

# PETROLEUM DEVELOPMENT CORP Weld County CO

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

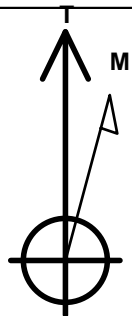
Surface Location: Guttersen 6M-203 Pad Sec.6-T2N-R63W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
Ground Elevation: 4823.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1308041.90	3285363.04	40.174460	-104.478770	

RKB - 15' WELL @ 4838.0ft (RKB - 15')

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape Point
BHL 500'FSL, 2468'FEL	6598.0	-4710.4	-315.8	Point



Azimuths to True North  
Magnetic North: 8.43°

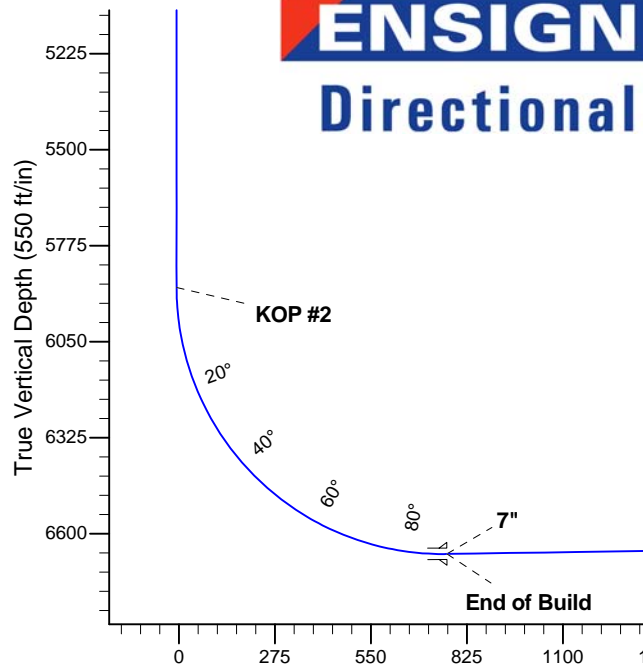
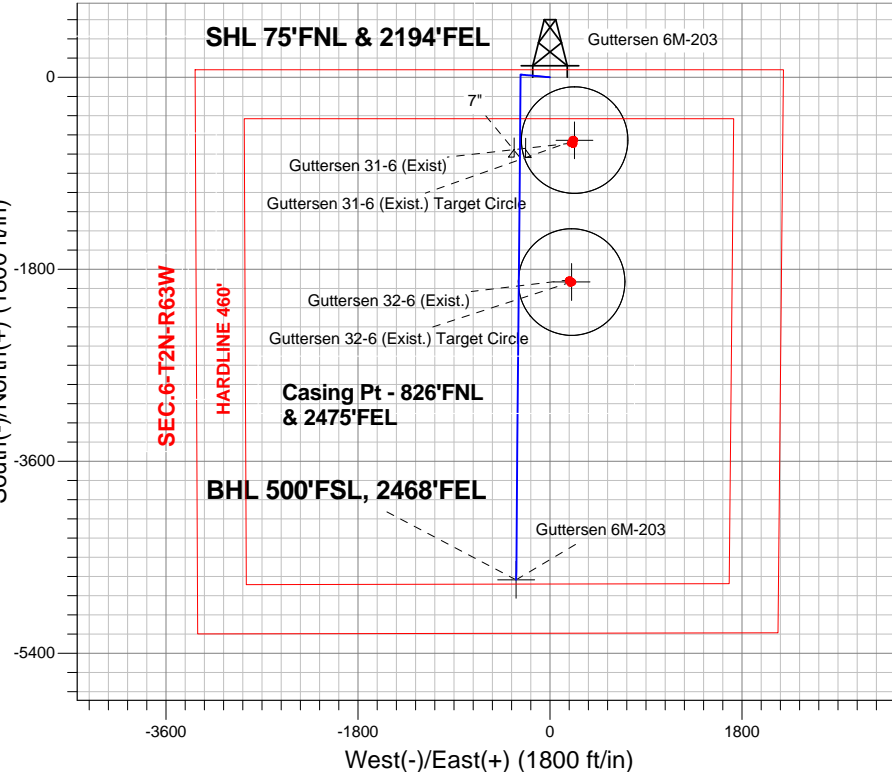
Magnetic Field  
Strength: 52836.7nT  
Dip Angle: 66.85°  
Date: 5/31/2013  
Model: IGRF2010

Guttersen 6M-203 Pad Sec.6-T2N-R63W  
Guttersen 6M-203  
Plan #1 (5-31-13)  
16:36, May 31 2013

## ANNOTATIONS

TVD	MD	Annotation
1000.0	1000.0	KOP #1
5894.3	5908.1	KOP #2
6658.1	7119.7	End of Build

South(-)/North(+) (1800 ft/in)



## 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	1403.3	6.05	275.21	1402.5	1.9	-21.2	1.50	275.21	-0.5	
4	3610.5	6.05	275.21	3597.5	23.1	-252.8	0.00	0.00	-6.1	
5	4013.8	0.00	0.00	4000.0	25.0	-274.0	1.50	180.00	-6.6	
6	5908.1	0.00	0.00	5894.3	25.0	-274.0	0.00	0.00	-6.6	
7	7119.7	90.87	180.51	6658.1	-750.5	-280.9	7.50	180.51	767.6	
8	11080.1	90.87	180.51	6598.0	-4710.4	-315.8	0.00	0.00	4720.9	BHL 500'FSL, 2468'FEL

BHL 500'FSL, 2468'FEL

Vertical Section at 183.84° (550 ft/in)



## **Directional**

# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.6-T2N-R63W**

**Guttersen 6M-203 Pad Sec.6-T2N-R63W**

**Guttersen 6M-203**

**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 6M-203
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4838.0ft (RKB - 15')
<b>Project:</b>	SEC.6-T2N-R63W	<b>MD Reference:</b>	WELL @ 4838.0ft (RKB - 15')
<b>Site:</b>	Guttersen 6M-203 Pad Sec.6-T2N-R63W	<b>North Reference:</b>	True
<b>Well:</b>	Guttersen 6M-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (5-31-13)		

<b>Project</b>	SEC.6-T2N-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 6M-203 Pad Sec.6-T2N-R63W					
Site Position:		Northing:		1,308,041.91 ft	
From:		Easting:		3,285,363.04 ft	
Position Uncertainty:		Slot Radius:		Grid Convergence:	
Lat/Long		0.0 ft		"	
				°	

Well	Guttersen 6M-203					
Well Position	+N/-S	0.0 ft	Northing:	1,308,041.90 ft	Latitude:	40.174460
	+E/-W	0.0 ft	Easting:	3,285,363.04 ft	Longitude:	-104.478770
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,823.0 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	8.43	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	183.84

<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	
1,403.3	6.05	275.21	1,402.5	1.9	-21.2	1.50	1.50	0.00	275.21	
3,610.5	6.05	275.21	3,597.5	23.1	-252.8	0.00	0.00	0.00	0.00	
4,013.8	0.00	0.00	4,000.0	25.0	-274.0	1.50	-1.50	0.00	180.00	
5,908.1	0.00	0.00	5,894.3	25.0	-274.0	0.00	0.00	0.00	0.00	
7,119.7	90.87	180.51	6,658.1	-750.5	-280.9	7.50	7.50	0.00	180.51	
11,080.1	90.87	180.51	6,598.0	-4,710.4	-315.8	0.00	0.00	0.00	0.00	BHL 500'FSL, 2468

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Guttersen 6M-203
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4838.0ft (RKB - 15')
<b>Project:</b>	SEC.6-T2N-R63W	<b>MD Reference:</b>	WELL @ 4838.0ft (RKB - 15')
<b>Site:</b>	Guttersen 6M-203 Pad Sec.6-T2N-R63W	<b>North Reference:</b>	True
<b>Well:</b>	Guttersen 6M-203	<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
<b>Guttersen 31-6 (Exist.) Target Circle - Guttersen 32-6 (Exist.) Target Circle</b>									
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
<b>KOP #1</b>									
1,040.0	0.60	275.21	1,040.0	0.0	-0.2	0.0	1.50	1.50	0.00
1,080.0	1.20	275.21	1,080.0	0.1	-0.8	0.0	1.50	1.50	0.00
1,120.0	1.80	275.21	1,120.0	0.2	-1.9	0.0	1.50	1.50	0.00
1,160.0	2.40	275.21	1,160.0	0.3	-3.3	-0.1	1.50	1.50	0.00
1,200.0	3.00	275.21	1,199.9	0.5	-5.2	-0.1	1.50	1.50	0.00
1,240.0	3.60	275.21	1,239.8	0.7	-7.5	-0.2	1.50	1.50	0.00
1,280.0	4.20	275.21	1,279.7	0.9	-10.2	-0.2	1.50	1.50	0.00
1,320.0	4.80	275.21	1,319.6	1.2	-13.3	-0.3	1.50	1.50	0.00
1,360.0	5.40	275.21	1,359.5	1.5	-16.9	-0.4	1.50	1.50	0.00
1,400.0	6.00	275.21	1,399.3	1.9	-20.8	-0.5	1.50	1.50	0.00
1,403.3	6.05	275.21	1,402.5	1.9	-21.2	-0.5	1.50	1.50	0.00
1,440.0	6.05	275.21	1,439.0	2.3	-25.0	-0.6	0.00	0.00	0.00
1,480.0	6.05	275.21	1,478.8	2.7	-29.2	-0.7	0.00	0.00	0.00
1,520.0	6.05	275.21	1,518.6	3.1	-33.4	-0.8	0.00	0.00	0.00
1,560.0	6.05	275.21	1,558.4	3.4	-37.6	-0.9	0.00	0.00	0.00
1,600.0	6.05	275.21	1,598.2	3.8	-41.8	-1.0	0.00	0.00	0.00
1,640.0	6.05	275.21	1,637.9	4.2	-46.0	-1.1	0.00	0.00	0.00
1,680.0	6.05	275.21	1,677.7	4.6	-50.2	-1.2	0.00	0.00	0.00
1,720.0	6.05	275.21	1,717.5	5.0	-54.4	-1.3	0.00	0.00	0.00
1,760.0	6.05	275.21	1,757.3	5.3	-58.6	-1.4	0.00	0.00	0.00
1,800.0	6.05	275.21	1,797.0	5.7	-62.8	-1.5	0.00	0.00	0.00
1,840.0	6.05	275.21	1,836.8	6.1	-67.0	-1.6	0.00	0.00	0.00
1,880.0	6.05	275.21	1,876.6	6.5	-71.2	-1.7	0.00	0.00	0.00
1,920.0	6.05	275.21	1,916.4	6.9	-75.4	-1.8	0.00	0.00	0.00
1,960.0	6.05	275.21	1,956.2	7.3	-79.6	-1.9	0.00	0.00	0.00

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<b>Project:</b>	SEC.6-T2N-R63W	<b>MD Reference:</b>	WELL @ 4838.0ft (RKB - 15')
<b>Site:</b>	Guttersen 6M-203 Pad Sec.6-T2N-R63W	<b>North Reference:</b>	True
<b>Well:</b>	Guttersen 6M-203	<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)
2,000.0	6.05	275.21	1,995.9	7.6	-83.8	-2.0	0.00	0.00	0.00
2,040.0	6.05	275.21	2,035.7	8.0	-88.0	-2.1	0.00	0.00	0.00
2,080.0	6.05	275.21	2,075.5	8.4	-92.2	-2.2	0.00	0.00	0.00
2,120.0	6.05	275.21	2,115.3	8.8	-96.4	-2.3	0.00	0.00	0.00
2,160.0	6.05	275.21	2,155.0	9.2	-100.6	-2.4	0.00	0.00	0.00
2,200.0	6.05	275.21	2,194.8	9.6	-104.8	-2.5	0.00	0.00	0.00
2,240.0	6.05	275.21	2,234.6	9.9	-109.0	-2.6	0.00	0.00	0.00
2,280.0	6.05	275.21	2,274.4	10.3	-113.2	-2.7	0.00	0.00	0.00
2,320.0	6.05	275.21	2,314.1	10.7	-117.4	-2.8	0.00	0.00	0.00
2,360.0	6.05	275.21	2,353.9	11.1	-121.6	-2.9	0.00	0.00	0.00
2,400.0	6.05	275.21	2,393.7	11.5	-125.8	-3.0	0.00	0.00	0.00
2,440.0	6.05	275.21	2,433.5	11.9	-130.0	-3.1	0.00	0.00	0.00
2,480.0	6.05	275.21	2,473.3	12.2	-134.2	-3.2	0.00	0.00	0.00
2,520.0	6.05	275.21	2,513.0	12.6	-138.4	-3.3	0.00	0.00	0.00
2,560.0	6.05	275.21	2,552.8	13.0	-142.6	-3.4	0.00	0.00	0.00
2,600.0	6.05	275.21	2,592.6	13.4	-146.8	-3.5	0.00	0.00	0.00
2,640.0	6.05	275.21	2,632.4	13.8	-151.0	-3.6	0.00	0.00	0.00
2,680.0	6.05	275.21	2,672.1	14.2	-155.2	-3.7	0.00	0.00	0.00
2,720.0	6.05	275.21	2,711.9	14.5	-159.4	-3.8	0.00	0.00	0.00
2,760.0	6.05	275.21	2,751.7	14.9	-163.6	-3.9	0.00	0.00	0.00
2,800.0	6.05	275.21	2,791.5	15.3	-167.8	-4.0	0.00	0.00	0.00
2,840.0	6.05	275.21	2,831.3	15.7	-172.0	-4.2	0.00	0.00	0.00
2,880.0	6.05	275.21	2,871.0	16.1	-176.2	-4.3	0.00	0.00	0.00
2,920.0	6.05	275.21	2,910.8	16.5	-180.4	-4.4	0.00	0.00	0.00
2,960.0	6.05	275.21	2,950.6	16.8	-184.6	-4.5	0.00	0.00	0.00
3,000.0	6.05	275.21	2,990.4	17.2	-188.7	-4.6	0.00	0.00	0.00
3,040.0	6.05	275.21	3,030.1	17.6	-192.9	-4.7	0.00	0.00	0.00
3,080.0	6.05	275.21	3,069.9	18.0	-197.1	-4.8	0.00	0.00	0.00
3,120.0	6.05	275.21	3,109.7	18.4	-201.3	-4.9	0.00	0.00	0.00
3,160.0	6.05	275.21	3,149.5	18.8	-205.5	-5.0	0.00	0.00	0.00
3,200.0	6.05	275.21	3,189.2	19.1	-209.7	-5.1	0.00	0.00	0.00
3,240.0	6.05	275.21	3,229.0	19.5	-213.9	-5.2	0.00	0.00	0.00
3,280.0	6.05	275.21	3,268.8	19.9	-218.1	-5.3	0.00	0.00	0.00
3,320.0	6.05	275.21	3,308.6	20.3	-222.3	-5.4	0.00	0.00	0.00
3,360.0	6.05	275.21	3,348.4	20.7	-226.5	-5.5	0.00	0.00	0.00
3,400.0	6.05	275.21	3,388.1	21.1	-230.7	-5.6	0.00	0.00	0.00
3,440.0	6.05	275.21	3,427.9	21.4	-234.9	-5.7	0.00	0.00	0.00
3,480.0	6.05	275.21	3,467.7	21.8	-239.1	-5.8	0.00	0.00	0.00
3,520.0	6.05	275.21	3,507.5	22.2	-243.3	-5.9	0.00	0.00	0.00
3,560.0	6.05	275.21	3,547.2	22.6	-247.5	-6.0	0.00	0.00	0.00
3,600.0	6.05	275.21	3,587.0	23.0	-251.7	-6.1	0.00	0.00	0.00
3,610.5	6.05	275.21	3,597.5	23.1	-252.8	-6.1	0.00	0.00	0.00
3,640.0	5.61	275.21	3,626.8	23.3	-255.8	-6.2	1.50	-1.50	0.00
3,680.0	5.01	275.21	3,666.6	23.7	-259.5	-6.3	1.50	-1.50	0.00
3,720.0	4.41	275.21	3,706.5	24.0	-262.8	-6.3	1.50	-1.50	0.00
3,760.0	3.81	275.21	3,746.4	24.2	-265.6	-6.4	1.50	-1.50	0.00
3,800.0	3.21	275.21	3,786.3	24.5	-268.0	-6.5	1.50	-1.50	0.00
3,840.0	2.61	275.21	3,826.3	24.6	-270.1	-6.5	1.50	-1.50	0.00
3,880.0	2.01	275.21	3,866.2	24.8	-271.7	-6.6	1.50	-1.50	0.00
3,920.0	1.41	275.21	3,906.2	24.9	-272.9	-6.6	1.50	-1.50	0.00
3,960.0	0.81	275.21	3,946.2	25.0	-273.6	-6.6	1.50	-1.50	0.00
4,000.0	0.21	275.21	3,986.2	25.0	-274.0	-6.6	1.50	-1.50	0.00
4,013.8	0.00	0.00	4,000.0	25.0	-274.0	-6.6	1.50	-1.50	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Guttersen 6M-203
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4838.0ft (RKB - 15')
<b>Project:</b>	SEC.6-T2N-R63W	<b>MD Reference:</b>	WELL @ 4838.0ft (RKB - 15')
<b>Site:</b>	Guttersen 6M-203 Pad Sec.6-T2N-R63W	<b>North Reference:</b>	True
<b>Well:</b>	Guttersen 6M-203	<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)
4,040.0	0.00	0.00	4,026.2	25.0	-274.0	-6.6	0.00	0.00	0.00
4,080.0	0.00	0.00	4,066.2	25.0	-274.0	-6.6	0.00	0.00	0.00
4,120.0	0.00	0.00	4,106.2	25.0	-274.0	-6.6	0.00	0.00	0.00
4,160.0	0.00	0.00	4,146.2	25.0	-274.0	-6.6	0.00	0.00	0.00
4,200.0	0.00	0.00	4,186.2	25.0	-274.0	-6.6	0.00	0.00	0.00
4,240.0	0.00	0.00	4,226.2	25.0	-274.0	-6.6	0.00	0.00	0.00
4,280.0	0.00	0.00	4,266.2	25.0	-274.0	-6.6	0.00	0.00	0.00
4,320.0	0.00	0.00	4,306.2	25.0	-274.0	-6.6	0.00	0.00	0.00
4,360.0	0.00	0.00	4,346.2	25.0	-274.0	-6.6	0.00	0.00	0.00
4,400.0	0.00	0.00	4,386.2	25.0	-274.0	-6.6	0.00	0.00	0.00
4,440.0	0.00	0.00	4,426.2	25.0	-274.0	-6.6	0.00	0.00	0.00
4,480.0	0.00	0.00	4,466.2	25.0	-274.0	-6.6	0.00	0.00	0.00
4,520.0	0.00	0.00	4,506.2	25.0	-274.0	-6.6	0.00	0.00	0.00
4,560.0	0.00	0.00	4,546.2	25.0	-274.0	-6.6	0.00	0.00	0.00
4,600.0	0.00	0.00	4,586.2	25.0	-274.0	-6.6	0.00	0.00	0.00
4,640.0	0.00	0.00	4,626.2	25.0	-274.0	-6.6	0.00	0.00	0.00
4,680.0	0.00	0.00	4,666.2	25.0	-274.0	-6.6	0.00	0.00	0.00
4,720.0	0.00	0.00	4,706.2	25.0	-274.0	-6.6	0.00	0.00	0.00
4,760.0	0.00	0.00	4,746.2	25.0	-274.0	-6.6	0.00	0.00	0.00
4,800.0	0.00	0.00	4,786.2	25.0	-274.0	-6.6	0.00	0.00	0.00
4,840.0	0.00	0.00	4,826.2	25.0	-274.0	-6.6	0.00	0.00	0.00
4,880.0	0.00	0.00	4,866.2	25.0	-274.0	-6.6	0.00	0.00	0.00
4,920.0	0.00	0.00	4,906.2	25.0	-274.0	-6.6	0.00	0.00	0.00
4,960.0	0.00	0.00	4,946.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,000.0	0.00	0.00	4,986.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,040.0	0.00	0.00	5,026.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,080.0	0.00	0.00	5,066.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,120.0	0.00	0.00	5,106.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,160.0	0.00	0.00	5,146.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,200.0	0.00	0.00	5,186.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,240.0	0.00	0.00	5,226.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,280.0	0.00	0.00	5,266.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,320.0	0.00	0.00	5,306.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,360.0	0.00	0.00	5,346.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,400.0	0.00	0.00	5,386.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,440.0	0.00	0.00	5,426.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,480.0	0.00	0.00	5,466.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,520.0	0.00	0.00	5,506.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,560.0	0.00	0.00	5,546.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,600.0	0.00	0.00	5,586.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,640.0	0.00	0.00	5,626.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,680.0	0.00	0.00	5,666.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,720.0	0.00	0.00	5,706.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,760.0	0.00	0.00	5,746.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,800.0	0.00	0.00	5,786.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,840.0	0.00	0.00	5,826.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,880.0	0.00	0.00	5,866.2	25.0	-274.0	-6.6	0.00	0.00	0.00
5,908.1	0.00	0.00	5,894.3	25.0	-274.0	-6.6	0.00	0.00	0.00
<b>KOP #2</b>									
5,920.0	0.90	180.51	5,906.2	24.9	-274.0	-6.5	7.52	7.52	0.00
5,960.0	3.90	180.51	5,946.2	23.2	-274.0	-4.9	7.50	7.50	0.00
6,000.0	6.90	180.51	5,986.0	19.5	-274.0	-1.1	7.50	7.50	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Guttersen 6M-203
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4838.0ft (RKB - 15')
<b>Project:</b>	SEC.6-T2N-R63W	<b>MD Reference:</b>	WELL @ 4838.0ft (RKB - 15')
<b>Site:</b>	Guttersen 6M-203 Pad Sec.6-T2N-R63W	<b>North Reference:</b>	True
<b>Well:</b>	Guttersen 6M-203	<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)
6,040.0	9.90	180.51	6,025.6	13.6	-274.1	4.7	7.50	7.50	0.00
6,080.0	12.90	180.51	6,064.8	5.7	-274.2	12.6	7.50	7.50	0.00
6,120.0	15.90	180.51	6,103.5	-4.2	-274.3	22.5	7.50	7.50	0.00
6,160.0	18.90	180.51	6,141.7	-16.2	-274.4	34.5	7.50	7.50	0.00
6,200.0	21.90	180.51	6,179.2	-30.1	-274.5	48.4	7.50	7.50	0.00
6,240.0	24.90	180.51	6,215.9	-46.0	-274.6	64.3	7.50	7.50	0.00
6,280.0	27.90	180.51	6,251.7	-63.8	-274.8	82.0	7.50	7.50	0.00
6,320.0	30.90	180.51	6,286.5	-83.4	-275.0	101.6	7.50	7.50	0.00
6,360.0	33.90	180.51	6,320.3	-104.8	-275.1	123.0	7.50	7.50	0.00
6,400.0	36.90	180.51	6,352.9	-128.0	-275.4	146.1	7.50	7.50	0.00
6,440.0	39.90	180.51	6,384.3	-152.8	-275.6	170.9	7.50	7.50	0.00
6,480.0	42.90	180.51	6,414.3	-179.3	-275.8	197.3	7.50	7.50	0.00
6,520.0	45.90	180.51	6,442.8	-207.2	-276.1	225.3	7.50	7.50	0.00
6,560.0	48.90	180.51	6,469.9	-236.7	-276.3	254.6	7.50	7.50	0.00
6,600.0	51.90	180.51	6,495.4	-267.5	-276.6	285.4	7.50	7.50	0.00
6,640.0	54.90	180.51	6,519.3	-299.6	-276.9	317.5	7.50	7.50	0.00
6,680.0	57.90	180.51	6,541.4	-332.9	-277.2	350.7	7.50	7.50	0.00
6,720.0	60.89	180.51	6,561.8	-367.3	-277.5	385.1	7.50	7.50	0.00
6,760.0	63.89	180.51	6,580.3	-402.8	-277.8	420.5	7.50	7.50	0.00
6,800.0	66.89	180.51	6,596.9	-439.1	-278.1	456.8	7.50	7.50	0.00
6,840.0	69.89	180.51	6,611.7	-476.3	-278.4	493.9	7.50	7.50	0.00
6,880.0	72.89	180.51	6,624.4	-514.2	-278.8	531.7	7.50	7.50	0.00
6,920.0	75.89	180.51	6,635.2	-552.7	-279.1	570.2	7.50	7.50	0.00
6,960.0	78.89	180.51	6,643.9	-591.8	-279.4	609.1	7.50	7.50	0.00
7,000.0	81.89	180.51	6,650.6	-631.2	-279.8	648.5	7.50	7.50	0.00
7,040.0	84.89	180.51	6,655.2	-670.9	-280.1	688.2	7.50	7.50	0.00
7,080.0	87.89	180.51	6,657.7	-710.9	-280.5	728.0	7.50	7.50	0.00
7,119.7	90.87	180.51	6,658.1	-750.5	-280.9	767.7	7.49	7.49	0.00
<b>End of Build - 7"</b>									
7,120.0	90.87	180.51	6,658.1	-750.8	-280.9	768.0	0.00	0.00	0.00
7,160.0	90.87	180.51	6,657.5	-790.8	-281.2	807.9	0.00	0.00	0.00
7,200.0	90.87	180.51	6,656.9	-830.8	-281.6	847.8	0.00	0.00	0.00
7,240.0	90.87	180.51	6,656.3	-870.8	-281.9	887.7	0.00	0.00	0.00
7,280.0	90.87	180.51	6,655.7	-910.8	-282.3	927.7	0.00	0.00	0.00
7,320.0	90.87	180.51	6,655.1	-950.8	-282.6	967.6	0.00	0.00	0.00
7,360.0	90.87	180.51	6,654.5	-990.8	-283.0	1,007.5	0.00	0.00	0.00
7,400.0	90.87	180.51	6,653.9	-1,030.8	-283.3	1,047.4	0.00	0.00	0.00
7,440.0	90.87	180.51	6,653.3	-1,070.8	-283.7	1,087.4	0.00	0.00	0.00
7,480.0	90.87	180.51	6,652.7	-1,110.8	-284.0	1,127.3	0.00	0.00	0.00
7,520.0	90.87	180.51	6,652.1	-1,150.8	-284.4	1,167.2	0.00	0.00	0.00
7,560.0	90.87	180.51	6,651.4	-1,190.8	-284.7	1,207.2	0.00	0.00	0.00
7,600.0	90.87	180.51	6,650.8	-1,230.8	-285.1	1,247.1	0.00	0.00	0.00
7,640.0	90.87	180.51	6,650.2	-1,270.8	-285.4	1,287.0	0.00	0.00	0.00
7,680.0	90.87	180.51	6,649.6	-1,310.8	-285.8	1,326.9	0.00	0.00	0.00
7,720.0	90.87	180.51	6,649.0	-1,350.8	-286.2	1,366.9	0.00	0.00	0.00
7,760.0	90.87	180.51	6,648.4	-1,390.7	-286.5	1,406.8	0.00	0.00	0.00
7,800.0	90.87	180.51	6,647.8	-1,430.7	-286.9	1,446.7	0.00	0.00	0.00
7,840.0	90.87	180.51	6,647.2	-1,470.7	-287.2	1,486.7	0.00	0.00	0.00
7,880.0	90.87	180.51	6,646.6	-1,510.7	-287.6	1,526.6	0.00	0.00	0.00
7,920.0	90.87	180.51	6,646.0	-1,550.7	-287.9	1,566.5	0.00	0.00	0.00
7,960.0	90.87	180.51	6,645.4	-1,590.7	-288.3	1,606.4	0.00	0.00	0.00
8,000.0	90.87	180.51	6,644.8	-1,630.7	-288.6	1,646.4	0.00	0.00	0.00
8,040.0	90.87	180.51	6,644.2	-1,670.7	-289.0	1,686.3	0.00	0.00	0.00



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Guttersen 6M-203
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4838.0ft (RKB - 15')
<b>Project:</b>	SEC.6-T2N-R63W	<b>MD Reference:</b>	WELL @ 4838.0ft (RKB - 15')
<b>Site:</b>	Guttersen 6M-203 Pad Sec.6-T2N-R63W	<b>North Reference:</b>	True
<b>Well:</b>	Guttersen 6M-203	<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)
8,080.0	90.87	180.51	6,643.6	-1,710.7	-289.3	1,726.2	0.00	0.00	0.00
8,120.0	90.87	180.51	6,642.9	-1,750.7	-289.7	1,766.2	0.00	0.00	0.00
8,160.0	90.87	180.51	6,642.3	-1,790.7	-290.0	1,806.1	0.00	0.00	0.00
8,200.0	90.87	180.51	6,641.7	-1,830.7	-290.4	1,846.0	0.00	0.00	0.00
8,240.0	90.87	180.51	6,641.1	-1,870.7	-290.7	1,885.9	0.00	0.00	0.00
8,280.0	90.87	180.51	6,640.5	-1,910.7	-291.1	1,925.9	0.00	0.00	0.00
8,320.0	90.87	180.51	6,639.9	-1,950.7	-291.5	1,965.8	0.00	0.00	0.00
8,360.0	90.87	180.51	6,639.3	-1,990.7	-291.8	2,005.7	0.00	0.00	0.00
8,400.0	90.87	180.51	6,638.7	-2,030.6	-292.2	2,045.6	0.00	0.00	0.00
8,440.0	90.87	180.51	6,638.1	-2,070.6	-292.5	2,085.6	0.00	0.00	0.00
8,480.0	90.87	180.51	6,637.5	-2,110.6	-292.9	2,125.5	0.00	0.00	0.00
8,520.0	90.87	180.51	6,636.9	-2,150.6	-293.2	2,165.4	0.00	0.00	0.00
8,560.0	90.87	180.51	6,636.3	-2,190.6	-293.6	2,205.4	0.00	0.00	0.00
8,600.0	90.87	180.51	6,635.7	-2,230.6	-293.9	2,245.3	0.00	0.00	0.00
8,640.0	90.87	180.51	6,635.1	-2,270.6	-294.3	2,285.2	0.00	0.00	0.00
8,680.0	90.87	180.51	6,634.4	-2,310.6	-294.6	2,325.1	0.00	0.00	0.00
8,720.0	90.87	180.51	6,633.8	-2,350.6	-295.0	2,365.1	0.00	0.00	0.00
8,760.0	90.87	180.51	6,633.2	-2,390.6	-295.3	2,405.0	0.00	0.00	0.00
8,800.0	90.87	180.51	6,632.6	-2,430.6	-295.7	2,444.9	0.00	0.00	0.00
8,840.0	90.87	180.51	6,632.0	-2,470.6	-296.0	2,484.9	0.00	0.00	0.00
8,880.0	90.87	180.51	6,631.4	-2,510.6	-296.4	2,524.8	0.00	0.00	0.00
8,920.0	90.87	180.51	6,630.8	-2,550.6	-296.8	2,564.7	0.00	0.00	0.00
8,960.0	90.87	180.51	6,630.2	-2,590.6	-297.1	2,604.6	0.00	0.00	0.00
9,000.0	90.87	180.51	6,629.6	-2,630.6	-297.5	2,644.6	0.00	0.00	0.00
9,040.0	90.87	180.51	6,629.0	-2,670.6	-297.8	2,684.5	0.00	0.00	0.00
9,080.0	90.87	180.51	6,628.4	-2,710.5	-298.2	2,724.4	0.00	0.00	0.00
9,120.0	90.87	180.51	6,627.8	-2,750.5	-298.5	2,764.3	0.00	0.00	0.00
9,160.0	90.87	180.51	6,627.2	-2,790.5	-298.9	2,804.3	0.00	0.00	0.00
9,200.0	90.87	180.51	6,626.5	-2,830.5	-299.2	2,844.2	0.00	0.00	0.00
9,240.0	90.87	180.51	6,625.9	-2,870.5	-299.6	2,884.1	0.00	0.00	0.00
9,280.0	90.87	180.51	6,625.3	-2,910.5	-299.9	2,924.1	0.00	0.00	0.00
9,320.0	90.87	180.51	6,624.7	-2,950.5	-300.3	2,964.0	0.00	0.00	0.00
9,360.0	90.87	180.51	6,624.1	-2,990.5	-300.6	3,003.9	0.00	0.00	0.00
9,400.0	90.87	180.51	6,623.5	-3,030.5	-301.0	3,043.8	0.00	0.00	0.00
9,440.0	90.87	180.51	6,622.9	-3,070.5	-301.3	3,083.8	0.00	0.00	0.00
9,480.0	90.87	180.51	6,622.3	-3,110.5	-301.7	3,123.7	0.00	0.00	0.00
9,520.0	90.87	180.51	6,621.7	-3,150.5	-302.1	3,163.6	0.00	0.00	0.00
9,560.0	90.87	180.51	6,621.1	-3,190.5	-302.4	3,203.6	0.00	0.00	0.00
9,600.0	90.87	180.51	6,620.5	-3,230.5	-302.8	3,243.5	0.00	0.00	0.00
9,640.0	90.87	180.51	6,619.9	-3,270.5	-303.1	3,283.4	0.00	0.00	0.00
9,680.0	90.87	180.51	6,619.3	-3,310.5	-303.5	3,323.3	0.00	0.00	0.00
9,720.0	90.87	180.51	6,618.7	-3,350.4	-303.8	3,363.3	0.00	0.00	0.00
9,760.0	90.87	180.51	6,618.0	-3,390.4	-304.2	3,403.2	0.00	0.00	0.00
9,800.0	90.87	180.51	6,617.4	-3,430.4	-304.5	3,443.1	0.00	0.00	0.00
9,840.0	90.87	180.51	6,616.8	-3,470.4	-304.9	3,483.0	0.00	0.00	0.00
9,880.0	90.87	180.51	6,616.2	-3,510.4	-305.2	3,523.0	0.00	0.00	0.00
9,920.0	90.87	180.51	6,615.6	-3,550.4	-305.6	3,562.9	0.00	0.00	0.00
9,960.0	90.87	180.51	6,615.0	-3,590.4	-305.9	3,602.8	0.00	0.00	0.00
10,000.0	90.87	180.51	6,614.4	-3,630.4	-306.3	3,642.8	0.00	0.00	0.00
10,040.0	90.87	180.51	6,613.8	-3,670.4	-306.6	3,682.7	0.00	0.00	0.00
10,080.0	90.87	180.51	6,613.2	-3,710.4	-307.0	3,722.6	0.00	0.00	0.00
10,120.0	90.87	180.51	6,612.6	-3,750.4	-307.4	3,762.5	0.00	0.00	0.00
10,160.0	90.87	180.51	6,612.0	-3,790.4	-307.7	3,802.5	0.00	0.00	0.00



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Guttersen 6M-203
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4838.0ft (RKB - 15')
<b>Project:</b>	SEC.6-T2N-R63W	<b>MD Reference:</b>	WELL @ 4838.0ft (RKB - 15')
<b>Site:</b>	Guttersen 6M-203 Pad Sec.6-T2N-R63W	<b>North Reference:</b>	True
<b>Well:</b>	Guttersen 6M-203	<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)
10,200.0	90.87	180.51	6,611.4	-3,830.4	-308.1	3,842.4	0.00	0.00	0.00
10,240.0	90.87	180.51	6,610.8	-3,870.4	-308.4	3,882.3	0.00	0.00	0.00
10,280.0	90.87	180.51	6,610.1	-3,910.4	-308.8	3,922.3	0.00	0.00	0.00
10,320.0	90.87	180.51	6,609.5	-3,950.4	-309.1	3,962.2	0.00	0.00	0.00
10,360.0	90.87	180.51	6,608.9	-3,990.3	-309.5	4,002.1	0.00	0.00	0.00
10,400.0	90.87	180.51	6,608.3	-4,030.3	-309.8	4,042.0	0.00	0.00	0.00
10,440.0	90.87	180.51	6,607.7	-4,070.3	-310.2	4,082.0	0.00	0.00	0.00
10,480.0	90.87	180.51	6,607.1	-4,110.3	-310.5	4,121.9	0.00	0.00	0.00
10,520.0	90.87	180.51	6,606.5	-4,150.3	-310.9	4,161.8	0.00	0.00	0.00
10,560.0	90.87	180.51	6,605.9	-4,190.3	-311.2	4,201.8	0.00	0.00	0.00
10,600.0	90.87	180.51	6,605.3	-4,230.3	-311.6	4,241.7	0.00	0.00	0.00
10,640.0	90.87	180.51	6,604.7	-4,270.3	-311.9	4,281.6	0.00	0.00	0.00
10,680.0	90.87	180.51	6,604.1	-4,310.3	-312.3	4,321.5	0.00	0.00	0.00
10,720.0	90.87	180.51	6,603.5	-4,350.3	-312.7	4,361.5	0.00	0.00	0.00
10,760.0	90.87	180.51	6,602.9	-4,390.3	-313.0	4,401.4	0.00	0.00	0.00
10,800.0	90.87	180.51	6,602.3	-4,430.3	-313.4	4,441.3	0.00	0.00	0.00
10,840.0	90.87	180.51	6,601.6	-4,470.3	-313.7	4,481.2	0.00	0.00	0.00
10,880.0	90.87	180.51	6,601.0	-4,510.3	-314.1	4,521.2	0.00	0.00	0.00
10,920.0	90.87	180.51	6,600.4	-4,550.3	-314.4	4,561.1	0.00	0.00	0.00
10,960.0	90.87	180.51	6,599.8	-4,590.3	-314.8	4,601.0	0.00	0.00	0.00
11,000.0	90.87	180.51	6,599.2	-4,630.2	-315.1	4,641.0	0.00	0.00	0.00
11,040.0	90.87	180.51	6,598.6	-4,670.2	-315.5	4,680.9	0.00	0.00	0.00
11,080.0	90.87	180.51	6,598.0	-4,710.2	-315.8	4,720.8	0.00	0.00	0.00
11,080.1	90.87	180.51	6,598.0	-4,710.4	-315.8	4,720.9	0.00	0.00	0.00
BHL 500'FSL, 2468'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									
Guttersen 31-6 (Exist.	0.00	0.00	0.0	-590.2	231.9	1,307,454.48	3,285,601.76	40.172840	-104.477940
- plan misses target center by 634.1ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E)									
- Circle (radius 500.0)									
Guttersen 32-6 (Exist.	0.00	0.00	0.0	-1,919.8	204.0	1,306,124.61	3,285,589.14	40.169190	-104.478040
- plan misses target center by 1930.7ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E)									
- Circle (radius 500.0)									
BHL 500'FSL, 2468'FI	0.00	0.00	6,598.0	-4,710.4	-315.8	1,303,328.43	3,285,101.49	40.161530	-104.479900
- plan hits target center									
- Point									

## Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,119.7	6,658.1	7"	7	7-1/2

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Guttersen 6M-203
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4838.0ft (RKB - 15')
<b>Project:</b>	SEC.6-T2N-R63W	<b>MD Reference:</b>	WELL @ 4838.0ft (RKB - 15')
<b>Site:</b>	Guttersen 6M-203 Pad Sec.6-T2N-R63W	<b>North Reference:</b>	True
<b>Well:</b>	Guttersen 6M-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (5-31-13)		

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
5,908.1	5,894.3	25.0	-274.0	KOP #2
7,119.7	6,658.1	-750.5	-280.9	End of Build



## **Directional**

# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.6-T2N-R63W**

**Guttersen 6M-203 Pad Sec.6-T2N-R63W**

**Guttersen 6M-203**

**Wellbore #1**

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

## **Anticollision Report**

**31 May, 2013**







[illegible]

Offset Design		Existing Wells Sec.6-T2N-R63W - Guttersen 31-6 (Exist) - Wellbore #1 - Wellbore #1											Offset Site Error:		ft
Survey Program:		100-NS-GYRO-MS											Offset Well Error:		ft
Reference		Offset		Semi Major Axis		Highside Toolface	Offset Wellbore Centre		Distance		Minimum Separation	Separation Factor	Warning		
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset		+N/-S	+E/-W	Between Centres	Between Ellipses					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)				
											85.45				
											87.33				
											89.21				
											91.09				
											92.97				
											94.85				
											96.74				
											98.63				
											100.51				
											102.40				
											103.91				



[illegible]





[illegible]

[illegible]



Offset Design		Guttersen 6M-203 Pad Sec.6-T2N-R63W - Guttersen 6R-243 - Wellbore #1 - Plan #1 (1-07-13)											Offset Site Error:		ft
Survey Program:		0-MWD											Offset Well Error:		ft
Reference		Offset		Semi Major Axis		Distance									
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
												0.22			
												0.67			
												1.12			
												1.57			
												2.02			
												2.47			
												2.92			
												3.37			
												3.82			
												4.27	CC, ES		
												4.69			
												5.09			
												5.50			
												5.93			
												6.33			
												6.76			
												7.18			
												7.61			
												8.05			
												8.49			
												8.93			
												9.37			
												9.82			
												10.26			
												10.71			
												11.16			
												11.61			
												12.06			
												12.51			
												12.97			
												13.42			
												13.88			
												14.33			
												14.79			
												15.25			
												15.70			
												15.75			
												16.17			
												16.61			
												17.04			
												17.46			
												17.52			
												17.89			
												18.33			
												18.78			
												19.21			
												19.63			
												20.05			
												20.46			
												20.88			



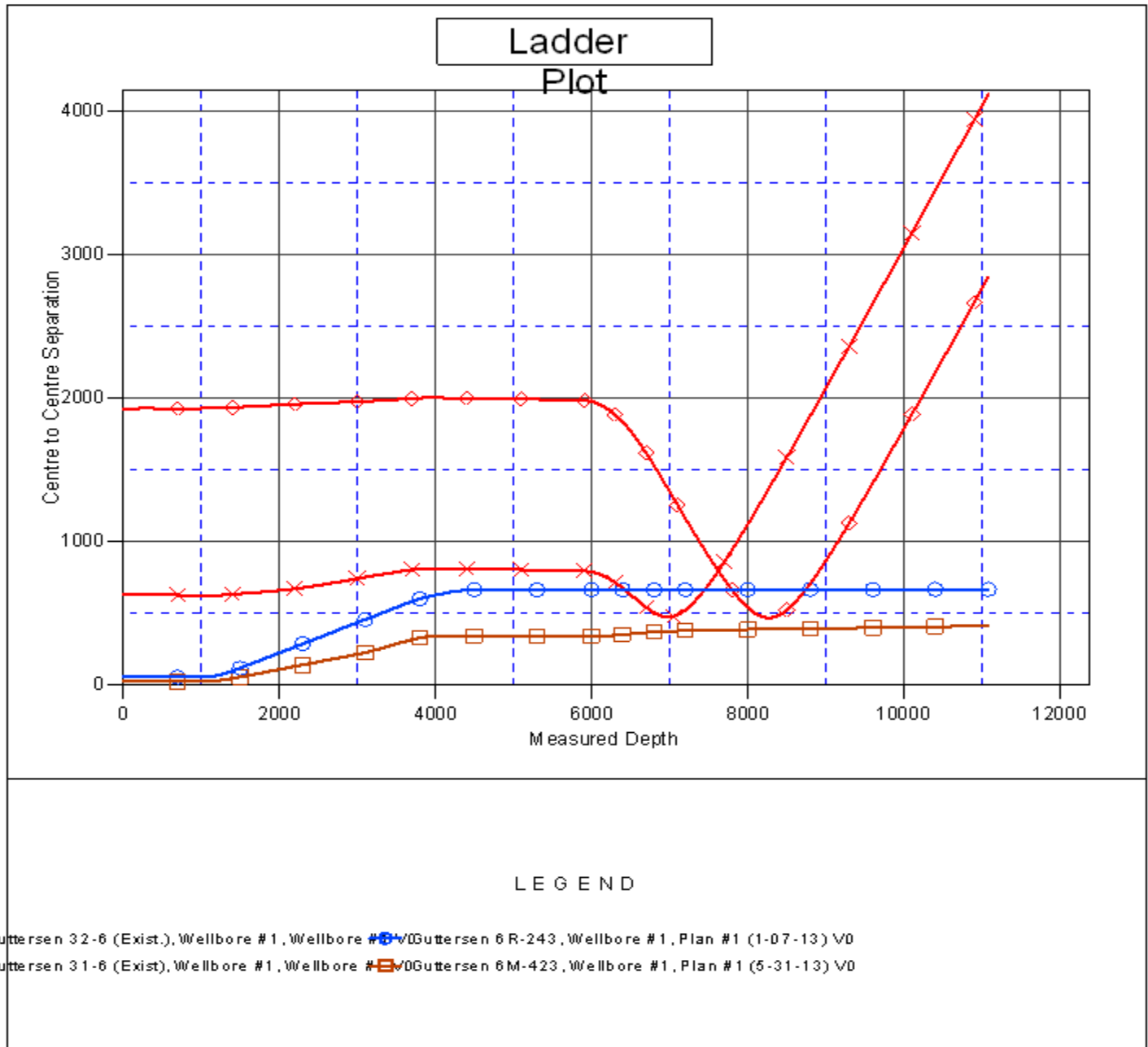


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<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Guttersen 6M-203
<b>Project:</b>	SEC.6-T2N-R63W	<b>TVD Reference:</b>	WELL @ 4838.0ft (RKB - 15')
<b>Reference Site:</b>	Guttersen 6M-203 Pad Sec.6-T2N-R63W	<b>MD Reference:</b>	WELL @ 4838.0ft (RKB - 15')
<b>Site Error:</b>	Àu!Àu!□, pL □ ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Guttersen 6M-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	ft	<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>	Offset Datum

Reference Depths are relative to WELL @ 4838.0ft (RKB - 15')  
Offset Depths are relative to Offset Datum  
Central Meridian is °

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



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Guttersen 6M-203
<b>Project:</b>	SEC.6-T2N-R63W	<b>TVD Reference:</b>	WELL @ 4838.0ft (RKB - 15')
<b>Reference Site:</b>	Guttersen 6M-203 Pad Sec.6-T2N-R63W	<b>MD Reference:</b>	WELL @ 4838.0ft (RKB - 15')
<b>Site Error:</b>	±0.00 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Guttersen 6M-203	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	ft	<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>	Offset Datum

Reference Depths are relative to WELL @ 4838.0ft (RKB - 15')  
Offset Depths are relative to Offset Datum  
Central Meridian is °

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

