

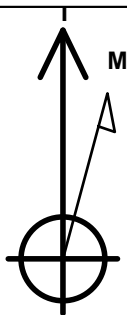
# PETROLEUM DEVELOPMENT CORP Weld County CO

## Well Name: Alm 33V-214

Surface Location: Alm 33V-HZ Pad North Sec.33-T7N-R65W  
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
 Ground Elevation: 4792.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1438956.33 3233472.73 40.535300 -104.660020  
 Original Well Elev WELL @ 4807.0ft (Original Well Elev)

### WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape Point
BHL 1083'FNL & 500'FWL	7007.0	-6.9	-4422.4	



Azimuths to True North  
 Magnetic North: 8.59°

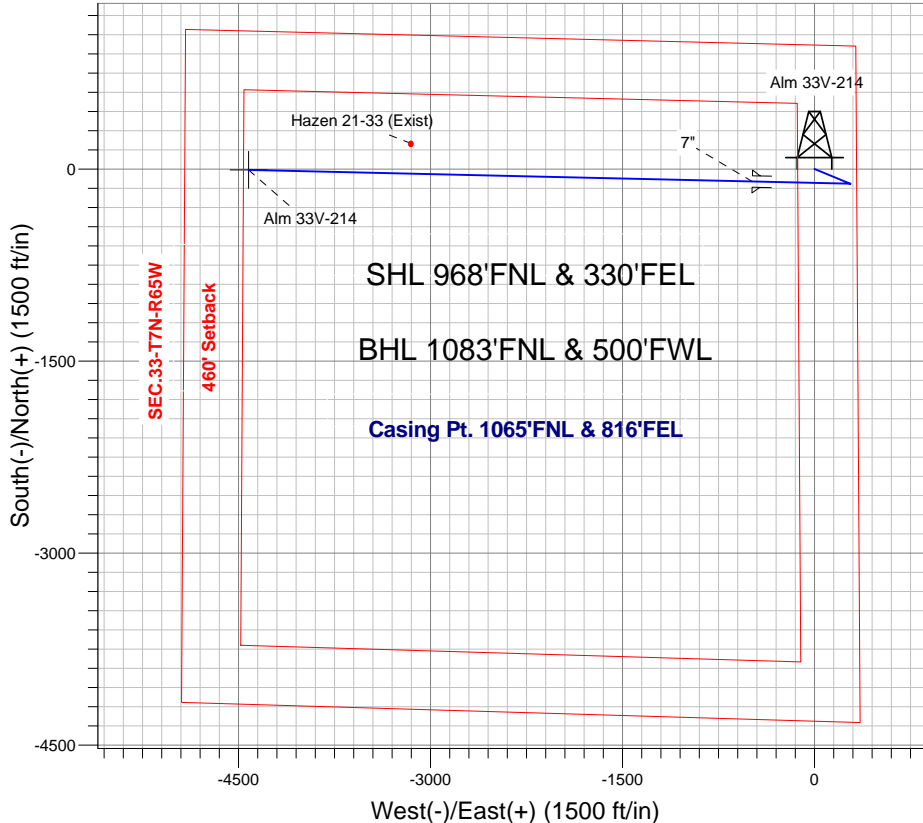
Magnetic Field  
 Strength: 53031.5nT  
 Dip Angle: 67.12°  
 Date: 3/7/2013  
 Model: IGRF2010

### ANNOTATIONS

TVD	MD	Annotation
1500.0	1500.0	KOP #1
6253.3	6269.7	KOP #2
7017.3	7471.7	End of Build

Alm 33V-HZ Pad North Sec.33-T7N-R65W  
 Alm 33V-214  
 Plan #1 (03-07-13)  
 14:07, March 07 2013

South(-)/North(+) (1500 ft/in)



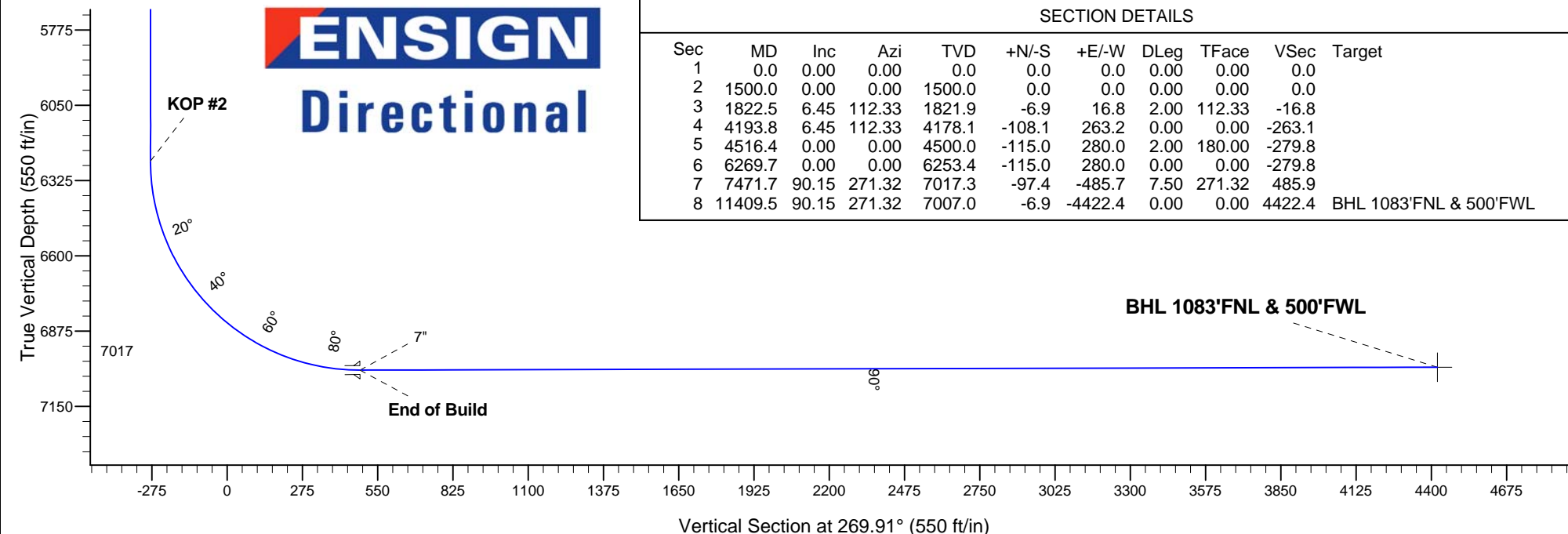
West(-)/East(+) (1500 ft/in)



### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0	
3	1822.5	6.45	112.33	1821.9	-6.9	16.8	2.00	112.33	-16.8	
4	4193.8	6.45	112.33	4178.1	-108.1	263.2	0.00	0.00	-263.1	
5	4516.4	0.00	0.00	4500.0	-115.0	280.0	2.00	180.00	-279.8	
6	6269.7	0.00	0.00	6253.4	-115.0	280.0	0.00	0.00	-279.8	
7	7471.7	90.15	271.32	7017.3	-97.4	-485.7	7.50	271.32	485.9	
8	11409.5	90.15	271.32	7007.0	-6.9	-4422.4	0.00	0.00	4422.4	BHL 1083'FNL & 500'FWL

BHL 1083'FNL & 500'FWL



Vertical Section at 269.91° (550 ft/in)



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.33-T7N-R65W**

**Alm 33V-HZ Pad North Sec.33-T7N-R65W**

**Alm 33V-214**

**Wellbore #1**

**Plan: Plan #1 (03-07-13)**

## **Standard Planning Report**

**07 March, 2013**

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Alm 33V-214
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Project:</b>	SEC.33-T7N-R65W	<b>MD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Site:</b>	Alm 33V-HZ Pad North Sec.33-T7N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Alm 33V-214	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (03-07-13)		

<b>Project</b>	SEC.33-T7N-R65W, Weld County, CO		
<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>	Alm 33V-HZ Pad North Sec.33-T7N-R65W		
<b>Site Position:</b>		<b>Northing:</b>	1,439,018.27 ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,233,472.15 ft
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"
		<b>Latitude:</b>	40.535470
		<b>Longitude:</b>	-104.660020
		<b>Grid Convergence:</b>	0.54 °

<b>Well</b>	Alm 33V-214		
<b>Well Position</b>	<b>+N/-S</b>	-61.9 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>
			40.535300
			<b>Longitude:</b>
			-104.660020
			<b>Ground Level:</b>
			4,792.0 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	3/7/2013	8.59	67.12	53,031

<b>Design</b>	Plan #1 (03-07-13)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	269.91

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,822.5	6.45	112.33	1,821.9	-6.9	16.8	2.00	2.00	0.00	112.33	
4,193.8	6.45	112.33	4,178.1	-108.1	263.2	0.00	0.00	0.00	0.00	
4,516.4	0.00	0.00	4,500.0	-115.0	280.0	2.00	-2.00	0.00	180.00	
6,269.7	0.00	0.00	6,253.4	-115.0	280.0	0.00	0.00	0.00	0.00	
7,471.7	90.15	271.32	7,017.3	-97.4	-485.7	7.50	7.50	0.00	271.32	
11,409.5	90.15	271.32	7,007.0	-6.9	-4,422.4	0.00	0.00	0.00	0.00	BHL 1083'FNL & 5C

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Alm 33V-214
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Project:</b>	SEC.33-T7N-R65W	<b>MD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Site:</b>	Alm 33V-HZ Pad North Sec.33-T7N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Alm 33V-214	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (03-07-13)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
40.0	0.00	0.00	40.0	0.0	0.0	0.0	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
160.0	0.00	0.00	160.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	0.00
280.0	0.00	0.00	280.0	0.0	0.0	0.0	0.00	0.00	0.00
320.0	0.00	0.00	320.0	0.0	0.0	0.0	0.00	0.00	0.00
360.0	0.00	0.00	360.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
440.0	0.00	0.00	440.0	0.0	0.0	0.0	0.00	0.00	0.00
480.0	0.00	0.00	480.0	0.0	0.0	0.0	0.00	0.00	0.00
520.0	0.00	0.00	520.0	0.0	0.0	0.0	0.00	0.00	0.00
560.0	0.00	0.00	560.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
640.0	0.00	0.00	640.0	0.0	0.0	0.0	0.00	0.00	0.00
680.0	0.00	0.00	680.0	0.0	0.0	0.0	0.00	0.00	0.00
720.0	0.00	0.00	720.0	0.0	0.0	0.0	0.00	0.00	0.00
760.0	0.00	0.00	760.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
840.0	0.00	0.00	840.0	0.0	0.0	0.0	0.00	0.00	0.00
880.0	0.00	0.00	880.0	0.0	0.0	0.0	0.00	0.00	0.00
920.0	0.00	0.00	920.0	0.0	0.0	0.0	0.00	0.00	0.00
960.0	0.00	0.00	960.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
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
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP #1</b>									
1,520.0	0.40	112.33	1,520.0	0.0	0.1	-0.1	2.00	2.00	0.00
1,560.0	1.20	112.33	1,560.0	-0.2	0.6	-0.6	2.00	2.00	0.00
1,600.0	2.00	112.33	1,600.0	-0.7	1.6	-1.6	2.00	2.00	0.00
1,640.0	2.80	112.33	1,639.9	-1.3	3.2	-3.2	2.00	2.00	0.00
1,680.0	3.60	112.33	1,679.9	-2.1	5.2	-5.2	2.00	2.00	0.00
1,720.0	4.40	112.33	1,719.8	-3.2	7.8	-7.8	2.00	2.00	0.00
1,760.0	5.20	112.33	1,759.6	-4.5	10.9	-10.9	2.00	2.00	0.00
1,800.0	6.00	112.33	1,799.5	-6.0	14.5	-14.5	2.00	2.00	0.00
1,822.5	6.45	112.33	1,821.9	-6.9	16.8	-16.8	2.00	2.00	0.00
1,840.0	6.45	112.33	1,839.2	-7.6	18.6	-18.6	0.00	0.00	0.00
1,880.0	6.45	112.33	1,879.0	-9.3	22.7	-22.7	0.00	0.00	0.00
1,920.0	6.45	112.33	1,918.7	-11.1	26.9	-26.9	0.00	0.00	0.00
1,960.0	6.45	112.33	1,958.4	-12.8	31.1	-31.0	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Alm 33V-214
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<b>Project:</b>	SEC.33-T7N-R65W	<b>MD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Site:</b>	Alm 33V-HZ Pad North Sec.33-T7N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Alm 33V-214	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (03-07-13)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2,000.0	6.45	112.33	1,998.2	-14.5	35.2	-35.2	0.00	0.00	0.00
2,040.0	6.45	112.33	2,037.9	-16.2	39.4	-39.4	0.00	0.00	0.00
2,080.0	6.45	112.33	2,077.7	-17.9	43.5	-43.5	0.00	0.00	0.00
2,120.0	6.45	112.33	2,117.4	-19.6	47.7	-47.7	0.00	0.00	0.00
2,160.0	6.45	112.33	2,157.2	-21.3	51.8	-51.8	0.00	0.00	0.00
2,200.0	6.45	112.33	2,196.9	-23.0	56.0	-56.0	0.00	0.00	0.00
2,240.0	6.45	112.33	2,236.7	-24.7	60.2	-60.1	0.00	0.00	0.00
2,280.0	6.45	112.33	2,276.4	-26.4	64.3	-64.3	0.00	0.00	0.00
2,320.0	6.45	112.33	2,316.2	-28.1	68.5	-68.4	0.00	0.00	0.00
2,360.0	6.45	112.33	2,355.9	-29.8	72.6	-72.6	0.00	0.00	0.00
2,400.0	6.45	112.33	2,395.7	-31.5	76.8	-76.7	0.00	0.00	0.00
2,440.0	6.45	112.33	2,435.4	-33.2	80.9	-80.9	0.00	0.00	0.00
2,480.0	6.45	112.33	2,475.2	-35.0	85.1	-85.1	0.00	0.00	0.00
2,520.0	6.45	112.33	2,514.9	-36.7	89.3	-89.2	0.00	0.00	0.00
2,560.0	6.45	112.33	2,554.6	-38.4	93.4	-93.4	0.00	0.00	0.00
2,600.0	6.45	112.33	2,594.4	-40.1	97.6	-97.5	0.00	0.00	0.00
2,640.0	6.45	112.33	2,634.1	-41.8	101.7	-101.7	0.00	0.00	0.00
2,680.0	6.45	112.33	2,673.9	-43.5	105.9	-105.8	0.00	0.00	0.00
2,720.0	6.45	112.33	2,713.6	-45.2	110.0	-110.0	0.00	0.00	0.00
2,760.0	6.45	112.33	2,753.4	-46.9	114.2	-114.1	0.00	0.00	0.00
2,800.0	6.45	112.33	2,793.1	-48.6	118.4	-118.3	0.00	0.00	0.00
2,840.0	6.45	112.33	2,832.9	-50.3	122.5	-122.4	0.00	0.00	0.00
2,880.0	6.45	112.33	2,872.6	-52.0	126.7	-126.6	0.00	0.00	0.00
2,920.0	6.45	112.33	2,912.4	-53.7	130.8	-130.8	0.00	0.00	0.00
2,960.0	6.45	112.33	2,952.1	-55.4	135.0	-134.9	0.00	0.00	0.00
3,000.0	6.45	112.33	2,991.9	-57.2	139.1	-139.1	0.00	0.00	0.00
3,040.0	6.45	112.33	3,031.6	-58.9	143.3	-143.2	0.00	0.00	0.00
3,080.0	6.45	112.33	3,071.4	-60.6	147.5	-147.4	0.00	0.00	0.00
3,120.0	6.45	112.33	3,111.1	-62.3	151.6	-151.5	0.00	0.00	0.00
3,160.0	6.45	112.33	3,150.9	-64.0	155.8	-155.7	0.00	0.00	0.00
3,200.0	6.45	112.33	3,190.6	-65.7	159.9	-159.8	0.00	0.00	0.00
3,240.0	6.45	112.33	3,230.3	-67.4	164.1	-164.0	0.00	0.00	0.00
3,280.0	6.45	112.33	3,270.1	-69.1	168.2	-168.1	0.00	0.00	0.00
3,320.0	6.45	112.33	3,309.8	-70.8	172.4	-172.3	0.00	0.00	0.00
3,360.0	6.45	112.33	3,349.6	-72.5	176.6	-176.5	0.00	0.00	0.00
3,400.0	6.45	112.33	3,389.3	-74.2	180.7	-180.6	0.00	0.00	0.00
3,440.0	6.45	112.33	3,429.1	-75.9	184.9	-184.8	0.00	0.00	0.00
3,480.0	6.45	112.33	3,468.8	-77.6	189.0	-188.9	0.00	0.00	0.00
3,520.0	6.45	112.33	3,508.6	-79.3	193.2	-193.1	0.00	0.00	0.00
3,560.0	6.45	112.33	3,548.3	-81.1	197.3	-197.2	0.00	0.00	0.00
3,600.0	6.45	112.33	3,588.1	-82.8	201.5	-201.4	0.00	0.00	0.00
3,640.0	6.45	112.33	3,627.8	-84.5	205.7	-205.5	0.00	0.00	0.00
3,680.0	6.45	112.33	3,667.6	-86.2	209.8	-209.7	0.00	0.00	0.00
3,720.0	6.45	112.33	3,707.3	-87.9	214.0	-213.8	0.00	0.00	0.00
3,760.0	6.45	112.33	3,747.1	-89.6	218.1	-218.0	0.00	0.00	0.00
3,800.0	6.45	112.33	3,786.8	-91.3	222.3	-222.1	0.00	0.00	0.00
3,840.0	6.45	112.33	3,826.5	-93.0	226.4	-226.3	0.00	0.00	0.00
3,880.0	6.45	112.33	3,866.3	-94.7	230.6	-230.5	0.00	0.00	0.00
3,920.0	6.45	112.33	3,906.0	-96.4	234.8	-234.6	0.00	0.00	0.00
3,960.0	6.45	112.33	3,945.8	-98.1	238.9	-238.8	0.00	0.00	0.00
4,000.0	6.45	112.33	3,985.5	-99.8	243.1	-242.9	0.00	0.00	0.00
4,040.0	6.45	112.33	4,025.3	-101.5	247.2	-247.1	0.00	0.00	0.00
4,080.0	6.45	112.33	4,065.0	-103.3	251.4	-251.2	0.00	0.00	0.00

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<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Project:</b>	SEC.33-T7N-R65W	<b>MD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Site:</b>	Alm 33V-HZ Pad North Sec.33-T7N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Alm 33V-214	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (03-07-13)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,120.0	6.45	112.33	4,104.8	-105.0	255.5	-255.4	0.00	0.00	0.00
4,160.0	6.45	112.33	4,144.5	-106.7	259.7	-259.5	0.00	0.00	0.00
4,193.8	6.45	112.33	4,178.1	-108.1	263.2	-263.1	0.00	0.00	0.00
4,200.0	6.33	112.33	4,184.3	-108.4	263.9	-263.7	2.00	-2.00	0.00
4,240.0	5.53	112.33	4,224.1	-109.9	267.7	-267.5	2.00	-2.00	0.00
4,280.0	4.73	112.33	4,263.9	-111.3	271.0	-270.8	2.00	-2.00	0.00
4,320.0	3.93	112.33	4,303.8	-112.4	273.8	-273.6	2.00	-2.00	0.00
4,360.0	3.13	112.33	4,343.7	-113.4	276.1	-275.9	2.00	-2.00	0.00
4,400.0	2.33	112.33	4,383.7	-114.1	277.8	-277.6	2.00	-2.00	0.00
4,440.0	1.53	112.33	4,423.6	-114.6	279.1	-278.9	2.00	-2.00	0.00
4,480.0	0.73	112.33	4,463.6	-114.9	279.8	-279.6	2.00	-2.00	0.00
4,516.4	0.00	0.00	4,500.0	-115.0	280.0	-279.8	2.00	-2.00	0.00
4,520.0	0.00	0.00	4,503.6	-115.0	280.0	-279.8	0.00	0.00	0.00
4,560.0	0.00	0.00	4,543.6	-115.0	280.0	-279.8	0.00	0.00	0.00
4,600.0	0.00	0.00	4,583.6	-115.0	280.0	-279.8	0.00	0.00	0.00
4,640.0	0.00	0.00	4,623.6	-115.0	280.0	-279.8	0.00	0.00	0.00
4,680.0	0.00	0.00	4,663.6	-115.0	280.0	-279.8	0.00	0.00	0.00
4,720.0	0.00	0.00	4,703.6	-115.0	280.0	-279.8	0.00	0.00	0.00
4,760.0	0.00	0.00	4,743.6	-115.0	280.0	-279.8	0.00	0.00	0.00
4,800.0	0.00	0.00	4,783.6	-115.0	280.0	-279.8	0.00	0.00	0.00
4,840.0	0.00	0.00	4,823.6	-115.0	280.0	-279.8	0.00	0.00	0.00
4,880.0	0.00	0.00	4,863.6	-115.0	280.0	-279.8	0.00	0.00	0.00
4,920.0	0.00	0.00	4,903.6	-115.0	280.0	-279.8	0.00	0.00	0.00
4,960.0	0.00	0.00	4,943.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,000.0	0.00	0.00	4,983.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,040.0	0.00	0.00	5,023.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,080.0	0.00	0.00	5,063.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,120.0	0.00	0.00	5,103.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,160.0	0.00	0.00	5,143.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,200.0	0.00	0.00	5,183.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,240.0	0.00	0.00	5,223.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,280.0	0.00	0.00	5,263.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,320.0	0.00	0.00	5,303.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,360.0	0.00	0.00	5,343.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,400.0	0.00	0.00	5,383.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,440.0	0.00	0.00	5,423.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,480.0	0.00	0.00	5,463.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,520.0	0.00	0.00	5,503.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,560.0	0.00	0.00	5,543.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,600.0	0.00	0.00	5,583.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,640.0	0.00	0.00	5,623.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,680.0	0.00	0.00	5,663.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,720.0	0.00	0.00	5,703.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,760.0	0.00	0.00	5,743.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,800.0	0.00	0.00	5,783.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,840.0	0.00	0.00	5,823.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,880.0	0.00	0.00	5,863.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,920.0	0.00	0.00	5,903.6	-115.0	280.0	-279.8	0.00	0.00	0.00
5,960.0	0.00	0.00	5,943.6	-115.0	280.0	-279.8	0.00	0.00	0.00
6,000.0	0.00	0.00	5,983.6	-115.0	280.0	-279.8	0.00	0.00	0.00
6,040.0	0.00	0.00	6,023.6	-115.0	280.0	-279.8	0.00	0.00	0.00
6,080.0	0.00	0.00	6,063.6	-115.0	280.0	-279.8	0.00	0.00	0.00
6,120.0	0.00	0.00	6,103.6	-115.0	280.0	-279.8	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Alm 33V-214
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Project:</b>	SEC.33-T7N-R65W	<b>MD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Site:</b>	Alm 33V-HZ Pad North Sec.33-T7N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Alm 33V-214	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (03-07-13)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,160.0	0.00	0.00	6,143.6	-115.0	280.0	-279.8	0.00	0.00	0.00
6,200.0	0.00	0.00	6,183.6	-115.0	280.0	-279.8	0.00	0.00	0.00
6,240.0	0.00	0.00	6,223.6	-115.0	280.0	-279.8	0.00	0.00	0.00
6,269.7	0.00	0.00	6,253.3	-115.0	280.0	-279.8	0.00	0.00	0.00
<b>KOP #2</b>									
6,280.0	0.77	271.32	6,263.6	-115.0	279.9	-279.8	7.47	7.47	0.00
6,320.0	3.77	271.32	6,303.6	-115.0	278.3	-278.2	7.50	7.50	0.00
6,360.0	6.77	271.32	6,343.4	-114.9	274.7	-274.5	7.50	7.50	0.00
6,400.0	9.77	271.32	6,383.0	-114.7	268.9	-268.7	7.50	7.50	0.00
6,440.0	12.77	271.32	6,422.2	-114.6	261.1	-260.9	7.50	7.50	0.00
6,480.0	15.77	271.32	6,461.0	-114.3	251.3	-251.1	7.50	7.50	0.00
6,520.0	18.77	271.32	6,499.2	-114.1	239.4	-239.2	7.50	7.50	0.00
6,560.0	21.77	271.32	6,536.7	-113.7	225.5	-225.4	7.50	7.50	0.00
6,600.0	24.77	271.32	6,573.4	-113.4	209.7	-209.6	7.50	7.50	0.00
6,640.0	27.77	271.32	6,609.3	-113.0	192.0	-191.9	7.50	7.50	0.00
6,680.0	30.77	271.32	6,644.2	-112.5	172.5	-172.3	7.50	7.50	0.00
6,720.0	33.77	271.32	6,678.0	-112.0	151.1	-151.0	7.50	7.50	0.00
6,760.0	36.77	271.32	6,710.7	-111.5	128.1	-127.9	7.50	7.50	0.00
6,800.0	39.77	271.32	6,742.1	-110.9	103.3	-103.1	7.50	7.50	0.00
6,840.0	42.77	271.32	6,772.1	-110.3	76.9	-76.7	7.50	7.50	0.00
6,880.0	45.77	271.32	6,800.8	-109.7	49.0	-48.8	7.50	7.50	0.00
6,920.0	48.77	271.32	6,827.9	-109.0	19.6	-19.5	7.50	7.50	0.00
6,960.0	51.77	271.32	6,853.5	-108.3	-11.1	11.3	7.50	7.50	0.00
7,000.0	54.77	271.32	6,877.4	-107.6	-43.2	43.3	7.50	7.50	0.00
7,040.0	57.77	271.32	6,899.6	-106.8	-76.4	76.6	7.50	7.50	0.00
7,080.0	60.77	271.32	6,920.0	-106.0	-110.8	111.0	7.50	7.50	0.00
7,120.0	63.77	271.32	6,938.6	-105.2	-146.2	146.3	7.50	7.50	0.00
7,160.0	66.77	271.32	6,955.4	-104.4	-182.5	182.7	7.50	7.50	0.00
7,200.0	69.77	271.32	6,970.2	-103.5	-219.6	219.8	7.50	7.50	0.00
7,240.0	72.77	271.32	6,983.0	-102.6	-257.5	257.7	7.50	7.50	0.00
7,280.0	75.77	271.32	6,993.9	-101.8	-296.0	296.2	7.50	7.50	0.00
7,320.0	78.77	271.32	7,002.7	-100.9	-335.0	335.2	7.50	7.50	0.00
7,360.0	81.77	271.32	7,009.4	-100.0	-374.4	374.6	7.50	7.50	0.00
7,400.0	84.77	271.32	7,014.1	-99.0	-414.1	414.3	7.50	7.50	0.00
7,440.0	87.77	271.32	7,016.7	-98.1	-454.0	454.2	7.50	7.50	0.00
7,471.7	90.15	271.32	7,017.3	-97.4	-485.7	485.8	7.50	7.50	0.00
<b>End of Build - 7"</b>									
7,480.0	90.15	271.32	7,017.3	-97.2	-494.0	494.1	0.04	0.04	0.00
7,520.0	90.15	271.32	7,017.2	-96.3	-534.0	534.1	0.00	0.00	0.00
7,560.0	90.15	271.32	7,017.1	-95.4	-574.0	574.1	0.00	0.00	0.00
7,600.0	90.15	271.32	7,017.0	-94.4	-614.0	614.1	0.00	0.00	0.00
7,640.0	90.15	271.32	7,016.9	-93.5	-654.0	654.1	0.00	0.00	0.00
7,680.0	90.15	271.32	7,016.8	-92.6	-693.9	694.1	0.00	0.00	0.00
7,720.0	90.15	271.32	7,016.7	-91.7	-733.9	734.1	0.00	0.00	0.00
7,760.0	90.15	271.32	7,016.6	-90.8	-773.9	774.1	0.00	0.00	0.00
7,800.0	90.15	271.32	7,016.4	-89.8	-813.9	814.0	0.00	0.00	0.00
7,840.0	90.15	271.32	7,016.3	-88.9	-853.9	854.0	0.00	0.00	0.00
7,880.0	90.15	271.32	7,016.2	-88.0	-893.9	894.0	0.00	0.00	0.00
7,920.0	90.15	271.32	7,016.1	-87.1	-933.9	934.0	0.00	0.00	0.00
7,960.0	90.15	271.32	7,016.0	-86.2	-973.9	974.0	0.00	0.00	0.00
8,000.0	90.15	271.32	7,015.9	-85.3	-1,013.9	1,014.0	0.00	0.00	0.00
8,040.0	90.15	271.32	7,015.8	-84.3	-1,053.8	1,054.0	0.00	0.00	0.00
8,080.0	90.15	271.32	7,015.7	-83.4	-1,093.8	1,094.0	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Alm 33V-214
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Project:</b>	SEC.33-T7N-R65W	<b>MD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Site:</b>	Alm 33V-HZ Pad North Sec.33-T7N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Alm 33V-214	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (03-07-13)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,120.0	90.15	271.32	7,015.6	-82.5	-1,133.8	1,134.0	0.00	0.00	0.00
8,160.0	90.15	271.32	7,015.5	-81.6	-1,173.8	1,173.9	0.00	0.00	0.00
8,200.0	90.15	271.32	7,015.4	-80.7	-1,213.8	1,213.9	0.00	0.00	0.00
8,240.0	90.15	271.32	7,015.3	-79.7	-1,253.8	1,253.9	0.00	0.00	0.00
8,280.0	90.15	271.32	7,015.2	-78.8	-1,293.8	1,293.9	0.00	0.00	0.00
8,320.0	90.15	271.32	7,015.1	-77.9	-1,333.8	1,333.9	0.00	0.00	0.00
8,360.0	90.15	271.32	7,015.0	-77.0	-1,373.8	1,373.9	0.00	0.00	0.00
8,400.0	90.15	271.32	7,014.9	-76.1	-1,413.7	1,413.9	0.00	0.00	0.00
8,440.0	90.15	271.32	7,014.8	-75.1	-1,453.7	1,453.9	0.00	0.00	0.00
8,480.0	90.15	271.32	7,014.7	-74.2	-1,493.7	1,493.8	0.00	0.00	0.00
8,520.0	90.15	271.32	7,014.6	-73.3	-1,533.7	1,533.8	0.00	0.00	0.00
8,560.0	90.15	271.32	7,014.5	-72.4	-1,573.7	1,573.8	0.00	0.00	0.00
8,600.0	90.15	271.32	7,014.4	-71.5	-1,613.7	1,613.8	0.00	0.00	0.00
8,640.0	90.15	271.32	7,014.3	-70.5	-1,653.7	1,653.8	0.00	0.00	0.00
8,680.0	90.15	271.32	7,014.1	-69.6	-1,693.7	1,693.8	0.00	0.00	0.00
8,720.0	90.15	271.32	7,014.0	-68.7	-1,733.7	1,733.8	0.00	0.00	0.00
8,760.0	90.15	271.32	7,013.9	-67.8	-1,773.7	1,773.8	0.00	0.00	0.00
8,800.0	90.15	271.32	7,013.8	-66.9	-1,813.6	1,813.7	0.00	0.00	0.00
8,840.0	90.15	271.32	7,013.7	-65.9	-1,853.6	1,853.7	0.00	0.00	0.00
8,880.0	90.15	271.32	7,013.6	-65.0	-1,893.6	1,893.7	0.00	0.00	0.00
8,920.0	90.15	271.32	7,013.5	-64.1	-1,933.6	1,933.7	0.00	0.00	0.00
8,960.0	90.15	271.32	7,013.4	-63.2	-1,973.6	1,973.7	0.00	0.00	0.00
9,000.0	90.15	271.32	7,013.3	-62.3	-2,013.6	2,013.7	0.00	0.00	0.00
9,040.0	90.15	271.32	7,013.2	-61.3	-2,053.6	2,053.7	0.00	0.00	0.00
9,080.0	90.15	271.32	7,013.1	-60.4	-2,093.6	2,093.7	0.00	0.00	0.00
9,120.0	90.15	271.32	7,013.0	-59.5	-2,133.6	2,133.6	0.00	0.00	0.00
9,160.0	90.15	271.32	7,012.9	-58.6	-2,173.5	2,173.6	0.00	0.00	0.00
9,200.0	90.15	271.32	7,012.8	-57.7	-2,213.5	2,213.6	0.00	0.00	0.00
9,240.0	90.15	271.32	7,012.7	-56.7	-2,253.5	2,253.6	0.00	0.00	0.00
9,280.0	90.15	271.32	7,012.6	-55.8	-2,293.5	2,293.6	0.00	0.00	0.00
9,320.0	90.15	271.32	7,012.5	-54.9	-2,333.5	2,333.6	0.00	0.00	0.00
9,360.0	90.15	271.32	7,012.4	-54.0	-2,373.5	2,373.6	0.00	0.00	0.00
9,400.0	90.15	271.32	7,012.3	-53.1	-2,413.5	2,413.6	0.00	0.00	0.00
9,440.0	90.15	271.32	7,012.2	-52.2	-2,453.5	2,453.5	0.00	0.00	0.00
9,480.0	90.15	271.32	7,012.1	-51.2	-2,493.5	2,493.5	0.00	0.00	0.00
9,520.0	90.15	271.32	7,011.9	-50.3	-2,533.5	2,533.5	0.00	0.00	0.00
9,560.0	90.15	271.32	7,011.8	-49.4	-2,573.4	2,573.5	0.00	0.00	0.00
9,600.0	90.15	271.32	7,011.7	-48.5	-2,613.4	2,613.5	0.00	0.00	0.00
9,640.0	90.15	271.32	7,011.6	-47.6	-2,653.4	2,653.5	0.00	0.00	0.00
9,680.0	90.15	271.32	7,011.5	-46.6	-2,693.4	2,693.5	0.00	0.00	0.00
9,720.0	90.15	271.32	7,011.4	-45.7	-2,733.4	2,733.5	0.00	0.00	0.00
9,760.0	90.15	271.32	7,011.3	-44.8	-2,773.4	2,773.5	0.00	0.00	0.00
9,800.0	90.15	271.32	7,011.2	-43.9	-2,813.4	2,813.4	0.00	0.00	0.00
9,840.0	90.15	271.32	7,011.1	-43.0	-2,853.4	2,853.4	0.00	0.00	0.00
9,880.0	90.15	271.32	7,011.0	-42.0	-2,893.4	2,893.4	0.00	0.00	0.00
9,920.0	90.15	271.32	7,010.9	-41.1	-2,933.3	2,933.4	0.00	0.00	0.00
9,960.0	90.15	271.32	7,010.8	-40.2	-2,973.3	2,973.4	0.00	0.00	0.00
10,000.0	90.15	271.32	7,010.7	-39.3	-3,013.3	3,013.4	0.00	0.00	0.00
10,040.0	90.15	271.32	7,010.6	-38.4	-3,053.3	3,053.4	0.00	0.00	0.00
10,080.0	90.15	271.32	7,010.5	-37.4	-3,093.3	3,093.4	0.00	0.00	0.00
10,120.0	90.15	271.32	7,010.4	-36.5	-3,133.3	3,133.3	0.00	0.00	0.00
10,160.0	90.15	271.32	7,010.3	-35.6	-3,173.3	3,173.3	0.00	0.00	0.00
10,200.0	90.15	271.32	7,010.2	-34.7	-3,213.3	3,213.3	0.00	0.00	0.00



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Alm 33V-214
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Project:</b>	SEC.33-T7N-R65W	<b>MD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Site:</b>	Alm 33V-HZ Pad North Sec.33-T7N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Alm 33V-214	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (03-07-13)		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,240.0	90.15	271.32	7,010.1	-33.8	-3,253.3	3,253.3	0.00	0.00	0.00
10,280.0	90.15	271.32	7,010.0	-32.8	-3,293.2	3,293.3	0.00	0.00	0.00
10,320.0	90.15	271.32	7,009.9	-31.9	-3,333.2	3,333.3	0.00	0.00	0.00
10,360.0	90.15	271.32	7,009.7	-31.0	-3,373.2	3,373.3	0.00	0.00	0.00
10,400.0	90.15	271.32	7,009.6	-30.1	-3,413.2	3,413.3	0.00	0.00	0.00
10,440.0	90.15	271.32	7,009.5	-29.2	-3,453.2	3,453.2	0.00	0.00	0.00
10,480.0	90.15	271.32	7,009.4	-28.2	-3,493.2	3,493.2	0.00	0.00	0.00
10,520.0	90.15	271.32	7,009.3	-27.3	-3,533.2	3,533.2	0.00	0.00	0.00
10,560.0	90.15	271.32	7,009.2	-26.4	-3,573.2	3,573.2	0.00	0.00	0.00
10,600.0	90.15	271.32	7,009.1	-25.5	-3,613.2	3,613.2	0.00	0.00	0.00
10,640.0	90.15	271.32	7,009.0	-24.6	-3,653.2	3,653.2	0.00	0.00	0.00
10,680.0	90.15	271.32	7,008.9	-23.6	-3,693.1	3,693.2	0.00	0.00	0.00
10,720.0	90.15	271.32	7,008.8	-22.7	-3,733.1	3,733.2	0.00	0.00	0.00
10,760.0	90.15	271.32	7,008.7	-21.8	-3,773.1	3,773.1	0.00	0.00	0.00
10,800.0	90.15	271.32	7,008.6	-20.9	-3,813.1	3,813.1	0.00	0.00	0.00
10,840.0	90.15	271.32	7,008.5	-20.0	-3,853.1	3,853.1	0.00	0.00	0.00
10,880.0	90.15	271.32	7,008.4	-19.1	-3,893.1	3,893.1	0.00	0.00	0.00
10,920.0	90.15	271.32	7,008.3	-18.1	-3,933.1	3,933.1	0.00	0.00	0.00
10,960.0	90.15	271.32	7,008.2	-17.2	-3,973.1	3,973.1	0.00	0.00	0.00
11,000.0	90.15	271.32	7,008.1	-16.3	-4,013.1	4,013.1	0.00	0.00	0.00
11,040.0	90.15	271.32	7,008.0	-15.4	-4,053.0	4,053.1	0.00	0.00	0.00
11,080.0	90.15	271.32	7,007.9	-14.5	-4,093.0	4,093.1	0.00	0.00	0.00
11,120.0	90.15	271.32	7,007.8	-13.5	-4,133.0	4,133.0	0.00	0.00	0.00
11,160.0	90.15	271.32	7,007.7	-12.6	-4,173.0	4,173.0	0.00	0.00	0.00
11,200.0	90.15	271.32	7,007.5	-11.7	-4,213.0	4,213.0	0.00	0.00	0.00
11,240.0	90.15	271.32	7,007.4	-10.8	-4,253.0	4,253.0	0.00	0.00	0.00
11,280.0	90.15	271.32	7,007.3	-9.9	-4,293.0	4,293.0	0.00	0.00	0.00
11,320.0	90.15	271.32	7,007.2	-8.9	-4,333.0	4,333.0	0.00	0.00	0.00
11,360.0	90.15	271.32	7,007.1	-8.0	-4,373.0	4,373.0	0.00	0.00	0.00
11,400.0	90.15	271.32	7,007.0	-7.1	-4,412.9	4,413.0	0.00	0.00	0.00
11,409.5	90.15	271.32	7,007.0	-6.9	-4,422.4	4,422.4	0.00	0.00	0.00
BHL 1083'FNL & 500'FWL									

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,471.7	7,017.3	7"	7	8-3/4

### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,500.0	1,500.0	0.0	0.0	KOP #1
6,269.7	6,253.3	-115.0	280.0	KOP #2
7,471.7	7,017.3	-97.4	-485.7	End of Build



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.33-T7N-R65W**

**Alm 33V-HZ Pad North Sec.33-T7N-R65W**

**Alm 33V-214**

**Wellbore #1**

**Plan #1 (03-07-13)**

## **Anticollision Report**

**07 March, 2013**



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Alm 33V-214
<b>Project:</b>	SEC.33-T7N-R65W	<b>TVD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Reference Site:</b>	Alm 33V-HZ Pad North Sec.33-T7N-R65W	<b>MD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Alm 33V-214	<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 (03-07-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Alm 33V-HZ Pad North Sec.33-T7N-R65W - Alm 33V-414 - Wellbore #1 - Plan #1 (03-07-13)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,000.0	1,998.2	1,998.1	1,998.0	4.3	4.4	-142.18		36.6	5.7	58.9	50.3	8.61	6.842	
2,100.0	2,097.6	2,097.5	2,097.0	4.6	4.6	-140.72		41.3	12.9	68.4	59.3	9.06	7.550	
2,200.0	2,196.9	2,196.8	2,195.7	4.8	4.8	-137.60		47.5	22.3	78.2	68.7	9.52	8.210	
2,300.0	2,296.3	2,296.3	2,294.4	5.1	5.1	-135.03		53.9	32.0	88.2	78.2	10.00	8.817	
2,400.0	2,395.7	2,395.7	2,393.2	5.3	5.3	-132.98		60.3	41.6	98.4	87.9	10.50	9.371	
2,500.0	2,495.0	2,495.1	2,491.9	5.6	5.6	-131.32		66.7	51.3	108.6	97.6	11.00	9.875	
2,600.0	2,594.4	2,594.6	2,590.7	5.9	5.8	-129.95		73.0	60.9	119.0	107.5	11.51	10.334	
2,700.0	2,693.8	2,694.0	2,689.4	6.1	6.1	-128.80		79.4	70.6	129.4	117.3	12.03	10.751	
2,800.0	2,793.1	2,793.4	2,788.2	6.4	6.3	-127.82		85.8	80.2	139.8	127.2	12.56	11.132	
2,900.0	2,892.5	2,892.8	2,886.9	6.7	6.6	-126.97		92.2	89.9	150.3	137.2	13.09	11.480	
3,000.0	2,991.9	2,992.3	2,985.7	7.0	6.9	-126.24		98.5	99.5	160.8	147.1	13.63	11.798	
3,100.0	3,091.2	3,091.7	3,084.4	7.3	7.2	-125.59		104.9	109.2	171.3	157.1	14.17	12.090	
3,200.0	3,190.6	3,191.1	3,183.2	7.6	7.4	-125.02		111.3	118.8	181.8	167.1	14.71	12.358	
3,300.0	3,290.0	3,290.5	3,281.9	7.9	7.7	-124.51		117.7	128.5	192.4	177.1	15.26	12.605	
3,400.0	3,389.3	3,390.0	3,380.7	8.1	8.0	-124.06		124.0	138.1	203.0	187.2	15.82	12.834	
3,500.0	3,488.7	3,489.4	3,479.4	8.4	8.3	-123.65		130.4	147.8	213.6	197.2	16.37	13.045	
3,600.0	3,588.1	3,588.8	3,578.2	8.7	8.6	-123.28		136.8	157.4	224.2	207.2	16.93	13.241	
3,700.0	3,687.4	3,688.3	3,677.0	9.0	8.9	-122.94		143.2	167.1	234.8	217.3	17.49	13.424	
3,800.0	3,786.8	3,787.7	3,775.7	9.3	9.2	-122.63		149.5	176.7	245.4	227.3	18.05	13.594	
3,900.0	3,886.2	3,887.1	3,874.5	9.6	9.5	-122.35		155.9	186.4	256.0	237.4	18.61	13.752	
4,000.0	3,985.5	3,986.5	3,973.2	9.9	9.8	-122.09		162.3	196.0	266.6	247.4	19.18	13.901	
4,100.0	4,084.9	4,086.0	4,072.0	10.2	10.0	-121.85		168.7	205.7	277.2	257.5	19.75	14.040	
4,200.0	4,184.3	4,185.4	4,170.7	10.5	10.3	-121.64		175.0	215.3	287.9	267.5	20.31	14.171	
4,300.0	4,283.8	4,284.9	4,269.5	10.7	10.6	-121.27		181.4	225.0	297.5	276.6	20.84	14.274	
4,400.0	4,383.7	4,384.4	4,368.4	10.9	10.9	-120.35		187.8	234.6	305.4	284.0	21.35	14.304	
4,500.0	4,483.6	4,483.9	4,467.2	11.1	11.2	-118.90		194.2	244.3	311.7	289.8	21.83	14.274	
4,600.0	4,583.6	4,583.2	4,565.8	11.3	11.5	-4.73		200.6	253.9	317.1	296.4	20.70	15.320	
4,700.0	4,683.6	4,682.5	4,664.4	11.5	11.8	-2.93		206.9	263.5	322.9	301.8	21.14	15.276	
4,800.0	4,783.6	4,788.1	4,769.6	11.7	12.1	-1.35		212.7	272.3	328.1	306.5	21.55	15.221	
4,900.0	4,883.6	4,894.6	4,875.8	11.9	12.3	-0.39		216.3	277.8	331.4	309.4	21.96	15.092	
5,000.0	4,983.6	5,001.3	4,982.5	12.0	12.5	-0.01		217.8	280.0	332.8	310.4	22.35	14.886	
5,100.0	5,083.6	5,102.5	5,083.6	12.2	12.6	0.00		217.8	280.0	332.8	310.0	22.75	14.630	
5,200.0	5,183.6	5,202.5	5,183.6	12.4	12.8	0.00		217.8	280.0	332.8	309.6	23.16	14.370	
5,300.0	5,283.6	5,302.5	5,283.6	12.6	13.0	0.00		217.8	280.0	332.8	309.2	23.57	14.119	
5,400.0	5,383.6	5,402.5	5,383.6	12.8	13.2	0.00		217.8	280.0	332.8	308.8	23.98	13.875	
5,500.0	5,483.6	5,502.5	5,483.6	13.0	13.4	0.00		217.8	280.0	332.8	308.4	24.40	13.639	
5,600.0	5,583.6	5,602.5	5,583.6	13.2	13.6	0.00		217.8	280.0	332.8	308.0	24.82	13.410	
5,700.0	5,683.6	5,702.5	5,683.6	13.4	13.8	0.00		217.8	280.0	332.8	307.6	25.23	13.188	
5,800.0	5,783.6	5,802.5	5,783.6	13.6	14.0	0.00		217.8	280.0	332.8	307.1	25.65	12.973	
5,900.0	5,883.6	5,902.5	5,883.6	13.8	14.2	0.00		217.8	280.0	332.8	306.7	26.07	12.764	
6,000.0	5,983.6	6,002.5	5,983.6	14.0	14.4	0.00		217.8	280.0	332.8	306.3	26.49	12.562	
6,100.0	6,083.6	6,102.5	6,083.6	14.2	14.6	0.00		217.8	280.0	332.8	305.9	26.91	12.365	
6,200.0	6,183.6	6,202.5	6,183.6	14.4	14.8	0.00		217.8	280.0	332.8	305.5	27.34	12.174	
6,300.0	6,283.6	6,302.4	6,283.6	14.6	15.0	88.79		217.8	280.0	332.8	303.6	29.14	11.419	
6,377.9	6,361.2	6,380.0	6,361.2	14.7	15.2	90.00		217.8	280.0	332.7	303.3	29.40	11.317	
6,400.0	6,383.0	6,401.9	6,383.1	14.7	15.2	90.53		217.8	279.7	332.7	303.3	29.47	11.292	
6,500.0	6,480.2	6,502.3	6,482.9	14.8	15.3	92.92		218.0	270.1	333.1	303.5	29.66	11.231	
6,600.0	6,573.4	6,604.5	6,582.5	14.8	15.4	95.27		218.5	247.0	334.1	304.4	29.78	11.220	
6,700.0	6,661.2	6,708.8	6,679.9	14.9	15.5	97.55		219.4	210.0	335.6	305.8	29.88	11.234	
6,800.0	6,742.1	6,815.1	6,773.0	15.1	15.5	99.69		220.5	159.1	337.6	307.5	30.06	11.230	
6,900.0	6,814.5	6,923.4	6,859.7	15.4	15.6	101.65		222.0	94.4	339.7	309.3	30.47	11.151	

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 Alm 33V-214
<b>Project:</b>	SEC.33-T7N-R65W	<b>TVD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Reference Site:</b>	Alm 33V-HZ Pad North Sec.33-T7N-R65W	<b>MD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Alm 33V-214	<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 (03-07-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design    Alm 33V-HZ Pad North Sec.33-T7N-R65W - Alm 33V-414 - Wellbore #1 - Plan #1 (03-07-13)												Offset Site Error:    0.0 ft	
Survey Program:    0-MWD												Offset Well Error:    0.0 ft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance				Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)		Minimum Separation (ft)	Separation Factor
7,000.0	6,877.4	7,033.5	6,937.6	15.9	16.0	103.41	223.8	16.6	342.0	310.8	31.27	10.938	
7,100.0	6,929.6	7,145.5	7,004.5	16.8	16.7	104.91	225.8	-73.0	344.3	311.6	32.64	10.549	
7,200.0	6,970.2	7,259.0	7,058.2	18.0	17.8	106.13	228.1	-172.8	346.3	311.6	34.69	9.980	
7,300.0	6,998.5	7,373.8	7,096.9	19.6	19.4	107.04	230.5	-280.8	347.9	310.4	37.46	9.285	
7,400.0	7,014.1	7,489.5	7,119.1	21.3	21.4	107.63	233.1	-394.2	348.9	308.1	40.87	8.538	
7,500.0	7,017.2	7,592.4	7,129.8	23.3	23.3	108.70	235.4	-496.5	351.2	306.8	44.35	7.918	
7,600.0	7,017.0	7,701.1	7,134.4	25.4	25.6	109.45	237.9	-605.1	352.6	304.3	48.30	7.300	
7,700.0	7,016.7	7,801.1	7,135.5	27.7	27.8	109.66	240.2	-705.1	353.0	300.6	52.44	6.732	
7,800.0	7,016.4	7,901.1	7,136.6	30.0	30.1	109.87	242.5	-805.0	353.5	296.7	56.75	6.229	
7,900.0	7,016.2	8,001.1	7,137.7	32.4	32.5	110.08	244.7	-905.0	353.9	292.7	61.20	5.783	
8,000.0	7,015.9	8,101.1	7,138.8	34.9	34.9	110.30	247.0	-1,004.9	354.4	288.6	65.76	5.389	
8,100.0	7,015.7	8,201.1	7,140.0	37.4	37.4	110.51	249.3	-1,104.9	354.8	284.4	70.39	5.041	
8,200.0	7,015.4	8,301.1	7,141.1	40.0	40.0	110.71	251.6	-1,204.8	355.3	280.2	75.09	4.732	
8,300.0	7,015.1	8,401.1	7,142.2	42.5	42.6	110.92	253.8	-1,304.8	355.8	275.9	79.84	4.456	
8,400.0	7,014.9	8,501.1	7,143.3	45.2	45.2	111.13	256.1	-1,404.8	356.2	271.6	84.63	4.209	
8,500.0	7,014.6	8,601.0	7,144.4	47.8	47.8	111.34	258.4	-1,504.7	356.7	267.3	89.45	3.988	
8,600.0	7,014.4	8,701.0	7,145.5	50.5	50.4	111.55	260.6	-1,604.7	357.2	262.9	94.28	3.788	
8,700.0	7,014.1	8,801.0	7,146.7	53.1	53.1	111.76	262.9	-1,704.6	357.7	258.5	99.14	3.608	
8,800.0	7,013.8	8,901.0	7,147.8	55.8	55.8	111.96	265.2	-1,804.6	358.2	254.2	104.01	3.444	
8,900.0	7,013.6	9,001.0	7,148.9	58.5	58.5	112.17	267.5	-1,904.6	358.7	249.8	108.89	3.294	
9,000.0	7,013.3	9,101.0	7,150.0	61.2	61.2	112.37	269.7	-2,004.5	359.2	245.4	113.77	3.157	
9,100.0	7,013.0	9,201.0	7,151.1	64.0	63.9	112.58	272.0	-2,104.5	359.7	241.0	118.66	3.031	
9,200.0	7,012.8	9,301.0	7,152.2	66.7	66.6	112.78	274.3	-2,204.4	360.2	236.6	123.54	2.915	
9,300.0	7,012.5	9,401.0	7,153.4	69.4	69.3	112.98	276.6	-2,304.4	360.7	232.3	128.43	2.808	
9,400.0	7,012.3	9,501.0	7,154.5	72.2	72.1	113.19	278.8	-2,404.3	361.2	227.9	133.31	2.710	
9,500.0	7,012.0	9,601.0	7,155.6	74.9	74.8	113.39	281.1	-2,504.3	361.7	223.5	138.18	2.618	
9,600.0	7,011.7	9,700.9	7,156.7	77.7	77.6	113.59	283.4	-2,604.3	362.3	219.2	143.05	2.532	
9,700.0	7,011.5	9,800.9	7,157.8	80.4	80.3	113.79	285.6	-2,704.2	362.8	214.9	147.92	2.453	
9,800.0	7,011.2	9,900.9	7,159.0	83.2	83.1	113.99	287.9	-2,804.2	363.3	210.5	152.77	2.378	
9,900.0	7,011.0	10,000.9	7,160.1	85.9	85.8	114.19	290.2	-2,904.1	363.9	206.2	157.62	2.308	
10,000.0	7,010.7	10,100.9	7,161.2	88.7	88.6	114.39	292.5	-3,004.1	364.4	201.9	162.45	2.243	
10,100.0	7,010.4	10,200.9	7,162.3	91.5	91.4	114.59	294.7	-3,104.1	364.9	197.7	167.28	2.182	
10,200.0	7,010.2	10,300.9	7,163.4	94.2	94.1	114.79	297.0	-3,204.0	365.5	193.4	172.09	2.124	
10,300.0	7,009.9	10,400.9	7,164.5	97.0	96.9	114.99	299.3	-3,304.0	366.1	189.2	176.90	2.069	
10,400.0	7,009.6	10,500.9	7,165.7	99.8	99.7	115.18	301.6	-3,403.9	366.6	184.9	181.69	2.018	
10,500.0	7,009.4	10,600.9	7,166.8	102.6	102.4	115.38	303.8	-3,503.9	367.2	180.7	186.47	1.969	
10,600.0	7,009.1	10,700.8	7,167.9	105.4	105.2	115.58	306.1	-3,603.8	367.8	176.5	191.24	1.923	
10,700.0	7,008.9	10,800.8	7,169.0	108.1	108.0	115.77	308.4	-3,703.8	368.3	172.3	195.99	1.879	
10,800.0	7,008.6	10,900.8	7,170.1	110.9	110.8	115.97	310.6	-3,803.8	368.9	168.2	200.73	1.838	
10,900.0	7,008.3	11,000.8	7,171.2	113.7	113.6	116.16	312.9	-3,903.7	369.5	164.0	205.46	1.798	
11,000.0	7,008.1	11,100.8	7,172.4	116.5	116.3	116.35	315.2	-4,003.7	370.1	159.9	210.17	1.761	
11,100.0	7,007.8	11,200.8	7,173.5	119.3	119.1	116.55	317.5	-4,103.6	370.7	155.8	214.87	1.725	
11,200.0	7,007.5	11,300.8	7,174.6	122.1	121.9	116.74	319.7	-4,203.6	371.3	151.7	219.56	1.691	
11,300.0	7,007.3	11,400.8	7,175.7	124.9	124.7	116.93	322.0	-4,303.6	371.9	147.6	224.23	1.658	
11,400.0	7,007.0	11,500.8	7,176.8	127.6	127.5	117.12	324.3	-4,403.5	372.5	143.6	228.89	1.627	
11,409.5	7,007.0	11,510.2	7,176.9	127.9	127.8	117.14	324.5	-4,413.0	372.5	143.2	229.32	1.624 SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Alm 33V-214
<b>Project:</b>	SEC.33-T7N-R65W	<b>TVD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Reference Site:</b>	Alm 33V-HZ Pad North Sec.33-T7N-R65W	<b>MD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Alm 33V-214	<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 (03-07-13)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Alm 33V-HZ Pad North Sec.33-T7N-R65W - Hazen 21-33 (Exist) - Wellbore #1 - Wellbore #1												<b>Offset Site Error:</b>	0.0 ft
<b>Survey Program:</b> 7300-MWD												<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
9,200.0	7,012.8	7,006.8	7,006.8	66.7	7.9	90.60	200.6	-3,154.9	976.1	901.6	74.55	13.093	
9,300.0	7,012.5	7,006.5	7,006.5	69.4	7.9	90.54	200.6	-3,154.9	879.4	802.1	77.29	11.378	
9,400.0	7,012.3	7,006.3	7,006.3	72.2	7.9	90.47	200.6	-3,154.9	783.6	703.5	80.03	9.791	
9,500.0	7,012.0	7,006.0	7,006.0	74.9	7.9	90.41	200.6	-3,154.9	688.9	606.1	82.78	8.322	
9,600.0	7,011.7	7,005.7	7,005.7	77.7	7.9	90.35	200.6	-3,154.9	596.0	510.4	85.53	6.968	
9,700.0	7,011.5	7,005.5	7,005.5	80.4	7.9	90.28	200.6	-3,154.9	505.7	417.5	88.28	5.729	
9,800.0	7,011.2	7,005.2	7,005.2	83.2	7.9	90.22	200.6	-3,154.9	420.0	328.9	91.04	4.613	
9,900.0	7,011.0	7,005.0	7,005.0	85.9	7.9	90.16	200.6	-3,154.9	342.0	248.2	93.80	3.646	
10,000.0	7,010.7	7,004.7	7,004.7	88.7	7.9	90.09	200.6	-3,154.9	278.5	181.9	96.57	2.884	
10,100.0	7,010.4	7,004.4	7,004.4	91.5	7.9	90.03	200.6	-3,154.9	241.2	141.8	99.34	2.428	
10,147.0	7,010.3	7,004.3	7,004.3	92.8	7.9	90.00	200.6	-3,154.9	236.5	135.9	100.64	2.350 CC, ES, SF	
10,200.0	7,010.2	7,004.2	7,004.2	94.2	7.9	89.97	200.6	-3,154.9	242.4	140.3	102.11	2.374	
10,300.0	7,009.9	7,003.9	7,003.9	97.0	7.9	89.90	200.6	-3,154.9	281.7	176.8	104.88	2.686	
10,400.0	7,009.6	7,003.6	7,003.6	99.8	7.9	89.84	200.6	-3,154.9	346.3	238.7	107.66	3.217	
10,500.0	7,009.4	7,003.4	7,003.4	102.6	7.9	89.78	200.6	-3,154.9	424.9	314.5	110.44	3.848	
10,600.0	7,009.1	7,003.1	7,003.1	105.4	7.9	89.71	200.6	-3,154.9	511.0	397.8	113.22	4.514	
10,700.0	7,008.9	7,002.9	7,002.9	108.1	7.9	89.65	200.6	-3,154.9	601.4	485.5	116.00	5.185	
10,800.0	7,008.6	7,002.6	7,002.6	110.9	7.9	89.59	200.6	-3,154.9	694.5	575.7	118.78	5.847	
10,900.0	7,008.3	7,002.3	7,002.3	113.7	7.9	89.52	200.6	-3,154.9	789.3	667.7	121.56	6.493	
11,000.0	7,008.1	7,002.1	7,002.1	116.5	7.9	89.46	200.6	-3,154.9	885.2	760.8	124.35	7.118	
11,100.0	7,007.8	7,001.8	7,001.8	119.3	7.9	89.40	200.6	-3,154.9	981.9	854.8	127.14	7.723	

Alm 33V-HZ Pad South Sec.33-T7N-R65W - Alm 33V-404 - Wellbore #1 - Plan #1 (03-07-13)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-204.0	0.0	204.0					
100.0	100.0	99.0	99.0	0.1	0.1	180.00	-204.0	0.0	204.0	203.8	0.22	912.251		
200.0	200.0	199.0	199.0	0.3	0.3	180.00	-204.0	0.0	204.0	203.3	0.67	303.578	CC	
300.0	300.0	294.6	294.6	0.6	0.5	179.67	-205.0	1.2	205.1	204.0	1.09	187.433		
400.0	400.0	389.9	389.8	0.8	0.7	178.68	-208.1	4.8	208.4	206.9	1.52	136.877		
500.0	500.0	487.6	487.2	1.0	1.0	177.17	-213.0	10.5	213.6	211.7	1.98	108.012		
600.0	600.0	587.3	586.5	1.2	1.2	175.65	-218.3	16.6	219.2	216.8	2.45	89.348		
700.0	700.0	687.0	685.9	1.5	1.5	174.20	-223.5	22.7	225.0	222.1	2.94	76.619		
800.0	800.0	786.6	785.2	1.7	1.8	172.83	-228.7	28.8	230.9	227.5	3.42	67.430		
900.0	900.0	886.3	884.6	1.9	2.0	171.52	-233.9	34.9	236.9	233.0	3.92	60.516		
1,000.0	1,000.0	986.0	983.9	2.1	2.3	170.28	-239.1	41.0	243.1	238.7	4.41	55.141		
1,100.0	1,100.0	1,085.7	1,083.3	2.4	2.6	169.10	-244.4	47.1	249.3	244.4	4.90	50.853		
1,200.0	1,200.0	1,185.3	1,182.6	2.6	2.8	167.98	-249.6	53.1	255.7	250.3	5.40	47.360		
1,300.0	1,300.0	1,285.0	1,282.0	2.8	3.1	166.91	-254.8	59.2	262.1	256.2	5.90	44.463		
1,400.0	1,400.0	1,384.7	1,381.3	3.0	3.4	165.90	-260.0	65.3	268.7	262.3	6.39	42.026		
1,500.0	1,500.0	1,484.4	1,480.7	3.3	3.6	164.93	-265.2	71.4	275.3	268.4	6.89	39.949		
1,600.0	1,600.0	1,584.1	1,580.2	3.5	3.9	51.87	-270.5	77.5	280.9	273.9	7.04	39.924		
1,700.0	1,699.8	1,684.1	1,679.8	3.7	4.2	51.75	-275.7	83.6	284.4	276.9	7.47	38.078		
1,800.0	1,799.5	1,784.0	1,779.4	3.9	4.5	52.21	-280.9	89.7	285.7	277.8	7.91	36.104		
1,900.0	1,898.8	1,883.9	1,879.0	4.1	4.7	53.08	-286.1	95.8	285.6	277.2	8.38	34.089		
2,000.0	1,998.2	1,983.8	1,978.6	4.3	5.0	53.96	-291.4	101.9	285.4	276.6	8.85	32.245		
2,100.0	2,097.6	2,083.7	2,078.1	4.6	5.3	54.84	-296.6	108.0	285.4	276.1	9.34	30.564		
2,122.4	2,119.8	2,106.2	2,100.5	4.6	5.3	55.04	-297.8	109.4	285.4	275.9	9.45	30.206		
2,200.0	2,196.9	2,183.7	2,177.7	4.8	5.6	55.73	-301.8	114.1	285.4	275.6	9.83	29.031		
2,300.0	2,296.3	2,283.6	2,277.3	5.1	5.8	56.61	-307.1	120.2	285.5	275.2	10.33	27.629		
2,400.0	2,395.7	2,383.5	2,376.9	5.3	6.1	57.49	-312.3	126.3	285.7	274.8	10.84	26.345		
2,500.0	2,495.0	2,483.4	2,476.5	5.6	6.4	58.37	-317.5	132.4	285.9	274.5	11.36	25.168		
2,600.0	2,594.4	2,583.3	2,576.0	5.9	6.7	59.25	-322.8	138.5	286.2	274.3	11.88	24.085		
2,700.0	2,693.8	2,683.2	2,675.6	6.1	6.9	60.13	-328.0	144.6	286.5	274.1	12.41	23.089		
2,800.0	2,793.1	2,783.1	2,775.2	6.4	7.2	61.00	-333.2	150.7	286.9	274.0	12.94	22.169		
2,900.0	2,892.5	2,883.0	2,874.8	6.7	7.5	61.87	-338.5	156.8	287.4	274.0	13.48	21.319		
3,000.0	2,991.9	2,982.9	2,974.4	7.0	7.7	62.74	-343.7	162.9	288.0	274.0	14.03	20.531		
3,100.0	3,091.2	3,082.8	3,073.9	7.3	8.0	63.61	-348.9	169.0	288.6	274.0	14.58	19.801		
3,200.0	3,190.6	3,182.7	3,173.5	7.6	8.3	64.47	-354.1	175.1	289.3	274.2	15.13	19.123		
3,300.0	3,290.0	3,282.6	3,273.1	7.9	8.6	65.33	-359.4	181.2	290.1	274.4	15.69	18.492		
3,400.0	3,389.3	3,382.5	3,372.7	8.1	8.8	66.18	-364.6	187.3	290.9	274.6	16.25	17.904		
3,500.0	3,488.7	3,482.4	3,472.3	8.4	9.1	67.03	-369.8	193.5	291.8	275.0	16.81	17.356		
3,600.0	3,588.1	3,582.3	3,571.8	8.7	9.4	67.87	-375.1	199.6	292.7	275.3	17.38	16.843		
3,700.0	3,687.4	3,682.2	3,671.4	9.0	9.7	68.71	-380.3	205.7	293.7	275.8	17.95	16.364		
3,800.0	3,786.8	3,782.1	3,771.0	9.3	9.9	69.54	-385.5	211.8	294.8	276.3	18.52	15.915		
3,900.0	3,886.2	3,882.0	3,870.6	9.6	10.2	70.36	-390.8	217.9	295.9	276.8	19.10	15.494		
4,000.0	3,985.5	3,981.9	3,970.1	9.9	10.5	71.18	-396.0	224.0	297.1	277.4	19.68	15.099		
4,100.0	4,084.9	4,081.8	4,069.7	10.2	10.8	71.99	-401.2	230.1	298.4	278.1	20.26	14.727		
4,200.0	4,184.3	4,181.7	4,169.3	10.5	11.0	72.79	-406.4	236.2	299.7	278.8	20.84	14.379		
4,300.0	4,283.8	4,281.7	4,268.9	10.7	11.3	73.27	-411.7	242.3	301.6	280.3	21.34	14.132		
4,400.0	4,383.7	4,381.6	4,368.6	10.9	11.6	73.13	-416.9	248.4	304.6	282.8	21.80	13.973		
4,500.0	4,483.6	4,481.4	4,468.1	11.1	11.9	72.40	-422.1	254.5	308.6	286.4	22.20	13.898		
4,600.0	4,583.6	4,581.1	4,567.4	11.3	12.1	-176.44	-427.4	260.6	313.3	292.1	21.25	14.747		
4,700.0	4,683.6	4,680.8	4,666.8	11.5	12.4	-177.59	-432.6	266.7	318.3	296.5	21.76	14.629		
4,800.0	4,783.6	4,780.5	4,766.1	11.7	12.7	-178.71	-437.8	272.7	323.3	301.0	22.26	14.522		
4,900.0	4,883.6	4,887.8	4,873.3	11.9	12.9	-179.63	-442.2	277.9	327.3	304.6	22.71	14.416		



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Alm 33V-214
<b>Project:</b>	SEC.33-T7N-R65W	<b>TVD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Reference Site:</b>	Alm 33V-HZ Pad North Sec.33-T7N-R65W	<b>MD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Alm 33V-214	<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 (03-07-13)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Alm 33V-HZ Pad South Sec.33-T7N-R65W - Alm 33V-404 - Wellbore #1 - Plan #1 (03-07-13)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.0	4,983.6	4,995.8	4,981.2	12.0	13.1	-179.99		-444.0	280.0	329.0	305.9	23.10	14.241	
5,100.0	5,083.6	5,097.2	5,082.6	12.2	13.2	180.00		-444.0	280.0	329.0	305.5	23.48	14.010	
5,200.0	5,183.6	5,197.2	5,182.6	12.4	13.4	180.00		-444.0	280.0	329.0	305.2	23.85	13.793	
5,300.0	5,283.6	5,297.2	5,282.6	12.6	13.5	180.00		-444.0	280.0	329.0	304.8	24.22	13.582	
5,400.0	5,383.6	5,397.2	5,382.6	12.8	13.7	180.00		-444.0	280.0	329.0	304.4	24.60	13.376	
5,500.0	5,483.6	5,497.2	5,482.6	13.0	13.9	180.00		-444.0	280.0	329.0	304.0	24.97	13.175	
5,600.0	5,583.6	5,597.2	5,582.6	13.2	14.0	180.00		-444.0	280.0	329.0	303.7	25.35	12.978	
5,700.0	5,683.6	5,697.2	5,682.6	13.4	14.2	180.00		-444.0	280.0	329.0	303.3	25.73	12.787	
5,800.0	5,783.6	5,797.2	5,782.6	13.6	14.4	180.00		-444.0	280.0	329.0	302.9	26.11	12.600	
5,900.0	5,883.6	5,897.2	5,882.6	13.8	14.5	180.00		-444.0	280.0	329.0	302.5	26.50	12.417	
6,000.0	5,983.6	5,997.2	5,982.6	14.0	14.7	180.00		-444.0	280.0	329.0	302.1	26.88	12.238	
6,100.0	6,083.6	6,097.2	6,082.6	14.2	14.9	180.00		-444.0	280.0	329.0	301.7	27.27	12.064	
6,200.0	6,183.6	6,197.2	6,182.6	14.4	15.0	180.00		-444.0	280.0	329.0	301.4	27.66	11.894	
6,247.4	6,231.0	6,244.6	6,230.0	14.5	15.1	-91.39		-444.0	280.0	329.0	300.3	28.72	11.456	
6,300.0	6,283.6	6,297.2	6,282.6	14.6	15.2	-91.42		-444.0	280.0	329.0	300.1	28.92	11.378	
6,400.0	6,383.0	6,397.1	6,382.5	14.7	15.4	-93.16		-444.0	279.7	329.4	300.3	29.16	11.299	
6,500.0	6,480.2	6,499.6	6,484.4	14.8	15.5	-95.56		-443.8	269.9	330.5	301.3	29.26	11.296	
6,600.0	6,573.4	6,604.0	6,586.0	14.8	15.6	-97.86		-443.2	245.9	332.1	302.8	29.28	11.341	
6,700.0	6,661.2	6,710.5	6,685.2	14.9	15.6	-100.04		-442.3	207.5	334.1	304.8	29.30	11.403	
6,800.0	6,742.1	6,819.0	6,779.8	15.1	15.6	-102.03		-441.1	154.6	336.4	307.0	29.42	11.435	
6,900.0	6,814.5	6,929.4	6,867.4	15.4	15.7	-103.79		-439.5	87.6	338.7	309.0	29.79	11.371	
7,000.0	6,877.4	7,041.6	6,945.6	15.9	15.8	-105.30		-437.7	7.3	341.0	310.4	30.60	11.146	
7,100.0	6,929.6	7,155.3	7,012.0	16.8	16.4	-106.52		-435.5	-85.0	343.1	311.0	32.02	10.714	
7,200.0	6,970.2	7,270.4	7,064.4	18.0	17.6	-107.42		-433.2	-187.2	344.7	310.5	34.17	10.087	
7,300.0	6,998.5	7,386.3	7,101.2	19.6	19.2	-108.00		-430.6	-296.9	345.7	308.7	37.04	9.334	
7,400.0	7,014.1	7,501.6	7,120.9	21.3	21.2	-108.23		-428.0	-410.4	346.2	305.6	40.53	8.541	
7,500.0	7,017.2	7,604.9	7,131.1	23.3	23.2	-109.26		-425.6	-513.2	348.3	304.3	44.04	7.909	
7,600.0	7,017.0	7,712.1	7,134.5	25.4	25.5	-109.83		-423.1	-620.3	349.4	301.4	48.02	7.277	
7,700.0	7,016.7	7,812.1	7,135.6	27.7	27.7	-110.04		-420.8	-720.2	349.9	297.7	52.17	6.707	
7,800.0	7,016.4	7,912.1	7,136.7	30.0	30.0	-110.26		-418.5	-820.2	350.3	293.8	56.49	6.201	
7,900.0	7,016.2	8,012.0	7,137.9	32.4	32.5	-110.47		-416.1	-920.1	350.8	289.8	60.95	5.755	
8,000.0	7,015.9	8,112.0	7,139.0	34.9	34.9	-110.68		-413.8	-1,020.1	351.3	285.7	65.51	5.362	
8,100.0	7,015.7	8,212.0	7,140.1	37.4	37.4	-110.89		-411.5	-1,120.1	351.7	281.6	70.15	5.014	
8,200.0	7,015.4	8,312.0	7,141.2	40.0	40.0	-111.10		-409.2	-1,220.0	352.2	277.3	74.86	4.705	
8,300.0	7,015.1	8,412.0	7,142.3	42.5	42.6	-111.31		-406.8	-1,320.0	352.7	273.1	79.61	4.430	
8,400.0	7,014.9	8,512.0	7,143.5	45.2	45.2	-111.52		-404.5	-1,419.9	353.2	268.8	84.40	4.184	
8,500.0	7,014.6	8,612.0	7,144.6	47.8	47.8	-111.73		-402.2	-1,519.9	353.6	264.4	89.21	3.964	
8,600.0	7,014.4	8,712.0	7,145.7	50.5	50.5	-111.94		-399.9	-1,619.8	354.1	260.1	94.05	3.765	
8,700.0	7,014.1	8,812.0	7,146.8	53.1	53.2	-112.15		-397.6	-1,719.8	354.6	255.7	98.91	3.585	
8,800.0	7,013.8	8,912.0	7,147.9	55.8	55.8	-112.36		-395.2	-1,819.8	355.1	251.4	103.77	3.422	
8,900.0	7,013.6	9,012.0	7,149.0	58.5	58.5	-112.56		-392.9	-1,919.7	355.6	247.0	108.65	3.273	
9,000.0	7,013.3	9,111.9	7,150.2	61.2	61.3	-112.77		-390.6	-2,019.7	356.1	242.6	113.53	3.137	
9,100.0	7,013.0	9,211.9	7,151.3	64.0	64.0	-112.98		-388.3	-2,119.6	356.7	238.2	118.41	3.012	
9,200.0	7,012.8	9,311.9	7,152.4	66.7	66.7	-113.18		-385.9	-2,219.6	357.2	233.9	123.29	2.897	
9,300.0	7,012.5	9,411.9	7,153.5	69.4	69.4	-113.39		-383.6	-2,319.5	357.7	229.5	128.17	2.791	
9,400.0	7,012.3	9,511.9	7,154.6	72.2	72.2	-113.59		-381.3	-2,419.5	358.2	225.2	133.04	2.693	
9,500.0	7,012.0	9,611.9	7,155.7	74.9	74.9	-113.79		-379.0	-2,519.5	358.8	220.8	137.91	2.601	
9,600.0	7,011.7	9,711.9	7,156.9	77.7	77.7	-114.00		-376.7	-2,619.4	359.3	216.5	142.78	2.516	
9,700.0	7,011.5	9,811.9	7,158.0	80.4	80.4	-114.20		-374.3	-2,719.4	359.8	212.2	147.63	2.437	
9,800.0	7,011.2	9,911.9	7,159.1	83.2	83.2	-114.40		-372.0	-2,819.3	360.4	207.9	152.48	2.363	
9,900.0	7,011.0	10,011.9	7,160.2	85.9	85.9	-114.60		-369.7	-2,919.3	360.9	203.6	157.32	2.294	

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

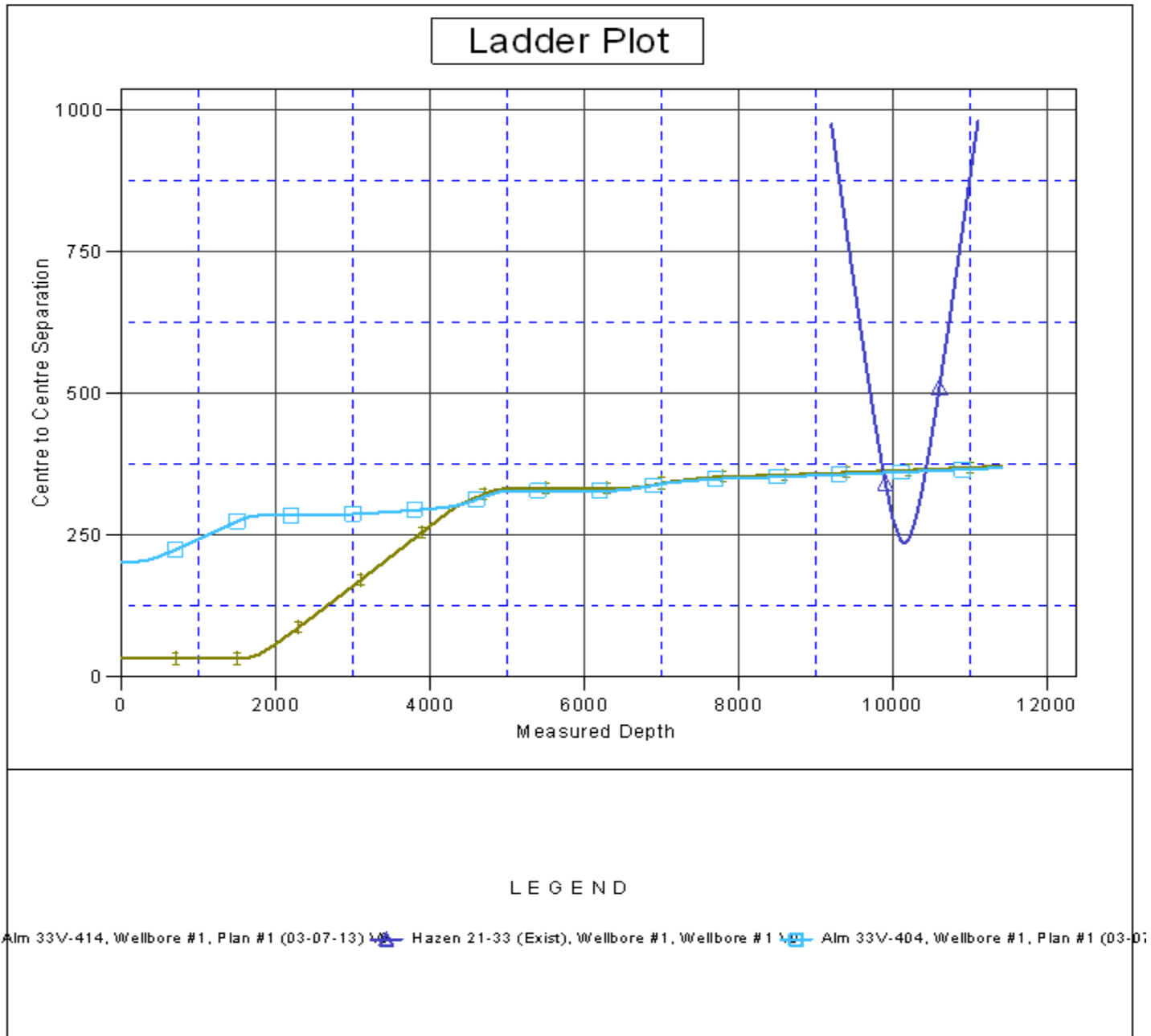


<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Alm 33V-214
<b>Project:</b>	SEC.33-T7N-R65W	<b>TVD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Reference Site:</b>	Alm 33V-HZ Pad North Sec.33-T7N-R65W	<b>MD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Alm 33V-214	<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 (03-07-13)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Alm 33V-HZ Pad South Sec.33-T7N-R65W - Alm 33V-404 - Wellbore #1 - Plan #1 (03-07-13)												<b>Offset Site Error:</b>	0.0 ft
<b>Survey Program:</b> 0-MWD												<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,000.0	7,010.7	10,111.8	7,161.3	88.7	88.7	-114.80	-367.4	-3,019.2	361.5	199.3	162.15	2.229	
10,100.0	7,010.4	10,211.8	7,162.4	91.5	91.5	-115.00	-365.0	-3,119.2	362.0	195.1	166.96	2.168	
10,200.0	7,010.2	10,311.8	7,163.6	94.2	94.2	-115.20	-362.7	-3,219.2	362.6	190.8	171.77	2.111	
10,300.0	7,009.9	10,411.8	7,164.7	97.0	97.0	-115.40	-360.4	-3,319.1	363.2	186.6	176.57	2.057	
10,400.0	7,009.6	10,511.8	7,165.8	99.8	99.8	-115.60	-358.1	-3,419.1	363.7	182.4	181.35	2.006	
10,500.0	7,009.4	10,611.8	7,166.9	102.6	102.6	-115.79	-355.8	-3,519.0	364.3	178.2	186.12	1.957	
10,600.0	7,009.1	10,711.8	7,168.0	105.4	105.3	-115.99	-353.4	-3,619.0	364.9	174.0	190.88	1.912	
10,700.0	7,008.9	10,811.8	7,169.1	108.1	108.1	-116.19	-351.1	-3,719.0	365.5	169.9	195.62	1.868	
10,800.0	7,008.6	10,911.8	7,170.3	110.9	110.9	-116.38	-348.8	-3,818.9	366.1	165.7	200.35	1.827	
10,900.0	7,008.3	11,011.8	7,171.4	113.7	113.7	-116.58	-346.5	-3,918.9	366.7	161.6	205.07	1.788	
11,000.0	7,008.1	11,111.8	7,172.5	116.5	116.5	-116.77	-344.1	-4,018.8	367.3	157.5	209.78	1.751	
11,100.0	7,007.8	11,211.7	7,173.6	119.3	119.3	-116.96	-341.8	-4,118.8	367.9	153.4	214.46	1.715	
11,200.0	7,007.5	11,311.7	7,174.7	122.1	122.0	-117.16	-339.5	-4,218.7	368.5	149.3	219.14	1.681	
11,300.0	7,007.3	11,411.7	7,175.8	124.9	124.8	-117.35	-337.2	-4,318.7	369.1	145.3	223.80	1.649	
11,400.0	7,007.0	11,511.7	7,177.0	127.6	127.6	-117.54	-334.9	-4,418.7	369.7	141.3	228.44	1.618	
11,409.5	7,007.0	11,515.5	7,177.0	127.9	127.7	-117.55	-334.8	-4,422.5	369.8	141.0	228.76	1.617 ES, SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Alm 33V-214
<b>Project:</b>	SEC.33-T7N-R65W	<b>TVD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Reference Site:</b>	Alm 33V-HZ Pad North Sec.33-T7N-R65W	<b>MD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Alm 33V-214	<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 (03-07-13)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4807.0ft (Original Well Elev) Coordinates are relative to: Alm 33V-214  
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: 0.54°



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Alm 33V-214
<b>Project:</b>	SEC.33-T7N-R65W	<b>TVD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Reference Site:</b>	Alm 33V-HZ Pad North Sec.33-T7N-R65W	<b>MD Reference:</b>	WELL @ 4807.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Alm 33V-214	<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 (03-07-13)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4807.0ft (Original Well Elev) Coordinates are relative to: Alm 33V-214  
 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: 0.54°

