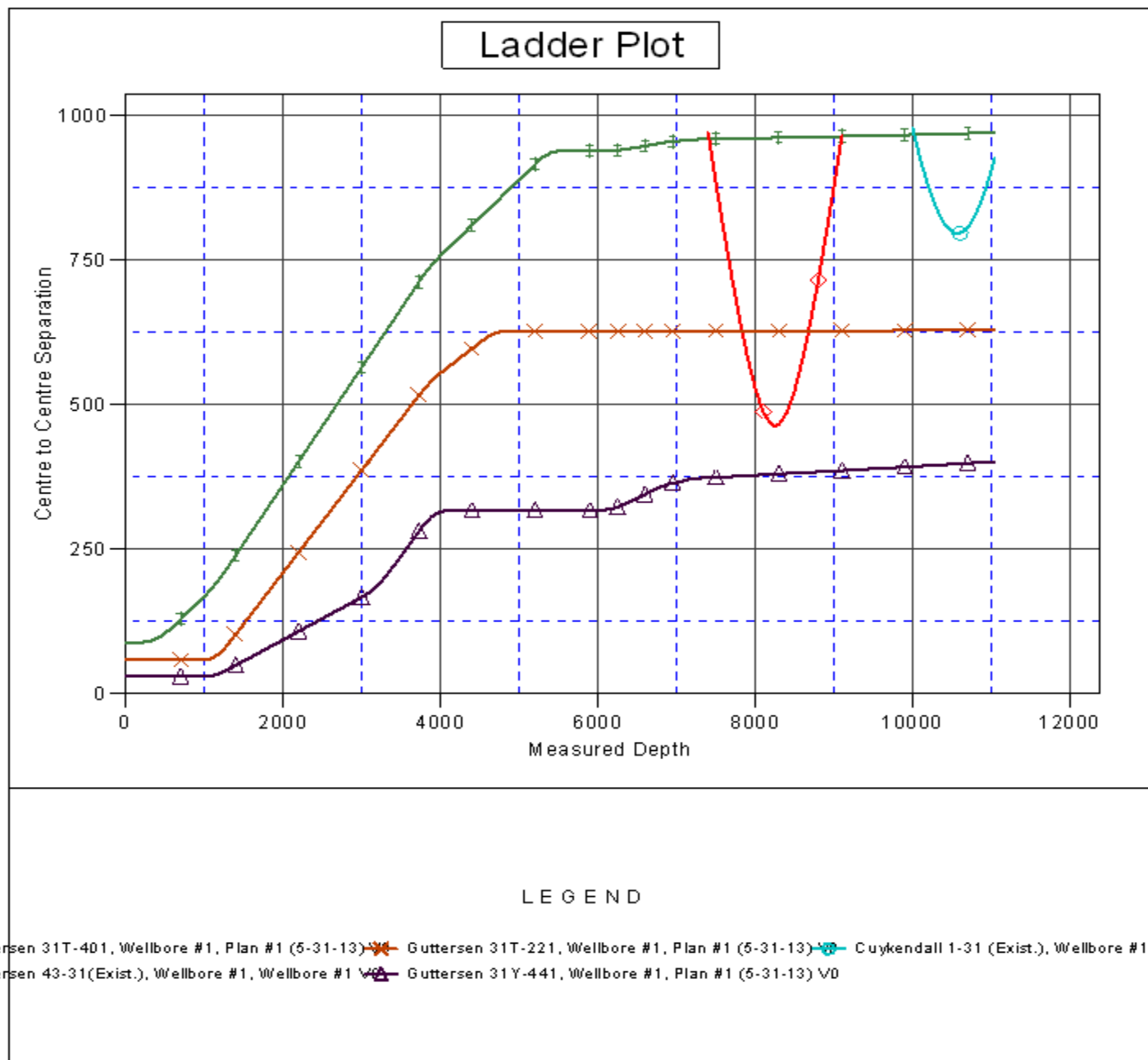
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Gutteresen 31Y-201

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.66°



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Guttersen 31Y-201
<b>Project:</b>	SEC.31-T3N-R63W	<b>TVD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Reference Site:</b>	Guttersen 31Y-201 Pad Sec.31-T3N-R63W	<b>MD Reference:</b>	WELL @ 4851.0ft (RKB - 15')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Guttersen 31Y-201	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (5-31-13)	<b>Offset TVD Reference:</b>	Reference 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 31Y-201  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.66°

