

Reference Details

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Latitude: 40° 37' 40.281 N
 Longitude: 104° 54' 15.376 W
 Grid Convergence: 0.38° West
 Ground Elevation: 5177.0
 KB Elevation: KB @ 5202.0usft

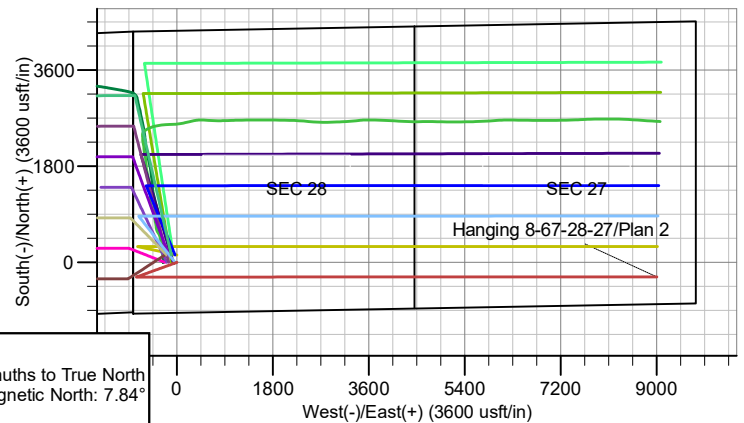
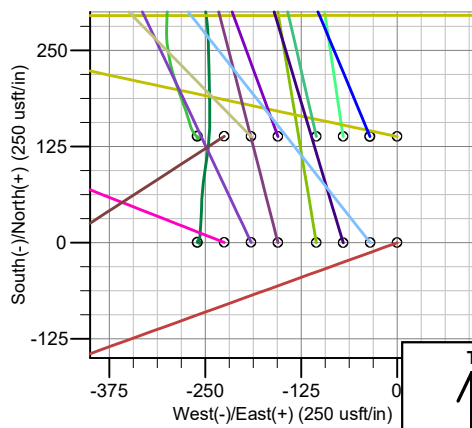
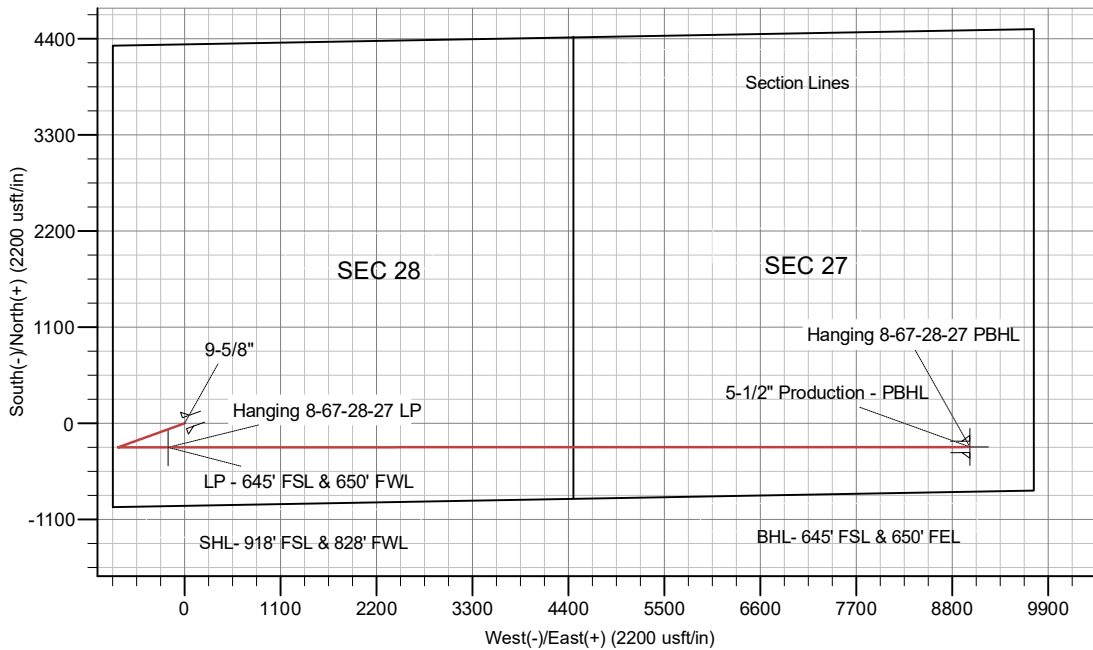


RPM Consulting, Inc.
 1600 Broadway, Suite 1510
 Denver, CO 80013
 303-595-7625

SECTION DETAILS

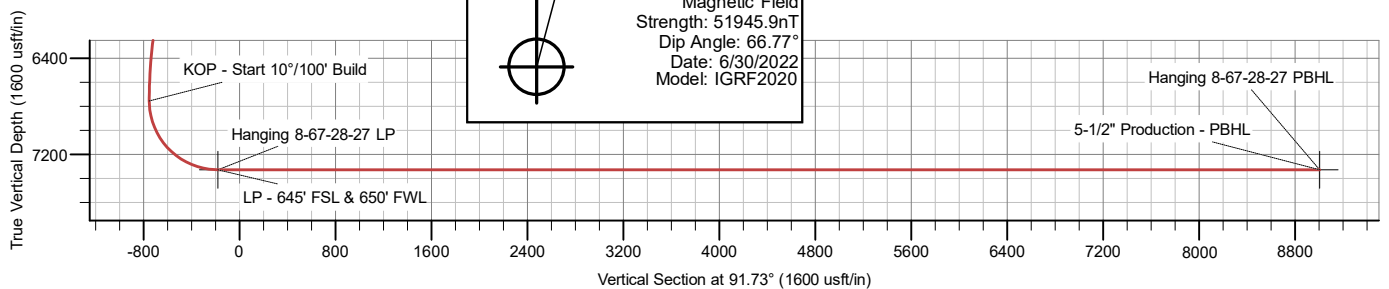
CASING DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	TVD	MD	Name
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	1500.0	1500.0	Surface
1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0	7327.0	16914.8	Production
1684.2	0.00	0.00	1684.2	0.0	0.0	0.00	0.00	0.0			
2384.2	10.50	250.16	2380.3	-21.7	-60.2	1.50	250.16	-59.5			
6124.5	10.50	250.16	6057.9	-253.0	-701.3	0.00	0.00	-693.4			
6824.5	0.00	0.00	6754.0	-274.7	-761.5	1.50	180.00	-752.9			
7724.5	90.00	90.00	7327.0	-274.7	-188.5	10.00	90.00	-180.2			
7725.4	90.00	89.98	7327.0	-274.7	-187.6	2.00	-90.78	-179.2			
16914.8	90.00	89.98	7327.0	-271.6	9001.8	0.00	0.00	9005.9			



Azimuths to True North
 Magnetic North: 7.84°

Magnetic Field
 Strength: 51945.9nT
 Dip Angle: 66.77°
 Date: 6/30/2022
 Model: IGRF2020



Enerplus Resources (USA) Corporation

**Weld County, CO
SEC 28 T8N-R67W
Hanging 8-67-28-27**

Original Wellbore

Plan: Plan 2

Standard Planning Report

25 May, 2022

Planning Report

Database:	EDM Server Database	Local Co-ordinate Reference:	Well Hanging 8-67-28-27
Company:	Enerplus Resources (USA) Corporation	TVD Reference:	KB @ 5202.0usft
Project:	Weld County, CO	MD Reference:	KB @ 5202.0usft
Site:	SEC 28 T8N-R67W	North Reference:	True
Well:	Hanging 8-67-28-27	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 28 T8N-R67W				
Site Position:		Northing:	1,472,262.06 usft	Latitude:	40° 37' 41.650 N
From:	Lat/Long	Easting:	3,165,096.77 usft	Longitude:	104° 54' 18.749 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "		

Well	Hanging 8-67-28-27					
Well Position	+N/-S	0.0 usft	Northing:	1,472,125.36 usft	Latitude:	40° 37' 40.281 N
	+E/-W	0.0 usft	Easting:	3,165,357.78 usft	Longitude:	104° 54' 15.376 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	5,177.0 usft
Grid Convergence:	0.38 °					

Wellbore	Original Wellbore				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	6/30/2022	7.84	66.77	51,945.89076993

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	91.73

Plan Survey Tool Program		Date	5/25/2022		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	16,914.8	Plan 2 (Original Wellbore)	MWD	
				OWSG MWD - Standard	

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Project:	Weld County, CO	MD Reference:	KB @ 5202.0usft
Site:	SEC 28 T8N-R67W	North Reference:	True
Well:	Hanging 8-67-28-27	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Plan 2		

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	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,684.2	0.00	0.00	1,684.2	0.0	0.0	0.00	0.00	0.00	0.00	
2,384.2	10.50	250.16	2,380.3	-21.7	-60.2	1.50	1.50	0.00	250.16	
6,124.5	10.50	250.16	6,057.9	-253.0	-701.3	0.00	0.00	0.00	0.00	
6,824.5	0.00	0.00	6,754.0	-274.7	-761.5	1.50	-1.50	0.00	180.00	
7,724.5	90.00	90.00	7,327.0	-274.7	-188.5	10.00	10.00	0.00	90.00	
7,725.4	90.00	89.98	7,327.0	-274.7	-187.6	2.00	-0.03	-2.00	-90.78	
16,914.8	90.00	89.98	7,327.0	-271.6	9,001.8	0.00	0.00	0.00	0.00	Hanging 8-67-28-27 F

Planning Report

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Company:	Enerplus Resources (USA) Corporation	TVD Reference:	KB @ 5202.0usft
Project:	Weld County, CO	MD Reference:	KB @ 5202.0usft
Site:	SEC 28 T8N-R67W	North Reference:	True
Well:	Hanging 8-67-28-27	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)
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
1,328.0	0.00	0.00	1,328.0	0.0	0.0	0.0	0.00	0.00	0.00
Pierre									
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
1,684.2	0.00	0.00	1,684.2	0.0	0.0	0.0	0.00	0.00	0.00
Begin 1.5° Nudge									
1,700.0	0.24	250.16	1,700.0	0.0	0.0	0.0	1.50	1.50	0.00
1,800.0	1.74	250.16	1,800.0	-0.6	-1.7	-1.6	1.50	1.50	0.00
1,900.0	3.24	250.16	1,899.9	-2.1	-5.7	-5.7	1.50	1.50	0.00
2,000.0	4.74	250.16	1,999.6	-4.4	-12.3	-12.1	1.50	1.50	0.00
2,100.0	6.24	250.16	2,099.2	-7.7	-21.3	-21.0	1.50	1.50	0.00
2,200.0	7.74	250.16	2,198.4	-11.8	-32.7	-32.3	1.50	1.50	0.00
2,300.0	9.24	250.16	2,297.3	-16.8	-46.6	-46.1	1.50	1.50	0.00
2,384.2	10.50	250.16	2,380.3	-21.7	-60.2	-59.5	1.50	1.50	0.00
Begin 10.5° Tangent									
2,400.0	10.50	250.16	2,395.8	-22.7	-62.9	-62.2	0.00	0.00	0.00
2,500.0	10.50	250.16	2,494.1	-28.9	-80.0	-79.1	0.00	0.00	0.00
2,600.0	10.50	250.16	2,592.5	-35.0	-97.2	-96.1	0.00	0.00	0.00
2,700.0	10.50	250.16	2,690.8	-41.2	-114.3	-113.0	0.00	0.00	0.00
2,800.0	10.50	250.16	2,789.1	-47.4	-131.4	-130.0	0.00	0.00	0.00
2,900.0	10.50	250.16	2,887.5	-53.6	-148.6	-146.9	0.00	0.00	0.00
3,000.0	10.50	250.16	2,985.8	-59.8	-165.7	-163.9	0.00	0.00	0.00
3,100.0	10.50	250.16	3,084.1	-66.0	-182.9	-180.8	0.00	0.00	0.00
3,200.0	10.50	250.16	3,182.4	-72.2	-200.0	-197.7	0.00	0.00	0.00
3,300.0	10.50	250.16	3,280.8	-78.3	-217.2	-214.7	0.00	0.00	0.00
3,400.0	10.50	250.16	3,379.1	-84.5	-234.3	-231.6	0.00	0.00	0.00
3,499.6	10.50	250.16	3,477.0	-90.7	-251.4	-248.5	0.00	0.00	0.00
Richards									
3,500.0	10.50	250.16	3,477.4	-90.7	-251.4	-248.6	0.00	0.00	0.00
3,600.0	10.50	250.16	3,575.7	-96.9	-268.6	-265.5	0.00	0.00	0.00
3,700.0	10.50	250.16	3,674.1	-103.1	-285.7	-282.5	0.00	0.00	0.00
3,800.0	10.50	250.16	3,772.4	-109.3	-302.9	-299.4	0.00	0.00	0.00
3,900.0	10.50	250.16	3,870.7	-115.4	-320.0	-316.4	0.00	0.00	0.00
4,000.0	10.50	250.16	3,969.0	-121.6	-337.2	-333.3	0.00	0.00	0.00
4,100.0	10.50	250.16	4,067.4	-127.8	-354.3	-350.3	0.00	0.00	0.00
4,169.8	10.50	250.16	4,136.0	-132.1	-366.3	-362.1	0.00	0.00	0.00
Terry									

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Site:	SEC 28 T8N-R67W	North Reference:	True
Well:	Hanging 8-67-28-27	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)	
4,200.0	10.50	250.16	4,165.7	-134.0	-371.4	-367.2	0.00	0.00	0.00	
4,300.0	10.50	250.16	4,264.0	-140.2	-388.6	-384.2	0.00	0.00	0.00	
4,400.0	10.50	250.16	4,362.3	-146.4	-405.7	-401.1	0.00	0.00	0.00	
4,500.0	10.50	250.16	4,460.7	-152.5	-422.9	-418.1	0.00	0.00	0.00	
4,600.0	10.50	250.16	4,559.0	-158.7	-440.0	-435.0	0.00	0.00	0.00	
4,700.0	10.50	250.16	4,657.3	-164.9	-457.1	-452.0	0.00	0.00	0.00	
4,722.1	10.50	250.16	4,679.0	-166.3	-460.9	-455.7	0.00	0.00	0.00	
Hygeine										
4,800.0	10.50	250.16	4,755.6	-171.1	-474.3	-468.9	0.00	0.00	0.00	
4,900.0	10.50	250.16	4,854.0	-177.3	-491.4	-485.9	0.00	0.00	0.00	
5,000.0	10.50	250.16	4,952.3	-183.5	-508.6	-502.8	0.00	0.00	0.00	
5,100.0	10.50	250.16	5,050.6	-189.6	-525.7	-519.8	0.00	0.00	0.00	
5,200.0	10.50	250.16	5,148.9	-195.8	-542.9	-536.7	0.00	0.00	0.00	
5,300.0	10.50	250.16	5,247.3	-202.0	-560.0	-553.7	0.00	0.00	0.00	
5,400.0	10.50	250.16	5,345.6	-208.2	-577.1	-570.6	0.00	0.00	0.00	
5,490.9	10.50	250.16	5,435.0	-213.8	-592.7	-586.0	0.00	0.00	0.00	
Lower Pierre zero										
5,500.0	10.50	250.16	5,443.9	-214.4	-594.3	-587.6	0.00	0.00	0.00	
5,600.0	10.50	250.16	5,542.2	-220.6	-611.4	-604.5	0.00	0.00	0.00	
5,700.0	10.50	250.16	5,640.6	-226.7	-628.6	-621.4	0.00	0.00	0.00	
5,800.0	10.50	250.16	5,738.9	-232.9	-645.7	-638.4	0.00	0.00	0.00	
5,900.0	10.50	250.16	5,837.2	-239.1	-662.9	-655.3	0.00	0.00	0.00	
5,989.3	10.50	250.16	5,925.0	-244.6	-678.2	-670.5	0.00	0.00	0.00	
Lower Pierre 1										
6,000.0	10.50	250.16	5,935.5	-245.3	-680.0	-672.3	0.00	0.00	0.00	
6,100.0	10.50	250.16	6,033.9	-251.5	-697.1	-689.2	0.00	0.00	0.00	
6,124.5	10.50	250.16	6,058.0	-253.0	-701.3	-693.4	0.00	0.00	0.00	
Start Nudge Back to Vertical										
6,200.0	9.37	250.16	6,132.3	-257.4	-713.6	-705.5	1.50	-1.50	0.00	
6,300.0	7.87	250.16	6,231.2	-262.5	-727.7	-719.4	1.50	-1.50	0.00	
6,400.0	6.37	250.16	6,330.4	-266.7	-739.3	-731.0	1.50	-1.50	0.00	
6,500.0	4.87	250.16	6,429.9	-270.0	-748.5	-740.1	1.50	-1.50	0.00	
6,600.0	3.37	250.16	6,529.7	-272.5	-755.3	-746.7	1.50	-1.50	0.00	
6,627.4	2.96	250.16	6,557.0	-273.0	-756.7	-748.1	1.50	-1.50	0.00	
Lower Pierre 2										
6,700.0	1.87	250.16	6,629.6	-274.0	-759.6	-751.0	1.50	-1.50	0.00	
6,800.0	0.37	250.16	6,729.5	-274.7	-761.4	-752.8	1.50	-1.50	0.00	
6,824.5	0.00	0.00	6,754.0	-274.7	-761.5	-752.9	1.50	-1.50	0.00	
KOP - Start 10°/100' Build										
6,899.7	7.52	90.00	6,829.0	-274.7	-756.6	-747.9	10.01	10.01	0.00	
Lower Pierre 3										
6,900.0	7.55	90.00	6,829.3	-274.7	-756.5	-747.9	10.00	10.00	0.00	
7,000.0	17.55	90.00	6,926.8	-274.7	-734.8	-726.2	10.00	10.00	0.00	
7,044.8	22.04	90.00	6,969.0	-274.7	-719.6	-711.0	10.00	10.00	0.00	
Sharon Springs										
7,093.2	26.87	90.00	7,013.0	-274.7	-699.6	-691.0	10.00	10.00	0.00	
Nio A Chalk										
7,100.0	27.55	90.00	7,019.0	-274.7	-696.5	-687.9	10.00	10.00	0.00	
7,114.7	29.03	90.00	7,032.0	-274.7	-689.5	-680.9	10.00	10.00	0.00	
Nio A Marl										
7,156.8	33.23	90.00	7,068.0	-274.7	-667.8	-659.2	10.00	10.00	0.00	
Nio B upper										
7,200.0	37.55	90.00	7,103.2	-274.7	-642.8	-634.2	10.00	10.00	0.00	

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Well:	Hanging 8-67-28-27	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)
7,212.4	38.80	90.00	7,113.0	-274.7	-635.1	-626.5	10.00	10.00	0.00
Nio B chalk									
7,285.7	46.12	90.00	7,167.0	-274.7	-585.7	-577.1	10.00	10.00	0.00
Nio B marl									
7,300.0	47.55	90.00	7,176.8	-274.7	-575.2	-566.7	10.00	10.00	0.00
7,332.4	50.80	90.00	7,198.0	-274.7	-550.7	-542.1	10.00	10.00	0.00
Nio C Chalk									
7,400.0	57.55	90.00	7,237.5	-274.7	-495.9	-487.4	10.00	10.00	0.00
7,402.8	57.83	90.00	7,239.0	-274.7	-493.6	-485.1	10.00	10.00	0.00
Nio C Marl									
7,455.5	63.11	90.00	7,265.0	-274.7	-447.7	-439.2	10.00	10.00	0.00
Nio D chalk									
7,500.0	67.55	90.00	7,283.6	-274.7	-407.3	-398.8	10.00	10.00	0.00
7,565.3	74.09	90.00	7,305.0	-274.7	-345.6	-337.2	10.00	10.00	0.00
Fort Hays									
7,600.0	77.55	90.00	7,313.5	-274.7	-312.0	-303.6	10.00	10.00	0.00
7,649.0	82.46	90.00	7,322.0	-274.7	-263.8	-255.3	10.00	10.00	0.00
Codell									
7,700.0	87.55	90.00	7,326.4	-274.7	-213.0	-204.6	10.00	10.00	0.00
7,724.5	90.00	90.00	7,327.0	-274.7	-188.5	-180.1	9.98	9.98	0.00
LP - 645' FSL & 650' FWL									
7,725.4	90.00	89.98	7,327.0	-274.7	-187.6	-179.2	2.10	-0.03	-2.10
7,800.0	90.00	89.98	7,327.0	-274.7	-113.0	-104.7	0.00	0.00	0.00
7,900.0	90.00	89.98	7,327.0	-274.6	-13.0	-4.7	0.00	0.00	0.00
8,000.0	90.00	89.98	7,327.0	-274.6	87.0	95.2	0.00	0.00	0.00
8,100.0	90.00	89.98	7,327.0	-274.6	187.0	195.2	0.00	0.00	0.00
8,200.0	90.00	89.98	7,327.0	-274.5	287.0	295.2	0.00	0.00	0.00
8,300.0	90.00	89.98	7,327.0	-274.5	387.0	395.1	0.00	0.00	0.00
8,400.0	90.00	89.98	7,327.0	-274.5	487.0	495.1	0.00	0.00	0.00
8,500.0	90.00	89.98	7,327.0	-274.4	587.0	595.0	0.00	0.00	0.00
8,600.0	90.00	89.98	7,327.0	-274.4	687.0	695.0	0.00	0.00	0.00
8,700.0	90.00	89.98	7,327.0	-274.4	787.0	794.9	0.00	0.00	0.00
8,800.0	90.00	89.98	7,327.0	-274.3	887.0	894.9	0.00	0.00	0.00
8,900.0	90.00	89.98	7,327.0	-274.3	987.0	994.8	0.00	0.00	0.00
9,000.0	90.00	89.98	7,327.0	-274.3	1,087.0	1,094.8	0.00	0.00	0.00
9,100.0	90.00	89.98	7,327.0	-274.2	1,187.0	1,194.7	0.00	0.00	0.00
9,200.0	90.00	89.98	7,327.0	-274.2	1,287.0	1,294.7	0.00	0.00	0.00
9,300.0	90.00	89.98	7,327.0	-274.2	1,387.0	1,394.6	0.00	0.00	0.00
9,400.0	90.00	89.98	7,327.0	-274.1	1,487.0	1,494.6	0.00	0.00	0.00
9,500.0	90.00	89.98	7,327.0	-274.1	1,587.0	1,594.5	0.00	0.00	0.00
9,600.0	90.00	89.98	7,327.0	-274.1	1,687.0	1,694.5	0.00	0.00	0.00
9,700.0	90.00	89.98	7,327.0	-274.0	1,787.0	1,794.5	0.00	0.00	0.00
9,800.0	90.00	89.98	7,327.0	-274.0	1,887.0	1,894.4	0.00	0.00	0.00
9,900.0	90.00	89.98	7,327.0	-274.0	1,987.0	1,994.4	0.00	0.00	0.00
10,000.0	90.00	89.98	7,327.0	-273.9	2,087.0	2,094.3	0.00	0.00	0.00
10,100.0	90.00	89.98	7,327.0	-273.9	2,187.0	2,194.3	0.00	0.00	0.00
10,200.0	90.00	89.98	7,327.0	-273.9	2,287.0	2,294.2	0.00	0.00	0.00
10,300.0	90.00	89.98	7,327.0	-273.8	2,387.0	2,394.2	0.00	0.00	0.00
10,400.0	90.00	89.98	7,327.0	-273.8	2,487.0	2,494.1	0.00	0.00	0.00
10,500.0	90.00	89.98	7,327.0	-273.8	2,587.0	2,594.1	0.00	0.00	0.00
10,600.0	90.00	89.98	7,327.0	-273.7	2,687.0	2,694.0	0.00	0.00	0.00
10,700.0	90.00	89.98	7,327.0	-273.7	2,787.0	2,794.0	0.00	0.00	0.00
10,800.0	90.00	89.98	7,327.0	-273.7	2,887.0	2,893.9	0.00	0.00	0.00

Planning Report

Database:	EDM Server Database	Local Co-ordinate Reference:	Well Hanging 8-67-28-27
Company:	Enerplus Resources (USA) Corporation	TVD Reference:	KB @ 5202.0usft
Project:	Weld County, CO	MD Reference:	KB @ 5202.0usft
Site:	SEC 28 T8N-R67W	North Reference:	True
Well:	Hanging 8-67-28-27	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)
10,900.0	90.00	89.98	7,327.0	-273.6	2,987.0	2,993.9	0.00	0.00	0.00
11,000.0	90.00	89.98	7,327.0	-273.6	3,087.0	3,093.8	0.00	0.00	0.00
11,100.0	90.00	89.98	7,327.0	-273.6	3,187.0	3,193.8	0.00	0.00	0.00
11,200.0	90.00	89.98	7,327.0	-273.5	3,287.0	3,293.8	0.00	0.00	0.00
11,300.0	90.00	89.98	7,327.0	-273.5	3,387.0	3,393.7	0.00	0.00	0.00
11,400.0	90.00	89.98	7,327.0	-273.5	3,487.0	3,493.7	0.00	0.00	0.00
11,500.0	90.00	89.98	7,327.0	-273.4	3,587.0	3,593.6	0.00	0.00	0.00
11,600.0	90.00	89.98	7,327.0	-273.4	3,687.0	3,693.6	0.00	0.00	0.00
11,700.0	90.00	89.98	7,327.0	-273.4	3,787.0	3,793.5	0.00	0.00	0.00
11,800.0	90.00	89.98	7,327.0	-273.3	3,887.0	3,893.5	0.00	0.00	0.00
11,900.0	90.00	89.98	7,327.0	-273.3	3,987.0	3,993.4	0.00	0.00	0.00
12,000.0	90.00	89.98	7,327.0	-273.3	4,087.0	4,093.4	0.00	0.00	0.00
12,100.0	90.00	89.98	7,327.0	-273.2	4,187.0	4,193.3	0.00	0.00	0.00
12,200.0	90.00	89.98	7,327.0	-273.2	4,287.0	4,293.3	0.00	0.00	0.00
12,300.0	90.00	89.98	7,327.0	-273.1	4,387.0	4,393.2	0.00	0.00	0.00
12,400.0	90.00	89.98	7,327.0	-273.1	4,487.0	4,493.2	0.00	0.00	0.00
12,500.0	90.00	89.98	7,327.0	-273.1	4,587.0	4,593.2	0.00	0.00	0.00
12,600.0	90.00	89.98	7,327.0	-273.0	4,687.0	4,693.1	0.00	0.00	0.00
12,700.0	90.00	89.98	7,327.0	-273.0	4,787.0	4,793.1	0.00	0.00	0.00
12,800.0	90.00	89.98	7,327.0	-273.0	4,887.0	4,893.0	0.00	0.00	0.00
12,900.0	90.00	89.98	7,327.0	-272.9	4,987.0	4,993.0	0.00	0.00	0.00
13,000.0	90.00	89.98	7,327.0	-272.9	5,087.0	5,092.9	0.00	0.00	0.00
13,100.0	90.00	89.98	7,327.0	-272.9	5,187.0	5,192.9	0.00	0.00	0.00
13,200.0	90.00	89.98	7,327.0	-272.8	5,287.0	5,292.8	0.00	0.00	0.00
13,300.0	90.00	89.98	7,327.0	-272.8	5,387.0	5,392.8	0.00	0.00	0.00
13,400.0	90.00	89.98	7,327.0	-272.8	5,487.0	5,492.7	0.00	0.00	0.00
13,500.0	90.00	89.98	7,327.0	-272.7	5,587.0	5,592.7	0.00	0.00	0.00
13,600.0	90.00	89.98	7,327.0	-272.7	5,687.0	5,692.6	0.00	0.00	0.00
13,700.0	90.00	89.98	7,327.0	-272.7	5,787.0	5,792.6	0.00	0.00	0.00
13,800.0	90.00	89.98	7,327.0	-272.6	5,887.0	5,892.5	0.00	0.00	0.00
13,900.0	90.00	89.98	7,327.0	-272.6	5,987.0	5,992.5	0.00	0.00	0.00
14,000.0	90.00	89.98	7,327.0	-272.6	6,087.0	6,092.5	0.00	0.00	0.00
14,100.0	90.00	89.98	7,327.0	-272.5	6,187.0	6,192.4	0.00	0.00	0.00
14,200.0	90.00	89.98	7,327.0	-272.5	6,287.0	6,292.4	0.00	0.00	0.00
14,300.0	90.00	89.98	7,327.0	-272.5	6,387.0	6,392.3	0.00	0.00	0.00
14,400.0	90.00	89.98	7,327.0	-272.4	6,487.0	6,492.3	0.00	0.00	0.00
14,500.0	90.00	89.98	7,327.0	-272.4	6,587.0	6,592.2	0.00	0.00	0.00
14,600.0	90.00	89.98	7,327.0	-272.4	6,687.0	6,692.2	0.00	0.00	0.00
14,700.0	90.00	89.98	7,327.0	-272.3	6,787.0	6,792.1	0.00	0.00	0.00
14,800.0	90.00	89.98	7,327.0	-272.3	6,887.0	6,892.1	0.00	0.00	0.00
14,900.0	90.00	89.98	7,327.0	-272.3	6,987.0	6,992.0	0.00	0.00	0.00
15,000.0	90.00	89.98	7,327.0	-272.2	7,087.0	7,092.0	0.00	0.00	0.00
15,100.0	90.00	89.98	7,327.0	-272.2	7,187.0	7,191.9	0.00	0.00	0.00
15,200.0	90.00	89.98	7,327.0	-272.2	7,287.0	7,291.9	0.00	0.00	0.00
15,300.0	90.00	89.98	7,327.0	-272.1	7,387.0	7,391.8	0.00	0.00	0.00
15,400.0	90.00	89.98	7,327.0	-272.1	7,487.0	7,491.8	0.00	0.00	0.00
15,500.0	90.00	89.98	7,327.0	-272.1	7,587.0	7,591.8	0.00	0.00	0.00
15,600.0	90.00	89.98	7,327.0	-272.0	7,687.0	7,691.7	0.00	0.00	0.00
15,700.0	90.00	89.98	7,327.0	-272.0	7,787.0	7,791.7	0.00	0.00	0.00
15,800.0	90.00	89.98	7,327.0	-272.0	7,887.0	7,891.6	0.00	0.00	0.00
15,900.0	90.00	89.98	7,327.0	-271.9	7,987.0	7,991.6	0.00	0.00	0.00
16,000.0	90.00	89.98	7,327.0	-271.9	8,087.0	8,091.5	0.00	0.00	0.00
16,100.0	90.00	89.98	7,327.0	-271.9	8,187.0	8,191.5	0.00	0.00	0.00
16,200.0	90.00	89.98	7,327.0	-271.8	8,287.0	8,291.4	0.00	0.00	0.00

Planning Report

Database:	EDM Server Database	Local Co-ordinate Reference:	Well Hanging 8-67-28-27
Company:	Enerplus Resources (USA) Corporation	TVD Reference:	KB @ 5202.0usft
Project:	Weld County, CO	MD Reference:	KB @ 5202.0usft
Site:	SEC 28 T8N-R67W	North Reference:	True
Well:	Hanging 8-67-28-27	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)
16,300.0	90.00	89.98	7,327.0	-271.8	8,387.0	8,391.4	0.00	0.00	0.00
16,400.0	90.00	89.98	7,327.0	-271.8	8,487.0	8,491.3	0.00	0.00	0.00
16,500.0	90.00	89.98	7,327.0	-271.7	8,587.0	8,591.3	0.00	0.00	0.00
16,600.0	90.00	89.98	7,327.0	-271.7	8,687.0	8,691.2	0.00	0.00	0.00
16,700.0	90.00	89.98	7,327.0	-271.7	8,787.0	8,791.2	0.00	0.00	0.00
16,800.0	90.00	89.98	7,327.0	-271.6	8,887.0	8,891.2	0.00	0.00	0.00
16,900.0	90.00	89.98	7,327.0	-271.6	8,987.0	8,991.1	0.00	0.00	0.00
16,914.8	90.00	89.98	7,327.0	-271.6	9,001.8	9,005.9	0.00	0.00	0.00
5-1/2" Production - PBHL - Production									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Hanging 8-67-28-27 PBI - hit/miss target - Shape - Point	0.00	0.00	7,327.0	-271.6	9,001.8	1,471,914.25	3,174,361.24	40° 37' 37.582 N	104° 52' 18.628 W
Hanging 8-67-28-27 LP - plan hits target center - Point	0.00	0.00	7,327.0	-274.7	-188.5	1,471,849.41	3,165,171.16	40° 37' 37.567 N	104° 54' 17.820 W

Casing Points						
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")		
1,500.0	1,500.0	Surface	9-5/8	13-1/2		
16,914.8	7,327.0	Production	5-1/2	8-1/2		

Planning Report

Database:	EDM Server Database	Local Co-ordinate Reference:	Well Hanging 8-67-28-27
Company:	Enerplus Resources (USA) Corporation	TVD Reference:	KB @ 5202.0usft
Project:	Weld County, CO	MD Reference:	KB @ 5202.0usft
Site:	SEC 28 T8N-R67W	North Reference:	True
Well:	Hanging 8-67-28-27	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Plan 2		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,328.0	1,328.0	Pierre			
3,499.6	3,477.0	Richards			
4,169.8	4,136.0	Terry			
4,722.1	4,679.0	Hygeine			
5,490.9	5,435.0	Lower Pierre zero			
5,989.3	5,925.0	Lower Pierre 1			
6,627.4	6,557.0	Lower Pierre 2			
6,899.7	6,829.0	Lower Pierre 3			
7,044.8	6,969.0	Sharon Springs			
7,093.2	7,013.0	Nio A Chalk			
7,114.7	7,032.0	Nio A Marl			
7,156.8	7,068.0	Nio B upper			
7,212.4	7,113.0	Nio B chalk			
7,285.7	7,167.0	Nio B marl			
7,332.4	7,198.0	Nio C Chalk			
7,402.8	7,239.0	Nio C Marl			
7,455.5	7,265.0	Nio D chalk			
7,565.3	7,305.0	Fort Hays			
7,649.0	7,322.0	Codell			

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"	
1,684.2	1,684.2	0.0	0.0	Begin 1.5° Nudge	
2,384.2	2,380.3	-21.7	-60.2	Begin 10.5° Tangent	
6,124.5	6,058.0	-253.0	-701.3	Start Nudge Back to Vertical	
6,824.5	6,754.0	-274.7	-761.5	KOP - Start 10°/100' Build	
7,724.5	7,327.0	-274.7	-188.5	LP - 645' FSL & 650' FWL	
16,914.8	7,327.0	-271.6	9,001.8	5-1/2" Production - PBHL	