

Enerplus Resources (USA) Corporation

**Weld County, CO
SEC 34 T8N-R66W
Polaris 8-66-34-33C**

Original Wellbore

Plan: Plan 2

Standard Planning Report

17 November, 2019

Planning Report

Database:	EDM Server Database	Local Co-ordinate Reference:	Well Polaris 8-66-34-33C
Company:	Enerplus Resources (USA) Corporation	TVD Reference:	KB @ 5012.0usft
Project:	Weld County, CO	MD Reference:	KB @ 5012.0usft
Site:	SEC 34 T8N-R66W	North Reference:	True
Well:	Polaris 8-66-34-33C	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Plan 2		

Project	Weld County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	SEC 34 T8N-R66W				
Site Position:		Northing:	1,466,670.78 usft	Latitude:	40° 36' 43.362 N
From:	Lat/Long	Easting:	3,205,908.72 usft	Longitude:	104° 45' 30.060 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.48 °

Well	Polaris 8-66-34-33C					
Well Position	+N/-S	225.1 usft	Northing:	1,466,895.88 usft	Latitude:	40° 36' 45.587 N
	+E/-W	-4.4 usft	Easting:	3,205,902.39 usft	Longitude:	104° 45' 30.118 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	4,996.0 usft

Wellbore	Original Wellbore				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	11/30/2019	7.96	66.96	52,221.06989714

Design	Plan 2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	279.44

Plan Survey Tool Program	Date	11/17/2019		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	17,485.4	Plan 2 (Original Wellbore)	MWD OWSG MWD - Standard

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,599.0	23.99	41.26	3,552.7	247.9	217.5	1.50	1.50	0.00	41.26	
7,126.7	23.99	41.26	6,775.8	1,325.9	1,163.2	0.00	0.00	0.00	0.00	
8,183.1	90.00	269.71	7,466.0	1,552.9	610.3	10.00	6.25	-12.45	231.00	
8,195.6	90.00	269.33	7,466.0	1,552.8	597.8	3.00	0.00	-3.00	-90.01	
17,485.5	90.00	269.33	7,466.0	1,445.0	-8,691.5	0.00	0.00	0.00	0.00	Polaris 8-66-34-33C E

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Wellbore:	Original Wellbore		
Design:	Plan 2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	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
300.0	0.00	0.00	300.0	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
500.0	0.00	0.00	500.0	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
700.0	0.00	0.00	700.0	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
900.0	0.00	0.00	900.0	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
1,100.0	0.00	0.00	1,100.0	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
1,300.0	0.00	0.00	1,300.0	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
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
9-5/8" - Surface									
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
Begin 1.5° Nudge									
2,100.0	1.50	41.26	2,100.0	1.0	0.9	-0.7	1.50	1.50	0.00
2,200.0	3.00	41.26	2,199.9	3.9	3.5	-2.8	1.50	1.50	0.00
2,300.0	4.50	41.26	2,299.7	8.9	7.8	-6.2	1.50	1.50	0.00
2,400.0	6.00	41.26	2,399.3	15.7	13.8	-11.0	1.50	1.50	0.00
2,500.0	7.50	41.26	2,498.6	24.6	21.6	-17.2	1.50	1.50	0.00
2,600.0	9.00	41.26	2,597.5	35.4	31.0	-24.8	1.50	1.50	0.00
2,700.0	10.50	41.26	2,696.1	48.1	42.2	-33.7	1.50	1.50	0.00
2,800.0	12.00	41.26	2,794.2	62.7	55.0	-44.0	1.50	1.50	0.00
2,900.0	13.50	41.26	2,891.7	79.3	69.6	-55.6	1.50	1.50	0.00
3,000.0	15.00	41.26	2,988.6	97.8	85.8	-68.6	1.50	1.50	0.00
3,100.0	16.50	41.26	3,084.9	118.2	103.7	-82.9	1.50	1.50	0.00
3,200.0	18.00	41.26	3,180.4	140.5	123.3	-98.6	1.50	1.50	0.00
3,300.0	19.50	41.26	3,275.0	164.7	144.5	-115.5	1.50	1.50	0.00
3,400.0	21.00	41.26	3,368.9	190.7	167.3	-133.8	1.50	1.50	0.00
3,500.0	22.50	41.26	3,461.7	218.6	191.7	-153.3	1.50	1.50	0.00
3,599.0	23.99	41.26	3,552.7	247.9	217.5	-173.9	1.50	1.50	0.00
Begin 23.99° Tangent									
3,600.0	23.99	41.26	3,553.6	248.2	217.8	-174.1	0.00	0.00	0.00
3,700.0	23.99	41.26	3,645.0	278.8	244.6	-195.6	0.00	0.00	0.00
3,800.0	23.99	41.26	3,736.3	309.4	271.4	-217.0	0.00	0.00	0.00
3,900.0	23.99	41.26	3,827.7	339.9	298.2	-238.4	0.00	0.00	0.00
4,000.0	23.99	41.26	3,919.1	370.5	325.0	-259.9	0.00	0.00	0.00
4,100.0	23.99	41.26	4,010.4	401.0	351.8	-281.3	0.00	0.00	0.00
4,200.0	23.99	41.26	4,101.8	431.6	378.6	-302.7	0.00	0.00	0.00
4,300.0	23.99	41.26	4,193.2	462.1	405.4	-324.2	0.00	0.00	0.00
4,400.0	23.99	41.26	4,284.5	492.7	432.2	-345.6	0.00	0.00	0.00
4,500.0	23.99	41.26	4,375.9	523.3	459.0	-367.0	0.00	0.00	0.00
4,600.0	23.99	41.26	4,467.3	553.8	485.9	-388.5	0.00	0.00	0.00
4,700.0	23.99	41.26	4,558.6	584.4	512.7	-409.9	0.00	0.00	0.00
4,800.0	23.99	41.26	4,650.0	614.9	539.5	-431.3	0.00	0.00	0.00

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Well:	Polaris 8-66-34-33C	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Plan 2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,900.0	23.99	41.26	4,741.4	645.5	566.3	-452.8	0.00	0.00	0.00	
5,000.0	23.99	41.26	4,832.7	676.0	593.1	-474.2	0.00	0.00	0.00	
5,100.0	23.99	41.26	4,924.1	706.6	619.9	-495.6	0.00	0.00	0.00	
5,200.0	23.99	41.26	5,015.5	737.2	646.7	-517.1	0.00	0.00	0.00	
5,300.0	23.99	41.26	5,106.8	767.7	673.5	-538.5	0.00	0.00	0.00	
5,400.0	23.99	41.26	5,198.2	798.3	700.3	-559.9	0.00	0.00	0.00	
5,500.0	23.99	41.26	5,289.6	828.8	727.1	-581.4	0.00	0.00	0.00	
5,600.0	23.99	41.26	5,380.9	859.4	753.9	-602.8	0.00	0.00	0.00	
5,700.0	23.99	41.26	5,472.3	889.9	780.7	-624.2	0.00	0.00	0.00	
5,800.0	23.99	41.26	5,563.7	920.5	807.5	-645.6	0.00	0.00	0.00	
5,900.0	23.99	41.26	5,655.0	951.1	834.4	-667.1	0.00	0.00	0.00	
6,000.0	23.99	41.26	5,746.4	981.6	861.2	-688.5	0.00	0.00	0.00	
6,100.0	23.99	41.26	5,837.7	1,012.2	888.0	-709.9	0.00	0.00	0.00	
6,200.0	23.99	41.26	5,929.1	1,042.7	914.8	-731.4	0.00	0.00	0.00	
6,300.0	23.99	41.26	6,020.5	1,073.3	941.6	-752.8	0.00	0.00	0.00	
6,400.0	23.99	41.26	6,111.8	1,103.9	968.4	-774.2	0.00	0.00	0.00	
6,500.0	23.99	41.26	6,203.2	1,134.4	995.2	-795.7	0.00	0.00	0.00	
6,600.0	23.99	41.26	6,294.6	1,165.0	1,022.0	-817.1	0.00	0.00	0.00	
6,700.0	23.99	41.26	6,385.9	1,195.5	1,048.8	-838.5	0.00	0.00	0.00	
6,800.0	23.99	41.26	6,477.3	1,226.1	1,075.6	-860.0	0.00	0.00	0.00	
6,900.0	23.99	41.26	6,568.7	1,256.6	1,102.4	-881.4	0.00	0.00	0.00	
7,000.0	23.99	41.26	6,660.0	1,287.2	1,129.2	-902.8	0.00	0.00	0.00	
7,100.0	23.99	41.26	6,751.4	1,317.8	1,156.0	-924.3	0.00	0.00	0.00	
7,126.7	23.99	41.26	6,775.8	1,325.9	1,163.2	-930.0	0.00	0.00	0.00	
KOP - Start 10°/100' Build										
7,200.0	20.15	24.53	6,843.8	1,348.6	1,178.3	-941.2	10.00	-5.24	-22.83	
7,300.0	18.49	354.38	6,938.4	1,380.2	1,183.9	-941.5	10.00	-1.65	-30.15	
7,400.0	21.70	326.49	7,032.5	1,411.4	1,172.1	-924.8	10.00	3.21	-27.89	
7,500.0	28.16	308.17	7,123.3	1,441.5	1,143.3	-891.4	10.00	6.46	-18.32	
7,600.0	36.16	296.81	7,207.9	1,469.5	1,098.3	-842.4	10.00	8.00	-11.36	
7,700.0	44.88	289.24	7,283.9	1,494.5	1,038.5	-779.3	10.00	8.72	-7.57	
7,800.0	53.97	283.72	7,348.9	1,515.7	965.7	-704.0	10.00	9.09	-5.52	
7,900.0	63.26	279.37	7,401.0	1,532.6	882.1	-618.9	10.00	9.29	-4.36	
8,000.0	72.66	275.68	7,438.5	1,544.7	790.4	-526.3	10.00	9.40	-3.69	
8,100.0	82.12	272.35	7,460.3	1,551.4	693.1	-429.3	10.00	9.46	-3.33	
8,183.1	90.00	269.71	7,466.0	1,552.9	610.3	-347.4	10.00	9.48	-3.18	
7" - 2012' FSL & 623' FEL - Intermediate										
8,195.6	90.00	269.33	7,466.0	1,552.8	597.8	-335.1	3.00	0.01	-3.00	
8,200.0	90.00	269.33	7,466.0	1,552.8	593.4	-330.7	0.00	0.00	0.00	
8,300.0	90.00	269.33	7,466.0	1,551.6	493.4	-232.3	0.00	0.00	0.00	
8,400.0	90.00	269.33	7,466.0	1,550.4	393.4	-133.8	0.00	0.00	0.00	
8,500.0	90.00	269.33	7,466.0	1,549.3	293.4	-35.4	0.00	0.00	0.00	
8,600.0	90.00	269.33	7,466.0	1,548.1	193.5	63.1	0.00	0.00	0.00	
8,700.0	90.00	269.33	7,466.0	1,547.0	93.5	161.5	0.00	0.00	0.00	
8,800.0	90.00	269.33	7,466.0	1,545.8	-6.5	260.0	0.00	0.00	0.00	
8,900.0	90.00	269.33	7,466.0	1,544.6	-106.5	358.4	0.00	0.00	0.00	
9,000.0	90.00	269.33	7,466.0	1,543.5	-206.5	456.9	0.00	0.00	0.00	
9,100.0	90.00	269.33	7,466.0	1,542.3	-306.5	555.3	0.00	0.00	0.00	
9,200.0	90.00	269.33	7,466.0	1,541.1	-406.5	653.8	0.00	0.00	0.00	
9,300.0	90.00	269.33	7,466.0	1,540.0	-506.5	752.2	0.00	0.00	0.00	
9,400.0	90.00	269.33	7,466.0	1,538.8	-606.5	850.7	0.00	0.00	0.00	
9,500.0	90.00	269.33	7,466.0	1,537.7	-706.5	949.1	0.00	0.00	0.00	
9,600.0	90.00	269.33	7,466.0	1,536.5	-806.5	1,047.5	0.00	0.00	0.00	
9,700.0	90.00	269.33	7,466.0	1,535.3	-906.5	1,146.0	0.00	0.00	0.00	

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Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
9,800.0	90.00	269.33	7,466.0	1,534.2	-1,006.5	1,244.4	0.00	0.00	0.00	
9,900.0	90.00	269.33	7,466.0	1,533.0	-1,106.5	1,342.9	0.00	0.00	0.00	
10,000.0	90.00	269.33	7,466.0	1,531.9	-1,206.5	1,441.3	0.00	0.00	0.00	
10,100.0	90.00	269.33	7,466.0	1,530.7	-1,306.4	1,539.8	0.00	0.00	0.00	
10,200.0	90.00	269.33	7,466.0	1,529.5	-1,406.4	1,638.2	0.00	0.00	0.00	
10,300.0	90.00	269.33	7,466.0	1,528.4	-1,506.4	1,736.7	0.00	0.00	0.00	
10,400.0	90.00	269.33	7,466.0	1,527.2	-1,606.4	1,835.1	0.00	0.00	0.00	
10,500.0	90.00	269.33	7,466.0	1,526.1	-1,706.4	1,933.6	0.00	0.00	0.00	
10,600.0	90.00	269.33	7,466.0	1,524.9	-1,806.4	2,032.0	0.00	0.00	0.00	
10,700.0	90.00	269.33	7,466.0	1,523.7	-1,906.4	2,130.5	0.00	0.00	0.00	
10,800.0	90.00	269.33	7,466.0	1,522.6	-2,006.4	2,228.9	0.00	0.00	0.00	
10,900.0	90.00	269.33	7,466.0	1,521.4	-2,106.4	2,327.4	0.00	0.00	0.00	
11,000.0	90.00	269.33	7,466.0	1,520.3	-2,206.4	2,425.8	0.00	0.00	0.00	
11,100.0	90.00	269.33	7,466.0	1,519.1	-2,306.4	2,524.3	0.00	0.00	0.00	
11,200.0	90.00	269.33	7,466.0	1,517.9	-2,406.4	2,622.7	0.00	0.00	0.00	
11,300.0	90.00	269.33	7,466.0	1,516.8	-2,506.4	2,721.2	0.00	0.00	0.00	
11,400.0	90.00	269.33	7,466.0	1,515.6	-2,606.4	2,819.6	0.00	0.00	0.00	
11,500.0	90.00	269.33	7,466.0	1,514.4	-2,706.4	2,918.1	0.00	0.00	0.00	
11,600.0	90.00	269.33	7,466.0	1,513.3	-2,806.3	3,016.5	0.00	0.00	0.00	
11,700.0	90.00	269.33	7,466.0	1,512.1	-2,906.3	3,115.0	0.00	0.00	0.00	
11,800.0	90.00	269.33	7,466.0	1,511.0	-3,006.3	3,213.4	0.00	0.00	0.00	
11,900.0	90.00	269.33	7,466.0	1,509.8	-3,106.3	3,311.9	0.00	0.00	0.00	
12,000.0	90.00	269.33	7,466.0	1,508.6	-3,206.3	3,410.3	0.00	0.00	0.00	
12,100.0	90.00	269.33	7,466.0	1,507.5	-3,306.3	3,508.8	0.00	0.00	0.00	
12,200.0	90.00	269.33	7,466.0	1,506.3	-3,406.3	3,607.2	0.00	0.00	0.00	
12,300.0	90.00	269.33	7,466.0	1,505.2	-3,506.3	3,705.7	0.00	0.00	0.00	
12,400.0	90.00	269.33	7,466.0	1,504.0	-3,606.3	3,804.1	0.00	0.00	0.00	
12,500.0	90.00	269.33	7,466.0	1,502.8	-3,706.3	3,902.6	0.00	0.00	0.00	
12,600.0	90.00	269.33	7,466.0	1,501.7	-3,806.3	4,001.0	0.00	0.00	0.00	
12,700.0	90.00	269.33	7,466.0	1,500.5	-3,906.3	4,099.5	0.00	0.00	0.00	
12,800.0	90.00	269.33	7,466.0	1,499.4	-4,006.3	4,197.9	0.00	0.00	0.00	
12,900.0	90.00	269.33	7,466.0	1,498.2	-4,106.3	4,296.4	0.00	0.00	0.00	
13,000.0	90.00	269.33	7,466.0	1,497.0	-4,206.3	4,394.8	0.00	0.00	0.00	
13,100.0	90.00	269.33	7,466.0	1,495.9	-4,306.2	4,493.3	0.00	0.00	0.00	
13,200.0	90.00	269.33	7,466.0	1,494.7	-4,406.2	4,591.7	0.00	0.00	0.00	
13,300.0	90.00	269.33	7,466.0	1,493.6	-4,506.2	4,690.2	0.00	0.00	0.00	
13,400.0	90.00	269.33	7,466.0	1,492.4	-4,606.2	4,788.6	0.00	0.00	0.00	
13,500.0	90.00	269.33	7,466.0	1,491.2	-4,706.2	4,887.1	0.00	0.00	0.00	
13,600.0	90.00	269.33	7,466.0	1,490.1	-4,806.2	4,985.5	0.00	0.00	0.00	
13,700.0	90.00	269.33	7,466.0	1,488.9	-4,906.2	5,084.0	0.00	0.00	0.00	
13,800.0	90.00	269.33	7,466.0	1,487.7	-5,006.2	5,182.4	0.00	0.00	0.00	
13,900.0	90.00	269.33	7,466.0	1,486.6	-5,106.2	5,280.9	0.00	0.00	0.00	
14,000.0	90.00	269.33	7,466.0	1,485.4	-5,206.2	5,379.3	0.00	0.00	0.00	
14,100.0	90.00	269.33	7,466.0	1,484.3	-5,306.2	5,477.8	0.00	0.00	0.00	
14,200.0	90.00	269.33	7,466.0	1,483.1	-5,406.2	5,576.2	0.00	0.00	0.00	
14,300.0	90.00	269.33	7,466.0	1,481.9	-5,506.2	5,674.7	0.00	0.00	0.00	
14,400.0	90.00	269.33	7,466.0	1,480.8	-5,606.2	5,773.1	0.00	0.00	0.00	
14,500.0	90.00	269.33	7,466.0	1,479.6	-5,706.2	5,871.5	0.00	0.00	0.00	
14,600.0	90.00	269.33	7,466.0	1,478.5	-5,806.1	5,970.0	0.00	0.00	0.00	
14,700.0	90.00	269.33	7,466.0	1,477.3	-5,906.1	6,068.4	0.00	0.00	0.00	
14,800.0	90.00	269.33	7,466.0	1,476.1	-6,006.1	6,166.9	0.00	0.00	0.00	
14,900.0	90.00	269.33	7,466.0	1,475.0	-6,106.1	6,265.3	0.00	0.00	0.00	
15,000.0	90.00	269.33	7,466.0	1,473.8	-6,206.1	6,363.8	0.00	0.00	0.00	
15,100.0	90.00	269.33	7,466.0	1,472.7	-6,306.1	6,462.2	0.00	0.00	0.00	

Planning Report

Database:	EDM Server Database	Local Co-ordinate Reference:	Well Polaris 8-66-34-33C
Company:	Enerplus Resources (USA) Corporation	TVD Reference:	KB @ 5012.0usft
Project:	Weld County, CO	MD Reference:	KB @ 5012.0usft
Site:	SEC 34 T8N-R66W	North Reference:	True
Well:	Polaris 8-66-34-33C	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Plan 2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
15,200.0	90.00	269.33	7,466.0	1,471.5	-6,406.1	6,560.7	0.00	0.00	0.00	
15,300.0	90.00	269.33	7,466.0	1,470.3	-6,506.1	6,659.1	0.00	0.00	0.00	
15,400.0	90.00	269.33	7,466.0	1,469.2	-6,606.1	6,757.6	0.00	0.00	0.00	
15,500.0	90.00	269.33	7,466.0	1,468.0	-6,706.1	6,856.0	0.00	0.00	0.00	
15,600.0	90.00	269.33	7,466.0	1,466.9	-6,806.1	6,954.5	0.00	0.00	0.00	
15,700.0	90.00	269.33	7,466.0	1,465.7	-6,906.1	7,052.9	0.00	0.00	0.00	
15,800.0	90.00	269.33	7,466.0	1,464.5	-7,006.1	7,151.4	0.00	0.00	0.00	
15,900.0	90.00	269.33	7,466.0	1,463.4	-7,106.1	7,249.8	0.00	0.00	0.00	
16,000.0	90.00	269.33	7,466.0	1,462.2	-7,206.1	7,348.3	0.00	0.00	0.00	
16,100.0	90.00	269.33	7,466.0	1,461.0	-7,306.0	7,446.7	0.00	0.00	0.00	
16,200.0	90.00	269.33	7,466.0	1,459.9	-7,406.0	7,545.2	0.00	0.00	0.00	
16,300.0	90.00	269.33	7,466.0	1,458.7	-7,506.0	7,643.6	0.00	0.00	0.00	
16,400.0	90.00	269.33	7,466.0	1,457.6	-7,606.0	7,742.1	0.00	0.00	0.00	
16,500.0	90.00	269.33	7,466.0	1,456.4	-7,706.0	7,840.5	0.00	0.00	0.00	
16,600.0	90.00	269.33	7,466.0	1,455.2	-7,806.0	7,939.0	0.00	0.00	0.00	
16,700.0	90.00	269.33	7,466.0	1,454.1	-7,906.0	8,037.4	0.00	0.00	0.00	
16,800.0	90.00	269.33	7,466.0	1,452.9	-8,006.0	8,135.9	0.00	0.00	0.00	
16,900.0	90.00	269.33	7,466.0	1,451.8	-8,106.0	8,234.3	0.00	0.00	0.00	
17,000.0	90.00	269.33	7,466.0	1,450.6	-8,206.0	8,332.8	0.00	0.00	0.00	
17,100.0	90.00	269.33	7,466.0	1,449.4	-8,306.0	8,431.2	0.00	0.00	0.00	
17,200.0	90.00	269.33	7,466.0	1,448.3	-8,406.0	8,529.7	0.00	0.00	0.00	
17,300.0	90.00	269.33	7,466.0	1,447.1	-8,506.0	8,628.1	0.00	0.00	0.00	
17,400.0	90.00	269.33	7,466.0	1,446.0	-8,606.0	8,726.6	0.00	0.00	0.00	
17,485.5	90.00	269.33	7,466.0	1,445.0	-8,691.4	8,810.7	0.00	0.00	0.00	
PBHL										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Polaris 8-66-34-33C LP - hit/miss target - Shape - Point	0.00	0.00	7,466.0	1,552.7	610.2	1,468,453.66	3,206,499.59	40° 37' 0.930 N	104° 45' 22.205 W	- plan misses target center by 0.2usft at 8183.2usft MD (7466.0 TVD, 1552.9 N, 610.2 E)
Polaris 8-66-34-33C BHI - plan hits target center - Point	0.00	0.00	7,466.0	1,445.0	-8,691.5	1,468,268.10	3,197,199.15	40° 36' 59.850 N	104° 47' 22.823 W	

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,500.0	1,500.0	Surface	9-5/8	9-5/8	
8,183.1	7,466.0	Intermediate	7	7	

Planning Report

Database:	EDM Server Database	Local Co-ordinate Reference:	Well Polaris 8-66-34-33C
Company:	Enerplus Resources (USA) Corporation	TVD Reference:	KB @ 5012.0usft
Project:	Weld County, CO	MD Reference:	KB @ 5012.0usft
Site:	SEC 34 T8N-R66W	North Reference:	True
Well:	Polaris 8-66-34-33C	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Plan 2		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
1,500.0	1,500.0	0.0	0.0	9-5/8"	
2,000.0	2,000.0	0.0	0.0	Begin 1.5° Nudge	
3,599.0	3,552.7	247.9	217.5	Begin 23.99° Tangent	
7,126.7	6,775.8	1,325.9	1,163.2	KOP - Start 10°/100' Build	
8,183.1	7,466.0	1,552.9	610.3	7" - 2012' FSL & 623' FEL	
17,485.5	7,466.0	1,445.0	-8,691.4	PBHL	