

# PETROLEUM DEVELOPMENT CORP Weld County CO

## Well Name: Danielson 15G-232

Surface Location: Danielson Pad Sec.15-T7N-R66W  
North American Datum 1983 , US State Plane 1983 Colorado Northern Zone

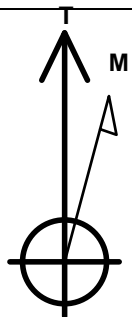
Ground Elevation: 4950.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1453044.09	3202066.78	40.574730	-104.772590	

Original Well Elev WELL @ 4965.0ft (Original Well Elev)

### WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
HARDLINES BHL 460'FEL (2)	1.0	200.0	4651.5	1453282.23	3206716.35	40.575278	-104.755846	Polygon
HARDLINES SHL 460'FWL (2)	1.0	200.0	205.0	1453245.76	3202270.13	40.575279	-104.771852	Polygon
SECTION LINE 255'W OF SHL (2)	1.0	200.0	-255.0	1453241.99	3201810.16	40.575279	-104.773508	Polygon
BHL 2400'FSL, 500'FEL	7285.0	-61.5	4611.5	1453020.42	3206678.50	40.574560	-104.755990	Point



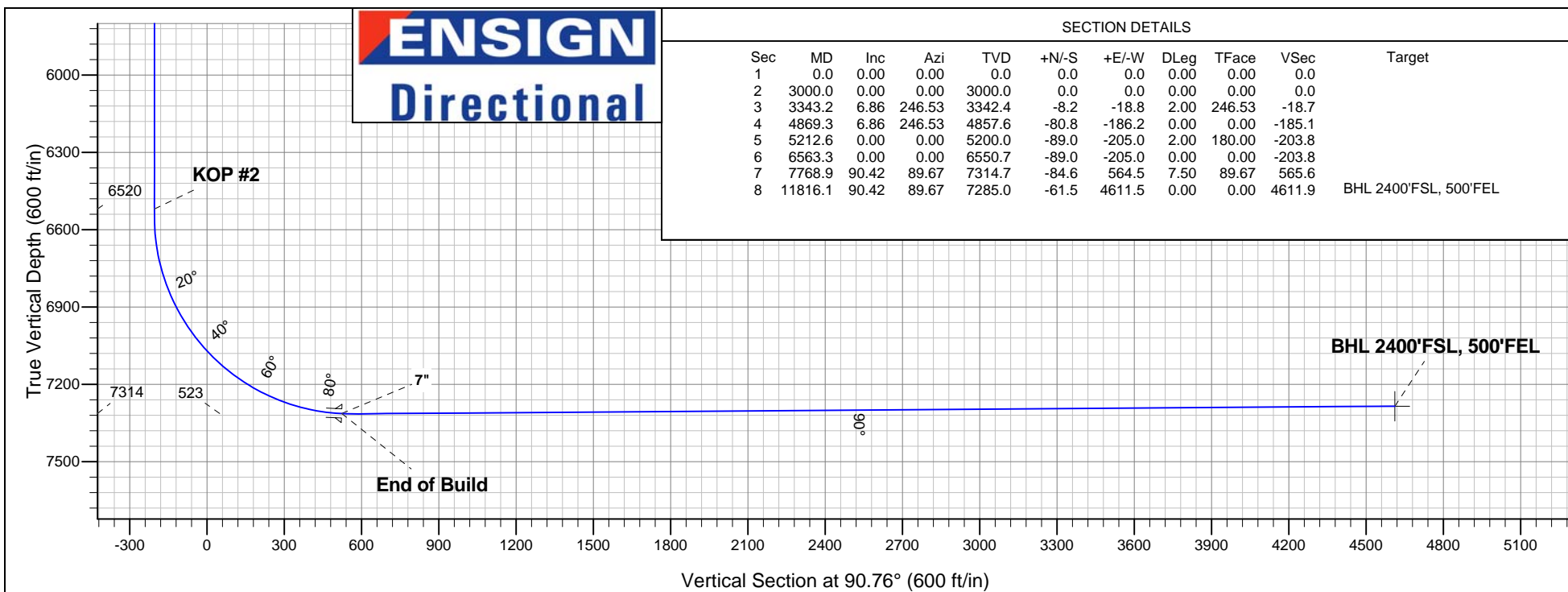
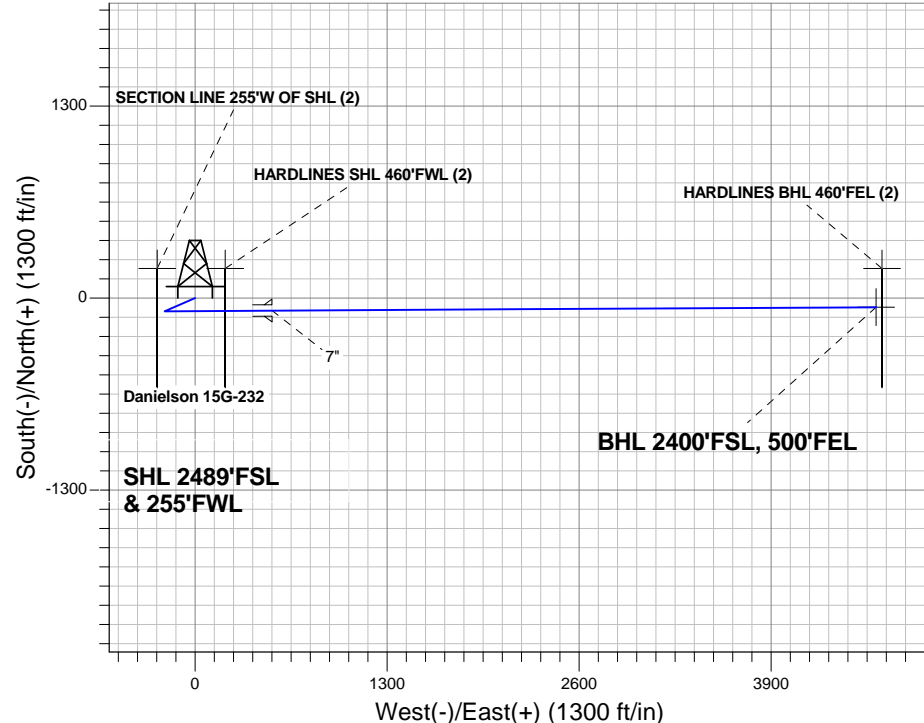
Azimuths to True North  
Magnetic North: 8.75°

Magnetic Field  
Strength: 53119.3nT  
Dip Angle: 67.16°  
Date: 6/1/2012  
Model: IGRF2010

### ANNOTATIONS

TVD	MD	Annotation
3000.0	3000.0	KOP #1
6519.5	6532.1	KOP #2
7313.8	7726.5	End of Build

Danielson Pad Sec.15-T7N-R66W  
Danielson 15G-232  
Plan #1 (6-01-12)  
13:46, June 14 2012





# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.15-T7N-R66W**

**Danielson Pad Sec.15-T7N-R66W**

**Danielson 15G-232**

**Wellbore #1**

**Plan: Plan #1 (6-01-12)**

## **Standard Planning Report**

**14 June, 2012**

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Danielson 15G-232
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Project:</b>	SEC.15-T7N-R66W	<b>MD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Site:</b>	Danielson Pad Sec.15-T7N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Danielson 15G-232	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (6-01-12)		

<b>Project</b>	SEC.15-T7N-R66W, 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

<b>Site</b>	Danielson Pad Sec.15-T7N-R66W		
<b>Site Position:</b>		<b>Northing:</b>	1,453,044.10 ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,202,066.78 ft
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"
		<b>Latitude:</b>	40.574730
		<b>Longitude:</b>	-104.772590
		<b>Grid Convergence:</b>	0.47 °

<b>Well</b>	Danielson 15G-232		
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b>
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b>
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>
			ft
			<b>Latitude:</b>
			<b>Longitude:</b>
			<b>Ground Level:</b>
			4,950.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	6/1/2012	8.75	67.16	53,119

<b>Design</b>	Plan #1 (6-01-12)			
<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	90.76

<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	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,343.2	6.86	246.53	3,342.4	-8.2	-18.8	2.00	2.00	0.00	246.53	
4,869.3	6.86	246.53	4,857.6	-80.8	-186.2	0.00	0.00	0.00	0.00	
5,212.6	0.00	0.00	5,200.0	-89.0	-205.0	2.00	-2.00	0.00	180.00	
6,563.3	0.00	0.00	6,550.7	-89.0	-205.0	0.00	0.00	0.00	0.00	
7,768.9	90.42	89.67	7,314.7	-84.6	564.5	7.50	7.50	0.00	89.67	
11,816.1	90.42	89.67	7,285.0	-61.5	4,611.5	0.00	0.00	0.00	0.00	BHL 2400'FSL, 500

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Danielson 15G-232
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Project:</b>	SEC.15-T7N-R66W	<b>MD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Site:</b>	Danielson Pad Sec.15-T7N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Danielson 15G-232	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (6-01-12)		

## 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
<b>HARDLINES SHL 460'FWL (2) - HARDLINES BHL 460'FEL (2) - SECTION LINE 255'W OF SHL (2)</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
1,040.0	0.00	0.00	1,040.0	0.0	0.0	0.0	0.00	0.00	0.00
1,080.0	0.00	0.00	1,080.0	0.0	0.0	0.0	0.00	0.00	0.00
1,120.0	0.00	0.00	1,120.0	0.0	0.0	0.0	0.00	0.00	0.00
1,160.0	0.00	0.00	1,160.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,240.0	0.00	0.00	1,240.0	0.0	0.0	0.0	0.00	0.00	0.00
1,280.0	0.00	0.00	1,280.0	0.0	0.0	0.0	0.00	0.00	0.00
1,320.0	0.00	0.00	1,320.0	0.0	0.0	0.0	0.00	0.00	0.00
1,360.0	0.00	0.00	1,360.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,440.0	0.00	0.00	1,440.0	0.0	0.0	0.0	0.00	0.00	0.00
1,480.0	0.00	0.00	1,480.0	0.0	0.0	0.0	0.00	0.00	0.00
1,520.0	0.00	0.00	1,520.0	0.0	0.0	0.0	0.00	0.00	0.00
1,560.0	0.00	0.00	1,560.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,640.0	0.00	0.00	1,640.0	0.0	0.0	0.0	0.00	0.00	0.00
1,680.0	0.00	0.00	1,680.0	0.0	0.0	0.0	0.00	0.00	0.00
1,720.0	0.00	0.00	1,720.0	0.0	0.0	0.0	0.00	0.00	0.00
1,760.0	0.00	0.00	1,760.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,840.0	0.00	0.00	1,840.0	0.0	0.0	0.0	0.00	0.00	0.00
1,880.0	0.00	0.00	1,880.0	0.0	0.0	0.0	0.00	0.00	0.00
1,920.0	0.00	0.00	1,920.0	0.0	0.0	0.0	0.00	0.00	0.00
1,960.0	0.00	0.00	1,960.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00

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<b>Site:</b>	Danielson Pad Sec.15-T7N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Danielson 15G-232	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (6-01-12)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2,040.0	0.00	0.00	2,040.0	0.0	0.0	0.0	0.00	0.00	0.00
2,080.0	0.00	0.00	2,080.0	0.0	0.0	0.0	0.00	0.00	0.00
2,120.0	0.00	0.00	2,120.0	0.0	0.0	0.0	0.00	0.00	0.00
2,160.0	0.00	0.00	2,160.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,240.0	0.00	0.00	2,240.0	0.0	0.0	0.0	0.00	0.00	0.00
2,280.0	0.00	0.00	2,280.0	0.0	0.0	0.0	0.00	0.00	0.00
2,320.0	0.00	0.00	2,320.0	0.0	0.0	0.0	0.00	0.00	0.00
2,360.0	0.00	0.00	2,360.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,440.0	0.00	0.00	2,440.0	0.0	0.0	0.0	0.00	0.00	0.00
2,480.0	0.00	0.00	2,480.0	0.0	0.0	0.0	0.00	0.00	0.00
2,520.0	0.00	0.00	2,520.0	0.0	0.0	0.0	0.00	0.00	0.00
2,560.0	0.00	0.00	2,560.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,640.0	0.00	0.00	2,640.0	0.0	0.0	0.0	0.00	0.00	0.00
2,680.0	0.00	0.00	2,680.0	0.0	0.0	0.0	0.00	0.00	0.00
2,720.0	0.00	0.00	2,720.0	0.0	0.0	0.0	0.00	0.00	0.00
2,760.0	0.00	0.00	2,760.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,840.0	0.00	0.00	2,840.0	0.0	0.0	0.0	0.00	0.00	0.00
2,880.0	0.00	0.00	2,880.0	0.0	0.0	0.0	0.00	0.00	0.00
2,920.0	0.00	0.00	2,920.0	0.0	0.0	0.0	0.00	0.00	0.00
2,960.0	0.00	0.00	2,960.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP #1</b>									
3,040.0	0.80	246.53	3,040.0	-0.1	-0.3	-0.3	2.00	2.00	0.00
3,080.0	1.60	246.53	3,080.0	-0.4	-1.0	-1.0	2.00	2.00	0.00
3,120.0	2.40	246.53	3,120.0	-1.0	-2.3	-2.3	2.00	2.00	0.00
3,160.0	3.20	246.53	3,159.9	-1.8	-4.1	-4.1	2.00	2.00	0.00
3,200.0	4.00	246.53	3,199.8	-2.8	-6.4	-6.4	2.00	2.00	0.00
3,240.0	4.80	246.53	3,239.7	-4.0	-9.2	-9.2	2.00	2.00	0.00
3,280.0	5.60	246.53	3,279.6	-5.4	-12.5	-12.5	2.00	2.00	0.00
3,320.0	6.40	246.53	3,319.3	-7.1	-16.4	-16.3	2.00	2.00	0.00
3,343.2	6.86	246.53	3,342.4	-8.2	-18.8	-18.7	2.00	2.00	0.00
3,360.0	6.86	246.53	3,359.1	-9.0	-20.7	-20.6	0.00	0.00	0.00
3,400.0	6.86	246.53	3,398.8	-10.9	-25.1	-24.9	0.00	0.00	0.00
3,440.0	6.86	246.53	3,438.5	-12.8	-29.4	-29.3	0.00	0.00	0.00
3,480.0	6.86	246.53	3,478.2	-14.7	-33.8	-33.6	0.00	0.00	0.00
3,520.0	6.86	246.53	3,517.9	-16.6	-38.2	-38.0	0.00	0.00	0.00
3,560.0	6.86	246.53	3,557.6	-18.5	-42.6	-42.4	0.00	0.00	0.00
3,600.0	6.86	246.53	3,597.3	-20.4	-47.0	-46.7	0.00	0.00	0.00
3,640.0	6.86	246.53	3,637.1	-22.3	-51.4	-51.1	0.00	0.00	0.00
3,680.0	6.86	246.53	3,676.8	-24.2	-55.8	-55.4	0.00	0.00	0.00
3,720.0	6.86	246.53	3,716.5	-26.1	-60.1	-59.8	0.00	0.00	0.00
3,760.0	6.86	246.53	3,756.2	-28.0	-64.5	-64.2	0.00	0.00	0.00
3,800.0	6.86	246.53	3,795.9	-29.9	-68.9	-68.5	0.00	0.00	0.00
3,840.0	6.86	246.53	3,835.6	-31.8	-73.3	-72.9	0.00	0.00	0.00
3,880.0	6.86	246.53	3,875.3	-33.7	-77.7	-77.2	0.00	0.00	0.00
3,920.0	6.86	246.53	3,915.0	-35.6	-82.1	-81.6	0.00	0.00	0.00
3,960.0	6.86	246.53	3,954.8	-37.5	-86.5	-86.0	0.00	0.00	0.00
4,000.0	6.86	246.53	3,994.5	-39.4	-90.8	-90.3	0.00	0.00	0.00
4,040.0	6.86	246.53	4,034.2	-41.3	-95.2	-94.7	0.00	0.00	0.00

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<b>Project:</b>	SEC.15-T7N-R66W	<b>MD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Site:</b>	Danielson Pad Sec.15-T7N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Danielson 15G-232	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (6-01-12)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,080.0	6.86	246.53	4,073.9	-43.2	-99.6	-99.0	0.00	0.00	0.00
4,120.0	6.86	246.53	4,113.6	-45.2	-104.0	-103.4	0.00	0.00	0.00
4,160.0	6.86	246.53	4,153.3	-47.1	-108.4	-107.8	0.00	0.00	0.00
4,200.0	6.86	246.53	4,193.0	-49.0	-112.8	-112.1	0.00	0.00	0.00
4,240.0	6.86	246.53	4,232.8	-50.9	-117.2	-116.5	0.00	0.00	0.00
4,280.0	6.86	246.53	4,272.5	-52.8	-121.5	-120.8	0.00	0.00	0.00
4,320.0	6.86	246.53	4,312.2	-54.7	-125.9	-125.2	0.00	0.00	0.00
4,360.0	6.86	246.53	4,351.9	-56.6	-130.3	-129.6	0.00	0.00	0.00
4,400.0	6.86	246.53	4,391.6	-58.5	-134.7	-133.9	0.00	0.00	0.00
4,440.0	6.86	246.53	4,431.3	-60.4	-139.1	-138.3	0.00	0.00	0.00
4,480.0	6.86	246.53	4,471.0	-62.3	-143.5	-142.6	0.00	0.00	0.00
4,520.0	6.86	246.53	4,510.7	-64.2	-147.9	-147.0	0.00	0.00	0.00
4,560.0	6.86	246.53	4,550.5	-66.1	-152.2	-151.3	0.00	0.00	0.00
4,600.0	6.86	246.53	4,590.2	-68.0	-156.6	-155.7	0.00	0.00	0.00
4,640.0	6.86	246.53	4,629.9	-69.9	-161.0	-160.1	0.00	0.00	0.00
4,680.0	6.86	246.53	4,669.6	-71.8	-165.4	-164.4	0.00	0.00	0.00
4,720.0	6.86	246.53	4,709.3	-73.7	-169.8	-168.8	0.00	0.00	0.00
4,760.0	6.86	246.53	4,749.0	-75.6	-174.2	-173.1	0.00	0.00	0.00
4,800.0	6.86	246.53	4,788.7	-77.5	-178.6	-177.5	0.00	0.00	0.00
4,840.0	6.86	246.53	4,828.4	-79.4	-182.9	-181.9	0.00	0.00	0.00
4,869.3	6.86	246.53	4,857.6	-80.8	-186.2	-185.1	0.00	0.00	0.00
4,880.0	6.65	246.53	4,868.2	-81.3	-187.3	-186.2	2.00	-2.00	0.00
4,920.0	5.85	246.53	4,907.9	-83.1	-191.3	-190.2	2.00	-2.00	0.00
4,960.0	5.05	246.53	4,947.7	-84.6	-194.8	-193.6	2.00	-2.00	0.00
5,000.0	4.25	246.53	4,987.6	-85.9	-197.8	-196.6	2.00	-2.00	0.00
5,040.0	3.45	246.53	5,027.5	-86.9	-200.2	-199.1	2.00	-2.00	0.00
5,080.0	2.65	246.53	5,067.5	-87.8	-202.2	-201.0	2.00	-2.00	0.00
5,120.0	1.85	246.53	5,107.4	-88.4	-203.6	-202.4	2.00	-2.00	0.00
5,160.0	1.05	246.53	5,147.4	-88.8	-204.6	-203.4	2.00	-2.00	0.00
5,200.0	0.25	246.53	5,187.4	-89.0	-205.0	-203.8	2.00	-2.00	0.00
5,212.6	0.00	0.00	5,200.0	-89.0	-205.0	-203.8	2.00	-2.00	0.00
5,240.0	0.00	0.00	5,227.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
5,280.0	0.00	0.00	5,267.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
5,320.0	0.00	0.00	5,307.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
5,360.0	0.00	0.00	5,347.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
5,400.0	0.00	0.00	5,387.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
5,440.0	0.00	0.00	5,427.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
5,480.0	0.00	0.00	5,467.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
5,520.0	0.00	0.00	5,507.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
5,560.0	0.00	0.00	5,547.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
5,600.0	0.00	0.00	5,587.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
5,640.0	0.00	0.00	5,627.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
5,680.0	0.00	0.00	5,667.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
5,720.0	0.00	0.00	5,707.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
5,760.0	0.00	0.00	5,747.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
5,800.0	0.00	0.00	5,787.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
5,840.0	0.00	0.00	5,827.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
5,880.0	0.00	0.00	5,867.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
5,920.0	0.00	0.00	5,907.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
5,960.0	0.00	0.00	5,947.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
6,000.0	0.00	0.00	5,987.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
6,040.0	0.00	0.00	6,027.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
6,080.0	0.00	0.00	6,067.4	-89.0	-205.0	-203.8	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Danielson 15G-232
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Project:</b>	SEC.15-T7N-R66W	<b>MD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Site:</b>	Danielson Pad Sec.15-T7N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Danielson 15G-232	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (6-01-12)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,120.0	0.00	0.00	6,107.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
6,160.0	0.00	0.00	6,147.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
6,200.0	0.00	0.00	6,187.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
6,240.0	0.00	0.00	6,227.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
6,280.0	0.00	0.00	6,267.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
6,320.0	0.00	0.00	6,307.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
6,360.0	0.00	0.00	6,347.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
6,400.0	0.00	0.00	6,387.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
6,440.0	0.00	0.00	6,427.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
6,480.0	0.00	0.00	6,467.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
6,520.0	0.00	0.00	6,507.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
6,532.1	0.00	0.00	6,519.5	-89.0	-205.0	-203.8	0.00	0.00	0.00
<b>KOP #2</b>									
6,560.0	0.00	0.00	6,547.4	-89.0	-205.0	-203.8	0.00	0.00	0.00
6,563.3	0.00	0.00	6,550.7	-89.0	-205.0	-203.8	0.00	0.00	0.00
6,600.0	2.75	89.67	6,587.4	-89.0	-204.1	-202.9	7.50	7.50	0.00
6,640.0	5.75	89.67	6,627.3	-89.0	-201.2	-200.0	7.50	7.50	0.00
6,680.0	8.75	89.67	6,667.0	-88.9	-196.1	-194.9	7.50	7.50	0.00
6,720.0	11.75	89.67	6,706.3	-88.9	-189.0	-187.8	7.50	7.50	0.00
6,760.0	14.75	89.67	6,745.3	-88.9	-179.8	-178.6	7.50	7.50	0.00
6,800.0	17.75	89.67	6,783.7	-88.8	-168.6	-167.4	7.50	7.50	0.00
6,840.0	20.75	89.67	6,821.4	-88.7	-155.4	-154.2	7.50	7.50	0.00
6,880.0	23.75	89.67	6,858.4	-88.6	-140.3	-139.1	7.50	7.50	0.00
6,920.0	26.75	89.67	6,894.6	-88.5	-123.2	-122.0	7.50	7.50	0.00
6,960.0	29.75	89.67	6,929.8	-88.4	-104.3	-103.1	7.50	7.50	0.00
7,000.0	32.75	89.67	6,964.0	-88.3	-83.6	-82.4	7.50	7.50	0.00
7,040.0	35.75	89.67	6,997.1	-88.2	-61.1	-59.9	7.50	7.50	0.00
7,080.0	38.75	89.67	7,028.9	-88.0	-36.8	-35.7	7.50	7.50	0.00
7,120.0	41.75	89.67	7,059.4	-87.9	-11.0	-9.8	7.50	7.50	0.00
7,160.0	44.75	89.67	7,088.6	-87.7	16.4	17.6	7.50	7.50	0.00
7,200.0	47.75	89.67	7,116.2	-87.6	45.3	46.5	7.50	7.50	0.00
7,240.0	50.75	89.67	7,142.3	-87.4	75.6	76.8	7.50	7.50	0.00
7,280.0	53.75	89.67	7,166.8	-87.2	107.2	108.4	7.50	7.50	0.00
7,320.0	56.75	89.67	7,189.6	-87.0	140.1	141.2	7.50	7.50	0.00
7,360.0	59.75	89.67	7,210.7	-86.8	174.1	175.2	7.50	7.50	0.00
7,400.0	62.75	89.67	7,229.9	-86.6	209.2	210.3	7.50	7.50	0.00
7,440.0	65.75	89.67	7,247.3	-86.4	245.2	246.3	7.50	7.50	0.00
7,480.0	68.75	89.67	7,262.7	-86.2	282.1	283.2	7.50	7.50	0.00
7,520.0	71.75	89.67	7,276.3	-86.0	319.7	320.8	7.50	7.50	0.00
7,560.0	74.75	89.67	7,287.8	-85.8	358.0	359.1	7.50	7.50	0.00
7,600.0	77.75	89.67	7,297.3	-85.6	396.9	398.0	7.50	7.50	0.00
7,640.0	80.75	89.67	7,304.8	-85.3	436.1	437.2	7.50	7.50	0.00
7,680.0	83.75	89.67	7,310.1	-85.1	475.8	476.9	7.50	7.50	0.00
7,720.0	86.75	89.67	7,313.5	-84.9	515.6	516.7	7.50	7.50	0.00
7,726.5	87.24	89.67	7,313.8	-84.8	522.1	523.2	7.50	7.50	0.00
<b>End of Build - 7"</b>									
7,760.0	89.75	89.67	7,314.7	-84.7	555.6	556.7	7.50	7.50	0.00
7,768.9	90.42	89.67	7,314.7	-84.6	564.5	565.6	7.50	7.50	0.00
7,800.0	90.42	89.67	7,314.4	-84.4	595.6	596.7	0.00	0.00	0.00
7,840.0	90.42	89.67	7,314.1	-84.2	635.6	636.7	0.00	0.00	0.00
7,880.0	90.42	89.67	7,313.9	-84.0	675.6	676.7	0.00	0.00	0.00
7,920.0	90.42	89.67	7,313.6	-83.7	715.6	716.7	0.00	0.00	0.00
7,960.0	90.42	89.67	7,313.3	-83.5	755.6	756.6	0.00	0.00	0.00



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Danielson 15G-232
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Project:</b>	SEC.15-T7N-R66W	<b>MD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Site:</b>	Danielson Pad Sec.15-T7N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Danielson 15G-232	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (6-01-12)		

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)
8,000.0	90.42	89.67	7,313.0	-83.3	795.6	796.6	0.00	0.00	0.00
8,040.0	90.42	89.67	7,312.7	-83.1	835.6	836.6	0.00	0.00	0.00
8,080.0	90.42	89.67	7,312.4	-82.8	875.6	876.6	0.00	0.00	0.00
8,120.0	90.42	89.67	7,312.1	-82.6	915.6	916.6	0.00	0.00	0.00
8,160.0	90.42	89.67	7,311.8	-82.4	955.6	956.6	0.00	0.00	0.00
8,200.0	90.42	89.67	7,311.5	-82.1	995.6	996.6	0.00	0.00	0.00
8,240.0	90.42	89.67	7,311.2	-81.9	1,035.6	1,036.6	0.00	0.00	0.00
8,280.0	90.42	89.67	7,310.9	-81.7	1,075.6	1,076.6	0.00	0.00	0.00
8,320.0	90.42	89.67	7,310.6	-81.5	1,115.6	1,116.6	0.00	0.00	0.00
8,360.0	90.42	89.67	7,310.3	-81.2	1,155.6	1,156.6	0.00	0.00	0.00
8,400.0	90.42	89.67	7,310.0	-81.0	1,195.6	1,196.6	0.00	0.00	0.00
8,440.0	90.42	89.67	7,309.7	-80.8	1,235.6	1,236.5	0.00	0.00	0.00
8,480.0	90.42	89.67	7,309.5	-80.5	1,275.6	1,276.5	0.00	0.00	0.00
8,520.0	90.42	89.67	7,309.2	-80.3	1,315.6	1,316.5	0.00	0.00	0.00
8,560.0	90.42	89.67	7,308.9	-80.1	1,355.6	1,356.5	0.00	0.00	0.00
8,600.0	90.42	89.67	7,308.6	-79.9	1,395.6	1,396.5	0.00	0.00	0.00
8,640.0	90.42	89.67	7,308.3	-79.6	1,435.6	1,436.5	0.00	0.00	0.00
8,680.0	90.42	89.67	7,308.0	-79.4	1,475.6	1,476.5	0.00	0.00	0.00
8,720.0	90.42	89.67	7,307.7	-79.2	1,515.6	1,516.5	0.00	0.00	0.00
8,760.0	90.42	89.67	7,307.4	-78.9	1,555.6	1,556.5	0.00	0.00	0.00
8,800.0	90.42	89.67	7,307.1	-78.7	1,595.6	1,596.5	0.00	0.00	0.00
8,840.0	90.42	89.67	7,306.8	-78.5	1,635.6	1,636.5	0.00	0.00	0.00
8,880.0	90.42	89.67	7,306.5	-78.3	1,675.6	1,676.5	0.00	0.00	0.00
8,920.0	90.42	89.67	7,306.2	-78.0	1,715.6	1,716.4	0.00	0.00	0.00
8,960.0	90.42	89.67	7,305.9	-77.8	1,755.6	1,756.4	0.00	0.00	0.00
9,000.0	90.42	89.67	7,305.6	-77.6	1,795.6	1,796.4	0.00	0.00	0.00
9,040.0	90.42	89.67	7,305.3	-77.3	1,835.6	1,836.4	0.00	0.00	0.00
9,080.0	90.42	89.67	7,305.1	-77.1	1,875.5	1,876.4	0.00	0.00	0.00
9,120.0	90.42	89.67	7,304.8	-76.9	1,915.5	1,916.4	0.00	0.00	0.00
9,160.0	90.42	89.67	7,304.5	-76.7	1,955.5	1,956.4	0.00	0.00	0.00
9,200.0	90.42	89.67	7,304.2	-76.4	1,995.5	1,996.4	0.00	0.00	0.00
9,240.0	90.42	89.67	7,303.9	-76.2	2,035.5	2,036.4	0.00	0.00	0.00
9,280.0	90.42	89.67	7,303.6	-76.0	2,075.5	2,076.4	0.00	0.00	0.00
9,320.0	90.42	89.67	7,303.3	-75.8	2,115.5	2,116.4	0.00	0.00	0.00
9,360.0	90.42	89.67	7,303.0	-75.5	2,155.5	2,156.4	0.00	0.00	0.00
9,400.0	90.42	89.67	7,302.7	-75.3	2,195.5	2,196.3	0.00	0.00	0.00
9,440.0	90.42	89.67	7,302.4	-75.1	2,235.5	2,236.3	0.00	0.00	0.00
9,480.0	90.42	89.67	7,302.1	-74.8	2,275.5	2,276.3	0.00	0.00	0.00
9,520.0	90.42	89.67	7,301.8	-74.6	2,315.5	2,316.3	0.00	0.00	0.00
9,560.0	90.42	89.67	7,301.5	-74.4	2,355.5	2,356.3	0.00	0.00	0.00
9,600.0	90.42	89.67	7,301.2	-74.2	2,395.5	2,396.3	0.00	0.00	0.00
9,640.0	90.42	89.67	7,301.0	-73.9	2,435.5	2,436.3	0.00	0.00	0.00
9,680.0	90.42	89.67	7,300.7	-73.7	2,475.5	2,476.3	0.00	0.00	0.00
9,720.0	90.42	89.67	7,300.4	-73.5	2,515.5	2,516.3	0.00	0.00	0.00
9,760.0	90.42	89.67	7,300.1	-73.2	2,555.5	2,556.3	0.00	0.00	0.00
9,800.0	90.42	89.67	7,299.8	-73.0	2,595.5	2,596.3	0.00	0.00	0.00
9,840.0	90.42	89.67	7,299.5	-72.8	2,635.5	2,636.3	0.00	0.00	0.00
9,880.0	90.42	89.67	7,299.2	-72.6	2,675.5	2,676.2	0.00	0.00	0.00
9,920.0	90.42	89.67	7,298.9	-72.3	2,715.5	2,716.2	0.00	0.00	0.00
9,960.0	90.42	89.67	7,298.6	-72.1	2,755.5	2,756.2	0.00	0.00	0.00
10,000.0	90.42	89.67	7,298.3	-71.9	2,795.5	2,796.2	0.00	0.00	0.00
10,040.0	90.42	89.67	7,298.0	-71.6	2,835.5	2,836.2	0.00	0.00	0.00
10,080.0	90.42	89.67	7,297.7	-71.4	2,875.5	2,876.2	0.00	0.00	0.00



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Danielson 15G-232
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Project:</b>	SEC.15-T7N-R66W	<b>MD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Site:</b>	Danielson Pad Sec.15-T7N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Danielson 15G-232	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (6-01-12)		

## 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)
10,120.0	90.42	89.67	7,297.4	-71.2	2,915.5	2,916.2	0.00	0.00	0.00
10,160.0	90.42	89.67	7,297.1	-71.0	2,955.5	2,956.2	0.00	0.00	0.00
10,200.0	90.42	89.67	7,296.8	-70.7	2,995.5	2,996.2	0.00	0.00	0.00
10,240.0	90.42	89.67	7,296.6	-70.5	3,035.5	3,036.2	0.00	0.00	0.00
10,280.0	90.42	89.67	7,296.3	-70.3	3,075.5	3,076.2	0.00	0.00	0.00
10,320.0	90.42	89.67	7,296.0	-70.0	3,115.5	3,116.2	0.00	0.00	0.00
10,360.0	90.42	89.67	7,295.7	-69.8	3,155.5	3,156.1	0.00	0.00	0.00
10,400.0	90.42	89.67	7,295.4	-69.6	3,195.5	3,196.1	0.00	0.00	0.00
10,440.0	90.42	89.67	7,295.1	-69.4	3,235.5	3,236.1	0.00	0.00	0.00
10,480.0	90.42	89.67	7,294.8	-69.1	3,275.5	3,276.1	0.00	0.00	0.00
10,520.0	90.42	89.67	7,294.5	-68.9	3,315.5	3,316.1	0.00	0.00	0.00
10,560.0	90.42	89.67	7,294.2	-68.7	3,355.5	3,356.1	0.00	0.00	0.00
10,600.0	90.42	89.67	7,293.9	-68.4	3,395.5	3,396.1	0.00	0.00	0.00
10,640.0	90.42	89.67	7,293.6	-68.2	3,435.5	3,436.1	0.00	0.00	0.00
10,680.0	90.42	89.67	7,293.3	-68.0	3,475.5	3,476.1	0.00	0.00	0.00
10,720.0	90.42	89.67	7,293.0	-67.8	3,515.5	3,516.1	0.00	0.00	0.00
10,760.0	90.42	89.67	7,292.7	-67.5	3,555.5	3,556.1	0.00	0.00	0.00
10,800.0	90.42	89.67	7,292.4	-67.3	3,595.5	3,596.1	0.00	0.00	0.00
10,840.0	90.42	89.67	7,292.2	-67.1	3,635.5	3,636.0	0.00	0.00	0.00
10,880.0	90.42	89.67	7,291.9	-66.8	3,675.5	3,676.0	0.00	0.00	0.00
10,920.0	90.42	89.67	7,291.6	-66.6	3,715.5	3,716.0	0.00	0.00	0.00
10,960.0	90.42	89.67	7,291.3	-66.4	3,755.5	3,756.0	0.00	0.00	0.00
11,000.0	90.42	89.67	7,291.0	-66.2	3,795.5	3,796.0	0.00	0.00	0.00
11,040.0	90.42	89.67	7,290.7	-65.9	3,835.5	3,836.0	0.00	0.00	0.00
11,080.0	90.42	89.67	7,290.4	-65.7	3,875.5	3,876.0	0.00	0.00	0.00
11,120.0	90.42	89.67	7,290.1	-65.5	3,915.5	3,916.0	0.00	0.00	0.00
11,160.0	90.42	89.67	7,289.8	-65.2	3,955.5	3,956.0	0.00	0.00	0.00
11,200.0	90.42	89.67	7,289.5	-65.0	3,995.5	3,996.0	0.00	0.00	0.00
11,240.0	90.42	89.67	7,289.2	-64.8	4,035.5	4,036.0	0.00	0.00	0.00
11,280.0	90.42	89.67	7,288.9	-64.6	4,075.5	4,076.0	0.00	0.00	0.00
11,320.0	90.42	89.67	7,288.6	-64.3	4,115.5	4,115.9	0.00	0.00	0.00
11,360.0	90.42	89.67	7,288.3	-64.1	4,155.5	4,155.9	0.00	0.00	0.00
11,400.0	90.42	89.67	7,288.0	-63.9	4,195.4	4,195.9	0.00	0.00	0.00
11,440.0	90.42	89.67	7,287.8	-63.6	4,235.4	4,235.9	0.00	0.00	0.00
11,480.0	90.42	89.67	7,287.5	-63.4	4,275.4	4,275.9	0.00	0.00	0.00
11,520.0	90.42	89.67	7,287.2	-63.2	4,315.4	4,315.9	0.00	0.00	0.00
11,560.0	90.42	89.67	7,286.9	-63.0	4,355.4	4,355.9	0.00	0.00	0.00
11,600.0	90.42	89.67	7,286.6	-62.7	4,395.4	4,395.9	0.00	0.00	0.00
11,640.0	90.42	89.67	7,286.3	-62.5	4,435.4	4,435.9	0.00	0.00	0.00
11,680.0	90.42	89.67	7,286.0	-62.3	4,475.4	4,475.9	0.00	0.00	0.00
11,720.0	90.42	89.67	7,285.7	-62.0	4,515.4	4,515.9	0.00	0.00	0.00
11,760.0	90.42	89.67	7,285.4	-61.8	4,555.4	4,555.9	0.00	0.00	0.00
11,800.0	90.42	89.67	7,285.1	-61.6	4,595.4	4,595.8	0.00	0.00	0.00
11,816.1	90.42	89.67	7,285.0	-61.5	4,611.5	4,611.9	0.00	0.00	0.00

**BHL 2400'FSL, 500'FEL**

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Danielson 15G-232
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Project:</b>	SEC.15-T7N-R66W	<b>MD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Site:</b>	Danielson Pad Sec.15-T7N-R66W	<b>North Reference:</b>	True
<b>Well:</b>	Danielson 15G-232	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (6-01-12)		

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
BHL 2400'FSL, 500'FI	0.00	0.00	7,285.0	-61.5	4,611.5	1,453,020.42	3,206,678.50	40.574560	-104.755990
- plan hits target center									
- Point									
HARDLINES SHL 46C	0.00	0.00	1.0	200.0	205.0	1,453,245.76	3,202,270.13	40.575279	-104.771852
- plan misses target center by 286.4ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E)									
- Polygon									
Point 1			1.0	0.0	0.0	1,453,245.76	3,202,270.13		
Point 2			1.0	-800.0	0.0	1,452,445.81	3,202,276.69		
HARDLINES BHL 46C	0.00	0.00	1.0	200.0	4,651.5	1,453,282.23	3,206,716.35	40.575278	-104.755846
- plan misses target center by 4655.8ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E)									
- Polygon									
Point 1			1.0	0.0	0.0	1,453,282.23	3,206,716.35		
Point 2			1.0	-800.0	0.0	1,452,482.28	3,206,722.91		
SECTION LINE 255'W	0.00	0.00	1.0	200.0	-255.0	1,453,241.99	3,201,810.16	40.575279	-104.773508
- plan misses target center by 324.1ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E)									
- Polygon									
Point 1			1.0	0.0	0.0	1,453,241.99	3,201,810.16		
Point 2			1.0	-800.0	0.0	1,452,442.04	3,201,816.72		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)		Name	Casing Diameter (")	Hole Diameter (")
7,726.5	7,313.8	7"		7	8-3/4

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
3,000.0	3,000.0	0.0	0.0	KOP #1
6,532.1	6,519.5	-89.0	-205.0	KOP #2
7,726.5	7,313.8	-84.8	522.1	End of Build



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.15-T7N-R66W**

**Danielson Pad Sec.15-T7N-R66W**

**Danielson 15G-232**

**Wellbore #1**

**Plan #1 (6-01-12)**

## **Anticollision Report**

**14 June, 2012**



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Danielson 15G-232
<b>Project:</b>	SEC.15-T7N-R66W	<b>TVD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Reference Site:</b>	Danielson Pad Sec.15-T7N-R66W	<b>MD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Danielson 15G-232	<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 (6-01-12)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #1 (6-01-12)		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD Interval 100.0ft	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 1,000.0ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b> 6/7/2012			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	11,816.1	Plan #1 (6-01-12) (Wellbore #1)	MWD	MWD - Standard

<b>Summary</b>						
<b>Site Name</b>	<b>Reference Measured Depth (ft)</b>	<b>Offset Measured Depth (ft)</b>	<b>Distance Between Centres (ft)</b>	<b>Between Ellipses (ft)</b>	<b>Separation Factor</b>	<b>Warning</b>
<b>Offset Well - Wellbore - Design</b>						
Danielson Pad Sec.15-T7N-R66W						
Danielson 15G-412 - Wellbore #1 - Plan #1 (6-01-12)	600.0	600.0	62.3	59.9	25.215	CC, ES
Danielson 15G-412 - Wellbore #1 - Plan #1 (6-01-12)	11,816.1	12,004.4	534.1	286.8	2.160	SF
Danielson 15G-432 - Wellbore #1 - Plan #1 (6-01-12)	600.0	600.0	29.1	26.7	11.790	CC, ES
Danielson 15G-432 - Wellbore #1 - Plan #1 (6-01-12)	11,816.1	12,017.5	460.0	219.0	1.909	SF

<b>Offset Design</b>												
Danielson Pad Sec.15-T7N-R66W - Danielson 15G-412 - Wellbore #1 - Plan #1 (6-01-12)												
Survey Program: 0-MWD												
<b>Reference</b>	<b>Offset</b>	<b>Semi Major Axis</b>			<b>Distance</b>							
<b>Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Reference (ft)</b>	<b>Offset (ft)</b>	<b>Highside Toolface (°)</b>	<b>Offset Wellbore Centre +N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Between Centres (ft)</b>	<b>Between Ellipses (ft)</b>	<b>Minimum Separation (ft)</b>	<b>Separation Factor</b>
0.0	0.0	0.0	0.0	0.0	0.0	-45.48	43.7	-44.4	62.3			
100.0	100.0	100.0	100.0	0.1	0.1	-45.48	43.7	-44.4	62.3	62.1	0.22	277.367
200.0	200.0	200.0	200.0	0.3	0.3	-45.48	43.7	-44.4	62.3	61.7	0.67	92.456
300.0	300.0	300.0	300.0	0.6	0.6	-45.48	43.7	-44.4	62.3	61.2	1.12	55.473
400.0	400.0	400.0	400.0	0.8	0.8	-45.48	43.7	-44.4	62.3	60.8	1.57	39.624
500.0	500.0	500.0	500.0	1.0	1.0	-45.48	43.7	-44.4	62.3	60.3	2.02	30.819
600.0	600.0	600.0	600.0	1.2	1.2	-45.48	43.7	-44.4	62.3	59.9	2.47	25.215 CC, ES
700.0	700.0	698.0	698.0	1.5	1.5	-44.89	45.3	-45.1	63.9	61.0	2.92	21.921
800.0	800.0	795.8	795.6	1.7	1.7	-43.31	49.9	-47.0	68.7	65.3	3.36	20.440
900.0	900.0	893.1	892.6	1.9	1.9	-41.11	57.5	-50.2	76.7	72.9	3.81	20.114
1,000.0	1,000.0	990.4	989.2	2.1	2.2	-38.72	68.1	-54.6	88.0	83.7	4.29	20.528
1,100.0	1,100.0	1,089.6	1,087.6	2.4	2.4	-36.70	79.8	-59.5	100.3	95.5	4.78	20.987
1,200.0	1,200.0	1,188.8	1,185.9	2.6	2.7	-35.12	91.5	-64.4	112.8	107.5	5.28	21.339
1,300.0	1,300.0	1,287.9	1,284.3	2.8	3.0	-33.86	103.2	-69.2	125.3	119.5	5.79	21.616
1,400.0	1,400.0	1,387.1	1,382.7	3.0	3.3	-32.82	114.9	-74.1	137.8	131.5	6.31	21.838
1,500.0	1,500.0	1,486.3	1,481.1	3.3	3.6	-31.96	126.6	-79.0	150.4	143.5	6.83	22.021
1,600.0	1,600.0	1,585.5	1,579.4	3.5	3.9	-31.23	138.2	-83.8	163.0	155.6	7.35	22.174
1,700.0	1,700.0	1,684.7	1,677.8	3.7	4.2	-30.61	149.9	-88.7	175.6	167.7	7.87	22.304
1,800.0	1,800.0	1,783.9	1,776.2	3.9	4.5	-30.07	161.6	-93.6	188.3	179.9	8.40	22.415
1,900.0	1,900.0	1,883.0	1,874.5	4.2	4.8	-29.60	173.3	-98.4	200.9	192.0	8.93	22.511
2,000.0	2,000.0	1,982.2	1,972.9	4.4	5.1	-29.18	185.0	-103.3	213.6	204.2	9.45	22.596
2,100.0	2,100.0	2,081.4	2,071.3	4.6	5.5	-28.81	196.7	-108.2	226.3	216.3	9.98	22.670

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 Danielson 15G-232
<b>Project:</b>	SEC.15-T7N-R66W	<b>TVD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Reference Site:</b>	Danielson Pad Sec.15-T7N-R66W	<b>MD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Danielson 15G-232	<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 (6-01-12)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Danielson Pad Sec.15-T7N-R66W - Danielson 15G-412 - Wellbore #1 - Plan #1 (6-01-12)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,200.0	2,200.0	2,180.6	2,169.7	4.8	5.8	-28.48		208.4	-113.0	239.0	228.5	10.51	22.737	
2,300.0	2,300.0	2,279.8	2,268.0	5.1	6.1	-28.19		220.0	-117.9	251.7	240.6	11.04	22.796	
2,400.0	2,400.0	2,378.9	2,366.4	5.3	6.4	-27.92		231.7	-122.8	264.4	252.8	11.57	22.850	
2,500.0	2,500.0	2,478.1	2,464.8	5.5	6.7	-27.67		243.4	-127.7	277.1	265.0	12.10	22.898	
2,600.0	2,600.0	2,577.3	2,563.1	5.7	7.0	-27.45		255.1	-132.5	289.8	277.2	12.63	22.943	
2,700.0	2,700.0	2,676.5	2,661.5	6.0	7.4	-27.25		266.8	-137.4	302.5	289.4	13.16	22.983	
2,800.0	2,800.0	2,775.7	2,759.9	6.2	7.7	-27.06		278.5	-142.3	315.3	301.6	13.69	23.020	
2,900.0	2,900.0	2,874.9	2,858.3	6.4	8.0	-26.89		290.1	-147.1	328.0	313.8	14.23	23.054	
3,000.0	3,000.0	2,974.0	2,956.6	6.6	8.3	-26.73		301.8	-152.0	340.7	326.0	14.76	23.086	
3,100.0	3,100.0	3,073.2	3,055.0	6.8	8.6	-26.57		313.5	-156.9	353.4	339.5	15.29	23.118	
3,200.0	3,199.8	3,172.2	3,153.2	7.0	8.9	-26.42		325.2	-161.7	365.9	351.5	15.82	23.150	
3,300.0	3,299.5	3,271.0	3,251.2	7.2	9.3	-26.27		336.8	-166.6	378.4	363.6	16.35	23.182	
3,400.0	3,398.8	3,369.5	3,348.9	7.4	9.6	-26.12		348.4	-171.4	391.2	376.0	16.88	23.214	
3,500.0	3,498.1	3,468.0	3,446.5	7.6	9.9	-25.97		360.0	-176.2	404.3	388.6	17.41	23.246	
3,600.0	3,597.3	3,566.4	3,544.1	7.9	10.2	-25.82		371.6	-181.1	417.7	401.6	17.94	23.278	
3,700.0	3,696.6	3,664.8	3,641.8	8.1	10.5	-25.67		383.2	-185.9	431.4	414.9	18.47	23.310	
3,800.0	3,795.9	3,763.3	3,739.4	8.3	10.9	-25.52		394.8	-190.7	445.5	428.4	19.00	23.342	
3,900.0	3,895.2	3,862.3	3,837.6	8.6	11.2	-25.37		406.5	-195.6	459.7	442.1	19.53	23.374	
4,000.0	3,994.5	3,979.9	3,954.5	8.8	11.5	-25.22		418.0	-200.4	472.1	454.0	20.06	23.406	
4,100.0	4,093.8	4,098.4	4,072.8	9.1	11.7	-25.07		425.1	-203.4	480.6	462.1	20.59	23.438	
4,200.0	4,193.0	4,217.3	4,191.7	9.3	11.9	-24.92		427.7	-204.4	485.4	466.4	21.12	23.470	
4,300.0	4,292.3	4,318.0	4,292.3	9.6	12.0	-24.77		427.7	-204.4	488.2	468.7	21.65	23.502	
4,400.0	4,391.6	4,417.3	4,391.6	9.8	12.2	-24.62		427.7	-204.4	491.2	471.2	22.18	23.534	
4,500.0	4,490.9	4,516.5	4,490.9	10.1	12.4	-24.47		427.7	-204.4	494.5	474.0	22.71	23.566	
4,600.0	4,590.2	4,615.8	4,590.2	10.4	12.6	-24.32		427.7	-204.4	498.0	477.1	23.24	23.598	
4,700.0	4,689.5	4,715.1	4,689.5	10.7	12.7	-24.17		427.7	-204.4	501.8	480.4	23.77	23.630	
4,800.0	4,788.7	4,814.4	4,788.7	10.9	12.9	-24.02		427.7	-204.4	505.9	484.0	24.30	23.662	
4,900.0	4,888.0	4,913.7	4,888.0	11.2	13.1	-23.87		427.7	-204.4	510.2	487.7	24.83	23.694	
5,000.0	4,987.6	5,013.3	4,987.6	11.4	13.3	-23.72		427.7	-204.4	513.6	490.7	25.36	23.726	
5,100.0	5,087.4	5,113.1	5,087.4	11.6	13.4	-23.57		427.7	-204.4	515.8	492.5	25.89	23.758	
5,200.0	5,187.4	5,213.1	5,187.4	11.8	13.6	-23.42		427.7	-204.4	516.7	492.9	26.42	23.790	
5,300.0	5,287.4	5,313.1	5,287.4	12.0	13.8	-23.27	0.06	427.7	-204.4	516.7	491.8	26.95	23.822	
5,400.0	5,387.4	5,413.1	5,387.4	12.2	14.0	-23.12	0.06	427.7	-204.4	516.7	491.4	27.48	23.854	
5,500.0	5,487.4	5,513.1	5,487.4	12.4	14.2	-22.97	0.06	427.7	-204.4	516.7	491.0	28.01	23.886	
5,600.0	5,587.4	5,613.1	5,587.4	12.6	14.4	-22.82	0.06	427.7	-204.4	516.7	490.6	28.54	23.918	
5,700.0	5,687.4	5,713.1	5,687.4	12.9	14.6	-22.67	0.06	427.7	-204.4	516.7	490.2	29.07	23.950	
5,800.0	5,787.4	5,813.1	5,787.4	13.1	14.7	-22.52	0.06	427.7	-204.4	516.7	489.8	29.60	23.982	
5,900.0	5,887.4	5,913.1	5,887.4	13.3	14.9	-22.37	0.06	427.7	-204.4	516.7	489.4	30.13	24.014	
6,000.0	5,987.4	6,013.1	5,987.4	13.5	15.1	-22.22	0.06	427.7	-204.4	516.7	489.0	30.66	24.046	
6,100.0	6,087.4	6,113.1	6,087.4	13.7	15.3	-22.07	0.06	427.7	-204.4	516.7	488.6	31.19	24.078	
6,200.0	6,187.4	6,213.1	6,187.4	13.9	15.5	-21.92	0.06	427.7	-204.4	516.7	488.1	31.72	24.110	
6,300.0	6,287.4	6,313.1	6,287.4	14.1	15.7	-21.77	0.06	427.7	-204.4	516.7	487.7	32.25	24.142	
6,400.0	6,387.4	6,413.1	6,387.4	14.3	15.9	-21.62	0.06	427.7	-204.4	516.7	487.3	32.78	24.174	
6,500.0	6,487.4	6,513.1	6,487.4	14.5	16.1	-21.47	0.06	427.7	-204.4	516.7	486.9	33.31	24.206	
6,600.0	6,587.4	6,613.1	6,587.4	14.7	16.3	-21.32	-89.71	427.7	-204.4	516.7	487.0	33.84	24.238	
6,636.5	6,623.8	6,649.5	6,623.8	14.8	16.4	-21.17	-90.00	427.7	-204.4	516.7	486.9	34.37	24.270	
6,700.0	6,686.7	6,712.3	6,686.7	14.9	16.5	-21.02	-90.95	427.7	-204.4	516.8	486.7	34.90	24.302	
6,800.0	6,783.7	6,811.9	6,783.7	15.0	16.7	-20.87	-93.31	427.7	-202.1	517.6	487.3	35.43	24.334	
6,900.0	6,876.6	6,915.2	6,876.6	15.1	16.8	-20.72	-95.76	427.8	-187.1	519.4	488.9	35.96	24.366	
7,000.0	6,964.0	7,022.0	6,964.0	15.3	16.9	-20.57	-98.15	427.8	-157.2	522.0	491.3	36.49	24.398	
7,100.0	7,044.4	7,132.5	7,044.4	15.5	17.0	-20.42	-100.41	427.9	-111.6	525.3	494.3	37.02	24.430	

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 Danielson 15G-232
<b>Project:</b>	SEC.15-T7N-R66W	<b>TVD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Reference Site:</b>	Danielson Pad Sec.15-T7N-R66W	<b>MD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Danielson 15G-232	<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 (6-01-12)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Danielson Pad Sec.15-T7N-R66W - Danielson 15G-412 - Wellbore #1 - Plan #1 (6-01-12)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,200.0	7,116.2	7,246.8	7,187.3	15.9	17.1	-102.50		428.0	-49.7	529.1	497.4	31.63	16.729	
7,300.0	7,178.4	7,364.9	7,275.6	16.6	17.2	-104.38		428.2	28.5	532.9	500.4	32.55	16.374	
7,400.0	7,229.9	7,486.5	7,352.8	17.6	17.7	-105.98		428.4	122.3	536.6	502.5	34.02	15.772	
7,500.0	7,269.8	7,611.3	7,415.5	18.9	18.9	-107.27		428.6	230.0	539.6	503.5	36.19	14.913	
7,600.0	7,297.3	7,738.6	7,460.6	20.5	20.7	-108.19		428.9	348.9	541.9	502.8	39.11	13.856	
7,700.0	7,312.1	7,867.6	7,485.6	22.3	22.9	-108.73		429.1	475.4	543.0	500.3	42.72	12.711	
7,800.0	7,314.4	7,972.3	7,496.2	24.3	24.9	-109.47		429.4	579.5	545.2	499.0	46.28	11.780	
7,900.0	7,313.7	8,088.7	7,500.0	26.4	27.4	-109.95		429.6	695.7	546.2	495.8	50.45	10.826	
8,000.0	7,313.0	8,188.7	7,499.4	28.7	29.6	-109.97		429.8	795.7	545.9	491.3	54.65	9.989	
8,100.0	7,312.2	8,288.7	7,498.8	31.0	31.9	-109.99		430.0	895.7	545.6	486.6	59.02	9.244	
8,200.0	7,311.5	8,388.7	7,498.1	33.4	34.3	-110.02		430.2	995.7	545.3	481.8	63.53	8.583	
8,300.0	7,310.8	8,488.7	7,497.5	35.9	36.7	-110.04		430.4	1,095.7	545.0	476.8	68.15	7.997	
8,400.0	7,310.0	8,588.7	7,496.8	38.4	39.2	-110.06		430.6	1,195.7	544.7	471.8	72.86	7.476	
8,500.0	7,309.3	8,688.7	7,496.2	40.9	41.7	-110.08		430.8	1,295.7	544.3	466.7	77.64	7.011	
8,600.0	7,308.6	8,788.7	7,495.6	43.5	44.3	-110.10		431.0	1,395.7	544.0	461.6	82.48	6.596	
8,700.0	7,307.8	8,888.7	7,494.9	46.1	46.9	-110.13		431.2	1,495.7	543.7	456.4	87.37	6.223	
8,800.0	7,307.1	8,988.7	7,494.3	48.8	49.5	-110.15		431.4	1,595.7	543.4	451.1	92.31	5.887	
8,900.0	7,306.4	9,088.7	7,493.6	51.4	52.1	-110.17		431.6	1,695.7	543.1	445.8	97.28	5.583	
9,000.0	7,305.6	9,188.7	7,493.0	54.1	54.8	-110.20		431.9	1,795.7	542.8	440.5	102.27	5.307	
9,100.0	7,304.9	9,288.7	7,492.4	56.8	57.4	-110.22		432.1	1,895.7	542.5	435.2	107.30	5.056	
9,200.0	7,304.2	9,388.7	7,491.7	59.4	60.1	-110.24		432.3	1,995.7	542.2	429.8	112.34	4.826	
9,300.0	7,303.4	9,488.7	7,491.1	62.1	62.8	-110.26		432.5	2,095.7	541.9	424.5	117.41	4.615	
9,400.0	7,302.7	9,588.6	7,490.4	64.9	65.5	-110.29		432.7	2,195.7	541.6	419.1	122.49	4.421	
9,500.0	7,302.0	9,688.6	7,489.8	67.6	68.2	-110.31		432.9	2,295.7	541.2	413.7	127.58	4.242	
9,600.0	7,301.2	9,788.6	7,489.2	70.3	70.9	-110.33		433.1	2,395.7	540.9	408.2	132.69	4.077	
9,700.0	7,300.5	9,888.6	7,488.5	73.0	73.6	-110.35		433.3	2,495.7	540.6	402.8	137.81	3.923	
9,800.0	7,299.8	9,988.6	7,487.9	75.8	76.4	-110.38		433.5	2,595.7	540.3	397.4	142.94	3.780	
9,900.0	7,299.0	10,088.6	7,487.3	78.5	79.1	-110.40		433.7	2,695.7	540.0	391.9	148.07	3.647	
10,000.0	7,298.3	10,188.6	7,486.6	81.3	81.8	-110.42		433.9	2,795.7	539.7	386.5	153.21	3.522	
10,100.0	7,297.6	10,288.6	7,486.0	84.0	84.6	-110.45		434.1	2,895.7	539.4	381.0	158.36	3.406	
10,200.0	7,296.8	10,388.6	7,485.3	86.8	87.3	-110.47		434.3	2,995.7	539.1	375.5	163.52	3.297	
10,300.0	7,296.1	10,488.6	7,484.7	89.5	90.1	-110.49		434.5	3,095.7	538.8	370.1	168.68	3.194	
10,400.0	7,295.4	10,588.6	7,484.1	92.3	92.8	-110.51		434.7	3,195.7	538.4	364.6	173.84	3.097	
10,500.0	7,294.6	10,688.6	7,483.4	95.0	95.6	-110.54		434.9	3,295.7	538.1	359.1	179.01	3.006	
10,600.0	7,293.9	10,788.6	7,482.8	97.8	98.4	-110.56		435.1	3,395.7	537.8	353.6	184.18	2.920	
10,700.0	7,293.2	10,888.6	7,482.1	100.6	101.1	-110.58		435.3	3,495.7	537.5	348.2	189.36	2.839	
10,800.0	7,292.4	10,988.6	7,481.5	103.4	103.9	-110.61		435.5	3,595.7	537.2	342.7	194.54	2.762	
10,900.0	7,291.7	11,088.6	7,480.9	106.1	106.6	-110.63		435.8	3,695.6	536.9	337.2	199.72	2.688	
11,000.0	7,291.0	11,188.6	7,480.2	108.9	109.4	-110.65		436.0	3,795.6	536.6	331.7	204.90	2.619	
11,100.0	7,290.2	11,288.6	7,479.6	111.7	112.2	-110.68		436.2	3,895.6	536.3	326.2	210.08	2.553	
11,200.0	7,289.5	11,388.6	7,478.9	114.4	115.0	-110.70		436.4	3,995.6	536.0	320.7	215.27	2.490	
11,300.0	7,288.8	11,488.6	7,478.3	117.2	117.7	-110.72		436.6	4,095.6	535.7	315.2	220.45	2.430	
11,400.0	7,288.0	11,588.6	7,477.7	120.0	120.5	-110.74		436.8	4,195.6	535.4	309.7	225.64	2.373	
11,500.0	7,287.3	11,688.6	7,477.0	122.8	123.3	-110.77		437.0	4,295.6	535.0	304.2	230.83	2.318	
11,600.0	7,286.6	11,788.6	7,476.4	125.6	126.1	-110.79		437.2	4,395.6	534.7	298.7	236.02	2.266	
11,700.0	7,285.9	11,888.6	7,475.7	128.4	128.9	-110.81		437.4	4,495.6	534.4	293.2	241.21	2.216	
11,800.0	7,285.1	11,988.6	7,475.1	131.1	131.6	-110.84		437.6	4,595.6	534.1	287.7	246.40	2.168	
11,816.1	7,285.0	12,004.4	7,475.0	131.6	132.1	-110.84		437.6	4,611.4	534.1	286.8	247.22	2.160 SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Danielson 15G-232
<b>Project:</b>	SEC.15-T7N-R66W	<b>TVD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Reference Site:</b>	Danielson Pad Sec.15-T7N-R66W	<b>MD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Danielson 15G-232	<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 (6-01-12)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Danielson Pad Sec.15-T7N-R66W - Danielson 15G-432 - Wellbore #1 - Plan #1 (6-01-12)													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
0.0	0.0	0.0	0.0	0.0	0.0	-180.00	-180.00	-29.1	0.0	29.1				
100.0	100.0	100.0	100.0	0.1	0.1	-180.00	-180.00	-29.1	0.0	29.1	28.9	0.22	129.690	
200.0	200.0	200.0	200.0	0.3	0.3	-180.00	-180.00	-29.1	0.0	29.1	28.5	0.67	43.230	
300.0	300.0	300.0	300.0	0.6	0.6	-180.00	-180.00	-29.1	0.0	29.1	28.0	1.12	25.938	
400.0	400.0	400.0	400.0	0.8	0.8	-180.00	-180.00	-29.1	0.0	29.1	27.6	1.57	18.527	
500.0	500.0	500.0	500.0	1.0	1.0	-180.00	-180.00	-29.1	0.0	29.1	27.1	2.02	14.410	
600.0	600.0	600.0	600.0	1.2	1.2	-180.00	-180.00	-29.1	0.0	29.1	26.7	2.47	11.790 CC, ES	
700.0	700.0	699.0	699.0	1.5	1.4	-178.74	-178.74	-30.7	-0.7	30.7	27.9	2.89	10.628	
800.0	800.0	797.8	797.7	1.7	1.6	-175.66	-175.66	-35.4	-2.7	35.6	32.3	3.30	10.786	
900.0	900.0	896.2	895.6	1.9	1.8	-172.07	-172.07	-43.2	-6.0	43.8	40.1	3.73	11.753	
1,000.0	1,000.0	993.8	992.6	2.1	2.1	-168.86	-168.86	-54.0	-10.6	55.5	51.3	4.19	13.256	
1,100.0	1,100.0	1,092.7	1,090.5	2.4	2.3	-166.46	-166.46	-66.7	-16.1	69.2	64.6	4.68	14.797	
1,200.0	1,200.0	1,191.7	1,188.5	2.6	2.6	-164.85	-164.85	-79.4	-21.5	83.0	77.8	5.19	16.010	
1,300.0	1,300.0	1,290.7	1,286.6	2.8	2.9	-163.70	-163.70	-92.1	-26.9	96.9	91.2	5.70	16.982	
1,400.0	1,400.0	1,389.7	1,384.6	3.0	3.2	-162.83	-162.83	-104.8	-32.4	110.7	104.5	6.23	17.773	
1,500.0	1,500.0	1,488.8	1,482.7	3.3	3.5	-162.16	-162.16	-117.5	-37.8	124.6	117.8	6.76	18.427	
1,600.0	1,600.0	1,587.8	1,580.7	3.5	3.9	-161.63	-161.63	-130.2	-43.2	138.5	131.2	7.30	18.977	
1,700.0	1,700.0	1,686.8	1,678.8	3.7	4.2	-161.19	-161.19	-142.9	-48.7	152.4	144.6	7.84	19.443	
1,800.0	1,800.0	1,785.8	1,776.9	3.9	4.5	-160.82	-160.82	-155.6	-54.1	166.3	157.9	8.38	19.844	
1,900.0	1,900.0	1,884.9	1,874.9	4.2	4.9	-160.51	-160.51	-168.3	-59.5	180.2	171.3	8.93	20.192	
2,000.0	2,000.0	1,983.9	1,973.0	4.4	5.2	-160.25	-160.25	-181.0	-65.0	194.2	184.7	9.47	20.496	
2,100.0	2,100.0	2,082.9	2,071.0	4.6	5.5	-160.02	-160.02	-193.7	-70.4	208.1	198.1	10.02	20.765	
2,200.0	2,200.0	2,181.9	2,169.1	4.8	5.9	-159.82	-159.82	-206.4	-75.8	222.0	211.5	10.57	21.004	
2,300.0	2,300.0	2,280.9	2,267.1	5.1	6.2	-159.64	-159.64	-219.1	-81.3	236.0	224.8	11.12	21.217	
2,400.0	2,400.0	2,380.0	2,365.2	5.3	6.5	-159.49	-159.49	-231.8	-86.7	249.9	238.2	11.67	21.409	
2,500.0	2,500.0	2,479.0	2,463.2	5.5	6.9	-159.35	-159.35	-244.5	-92.1	263.8	251.6	12.22	21.583	
2,600.0	2,600.0	2,578.0	2,561.3	5.7	7.2	-159.22	-159.22	-257.2	-97.6	277.8	265.0	12.78	21.740	
2,700.0	2,700.0	2,677.0	2,659.3	6.0	7.6	-159.11	-159.11	-269.9	-103.0	291.7	278.4	13.33	21.884	
2,800.0	2,800.0	2,776.1	2,757.4	6.2	7.9	-159.00	-159.00	-282.6	-108.5	305.6	291.8	13.88	22.015	
2,900.0	2,900.0	2,875.1	2,855.4	6.4	8.3	-158.91	-158.91	-295.3	-113.9	319.6	305.1	14.44	22.136	
3,000.0	3,000.0	2,974.1	2,953.5	6.6	8.6	-158.82	-158.82	-308.0	-119.3	333.5	318.5	14.99	22.248	
3,100.0	3,100.0	3,073.3	3,051.7	6.8	9.0	-45.30	-45.30	-320.7	-124.8	346.2	332.6	13.70	25.278	
3,200.0	3,199.8	3,172.7	3,150.2	7.0	9.3	-45.67	-45.67	-333.4	-130.2	356.6	342.4	14.13	25.230	
3,300.0	3,299.5	3,272.2	3,248.7	7.2	9.6	-46.44	-46.44	-346.2	-135.7	364.5	349.9	14.57	25.018	
3,400.0	3,398.8	3,371.7	3,347.3	7.4	10.0	-47.58	-47.58	-359.0	-141.1	370.5	355.5	15.02	24.674	
3,500.0	3,498.1	3,471.3	3,445.8	7.6	10.3	-48.76	-48.76	-371.7	-146.6	376.5	361.0	15.48	24.326	
3,600.0	3,597.3	3,570.8	3,544.4	7.9	10.7	-49.90	-49.90	-384.5	-152.1	382.6	366.7	15.95	23.995	
3,700.0	3,696.6	3,670.3	3,642.9	8.1	11.0	-51.01	-51.01	-397.2	-157.5	388.9	372.5	16.42	23.679	
3,800.0	3,795.9	3,769.8	3,741.5	8.3	11.4	-52.08	-52.08	-410.0	-163.0	395.3	378.4	16.91	23.378	
3,900.0	3,895.2	3,869.4	3,840.0	8.6	11.7	-53.11	-53.11	-422.8	-168.5	401.9	384.5	17.41	23.090	
4,000.0	3,994.5	3,968.9	3,938.6	8.8	12.1	-54.11	-54.11	-435.5	-173.9	408.6	390.7	17.91	22.815	
4,100.0	4,093.8	4,068.4	4,037.1	9.1	12.4	-55.08	-55.08	-448.3	-179.4	415.4	396.9	18.42	22.552	
4,200.0	4,193.0	4,167.9	4,135.7	9.3	12.8	-56.02	-56.02	-461.1	-184.8	422.3	403.3	18.93	22.301	
4,300.0	4,292.3	4,267.5	4,234.2	9.6	13.1	-56.93	-56.93	-473.8	-190.3	429.3	409.8	19.46	22.062	
4,400.0	4,391.6	4,372.6	4,338.4	9.8	13.5	-57.86	-57.86	-487.1	-196.0	436.2	416.2	20.00	21.815	
4,500.0	4,490.9	4,489.5	4,454.6	10.1	13.7	-59.00	-59.00	-498.5	-200.9	440.2	419.7	20.53	21.440	
4,600.0	4,590.2	4,606.4	4,571.2	10.4	14.0	-60.29	-60.29	-505.5	-203.9	440.4	419.4	21.06	20.911	
4,700.0	4,689.5	4,722.9	4,687.7	10.7	14.1	-61.77	-61.77	-508.1	-205.0	437.0	415.4	21.60	20.231	
4,800.0	4,788.7	4,823.9	4,788.7	10.9	14.3	-63.18	-63.18	-508.1	-205.0	431.4	409.3	22.11	19.510	
4,900.0	4,888.0	4,923.2	4,888.0	11.2	14.4	-64.56	-64.56	-508.1	-205.0	426.2	403.6	22.61	18.850	
5,000.0	4,987.6	5,022.8	4,987.6	11.4	14.5	-65.61	-65.61	-508.1	-205.0	422.4	399.3	23.05	18.322	

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 Danielson 15G-232
<b>Project:</b>	SEC.15-T7N-R66W	<b>TVD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Reference Site:</b>	Danielson Pad Sec.15-T7N-R66W	<b>MD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Danielson 15G-232	<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 (6-01-12)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Danielson Pad Sec.15-T7N-R66W - Danielson 15G-432 - Wellbore #1 - Plan #1 (6-01-12)											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			
5,100.0	5,087.4	5,122.7	5,087.4	11.6	14.7	-66.27	-508.1	-205.0	420.0	396.6	23.46	17.904			
5,200.0	5,187.4	5,222.6	5,187.4	11.8	14.8	-66.53	-508.1	-205.0	419.2	395.3	23.83	17.587			
5,243.1	5,230.5	5,265.8	5,230.5	11.9	14.9	-66.55	-508.1	-205.0	419.1	395.1	23.99	17.469			
5,300.0	5,287.4	5,322.6	5,287.4	12.0	15.0	-180.00	-508.1	-205.0	419.1	393.2	25.92	16.168			
5,400.0	5,387.4	5,422.6	5,387.4	12.2	15.1	-180.00	-508.1	-205.0	419.1	392.9	26.28	15.947			
5,500.0	5,487.4	5,522.6	5,487.4	12.4	15.2	-180.00	-508.1	-205.0	419.1	392.5	26.65	15.730			
5,600.0	5,587.4	5,622.6	5,587.4	12.6	15.4	-180.00	-508.1	-205.0	419.1	392.1	27.01	15.518			
5,700.0	5,687.4	5,722.6	5,687.4	12.9	15.5	-180.00	-508.1	-205.0	419.1	391.8	27.38	15.310			
5,800.0	5,787.4	5,822.6	5,787.4	13.1	15.7	-180.00	-508.1	-205.0	419.1	391.4	27.75	15.106			
5,900.0	5,887.4	5,922.6	5,887.4	13.3	15.8	-180.00	-508.1	-205.0	419.1	391.0	28.12	14.907			
6,000.0	5,987.4	6,022.6	5,987.4	13.5	16.0	-180.00	-508.1	-205.0	419.1	390.7	28.49	14.711			
6,100.0	6,087.4	6,122.6	6,087.4	13.7	16.1	-180.00	-508.1	-205.0	419.1	390.3	28.87	14.520			
6,200.0	6,187.4	6,222.6	6,187.4	13.9	16.3	-180.00	-508.1	-205.0	419.1	389.9	29.24	14.333			
6,300.0	6,287.4	6,322.6	6,287.4	14.1	16.5	-180.00	-508.1	-205.0	419.1	389.5	29.62	14.150			
6,400.0	6,387.4	6,422.6	6,387.4	14.3	16.6	-180.00	-508.1	-205.0	419.1	389.1	30.00	13.970			
6,500.0	6,487.4	6,522.6	6,487.4	14.5	16.8	-180.00	-508.1	-205.0	419.1	388.8	30.39	13.795			
6,545.6	6,533.0	6,568.2	6,533.0	14.6	16.8	90.40	-508.1	-205.0	419.2	390.0	29.12	14.394			
6,600.0	6,587.4	6,622.6	6,587.4	14.7	16.9	90.45	-508.1	-205.0	419.2	389.8	29.33	14.289			
6,700.0	6,686.7	6,721.9	6,686.7	14.9	17.1	91.96	-508.1	-205.0	419.4	389.8	29.61	14.165			
6,800.0	6,783.7	6,821.8	6,786.5	15.0	17.3	94.84	-508.1	-202.6	420.7	390.9	29.78	14.127			
6,900.0	6,876.6	6,925.7	6,889.3	15.1	17.4	97.83	-508.0	-187.4	423.3	393.4	29.91	14.154			
7,000.0	6,964.0	7,033.2	6,992.3	15.3	17.5	100.70	-507.9	-157.2	426.9	396.9	30.03	14.214			
7,100.0	7,044.4	7,144.3	7,093.3	15.5	17.5	103.39	-507.6	-111.0	431.3	401.1	30.24	14.262			
7,200.0	7,116.2	7,259.3	7,189.6	15.9	17.6	105.84	-507.2	-48.4	436.2	405.6	30.66	14.230			
7,300.0	7,178.4	7,378.0	7,278.0	16.6	17.6	107.99	-506.8	30.6	441.2	409.8	31.43	14.037			
7,400.0	7,229.9	7,500.2	7,355.1	17.6	17.8	109.79	-506.2	125.2	445.9	413.1	32.73	13.621			
7,500.0	7,269.8	7,625.5	7,417.5	18.9	18.4	111.19	-505.6	233.7	449.8	415.0	34.74	12.946			
7,600.0	7,297.3	7,753.1	7,461.9	20.5	20.0	112.15	-504.9	353.2	452.6	415.1	37.49	12.074			
7,700.0	7,312.1	7,882.1	7,486.0	22.3	22.2	112.65	-504.2	479.8	454.1	413.2	40.94	11.093			
7,800.0	7,314.4	7,986.6	7,496.5	24.3	24.2	113.47	-503.6	583.7	457.2	412.9	44.31	10.318			
7,900.0	7,313.7	8,102.1	7,499.9	26.4	26.7	113.96	-502.9	699.2	458.6	410.3	48.34	9.487			
8,000.0	7,313.0	8,202.1	7,499.3	28.7	28.9	113.97	-502.4	799.2	458.6	406.2	52.44	8.746			
8,100.0	7,312.2	8,302.1	7,498.7	31.0	31.2	113.98	-501.8	899.2	458.7	402.0	56.71	8.088			
8,200.0	7,311.5	8,402.1	7,498.0	33.4	33.6	113.99	-501.2	999.2	458.7	397.6	61.12	7.505			
8,300.0	7,310.8	8,502.1	7,497.4	35.9	36.0	114.00	-500.6	1,099.2	458.8	393.1	65.64	6.989			
8,400.0	7,310.0	8,602.1	7,496.7	38.4	38.5	114.01	-500.1	1,199.2	458.8	388.5	70.25	6.531			
8,500.0	7,309.3	8,702.1	7,496.1	40.9	41.1	114.02	-499.5	1,299.2	458.8	383.9	74.93	6.123			
8,600.0	7,308.6	8,802.1	7,495.5	43.5	43.6	114.04	-498.9	1,399.2	458.9	379.2	79.67	5.760			
8,700.0	7,307.8	8,902.1	7,494.8	46.1	46.2	114.05	-498.4	1,499.2	458.9	374.4	84.46	5.434			
8,800.0	7,307.1	9,002.1	7,494.2	48.8	48.9	114.06	-497.8	1,599.2	458.9	369.7	89.29	5.140			
8,900.0	7,306.4	9,102.1	7,493.6	51.4	51.5	114.07	-497.2	1,699.2	459.0	364.8	94.15	4.875			
9,000.0	7,305.6	9,202.1	7,492.9	54.1	54.1	114.08	-496.6	1,799.2	459.0	360.0	99.04	4.635			
9,100.0	7,304.9	9,302.1	7,492.3	56.8	56.8	114.09	-496.1	1,899.1	459.0	355.1	103.96	4.416			
9,200.0	7,304.2	9,402.1	7,491.7	59.4	59.5	114.10	-495.5	1,999.1	459.1	350.2	108.90	4.216			
9,300.0	7,303.4	9,502.1	7,491.0	62.1	62.2	114.11	-494.9	2,099.1	459.1	345.3	113.85	4.033			
9,400.0	7,302.7	9,602.1	7,490.4	64.9	64.9	114.12	-494.3	2,199.1	459.2	340.3	118.82	3.864			
9,500.0	7,302.0	9,702.1	7,489.7	67.6	67.6	114.14	-493.8	2,299.1	459.2	335.4	123.81	3.709			
9,600.0	7,301.2	9,802.1	7,489.1	70.3	70.3	114.15	-493.2	2,399.1	459.2	330.4	128.81	3.565			
9,700.0	7,300.5	9,902.1	7,488.5	73.0	73.1	114.16	-492.6	2,499.1	459.3	325.4	133.82	3.432			
9,800.0	7,299.8	10,002.1	7,487.8	75.8	75.8	114.17	-492.0	2,599.1	459.3	320.5	138.84	3.308			
9,900.0	7,299.0	10,102.1	7,487.2	78.5	78.5	114.18	-491.5	2,699.1	459.3	315.5	143.87	3.193			

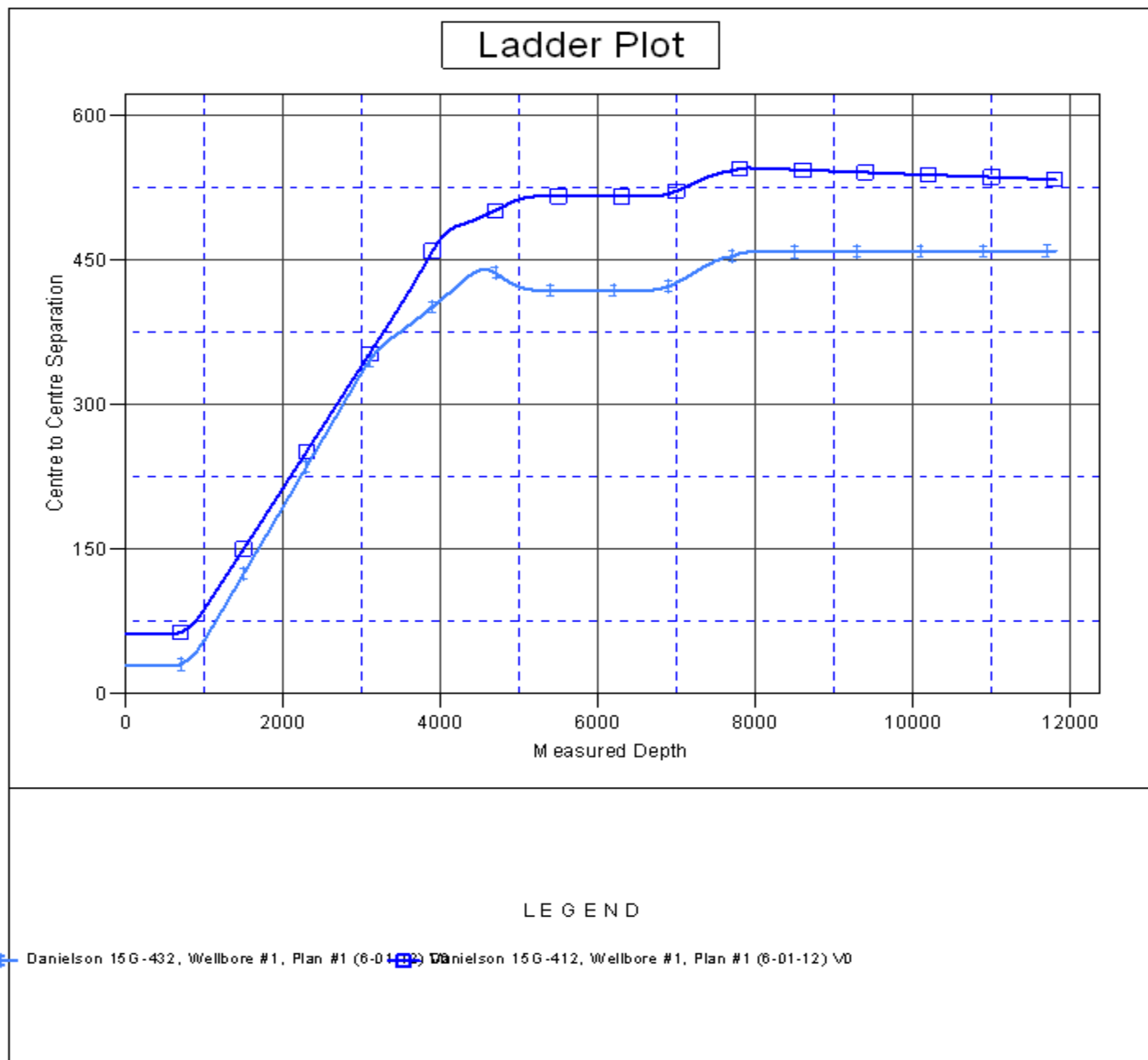
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Danielson 15G-232
<b>Project:</b>	SEC.15-T7N-R66W	<b>TVD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Reference Site:</b>	Danielson Pad Sec.15-T7N-R66W	<b>MD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Danielson 15G-232	<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 (6-01-12)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Danielson Pad Sec.15-T7N-R66W - Danielson 15G-432 - Wellbore #1 - Plan #1 (6-01-12)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,000.0	7,298.3	10,202.1	7,486.6	81.3	81.3	114.19		-490.9	2,799.1	459.4	310.5	148.90	3.085	
10,100.0	7,297.6	10,302.1	7,485.9	84.0	84.0	114.20		-490.3	2,899.1	459.4	305.5	153.95	2.984	
10,200.0	7,296.8	10,402.1	7,485.3	86.8	86.8	114.21		-489.7	2,999.1	459.5	300.5	159.00	2.890	
10,300.0	7,296.1	10,502.1	7,484.6	89.5	89.5	114.23		-489.2	3,099.1	459.5	295.4	164.05	2.801	
10,400.0	7,295.4	10,602.1	7,484.0	92.3	92.3	114.24		-488.6	3,199.1	459.5	290.4	169.11	2.717	
10,500.0	7,294.6	10,702.1	7,483.4	95.0	95.0	114.25		-488.0	3,299.1	459.6	285.4	174.17	2.639	
10,600.0	7,293.9	10,802.1	7,482.7	97.8	97.8	114.26		-487.4	3,399.1	459.6	280.4	179.24	2.564	
10,700.0	7,293.2	10,902.1	7,482.1	100.6	100.6	114.27		-486.9	3,499.1	459.6	275.3	184.31	2.494	
10,800.0	7,292.4	11,002.1	7,481.5	103.4	103.3	114.28		-486.3	3,599.1	459.7	270.3	189.38	2.427	
10,900.0	7,291.7	11,102.1	7,480.8	106.1	106.1	114.29		-485.7	3,699.1	459.7	265.3	194.46	2.364	
11,000.0	7,291.0	11,202.1	7,480.2	108.9	108.9	114.30		-485.2	3,799.1	459.7	260.2	199.54	2.304	
11,100.0	7,290.2	11,302.1	7,479.6	111.7	111.6	114.31		-484.6	3,899.1	459.8	255.2	204.62	2.247	
11,200.0	7,289.5	11,402.1	7,478.9	114.4	114.4	114.32		-484.0	3,999.1	459.8	250.1	209.70	2.193	
11,300.0	7,288.8	11,502.1	7,478.3	117.2	117.2	114.34		-483.4	4,099.1	459.9	245.1	214.79	2.141	
11,400.0	7,288.0	11,602.1	7,477.6	120.0	120.0	114.35		-482.9	4,199.1	459.9	240.0	219.87	2.092	
11,500.0	7,287.3	11,702.1	7,477.0	122.8	122.7	114.36		-482.3	4,299.1	459.9	235.0	224.96	2.044	
11,600.0	7,286.6	11,802.1	7,476.4	125.6	125.5	114.37		-481.7	4,399.1	460.0	229.9	230.05	1.999	
11,700.0	7,285.9	11,902.1	7,475.7	128.4	128.3	114.38		-481.1	4,499.1	460.0	224.9	235.14	1.956	
11,800.0	7,285.1	12,002.1	7,475.1	131.1	131.1	114.39		-480.6	4,599.0	460.0	219.8	240.23	1.915	
11,802.3	7,285.1	12,004.5	7,475.1	131.2	131.2	114.39		-480.5	4,601.4	460.0	219.7	240.35	1.914	
11,816.1	7,285.0	12,017.5	7,475.0	131.6	131.5	114.39		-480.5	4,614.4	460.0	219.0	241.03	1.909 SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Danielson 15G-232
<b>Project:</b>	SEC.15-T7N-R66W	<b>TVD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Reference Site:</b>	Danielson Pad Sec.15-T7N-R66W	<b>MD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Danielson 15G-232	<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 (6-01-12)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4965.0ft (Original Well Elev) Coordinates are relative to: Danielson 15G-232  
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone  
Central Meridian is -105.500000 ° Grid Convergence at Surface is: 0.47°



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Danielson 15G-232
<b>Project:</b>	SEC.15-T7N-R66W	<b>TVD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Reference Site:</b>	Danielson Pad Sec.15-T7N-R66W	<b>MD Reference:</b>	WELL @ 4965.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Danielson 15G-232	<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 (6-01-12)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4965.0ft (Original Well Elev) Coordinates are relative to: Danielson 15G-232  
 Offset Depths are relative to Offset Datum  
 Central Meridian is -105.500000 °  
 Coordinate System is US State Plane 1983, Colorado Northern Zone  
 Grid Convergence at Surface is: 0.47°

