

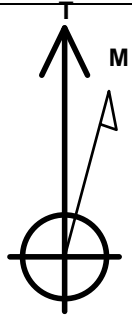
# PETROLEUM DEVELOPMENT CORP Weld County CO

## Well Name: Danielson 15G-412

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 1453087.44 3202021.98 40.574850 -104.772750  
 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
HARDLINE BHL 460'FEL (1)	1.0	600.0	4695.9	1453725.91	3206712.66	40.576496	-104.755846	Polygon
HARDLINE SHL 460'FWL (1)	1.0	600.0	250.0	1453689.45	3202267.04	40.576497	-104.771850	Polygon
SECTION LINE 210'W OF SHL (1)	1.0	600.0	-210.0	1453685.68	3201807.07	40.576497	-104.773506	Polygon
BHL 2400'FNL, 500'FEL	7475.0	393.9	4655.9	1453519.51	3206674.31	40.575930	-104.755990	Point

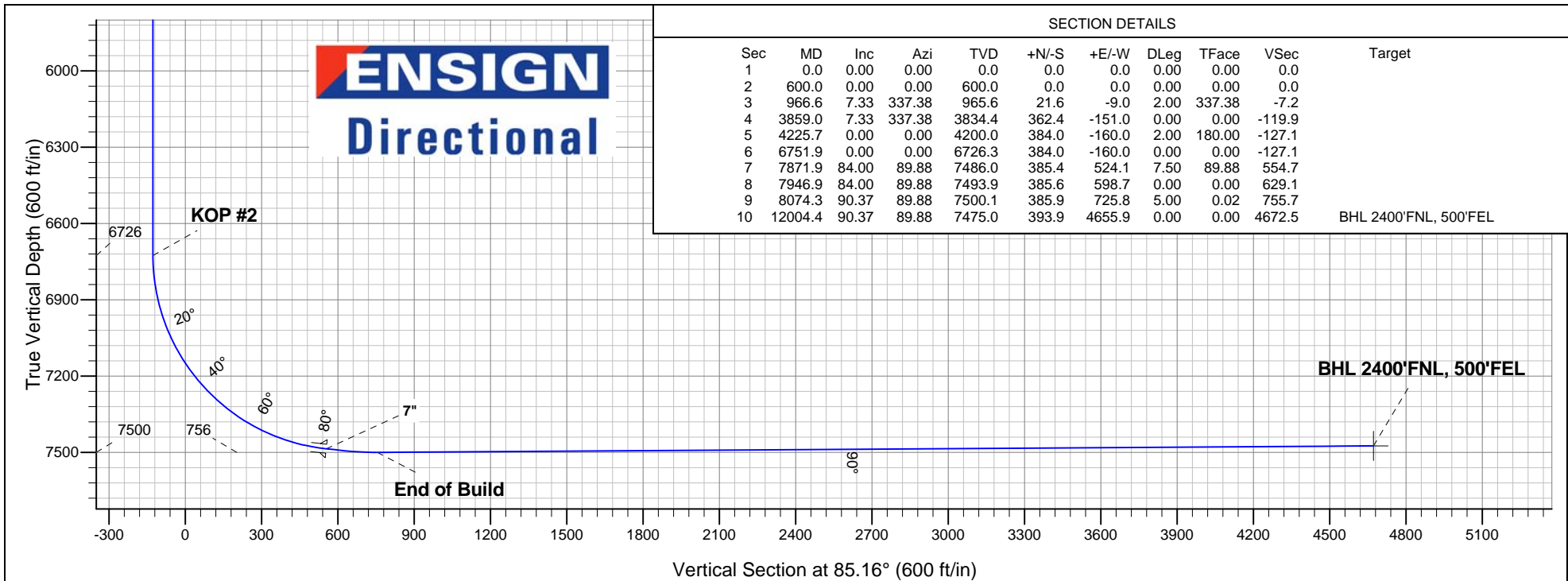
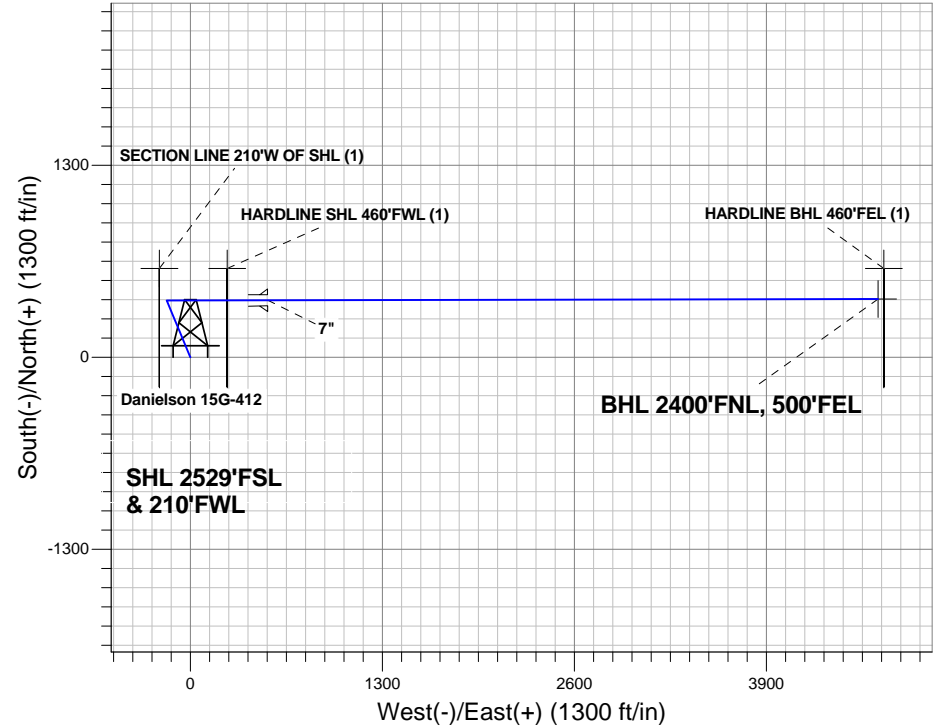


Azimuths to True North  
 Magnetic North: 8.75°  
 Magnetic Field  
 Strength: 53119.4snT  
 Dip Angle: 67.16°  
 Date: 6/1/2012  
 Model: IGRF2010

### ANNOTATIONS

TVD	MD	Annotation
600.0	600.0	KOP #1
6726.2	6751.9	KOP #2
7500.1	8074.3	End of Build

Danielson Pad Sec.15-T7N-R66W  
 Danielson 15G-412  
 Plan #1 (6-01-12)  
 12:52, June 14 2012





# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.15-T7N-R66W**

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

**Danielson 15G-412**

**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-412
<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-412	<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

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

Well	Danielson 15G-412					
Well Position	+N/-S	43.7 ft	Northing:	1,453,087.44 ft	Latitude:	40.574850
	+E/-W	-44.4 ft	Easting:	3,202,021.98 ft	Longitude:	-104.772750
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	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	85.16

<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	
600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.00	0.00	
966.6	7.33	337.38	965.6	21.6	-9.0	2.00	2.00	0.00	337.38	
3,859.0	7.33	337.38	3,834.4	362.4	-151.0	0.00	0.00	0.00	0.00	
4,225.7	0.00	0.00	4,200.0	384.0	-160.0	2.00	-2.00	0.00	180.00	
6,751.9	0.00	0.00	6,726.3	384.0	-160.0	0.00	0.00	0.00	0.00	
7,871.9	84.00	89.88	7,486.0	385.4	524.1	7.50	7.50	0.00	89.88	
7,946.9	84.00	89.88	7,493.9	385.6	598.7	0.00	0.00	0.00	0.00	
8,074.3	90.37	89.88	7,500.1	385.9	725.8	5.00	5.00	0.00	0.02	
12,004.4	90.37	89.88	7,475.0	393.9	4,655.9	0.00	0.00	0.00	0.00	BHL 2400'FNL, 500

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Danielson 15G-412
<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-412	<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>HARDLINE BHL 460'FEL (1) - SECTION LINE 210'W OF SHL (1) - HARDLINE SHL 460'FWL (1)</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
<b>KOP #1</b>									
640.0	0.80	337.38	640.0	0.3	-0.1	-0.1	2.00	2.00	0.00
680.0	1.60	337.38	680.0	1.0	-0.4	-0.3	2.00	2.00	0.00
720.0	2.40	337.38	720.0	2.3	-1.0	-0.8	2.00	2.00	0.00
760.0	3.20	337.38	759.9	4.1	-1.7	-1.4	2.00	2.00	0.00
800.0	4.00	337.38	799.8	6.4	-2.7	-2.1	2.00	2.00	0.00
840.0	4.80	337.38	839.7	9.3	-3.9	-3.1	2.00	2.00	0.00
880.0	5.60	337.38	879.6	12.6	-5.3	-4.2	2.00	2.00	0.00
920.0	6.40	337.38	919.3	16.5	-6.9	-5.5	2.00	2.00	0.00
960.0	7.20	337.38	959.1	20.9	-8.7	-6.9	2.00	2.00	0.00
966.6	7.33	337.38	965.6	21.6	-9.0	-7.2	2.00	2.00	0.00
1,000.0	7.33	337.38	998.7	25.6	-10.6	-8.5	0.00	0.00	0.00
1,040.0	7.33	337.38	1,038.4	30.3	-12.6	-10.0	0.00	0.00	0.00
1,080.0	7.33	337.38	1,078.1	35.0	-14.6	-11.6	0.00	0.00	0.00
1,120.0	7.33	337.38	1,117.7	39.7	-16.5	-13.1	0.00	0.00	0.00
1,160.0	7.33	337.38	1,157.4	44.4	-18.5	-14.7	0.00	0.00	0.00
1,200.0	7.33	337.38	1,197.1	49.1	-20.5	-16.3	0.00	0.00	0.00
1,240.0	7.33	337.38	1,236.8	53.8	-22.4	-17.8	0.00	0.00	0.00
1,280.0	7.33	337.38	1,276.4	58.5	-24.4	-19.4	0.00	0.00	0.00
1,320.0	7.33	337.38	1,316.1	63.3	-26.4	-20.9	0.00	0.00	0.00
1,360.0	7.33	337.38	1,355.8	68.0	-28.3	-22.5	0.00	0.00	0.00
1,400.0	7.33	337.38	1,395.5	72.7	-30.3	-24.0	0.00	0.00	0.00
1,440.0	7.33	337.38	1,435.1	77.4	-32.2	-25.6	0.00	0.00	0.00
1,480.0	7.33	337.38	1,474.8	82.1	-34.2	-27.2	0.00	0.00	0.00
1,520.0	7.33	337.38	1,514.5	86.8	-36.2	-28.7	0.00	0.00	0.00
1,560.0	7.33	337.38	1,554.1	91.5	-38.1	-30.3	0.00	0.00	0.00
1,600.0	7.33	337.38	1,593.8	96.2	-40.1	-31.8	0.00	0.00	0.00
1,640.0	7.33	337.38	1,633.5	101.0	-42.1	-33.4	0.00	0.00	0.00
1,680.0	7.33	337.38	1,673.2	105.7	-44.0	-35.0	0.00	0.00	0.00
1,720.0	7.33	337.38	1,712.8	110.4	-46.0	-36.5	0.00	0.00	0.00
1,760.0	7.33	337.38	1,752.5	115.1	-48.0	-38.1	0.00	0.00	0.00
1,800.0	7.33	337.38	1,792.2	119.8	-49.9	-39.6	0.00	0.00	0.00
1,840.0	7.33	337.38	1,831.9	124.5	-51.9	-41.2	0.00	0.00	0.00
1,880.0	7.33	337.38	1,871.5	129.2	-53.8	-42.8	0.00	0.00	0.00
1,920.0	7.33	337.38	1,911.2	133.9	-55.8	-44.3	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-412	<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)
1,960.0	7.33	337.38	1,950.9	138.7	-57.8	-45.9	0.00	0.00	0.00
2,000.0	7.33	337.38	1,990.5	143.4	-59.7	-47.4	0.00	0.00	0.00
2,040.0	7.33	337.38	2,030.2	148.1	-61.7	-49.0	0.00	0.00	0.00
2,080.0	7.33	337.38	2,069.9	152.8	-63.7	-50.6	0.00	0.00	0.00
2,120.0	7.33	337.38	2,109.6	157.5	-65.6	-52.1	0.00	0.00	0.00
2,160.0	7.33	337.38	2,149.2	162.2	-67.6	-53.7	0.00	0.00	0.00
2,200.0	7.33	337.38	2,188.9	166.9	-69.6	-55.2	0.00	0.00	0.00
2,240.0	7.33	337.38	2,228.6	171.6	-71.5	-56.8	0.00	0.00	0.00
2,280.0	7.33	337.38	2,268.3	176.4	-73.5	-58.4	0.00	0.00	0.00
2,320.0	7.33	337.38	2,307.9	181.1	-75.4	-59.9	0.00	0.00	0.00
2,360.0	7.33	337.38	2,347.6	185.8	-77.4	-61.5	0.00	0.00	0.00
2,400.0	7.33	337.38	2,387.3	190.5	-79.4	-63.0	0.00	0.00	0.00
2,440.0	7.33	337.38	2,427.0	195.2	-81.3	-64.6	0.00	0.00	0.00
2,480.0	7.33	337.38	2,466.6	199.9	-83.3	-66.1	0.00	0.00	0.00
2,520.0	7.33	337.38	2,506.3	204.6	-85.3	-67.7	0.00	0.00	0.00
2,560.0	7.33	337.38	2,546.0	209.3	-87.2	-69.3	0.00	0.00	0.00
2,600.0	7.33	337.38	2,585.6	214.1	-89.2	-70.8	0.00	0.00	0.00
2,640.0	7.33	337.38	2,625.3	218.8	-91.2	-72.4	0.00	0.00	0.00
2,680.0	7.33	337.38	2,665.0	223.5	-93.1	-73.9	0.00	0.00	0.00
2,720.0	7.33	337.38	2,704.7	228.2	-95.1	-75.5	0.00	0.00	0.00
2,760.0	7.33	337.38	2,744.3	232.9	-97.0	-77.1	0.00	0.00	0.00
2,800.0	7.33	337.38	2,784.0	237.6	-99.0	-78.6	0.00	0.00	0.00
2,840.0	7.33	337.38	2,823.7	242.3	-101.0	-80.2	0.00	0.00	0.00
2,880.0	7.33	337.38	2,863.4	247.0	-102.9	-81.7	0.00	0.00	0.00
2,920.0	7.33	337.38	2,903.0	251.7	-104.9	-83.3	0.00	0.00	0.00
2,960.0	7.33	337.38	2,942.7	256.5	-106.9	-84.9	0.00	0.00	0.00
3,000.0	7.33	337.38	2,982.4	261.2	-108.8	-86.4	0.00	0.00	0.00
3,040.0	7.33	337.38	3,022.0	265.9	-110.8	-88.0	0.00	0.00	0.00
3,080.0	7.33	337.38	3,061.7	270.6	-112.7	-89.5	0.00	0.00	0.00
3,120.0	7.33	337.38	3,101.4	275.3	-114.7	-91.1	0.00	0.00	0.00
3,160.0	7.33	337.38	3,141.1	280.0	-116.7	-92.7	0.00	0.00	0.00
3,200.0	7.33	337.38	3,180.7	284.7	-118.6	-94.2	0.00	0.00	0.00
3,240.0	7.33	337.38	3,220.4	289.4	-120.6	-95.8	0.00	0.00	0.00
3,280.0	7.33	337.38	3,260.1	294.2	-122.6	-97.3	0.00	0.00	0.00
3,320.0	7.33	337.38	3,299.8	298.9	-124.5	-98.9	0.00	0.00	0.00
3,360.0	7.33	337.38	3,339.4	303.6	-126.5	-100.4	0.00	0.00	0.00
3,400.0	7.33	337.38	3,379.1	308.3	-128.5	-102.0	0.00	0.00	0.00
3,440.0	7.33	337.38	3,418.8	313.0	-130.4	-103.6	0.00	0.00	0.00
3,480.0	7.33	337.38	3,458.4	317.7	-132.4	-105.1	0.00	0.00	0.00
3,520.0	7.33	337.38	3,498.1	322.4	-134.3	-106.7	0.00	0.00	0.00
3,560.0	7.33	337.38	3,537.8	327.1	-136.3	-108.2	0.00	0.00	0.00
3,600.0	7.33	337.38	3,577.5	331.9	-138.3	-109.8	0.00	0.00	0.00
3,640.0	7.33	337.38	3,617.1	336.6	-140.2	-111.4	0.00	0.00	0.00
3,680.0	7.33	337.38	3,656.8	341.3	-142.2	-112.9	0.00	0.00	0.00
3,720.0	7.33	337.38	3,696.5	346.0	-144.2	-114.5	0.00	0.00	0.00
3,760.0	7.33	337.38	3,736.2	350.7	-146.1	-116.0	0.00	0.00	0.00
3,800.0	7.33	337.38	3,775.8	355.4	-148.1	-117.6	0.00	0.00	0.00
3,840.0	7.33	337.38	3,815.5	360.1	-150.1	-119.2	0.00	0.00	0.00
3,859.0	7.33	337.38	3,834.4	362.4	-151.0	-119.9	0.00	0.00	0.00
3,880.0	6.91	337.38	3,855.2	364.8	-152.0	-120.7	2.00	-2.00	0.00
3,920.0	6.11	337.38	3,894.9	369.0	-153.7	-122.1	2.00	-2.00	0.00
3,960.0	5.31	337.38	3,934.7	372.6	-155.3	-123.3	2.00	-2.00	0.00
4,000.0	4.51	337.38	3,974.6	375.8	-156.6	-124.3	2.00	-2.00	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-412	<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)
4,040.0	3.71	337.38	4,014.5	378.4	-157.7	-125.2	2.00	-2.00	0.00
4,080.0	2.91	337.38	4,054.4	380.6	-158.6	-125.9	2.00	-2.00	0.00
4,120.0	2.11	337.38	4,094.4	382.2	-159.3	-126.5	2.00	-2.00	0.00
4,160.0	1.31	337.38	4,134.4	383.3	-159.7	-126.8	2.00	-2.00	0.00
4,200.0	0.51	337.38	4,174.3	383.9	-160.0	-127.0	2.00	-2.00	0.00
4,225.7	0.00	0.00	4,200.0	384.0	-160.0	-127.1	2.00	-2.00	0.00
4,240.0	0.00	0.00	4,214.3	384.0	-160.0	-127.1	0.00	0.00	0.00
4,280.0	0.00	0.00	4,254.3	384.0	-160.0	-127.1	0.00	0.00	0.00
4,320.0	0.00	0.00	4,294.3	384.0	-160.0	-127.1	0.00	0.00	0.00
4,360.0	0.00	0.00	4,334.3	384.0	-160.0	-127.1	0.00	0.00	0.00
4,400.0	0.00	0.00	4,374.3	384.0	-160.0	-127.1	0.00	0.00	0.00
4,440.0	0.00	0.00	4,414.3	384.0	-160.0	-127.1	0.00	0.00	0.00
4,480.0	0.00	0.00	4,454.3	384.0	-160.0	-127.1	0.00	0.00	0.00
4,520.0	0.00	0.00	4,494.3	384.0	-160.0	-127.1	0.00	0.00	0.00
4,560.0	0.00	0.00	4,534.3	384.0	-160.0	-127.1	0.00	0.00	0.00
4,600.0	0.00	0.00	4,574.3	384.0	-160.0	-127.1	0.00	0.00	0.00
4,640.0	0.00	0.00	4,614.3	384.0	-160.0	-127.1	0.00	0.00	0.00
4,680.0	0.00	0.00	4,654.3	384.0	-160.0	-127.1	0.00	0.00	0.00
4,720.0	0.00	0.00	4,694.3	384.0	-160.0	-127.1	0.00	0.00	0.00
4,760.0	0.00	0.00	4,734.3	384.0	-160.0	-127.1	0.00	0.00	0.00
4,800.0	0.00	0.00	4,774.3	384.0	-160.0	-127.1	0.00	0.00	0.00
4,840.0	0.00	0.00	4,814.3	384.0	-160.0	-127.1	0.00	0.00	0.00
4,880.0	0.00	0.00	4,854.3	384.0	-160.0	-127.1	0.00	0.00	0.00
4,920.0	0.00	0.00	4,894.3	384.0	-160.0	-127.1	0.00	0.00	0.00
4,960.0	0.00	0.00	4,934.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,000.0	0.00	0.00	4,974.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,040.0	0.00	0.00	5,014.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,080.0	0.00	0.00	5,054.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,120.0	0.00	0.00	5,094.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,160.0	0.00	0.00	5,134.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,200.0	0.00	0.00	5,174.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,240.0	0.00	0.00	5,214.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,280.0	0.00	0.00	5,254.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,320.0	0.00	0.00	5,294.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,360.0	0.00	0.00	5,334.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,400.0	0.00	0.00	5,374.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,440.0	0.00	0.00	5,414.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,480.0	0.00	0.00	5,454.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,520.0	0.00	0.00	5,494.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,560.0	0.00	0.00	5,534.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,600.0	0.00	0.00	5,574.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,640.0	0.00	0.00	5,614.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,680.0	0.00	0.00	5,654.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,720.0	0.00	0.00	5,694.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,760.0	0.00	0.00	5,734.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,800.0	0.00	0.00	5,774.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,840.0	0.00	0.00	5,814.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,880.0	0.00	0.00	5,854.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,920.0	0.00	0.00	5,894.3	384.0	-160.0	-127.1	0.00	0.00	0.00
5,960.0	0.00	0.00	5,934.3	384.0	-160.0	-127.1	0.00	0.00	0.00
6,000.0	0.00	0.00	5,974.3	384.0	-160.0	-127.1	0.00	0.00	0.00
6,040.0	0.00	0.00	6,014.3	384.0	-160.0	-127.1	0.00	0.00	0.00
6,080.0	0.00	0.00	6,054.3	384.0	-160.0	-127.1	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Danielson 15G-412
<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-412	<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	6,094.3	384.0	-160.0	-127.1	0.00	0.00	0.00
6,160.0	0.00	0.00	6,134.3	384.0	-160.0	-127.1	0.00	0.00	0.00
6,200.0	0.00	0.00	6,174.3	384.0	-160.0	-127.1	0.00	0.00	0.00
6,240.0	0.00	0.00	6,214.3	384.0	-160.0	-127.1	0.00	0.00	0.00
6,280.0	0.00	0.00	6,254.3	384.0	-160.0	-127.1	0.00	0.00	0.00
6,320.0	0.00	0.00	6,294.3	384.0	-160.0	-127.1	0.00	0.00	0.00
6,360.0	0.00	0.00	6,334.3	384.0	-160.0	-127.1	0.00	0.00	0.00
6,400.0	0.00	0.00	6,374.3	384.0	-160.0	-127.1	0.00	0.00	0.00
6,440.0	0.00	0.00	6,414.3	384.0	-160.0	-127.1	0.00	0.00	0.00
6,480.0	0.00	0.00	6,454.3	384.0	-160.0	-127.1	0.00	0.00	0.00
6,520.0	0.00	0.00	6,494.3	384.0	-160.0	-127.1	0.00	0.00	0.00
6,560.0	0.00	0.00	6,534.3	384.0	-160.0	-127.1	0.00	0.00	0.00
6,600.0	0.00	0.00	6,574.3	384.0	-160.0	-127.1	0.00	0.00	0.00
6,640.0	0.00	0.00	6,614.3	384.0	-160.0	-127.1	0.00	0.00	0.00
6,680.0	0.00	0.00	6,654.3	384.0	-160.0	-127.1	0.00	0.00	0.00
6,720.0	0.00	0.00	6,694.3	384.0	-160.0	-127.1	0.00	0.00	0.00
6,751.9	0.00	0.00	6,726.2	384.0	-160.0	-127.1	0.00	0.00	0.00
<b>KOP #2</b>									
6,760.0	0.61	89.88	6,734.3	384.0	-160.0	-127.0	7.47	7.47	0.00
6,800.0	3.61	89.88	6,774.3	384.0	-158.5	-125.6	7.50	7.50	0.00
6,840.0	6.61	89.88	6,814.2	384.0	-154.9	-122.0	7.50	7.50	0.00
6,880.0	9.61	89.88	6,853.7	384.0	-149.3	-116.4	7.50	7.50	0.00
6,920.0	12.61	89.88	6,893.0	384.0	-141.6	-108.7	7.50	7.50	0.00
6,960.0	15.61	89.88	6,931.8	384.1	-131.8	-99.0	7.50	7.50	0.00
7,000.0	18.61	89.88	6,970.0	384.1	-120.1	-87.3	7.50	7.50	0.00
7,040.0	21.61	89.88	7,007.6	384.1	-106.3	-73.6	7.50	7.50	0.00
7,080.0	24.61	89.88	7,044.4	384.1	-90.6	-57.9	7.50	7.50	0.00
7,120.0	27.61	89.88	7,080.3	384.2	-73.0	-40.4	7.50	7.50	0.00
7,160.0	30.61	89.88	7,115.2	384.2	-53.6	-21.0	7.50	7.50	0.00
7,200.0	33.61	89.88	7,149.1	384.3	-32.3	0.2	7.50	7.50	0.00
7,240.0	36.61	89.88	7,181.8	384.3	-9.3	23.1	7.50	7.50	0.00
7,280.0	39.61	89.88	7,213.3	384.4	15.4	47.7	7.50	7.50	0.00
7,320.0	42.61	89.88	7,243.4	384.4	41.7	73.9	7.50	7.50	0.00
7,360.0	45.61	89.88	7,272.1	384.5	69.5	101.7	7.50	7.50	0.00
7,400.0	48.61	89.88	7,299.4	384.5	98.8	130.9	7.50	7.50	0.00
7,440.0	51.61	89.88	7,325.0	384.6	129.5	161.4	7.50	7.50	0.00
7,480.0	54.61	89.88	7,349.0	384.7	161.5	193.3	7.50	7.50	0.00
7,520.0	57.61	89.88	7,371.3	384.7	194.7	226.4	7.50	7.50	0.00
7,560.0	60.61	89.88	7,391.9	384.8	229.0	260.6	7.50	7.50	0.00
7,600.0	63.61	89.88	7,410.6	384.9	264.3	295.8	7.50	7.50	0.00
7,640.0	66.61	89.88	7,427.4	385.0	300.6	332.0	7.50	7.50	0.00
7,680.0	69.61	89.88	7,442.3	385.0	337.7	369.0	7.50	7.50	0.00
7,720.0	72.61	89.88	7,455.3	385.1	375.6	406.7	7.50	7.50	0.00
7,760.0	75.61	89.88	7,466.2	385.2	414.0	445.0	7.50	7.50	0.00
7,800.0	78.61	89.88	7,475.2	385.3	453.0	483.9	7.50	7.50	0.00
7,840.0	81.61	89.88	7,482.0	385.4	492.4	523.1	7.50	7.50	0.00
7,871.9	84.00	89.88	7,486.0	385.4	524.1	554.7	7.50	7.50	0.00
<b>7"</b>									
7,880.0	84.00	89.88	7,486.9	385.4	532.1	562.7	0.03	0.03	0.00
7,920.0	84.00	89.88	7,491.1	385.5	571.9	602.4	0.00	0.00	0.00
7,946.9	84.00	89.88	7,493.9	385.6	598.7	629.1	0.00	0.00	0.00
7,960.0	84.65	89.88	7,495.2	385.6	611.7	642.0	5.00	5.00	0.00
8,000.0	86.65	89.88	7,498.2	385.7	651.6	681.8	5.00	5.00	0.00



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Danielson 15G-412
<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-412	<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)
8,040.0	88.65	89.88	7,499.8	385.8	691.5	721.6	5.00	5.00	0.00
8,074.3	90.37	89.88	7,500.1	385.9	725.8	755.8	4.99	4.99	0.00
<b>End of Build</b>									
8,080.0	90.37	89.88	7,500.1	385.9	731.5	761.5	0.00	0.00	0.00
8,120.0	90.37	89.88	7,499.8	385.9	771.5	801.3	0.00	0.00	0.00
8,160.0	90.37	89.88	7,499.6	386.0	811.5	841.2	0.00	0.00	0.00
8,200.0	90.37	89.88	7,499.3	386.1	851.5	881.0	0.00	0.00	0.00
8,240.0	90.37	89.88	7,499.1	386.2	891.5	920.9	0.00	0.00	0.00
8,280.0	90.37	89.88	7,498.8	386.3	931.5	960.8	0.00	0.00	0.00
8,320.0	90.37	89.88	7,498.6	386.4	971.5	1,000.6	0.00	0.00	0.00
8,360.0	90.37	89.88	7,498.3	386.4	1,011.5	1,040.5	0.00	0.00	0.00
8,400.0	90.37	89.88	7,498.0	386.5	1,051.5	1,080.4	0.00	0.00	0.00
8,440.0	90.37	89.88	7,497.8	386.6	1,091.5	1,120.2	0.00	0.00	0.00
8,480.0	90.37	89.88	7,497.5	386.7	1,131.5	1,160.1	0.00	0.00	0.00
8,520.0	90.37	89.88	7,497.3	386.8	1,171.5	1,200.0	0.00	0.00	0.00
8,560.0	90.37	89.88	7,497.0	386.8	1,211.5	1,239.8	0.00	0.00	0.00
8,600.0	90.37	89.88	7,496.8	386.9	1,251.5	1,279.7	0.00	0.00	0.00
8,640.0	90.37	89.88	7,496.5	387.0	1,291.5	1,319.5	0.00	0.00	0.00
8,680.0	90.37	89.88	7,496.3	387.1	1,331.5	1,359.4	0.00	0.00	0.00
8,720.0	90.37	89.88	7,496.0	387.2	1,371.5	1,399.3	0.00	0.00	0.00
8,760.0	90.37	89.88	7,495.7	387.3	1,411.5	1,439.1	0.00	0.00	0.00
8,800.0	90.37	89.88	7,495.5	387.3	1,451.5	1,479.0	0.00	0.00	0.00
8,840.0	90.37	89.88	7,495.2	387.4	1,491.5	1,518.9	0.00	0.00	0.00
8,880.0	90.37	89.88	7,495.0	387.5	1,531.5	1,558.7	0.00	0.00	0.00
8,920.0	90.37	89.88	7,494.7	387.6	1,571.5	1,598.6	0.00	0.00	0.00
8,960.0	90.37	89.88	7,494.5	387.7	1,611.5	1,638.5	0.00	0.00	0.00
9,000.0	90.37	89.88	7,494.2	387.8	1,651.5	1,678.3	0.00	0.00	0.00
9,040.0	90.37	89.88	7,494.0	387.8	1,691.5	1,718.2	0.00	0.00	0.00
9,080.0	90.37	89.88	7,493.7	387.9	1,731.5	1,758.0	0.00	0.00	0.00
9,120.0	90.37	89.88	7,493.4	388.0	1,771.5	1,797.9	0.00	0.00	0.00
9,160.0	90.37	89.88	7,493.2	388.1	1,811.5	1,837.8	0.00	0.00	0.00
9,200.0	90.37	89.88	7,492.9	388.2	1,851.5	1,877.6	0.00	0.00	0.00
9,240.0	90.37	89.88	7,492.7	388.2	1,891.5	1,917.5	0.00	0.00	0.00
9,280.0	90.37	89.88	7,492.4	388.3	1,931.5	1,957.4	0.00	0.00	0.00
9,320.0	90.37	89.88	7,492.2	388.4	1,971.5	1,997.2	0.00	0.00	0.00
9,360.0	90.37	89.88	7,491.9	388.5	2,011.5	2,037.1	0.00	0.00	0.00
9,400.0	90.37	89.88	7,491.7	388.6	2,051.5	2,077.0	0.00	0.00	0.00
9,440.0	90.37	89.88	7,491.4	388.7	2,091.5	2,116.8	0.00	0.00	0.00
9,480.0	90.37	89.88	7,491.1	388.7	2,131.5	2,156.7	0.00	0.00	0.00
9,520.0	90.37	89.88	7,490.9	388.8	2,171.5	2,196.5	0.00	0.00	0.00
9,560.0	90.37	89.88	7,490.6	388.9	2,211.5	2,236.4	0.00	0.00	0.00
9,600.0	90.37	89.88	7,490.4	389.0	2,251.5	2,276.3	0.00	0.00	0.00
9,640.0	90.37	89.88	7,490.1	389.1	2,291.5	2,316.1	0.00	0.00	0.00
9,680.0	90.37	89.88	7,489.9	389.1	2,331.5	2,356.0	0.00	0.00	0.00
9,720.0	90.37	89.88	7,489.6	389.2	2,371.5	2,395.9	0.00	0.00	0.00
9,760.0	90.37	89.88	7,489.4	389.3	2,411.5	2,435.7	0.00	0.00	0.00
9,800.0	90.37	89.88	7,489.1	389.4	2,451.5	2,475.6	0.00	0.00	0.00
9,840.0	90.37	89.88	7,488.8	389.5	2,491.5	2,515.5	0.00	0.00	0.00
9,880.0	90.37	89.88	7,488.6	389.6	2,531.5	2,555.3	0.00	0.00	0.00
9,920.0	90.37	89.88	7,488.3	389.6	2,571.5	2,595.2	0.00	0.00	0.00
9,960.0	90.37	89.88	7,488.1	389.7	2,611.5	2,635.0	0.00	0.00	0.00
10,000.0	90.37	89.88	7,487.8	389.8	2,651.5	2,674.9	0.00	0.00	0.00
10,040.0	90.37	89.88	7,487.6	389.9	2,691.5	2,714.8	0.00	0.00	0.00



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Danielson 15G-412
<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-412	<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)
10,080.0	90.37	89.88	7,487.3	390.0	2,731.5	2,754.6	0.00	0.00	0.00
10,120.0	90.37	89.88	7,487.1	390.1	2,771.5	2,794.5	0.00	0.00	0.00
10,160.0	90.37	89.88	7,486.8	390.1	2,811.5	2,834.4	0.00	0.00	0.00
10,200.0	90.37	89.88	7,486.5	390.2	2,851.5	2,874.2	0.00	0.00	0.00
10,240.0	90.37	89.88	7,486.3	390.3	2,891.5	2,914.1	0.00	0.00	0.00
10,280.0	90.37	89.88	7,486.0	390.4	2,931.5	2,954.0	0.00	0.00	0.00
10,320.0	90.37	89.88	7,485.8	390.5	2,971.5	2,993.8	0.00	0.00	0.00
10,360.0	90.37	89.88	7,485.5	390.5	3,011.5	3,033.7	0.00	0.00	0.00
10,400.0	90.37	89.88	7,485.3	390.6	3,051.5	3,073.5	0.00	0.00	0.00
10,440.0	90.37	89.88	7,485.0	390.7	3,091.5	3,113.4	0.00	0.00	0.00
10,480.0	90.37	89.88	7,484.7	390.8	3,131.5	3,153.3	0.00	0.00	0.00
10,520.0	90.37	89.88	7,484.5	390.9	3,171.5	3,193.1	0.00	0.00	0.00
10,560.0	90.37	89.88	7,484.2	391.0	3,211.5	3,233.0	0.00	0.00	0.00
10,600.0	90.37	89.88	7,484.0	391.0	3,251.5	3,272.9	0.00	0.00	0.00
10,640.0	90.37	89.88	7,483.7	391.1	3,291.5	3,312.7	0.00	0.00	0.00
10,680.0	90.37	89.88	7,483.5	391.2	3,331.5	3,352.6	0.00	0.00	0.00
10,720.0	90.37	89.88	7,483.2	391.3	3,371.5	3,392.5	0.00	0.00	0.00
10,760.0	90.37	89.88	7,483.0	391.4	3,411.5	3,432.3	0.00	0.00	0.00
10,800.0	90.37	89.88	7,482.7	391.4	3,451.5	3,472.2	0.00	0.00	0.00
10,840.0	90.37	89.88	7,482.4	391.5	3,491.5	3,512.0	0.00	0.00	0.00
10,880.0	90.37	89.88	7,482.2	391.6	3,531.5	3,551.9	0.00	0.00	0.00
10,920.0	90.37	89.88	7,481.9	391.7	3,571.5	3,591.8	0.00	0.00	0.00
10,960.0	90.37	89.88	7,481.7	391.8	3,611.5	3,631.6	0.00	0.00	0.00
11,000.0	90.37	89.88	7,481.4	391.9	3,651.5	3,671.5	0.00	0.00	0.00
11,040.0	90.37	89.88	7,481.2	391.9	3,691.5	3,711.4	0.00	0.00	0.00
11,080.0	90.37	89.88	7,480.9	392.0	3,731.5	3,751.2	0.00	0.00	0.00
11,120.0	90.37	89.88	7,480.7	392.1	3,771.5	3,791.1	0.00	0.00	0.00
11,160.0	90.37	89.88	7,480.4	392.2	3,811.5	3,831.0	0.00	0.00	0.00
11,200.0	90.37	89.88	7,480.1	392.3	3,851.5	3,870.8	0.00	0.00	0.00
11,240.0	90.37	89.88	7,479.9	392.3	3,891.5	3,910.7	0.00	0.00	0.00
11,280.0	90.37	89.88	7,479.6	392.4	3,931.5	3,950.5	0.00	0.00	0.00
11,320.0	90.37	89.88	7,479.4	392.5	3,971.5	3,990.4	0.00	0.00	0.00
11,360.0	90.37	89.88	7,479.1	392.6	4,011.5	4,030.3	0.00	0.00	0.00
11,400.0	90.37	89.88	7,478.9	392.7	4,051.5	4,070.1	0.00	0.00	0.00
11,440.0	90.37	89.88	7,478.6	392.8	4,091.5	4,110.0	0.00	0.00	0.00
11,480.0	90.37	89.88	7,478.4	392.8	4,131.4	4,149.9	0.00	0.00	0.00
11,520.0	90.37	89.88	7,478.1	392.9	4,171.4	4,189.7	0.00	0.00	0.00
11,560.0	90.37	89.88	7,477.8	393.0	4,211.4	4,229.6	0.00	0.00	0.00
11,600.0	90.37	89.88	7,477.6	393.1	4,251.4	4,269.5	0.00	0.00	0.00
11,640.0	90.37	89.88	7,477.3	393.2	4,291.4	4,309.3	0.00	0.00	0.00
11,680.0	90.37	89.88	7,477.1	393.3	4,331.4	4,349.2	0.00	0.00	0.00
11,720.0	90.37	89.88	7,476.8	393.3	4,371.4	4,389.0	0.00	0.00	0.00
11,760.0	90.37	89.88	7,476.6	393.4	4,411.4	4,428.9	0.00	0.00	0.00
11,800.0	90.37	89.88	7,476.3	393.5	4,451.4	4,468.8	0.00	0.00	0.00
11,840.0	90.37	89.88	7,476.1	393.6	4,491.4	4,508.6	0.00	0.00	0.00
11,880.0	90.37	89.88	7,475.8	393.7	4,531.4	4,548.5	0.00	0.00	0.00
11,920.0	90.37	89.88	7,475.5	393.7	4,571.4	4,588.4	0.00	0.00	0.00
11,960.0	90.37	89.88	7,475.3	393.8	4,611.4	4,628.2	0.00	0.00	0.00
12,000.0	90.37	89.88	7,475.0	393.9	4,651.4	4,668.1	0.00	0.00	0.00
12,004.4	90.37	89.88	7,475.0	393.9	4,655.9	4,672.5	0.00	0.00	0.00
BHL 2400'FNL, 500'FEL									

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Danielson 15G-412
<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-412	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (6-01-12)		

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
BHL 2400'FNL, 500'FI - plan hits target center - Point	0.00	0.00	7,475.0	393.9	4,655.9	1,453,519.51	3,206,674.31	40.575930	-104.755990
HARDLINE BHL 460'F - plan misses target center by 4734.1ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E) - Polygon	0.00	0.00	1.0	600.0	4,695.9	1,453,725.91	3,206,712.66	40.576496	-104.755846
Point 1			1.0	0.0	0.0	1,453,725.91	3,206,712.66		
Point 2			1.0	-800.0	0.0	1,452,925.96	3,206,719.23		
SECTION LINE 210'W - plan misses target center by 635.7ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E) - Polygon	0.00	0.00	1.0	600.0	-210.0	1,453,685.68	3,201,807.07	40.576497	-104.773506
Point 1			1.0	0.0	0.0	1,453,685.68	3,201,807.07		
Point 2			1.0	-800.0	0.0	1,452,885.73	3,201,813.63		
HARDLINE SHL 460'F - plan misses target center by 650.0ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E) - Polygon	0.00	0.00	1.0	600.0	250.0	1,453,689.45	3,202,267.04	40.576497	-104.771850
Point 1			1.0	0.0	0.0	1,453,689.45	3,202,267.04		
Point 2			1.0	-800.0	0.0	1,452,889.50	3,202,273.60		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
7,871.9	7,486.0	7"	7	8-3/4	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
600.0	600.0	0.0	0.0	KOP #1
6,751.9	6,726.2	384.0	-160.0	KOP #2
8,074.3	7,500.1	385.9	725.8	End of Build



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.15-T7N-R66W**

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

**Danielson 15G-412**

**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-412
<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-412	<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	12,004.4	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>Distance 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-232 - Wellbore #1 - Plan #1 (6-01-12)	600.0	600.0	62.3	59.9	25.215	CC, ES
Danielson 15G-232 - Wellbore #1 - Plan #1 (6-01-12)	12,004.4	11,816.1	534.1	286.9	2.160	SF

Offset Design Danielson Pad Sec.15-T7N-R66W - Danielson 15G-232 - 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						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	134.52	-43.7	44.4	62.3				
100.0	100.0	100.0	100.0	0.1	0.1	134.52	-43.7	44.4	62.3	62.1	0.22	277.367	
200.0	200.0	200.0	200.0	0.3	0.3	134.52	-43.7	44.4	62.3	61.7	0.67	92.456	
300.0	300.0	300.0	300.0	0.6	0.6	134.52	-43.7	44.4	62.3	61.2	1.12	55.473	
400.0	400.0	400.0	400.0	0.8	0.8	134.52	-43.7	44.4	62.3	60.8	1.57	39.624	
500.0	500.0	500.0	500.0	1.0	1.0	134.52	-43.7	44.4	62.3	60.3	2.02	30.819	
600.0	600.0	600.0	600.0	1.2	1.2	134.52	-43.7	44.4	62.3	59.9	2.47	25.215 CC, ES	
700.0	700.0	700.0	700.0	1.5	1.5	157.74	-43.7	44.4	64.0	61.0	2.92	21.888	
800.0	799.8	799.8	799.8	1.7	1.7	159.35	-43.7	44.4	68.8	65.5	3.37	20.419	
900.0	899.5	899.5	899.5	1.9	1.9	161.59	-43.7	44.4	77.0	73.2	3.82	20.177	
1,000.0	998.7	998.7	998.7	2.2	2.1	164.00	-43.7	44.4	88.5	84.2	4.27	20.748	
1,100.0	1,097.9	1,097.9	1,097.9	2.5	2.4	166.00	-43.7	44.4	100.8	96.1	4.72	21.378	
1,200.0	1,197.1	1,197.1	1,197.1	2.7	2.6	167.56	-43.7	44.4	113.3	108.1	5.17	21.906	
1,300.0	1,296.3	1,296.3	1,296.3	3.0	2.8	168.81	-43.7	44.4	125.8	120.1	5.63	22.356	
1,400.0	1,395.5	1,395.5	1,395.5	3.3	3.0	169.84	-43.7	44.4	138.3	132.2	6.08	22.741	
1,500.0	1,494.6	1,494.6	1,494.6	3.6	3.2	170.69	-43.7	44.4	150.9	144.4	6.54	23.075	
1,600.0	1,593.8	1,593.8	1,593.8	3.9	3.5	171.41	-43.7	44.4	163.5	156.5	7.00	23.367	
1,700.0	1,693.0	1,693.0	1,693.0	4.3	3.7	172.03	-43.7	44.4	176.1	168.7	7.46	23.623	
1,800.0	1,792.2	1,792.2	1,792.2	4.6	3.9	172.57	-43.7	44.4	188.8	180.9	7.92	23.851	
1,900.0	1,891.4	1,891.4	1,891.4	4.9	4.1	173.04	-43.7	44.4	201.5	193.1	8.38	24.054	
2,000.0	1,990.5	1,990.5	1,990.5	5.2	4.4	173.45	-43.7	44.4	214.1	205.3	8.84	24.236	
2,100.0	2,089.7	2,089.7	2,089.7	5.5	4.6	173.82	-43.7	44.4	226.8	217.5	9.30	24.401	
2,200.0	2,188.9	2,188.9	2,188.9	5.8	4.8	174.15	-43.7	44.4	239.5	229.8	9.76	24.549	
2,300.0	2,288.1	2,288.1	2,288.1	6.2	5.0	174.45	-43.7	44.4	252.2	242.0	10.22	24.685	

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-412
<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-412	<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-232 - 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
2,400.0	2,387.3	2,387.3	2,387.3	6.5	5.3	174.71		-43.7	44.4	264.9	254.2	10.68	24.809	
2,500.0	2,486.5	2,486.5	2,486.5	6.8	5.5	174.96		-43.7	44.4	277.6	266.5	11.14	24.922	
2,600.0	2,585.6	2,585.6	2,585.6	7.1	5.7	175.18		-43.7	44.4	290.3	278.7	11.60	25.027	
2,700.0	2,684.8	2,684.8	2,684.8	7.4	5.9	175.38		-43.7	44.4	303.1	291.0	12.06	25.123	
2,800.0	2,784.0	2,784.0	2,784.0	7.8	6.1	175.57		-43.7	44.4	315.8	303.3	12.52	25.213	
2,900.0	2,883.2	2,883.2	2,883.2	8.1	6.4	175.74		-43.7	44.4	328.5	315.5	12.99	25.296	
3,000.0	2,982.4	2,982.4	2,982.4	8.4	6.6	175.90		-43.7	44.4	341.2	327.8	13.45	25.373	
3,100.0	3,081.6	3,081.6	3,081.6	8.7	6.8	176.24		-44.2	43.4	353.9	340.0	13.90	25.469	
3,200.0	3,180.7	3,181.7	3,181.6	9.0	7.0	177.09		-46.0	39.2	366.5	352.1	14.33	25.581	
3,300.0	3,279.9	3,280.8	3,280.4	9.4	7.2	178.41		-49.2	31.8	379.0	364.3	14.76	25.682	
3,400.0	3,379.1	3,379.4	3,378.3	9.7	7.4	-179.91		-53.6	21.6	391.8	376.6	15.20	25.774	
3,500.0	3,478.3	3,477.9	3,476.1	10.0	7.6	-178.23		-58.3	10.9	404.9	389.3	15.66	25.862	
3,600.0	3,577.5	3,576.3	3,573.8	10.3	7.8	-176.66		-63.0	0.1	418.4	402.3	16.12	25.947	
3,700.0	3,676.6	3,674.8	3,671.6	10.6	8.0	-175.18		-67.7	-10.7	432.1	415.5	16.60	26.031	
3,800.0	3,775.8	3,773.2	3,769.3	11.0	8.3	-173.80		-72.4	-21.5	446.2	429.1	17.09	26.111	
3,900.0	3,875.0	3,871.7	3,867.1	11.3	8.5	-172.51		-77.0	-32.3	460.1	442.5	17.58	26.172	
4,000.0	3,974.6	3,970.5	3,965.2	11.5	8.7	-171.26		-81.8	-43.2	471.5	453.5	18.04	26.135	
4,100.0	4,074.4	4,069.6	4,063.5	11.7	9.0	-170.00		-86.5	-54.0	479.7	461.2	18.48	25.951	
4,200.0	4,174.3	4,168.8	4,162.1	11.9	9.2	-168.69		-91.2	-64.9	484.7	465.7	18.91	25.631	
4,300.0	4,274.3	4,268.1	4,260.6	12.0	9.5	-170.05		-95.9	-75.8	487.4	466.4	21.04	23.164	
4,400.0	4,374.3	4,367.4	4,359.2	12.2	9.8	-171.40		-100.6	-86.7	490.4	469.0	21.40	22.910	
4,500.0	4,474.3	4,466.7	4,457.8	12.4	10.0	-172.73		-105.4	-97.6	493.6	471.8	21.77	22.674	
4,600.0	4,574.3	4,565.9	4,556.4	12.5	10.3	-174.04		-110.1	-108.4	497.1	475.0	22.14	22.452	
4,700.0	4,674.3	4,665.2	4,654.9	12.7	10.6	-175.34		-114.8	-119.3	500.9	478.3	22.51	22.246	
4,800.0	4,774.3	4,764.5	4,753.5	12.9	10.8	-176.62		-119.5	-130.2	504.9	482.0	22.89	22.052	
4,900.0	4,874.3	4,863.8	4,852.1	13.1	11.1	-177.87		-124.3	-141.1	509.1	485.8	23.28	21.872	
5,000.0	4,974.3	4,970.0	4,957.7	13.2	11.4	-179.01		-128.6	-151.1	513.0	489.3	23.67	21.674	
5,100.0	5,074.3	5,077.3	5,064.7	13.4	11.6	-179.74		-131.4	-157.6	515.5	491.5	24.06	21.425	
5,200.0	5,174.3	5,184.9	5,172.4	13.6	11.8	-179.95		-132.7	-160.4	516.7	492.2	24.46	21.123	
5,300.0	5,274.3	5,286.9	5,274.3	13.8	12.0	-179.94		-132.7	-160.6	516.7	491.9	24.85	20.793	
5,400.0	5,374.3	5,386.9	5,374.3	14.0	12.2	-179.94		-132.7	-160.6	516.7	491.5	25.25	20.463	
5,500.0	5,474.3	5,486.9	5,474.3	14.2	12.4	-179.94		-132.7	-160.6	516.7	491.1	25.66	20.140	
5,600.0	5,574.3	5,586.9	5,574.3	14.3	12.6	-179.94		-132.7	-160.6	516.7	490.7	26.06	19.827	
5,700.0	5,674.3	5,686.9	5,674.3	14.5	12.8	-179.94		-132.7	-160.6	516.7	490.2	26.47	19.522	
5,800.0	5,774.3	5,786.9	5,774.3	14.7	13.0	-179.94		-132.7	-160.6	516.7	489.8	26.88	19.226	
5,900.0	5,874.3	5,886.9	5,874.3	14.9	13.2	-179.94		-132.7	-160.6	516.7	489.4	27.29	18.937	
6,000.0	5,974.3	5,986.9	5,974.3	15.1	13.5	-179.94		-132.7	-160.6	516.7	489.0	27.70	18.657	
6,100.0	6,074.3	6,086.9	6,074.3	15.3	13.7	-179.94		-132.7	-160.6	516.7	488.6	28.11	18.383	
6,200.0	6,174.3	6,186.9	6,174.3	15.5	13.9	-179.94		-132.7	-160.6	516.7	488.2	28.52	18.117	
6,300.0	6,274.3	6,286.9	6,274.3	15.7	14.1	-179.94		-132.7	-160.6	516.7	487.8	28.93	17.858	
6,400.0	6,374.3	6,386.9	6,374.3	15.9	14.3	-179.94		-132.7	-160.6	516.7	487.4	29.35	17.606	
6,500.0	6,474.3	6,486.9	6,474.3	16.1	14.5	-179.94		-132.7	-160.6	516.7	486.9	29.77	17.360	
6,600.0	6,574.3	6,587.0	6,574.4	16.3	14.7	-179.98		-132.7	-160.2	516.7	486.5	30.18	17.121	
6,649.4	6,623.8	6,636.5	6,623.8	16.4	14.8	-179.67		-132.7	-157.1	516.7	486.3	30.38	17.009	
6,700.0	6,674.3	6,686.4	6,673.3	16.5	14.9	-178.96		-132.7	-150.7	516.7	486.2	30.58	16.897	
6,800.0	6,774.3	6,782.2	6,766.6	16.7	15.0	86.85		-132.5	-129.4	517.4	487.1	30.28	17.087	
6,900.0	6,873.4	6,875.1	6,854.0	16.8	15.1	84.50		-132.4	-97.8	519.0	488.5	30.51	17.010	
7,000.0	6,970.0	6,965.9	6,935.0	16.9	15.2	82.28		-132.1	-56.9	521.2	490.5	30.74	16.958	
7,100.0	7,062.4	7,054.8	7,009.0	17.0	15.4	80.20		-131.8	-7.9	524.0	493.0	31.01	16.897	
7,200.0	7,149.1	7,142.0	7,075.6	17.1	15.7	78.29		-131.5	48.3	527.2	495.8	31.41	16.782	
7,300.0	7,228.5	7,227.7	7,134.5	17.2	16.1	76.58		-131.2	110.6	530.5	498.5	32.02	16.567	

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-412
<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-412	<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-232 - 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		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
							+N/-S (ft)	+E/-W (ft)							
7,400.0	7,299.4	7,312.3	7,185.4	17.3	16.7	75.09	-130.8	178.1	533.7	500.8	32.91	16.215			
7,500.0	7,360.4	7,395.9	7,228.0	17.8	17.5	73.82	-130.4	249.9	536.7	502.5	34.19	15.698			
7,600.0	7,410.6	7,478.6	7,262.3	18.8	18.6	72.79	-129.9	325.2	539.2	503.3	35.91	15.017			
7,700.0	7,449.1	7,560.8	7,288.0	20.1	19.8	72.01	-129.5	403.2	541.2	503.1	38.08	14.213			
7,800.0	7,475.2	7,642.5	7,305.2	21.7	21.2	71.47	-129.0	483.1	542.5	501.8	40.70	13.331			
7,900.0	7,489.0	7,723.9	7,313.7	23.5	22.8	71.15	-128.6	564.0	543.3	499.5	43.73	12.424			
8,000.0	7,498.2	7,813.1	7,314.3	25.5	24.6	70.34	-128.1	653.2	545.7	498.6	47.07	11.593			
8,100.0	7,500.0	7,913.0	7,313.6	27.6	26.7	70.05	-127.5	753.1	546.2	495.2	50.95	10.719			
8,200.0	7,499.3	8,013.0	7,312.9	29.8	29.0	70.03	-126.9	853.1	545.9	490.7	55.17	9.895			
8,300.0	7,498.7	8,113.0	7,312.1	32.1	31.3	70.01	-126.4	953.1	545.6	486.0	59.56	9.160			
8,400.0	7,498.0	8,213.0	7,311.4	34.5	33.7	69.98	-125.8	1,053.1	545.2	481.2	64.08	8.509			
8,500.0	7,497.4	8,313.0	7,310.7	37.0	36.2	69.96	-125.2	1,153.1	544.9	476.2	68.71	7.931			
8,600.0	7,496.8	8,413.0	7,309.9	39.5	38.7	69.94	-124.6	1,253.1	544.6	471.2	73.43	7.417			
8,700.0	7,496.1	8,513.0	7,309.2	42.0	41.3	69.92	-124.1	1,353.1	544.3	466.1	78.22	6.959			
8,800.0	7,495.5	8,613.0	7,308.5	44.6	43.9	69.89	-123.5	1,453.1	544.0	460.9	83.07	6.549			
8,900.0	7,494.9	8,713.0	7,307.7	47.2	46.5	69.87	-122.9	1,553.1	543.7	455.7	87.96	6.181			
9,000.0	7,494.2	8,813.0	7,307.0	49.8	49.1	69.85	-122.4	1,653.0	543.4	450.5	92.90	5.849			
9,100.0	7,493.6	8,913.0	7,306.3	52.4	51.8	69.83	-121.8	1,753.0	543.1	445.2	97.87	5.549			
9,200.0	7,492.9	9,013.0	7,305.5	55.1	54.4	69.80	-121.2	1,853.0	542.8	439.9	102.88	5.276			
9,300.0	7,492.3	9,113.0	7,304.8	57.7	57.1	69.78	-120.6	1,953.0	542.4	434.5	107.90	5.027			
9,400.0	7,491.7	9,213.0	7,304.1	60.4	59.8	69.76	-120.1	2,053.0	542.1	429.2	112.95	4.800			
9,500.0	7,491.0	9,313.0	7,303.3	63.1	62.5	69.74	-119.5	2,153.0	541.8	423.8	118.02	4.591			
9,600.0	7,490.4	9,413.0	7,302.6	65.8	65.2	69.71	-118.9	2,253.0	541.5	418.4	123.10	4.399			
9,700.0	7,489.7	9,513.0	7,301.9	68.5	67.9	69.69	-118.4	2,353.0	541.2	413.0	128.20	4.222			
9,800.0	7,489.1	9,613.0	7,301.1	71.2	70.7	69.67	-117.8	2,453.0	540.9	407.6	133.31	4.058			
9,900.0	7,488.5	9,713.0	7,300.4	73.9	73.4	69.64	-117.2	2,553.0	540.6	402.2	138.42	3.905			
10,000.0	7,487.8	9,813.0	7,299.7	76.7	76.1	69.62	-116.7	2,653.0	540.3	396.7	143.55	3.764			
10,100.0	7,487.2	9,913.0	7,298.9	79.4	78.9	69.60	-116.1	2,753.0	540.0	391.3	148.69	3.631			
10,200.0	7,486.5	10,013.0	7,298.2	82.1	81.6	69.58	-115.5	2,853.0	539.7	385.8	153.83	3.508			
10,300.0	7,485.9	10,113.0	7,297.5	84.9	84.4	69.55	-114.9	2,953.0	539.3	380.4	158.98	3.392			
10,400.0	7,485.3	10,213.0	7,296.8	87.6	87.1	69.53	-114.4	3,053.0	539.0	374.9	164.14	3.284			
10,500.0	7,484.6	10,313.0	7,296.0	90.4	89.9	69.51	-113.8	3,153.0	538.7	369.4	169.30	3.182			
10,600.0	7,484.0	10,413.0	7,295.3	93.1	92.6	69.48	-113.2	3,253.0	538.4	363.9	174.46	3.086			
10,700.0	7,483.3	10,513.0	7,294.6	95.9	95.4	69.46	-112.7	3,353.0	538.1	358.5	179.63	2.996			
10,800.0	7,482.7	10,613.0	7,293.8	98.7	98.2	69.44	-112.1	3,453.0	537.8	353.0	184.80	2.910			
10,900.0	7,482.1	10,713.0	7,293.1	101.4	100.9	69.42	-111.5	3,553.0	537.5	347.5	189.98	2.829			
11,000.0	7,481.4	10,813.0	7,292.4	104.2	103.7	69.39	-110.9	3,652.9	537.2	342.0	195.16	2.753			
11,100.0	7,480.8	10,913.0	7,291.6	107.0	106.5	69.37	-110.4	3,752.9	536.9	336.5	200.34	2.680			
11,200.0	7,480.1	11,013.0	7,290.9	109.7	109.3	69.35	-109.8	3,852.9	536.6	331.0	205.52	2.611			
11,300.0	7,479.5	11,113.0	7,290.2	112.5	112.0	69.32	-109.2	3,952.9	536.2	325.5	210.70	2.545			
11,400.0	7,478.9	11,213.0	7,289.4	115.3	114.8	69.30	-108.7	4,052.9	535.9	320.0	215.89	2.482			
11,500.0	7,478.2	11,313.0	7,288.7	118.1	117.6	69.28	-108.1	4,152.9	535.6	314.6	221.07	2.423			
11,600.0	7,477.6	11,413.0	7,288.0	120.8	120.4	69.25	-107.5	4,252.9	535.3	309.1	226.26	2.366			
11,700.0	7,476.9	11,513.0	7,287.2	123.6	123.2	69.23	-106.9	4,352.9	535.0	303.6	231.45	2.312			
11,800.0	7,476.3	11,613.0	7,286.5	126.4	125.9	69.21	-106.4	4,452.9	534.7	298.1	236.64	2.260			
11,900.0	7,475.7	11,713.0	7,285.8	129.2	128.7	69.18	-105.8	4,552.9	534.4	292.6	241.83	2.210			
12,000.0	7,475.0	11,813.0	7,285.0	132.0	131.5	69.16	-105.2	4,652.9	534.1	287.1	247.02	2.162			
12,004.4	7,475.0	11,816.1	7,285.0	132.1	131.6	69.16	-105.2	4,655.9	534.1	286.9	247.21	2.160 SF			

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Danielson 15G-412
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<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-412	<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-412  
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-412
<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-412	<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-412  
 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°

