

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

5N-67W-04 SCHMERGE 9-4HZ PAD

SCHMERGE 4-14HZ

Plan B

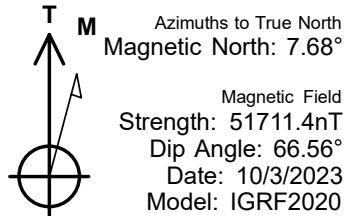
Plan: Permit Rev-1

Standard Planning Report

03 October, 2023

US ROCKIES WATTENBERG PLANNING

CASING DETAILS			
TVD	MD	Name	Size
2652.00	2700.60	9 5/8"	9-5/8
7168.00	14265.16	5.5" CSG	5-1/2

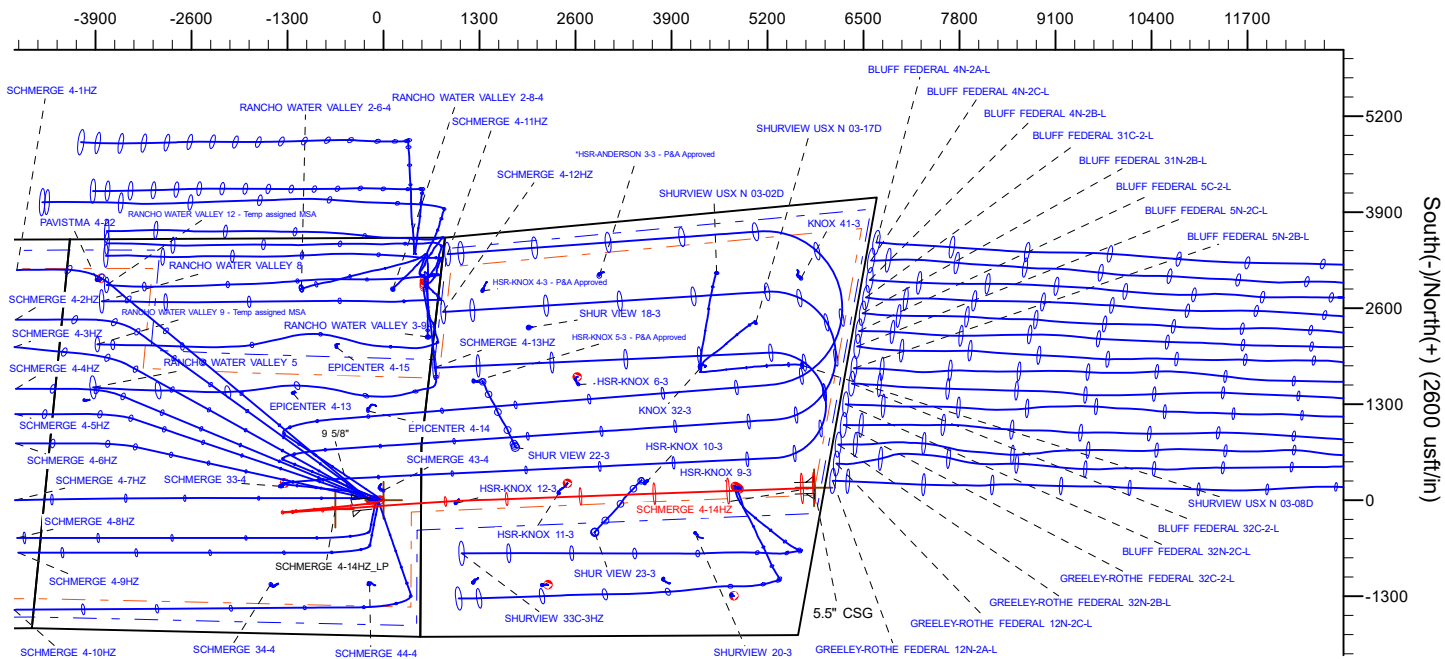


SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	505.00	0.00	0.00	505.00	0.00	0.00	0.00	0.00	0.00	
3	1461.67	14.35	254.63	1451.70	-31.59	-114.91	1.50	254.63	-116.21	
4	1600.67	14.35	254.63	1586.36	-40.72	-148.13	0.00	0.00	-149.80	
5	1760.76	14.35	264.33	1741.48	-47.94	-187.01	1.50	94.70	-188.96	
6	6467.54	14.35	264.33	6301.41	-163.19	-1347.85	0.00	0.00	-1353.78	
7	7774.84	90.24	86.00	7195.00	-121.26	-652.21	8.00	-178.27	-656.96	
8	9270.00	90.24	86.00	7188.74	-16.96	839.30	0.00	0.00	837.71	
9	9397.02	90.24	87.91	7188.21	-10.21	966.13	1.50	90.06	964.71	
10	14265.16	90.24	87.91	7168.00	167.73	5830.97	0.00	0.00	5832.66	SCHMERGE 4-14HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	Northing	Easting	Latitude	Longitude
SCHMERGE 4-14HZ_SHL	0.00	14682002.01	1671022.24	40.426329	-104.890027
SCHMERGE 4-14HZ_LP	7195.00	14681879.94	1670370.18	40.425996	-104.892371
SCHMERGE 4-14HZ_BHL	7168.00	14682177.00	1676853.00	40.426788	-104.869075

WELL DETAILS: SCHMERGE 4-14HZ
GL = 4895'
RKB = 17' @ 4912.00usft (RIG)
Plan: Permit Rev-1 (SCHMERGE 4-14HZ/Plan B)
Date: 10/03/2023

FORMATION TOP DETAILS		
TVDPPath	MDPath	Formation
760.00	760.19	Fox Hills
3544.00	3621.33	Parkman
4030.00	4122.98	Sussex
6835.00	7019.62	Sharon Springs
6872.00	7063.05	Niobrara
6996.00	7224.71	Nio B
7064.00	7331.74	Nio C
7167.00	7570.87	Fort Hayes
7188.00	7671.54	Codell



SHL
1838' FSL
509' FEL

LP
1702' FSL
1161' FEL

BHL
1993' FNL
140' FEL

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well SCHMERGE 4-14HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4912.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4912.00usft (RIG)
Site:	5N-67W-04 SCHMERGE 9-4HZ PAD	North Reference:	True
Well:	SCHMERGE 4-14HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
Design:	Permit Rev-1		

Project	WELD-NAD83-UTMFT13N		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 13N (108 W to 102 W)		

Site		5N-67W-04 SCHMERGE 9-4HZ PAD			
Site Position:		Northing:	14,682,077.76 usft	Latitude:	40.426538
From:	Map	Easting:	1,670,814.33 usft	Longitude:	-104.890774
Position Uncertainty:		0.00 usft	Slot Radius:	13-3/16 "	

Well		SCHMERGE 4-14HZ				
Well Position	+N/-S	0.00 usft	Northing:	14,682,002.01 usft	Latitude:	40.426329
	+E/-W	0.00 usft	Easting:	1,671,022.24 usft	Longitude:	-104.890028
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft	Ground Level:	4,895.00 usft
Grid Convergence:		0.07 °				

Wellbore	Plan B				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF202013	10/3/2023	7.68	66.56	51,711.38715158

Design	Permit Rev-1				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	87.45	

Plan Survey Tool Program	Date	10/3/2023			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	2,652.00	Permit Rev-1 (Plan B)	APC_ISCWSA REV 2 MWD+I	
				Fixed:v2:crustal field declinatio	
2	2,652.00	14,265.16	Permit Rev-1 (Plan B)	APC_ISCWSA REV 2 MWD+I	
				Fixed:v2:crustal field declinatio	

Planning Report

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Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4912.00usft (RIG)
Site:	5N-67W-04 SCHMERGE 9-4HZ PAD	North Reference:	True
Well:	SCHMERGE 4-14HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
Design:	Permit Rev-1		

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
505.00	0.00	0.00	505.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,461.67	14.35	254.63	1,451.70	-31.59	-114.91	1.50	1.50	0.00	254.63	
1,600.67	14.35	254.63	1,586.36	-40.72	-148.13	0.00	0.00	0.00	0.00	
1,760.76	14.35	264.33	1,741.48	-47.94	-187.01	1.50	0.00	6.06	94.70	
6,467.54	14.35	264.33	6,301.41	-163.19	-1,347.85	0.00	0.00	0.00	0.00	
7,774.84	90.24	86.00	7,195.00	-121.26	-652.21	8.00	5.81	-13.64	-178.27	
9,270.00	90.24	86.00	7,188.74	-16.96	839.30	0.00	0.00	0.00	0.00	
9,397.02	90.24	87.91	7,188.21	-10.21	966.13	1.50	0.00	1.50	90.06	
14,265.16	90.24	87.91	7,168.00	167.73	5,830.97	0.00	0.00	0.00	0.00	SCHMERGE 4-14HZ_

Planning Report

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Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4912.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4912.00usft (RIG)
Site:	5N-67W-04 SCHMERGE 9-4HZ PAD	North Reference:	True
Well:	SCHMERGE 4-14HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
Design:	Permit Rev-1		

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
505.00	0.00	0.00	505.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 505.00ft									
600.00	1.43	254.63	599.99	-0.31	-1.14	-1.15	1.50	1.50	0.00
700.00	2.93	254.63	699.92	-1.32	-4.80	-4.85	1.50	1.50	0.00
760.19	3.83	254.63	760.00	-2.26	-8.22	-8.31	1.50	1.50	0.00
Fox Hills									
800.00	4.43	254.63	799.71	-3.02	-10.98	-11.10	1.50	1.50	0.00
900.00	5.93	254.63	899.30	-5.41	-19.68	-19.90	1.50	1.50	0.00
1,000.00	7.43	254.63	998.62	-8.49	-30.88	-31.23	1.50	1.50	0.00
1,100.00	8.93	254.63	1,097.60	-12.26	-44.59	-45.10	1.50	1.50	0.00
1,200.00	10.43	254.63	1,196.17	-16.71	-60.80	-61.48	1.50	1.50	0.00
1,300.00	11.93	254.63	1,294.27	-21.85	-79.49	-80.38	1.50	1.50	0.00
1,400.00	13.43	254.63	1,391.83	-27.66	-100.64	-101.77	1.50	1.50	0.00
1,461.67	14.35	254.63	1,451.70	-31.59	-114.91	-116.21	1.50	1.50	0.00
Hold Tangent @ 1461.67ft									
1,500.00	14.35	254.63	1,488.83	-34.11	-124.07	-125.47	0.00	0.00	0.00
1,600.67	14.35	254.63	1,586.36	-40.72	-148.13	-149.80	0.00	0.00	0.00
Change Tangent Direction @ 1600.67ft									
1,700.00	14.30	260.65	1,682.61	-45.98	-172.11	-173.99	1.50	-0.05	6.06
1,760.76	14.35	264.33	1,741.48	-47.94	-187.01	-188.96	1.50	0.08	6.05
Hold Tangent @ 1760.76ft									
1,800.00	14.35	264.33	1,779.50	-48.90	-196.69	-198.67	0.00	0.00	0.00
1,900.00	14.35	264.33	1,876.38	-51.35	-221.35	-223.42	0.00	0.00	0.00
2,000.00	14.35	264.33	1,973.26	-53.80	-246.01	-248.16	0.00	0.00	0.00
2,100.00	14.35	264.33	2,070.14	-56.25	-270.68	-272.91	0.00	0.00	0.00
2,200.00	14.35	264.33	2,167.02	-58.69	-295.34	-297.66	0.00	0.00	0.00
2,300.00	14.35	264.33	2,263.90	-61.14	-320.00	-322.41	0.00	0.00	0.00
2,400.00	14.35	264.33	2,360.78	-63.59	-344.67	-347.15	0.00	0.00	0.00
2,500.00	14.35	264.33	2,457.66	-66.04	-369.33	-371.90	0.00	0.00	0.00
2,600.00	14.35	264.33	2,554.54	-68.49	-393.99	-396.65	0.00	0.00	0.00
2,700.00	14.35	264.33	2,651.42	-70.94	-418.66	-421.40	0.00	0.00	0.00
2,700.60	14.35	264.33	2,652.00	-70.95	-418.80	-421.55	0.00	0.00	0.00
9 5/8"									
2,800.00	14.35	264.33	2,748.30	-73.39	-443.32	-446.14	0.00	0.00	0.00
2,900.00	14.35	264.33	2,845.18	-75.83	-467.98	-470.89	0.00	0.00	0.00
3,000.00	14.35	264.33	2,942.06	-78.28	-492.65	-495.64	0.00	0.00	0.00
3,100.00	14.35	264.33	3,038.94	-80.73	-517.31	-520.39	0.00	0.00	0.00
3,200.00	14.35	264.33	3,135.82	-83.18	-541.97	-545.14	0.00	0.00	0.00
3,300.00	14.35	264.33	3,232.70	-85.63	-566.63	-569.88	0.00	0.00	0.00
3,400.00	14.35	264.33	3,329.58	-88.08	-591.30	-594.63	0.00	0.00	0.00
3,500.00	14.35	264.33	3,426.46	-90.53	-615.96	-619.38	0.00	0.00	0.00
3,600.00	14.35	264.33	3,523.34	-92.98	-640.62	-644.13	0.00	0.00	0.00
3,621.33	14.35	264.33	3,544.00	-93.50	-645.88	-649.41	0.00	0.00	0.00
Parkman									
3,700.00	14.35	264.33	3,620.22	-95.42	-665.29	-668.87	0.00	0.00	0.00
3,800.00	14.35	264.33	3,717.10	-97.87	-689.95	-693.62	0.00	0.00	0.00
3,900.00	14.35	264.33	3,813.98	-100.32	-714.61	-718.37	0.00	0.00	0.00
4,000.00	14.35	264.33	3,910.86	-102.77	-739.28	-743.12	0.00	0.00	0.00

Planning Report

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Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4912.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4912.00usft (RIG)
Site:	5N-67W-04 SCHMERGE 9-4HZ PAD	North Reference:	True
Well:	SCHMERGE 4-14HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
Design:	Permit Rev-1		

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)
4,100.00	14.35	264.33	4,007.74	-105.22	-763.94	-767.87	0.00	0.00	0.00
4,122.98	14.35	264.33	4,030.00	-105.78	-769.61	-773.55	0.00	0.00	0.00
Sussex									
4,200.00	14.35	264.33	4,104.62	-107.67	-788.60	-792.61	0.00	0.00	0.00
4,300.00	14.35	264.33	4,201.50	-110.12	-813.27	-817.36	0.00	0.00	0.00
4,400.00	14.35	264.33	4,298.38	-112.56	-837.93	-842.11	0.00	0.00	0.00
4,500.00	14.35	264.33	4,395.26	-115.01	-862.59	-866.86	0.00	0.00	0.00
4,600.00	14.35	264.33	4,492.14	-117.46	-887.26	-891.60	0.00	0.00	0.00
4,700.00	14.35	264.33	4,589.02	-119.91	-911.92	-916.35	0.00	0.00	0.00
4,800.00	14.35	264.33	4,685.90	-122.36	-936.58	-941.10	0.00	0.00	0.00
4,900.00	14.35	264.33	4,782.78	-124.81	-961.25	-965.85	0.00	0.00	0.00
5,000.00	14.35	264.33	4,879.66	-127.26	-985.91	-990.59	0.00	0.00	0.00
5,100.00	14.35	264.33	4,976.54	-129.71	-1,010.57	-1,015.34	0.00	0.00	0.00
5,200.00	14.35	264.33	5,073.42	-132.15	-1,035.24	-1,040.09	0.00	0.00	0.00
5,300.00	14.35	264.33	5,170.30	-134.60	-1,059.90	-1,064.84	0.00	0.00	0.00
5,400.00	14.35	264.33	5,267.18	-137.05	-1,084.56	-1,089.59	0.00	0.00	0.00
5,500.00	14.35	264.33	5,364.06	-139.50	-1,109.23	-1,114.33	0.00	0.00	0.00
5,600.00	14.35	264.33	5,460.94	-141.95	-1,133.89	-1,139.08	0.00	0.00	0.00
5,700.00	14.35	264.33	5,557.82	-144.40	-1,158.55	-1,163.83	0.00	0.00	0.00
5,800.00	14.35	264.33	5,654.70	-146.85	-1,183.21	-1,188.58	0.00	0.00	0.00
5,900.00	14.35	264.33	5,751.58	-149.29	-1,207.88	-1,213.32	0.00	0.00	0.00
6,000.00	14.35	264.33	5,848.46	-151.74	-1,232.54	-1,238.07	0.00	0.00	0.00
6,100.00	14.35	264.33	5,945.34	-154.19	-1,257.20	-1,262.82	0.00	0.00	0.00
6,200.00	14.35	264.33	6,042.22	-156.64	-1,281.87	-1,287.57	0.00	0.00	0.00
6,300.00	14.35	264.33	6,139.10	-159.09	-1,306.53	-1,312.32	0.00	0.00	0.00
6,400.00	14.35	264.33	6,235.98	-161.54	-1,331.19	-1,337.06	0.00	0.00	0.00
6,467.54	14.35	264.33	6,301.41	-163.19	-1,347.85	-1,353.78	0.00	0.00	0.00
KOP @ 6467.54ft :: DLS = 8°/100'									
6,500.00	11.75	263.95	6,333.03	-163.94	-1,355.14	-1,361.10	8.00	-8.00	-1.18
6,550.00	7.76	262.86	6,382.29	-164.90	-1,363.56	-1,369.55	8.00	-7.99	-2.17
6,600.00	3.77	259.50	6,432.03	-165.61	-1,368.53	-1,374.54	8.00	-7.97	-6.72
6,650.00	0.50	145.39	6,482.00	-166.09	-1,370.02	-1,376.06	8.00	-6.55	-228.23
6,700.00	4.27	91.73	6,531.95	-166.33	-1,368.04	-1,374.08	8.00	7.56	-107.31
6,750.00	8.26	88.95	6,581.64	-166.32	-1,362.58	-1,368.63	8.00	7.98	-5.57
6,800.00	12.26	87.97	6,630.83	-166.06	-1,353.68	-1,359.72	8.00	7.99	-1.95
6,850.00	16.26	87.47	6,679.28	-165.57	-1,341.37	-1,347.41	8.00	8.00	-1.00
6,900.00	20.26	87.16	6,726.75	-164.83	-1,325.73	-1,331.75	8.00	8.00	-0.62
6,950.00	24.26	86.95	6,773.02	-163.85	-1,306.82	-1,312.82	8.00	8.00	-0.42
7,000.00	28.26	86.80	6,817.85	-162.64	-1,284.74	-1,290.70	8.00	8.00	-0.31
7,019.62	29.83	86.75	6,835.00	-162.11	-1,275.23	-1,281.18	8.00	8.00	-0.25
Sharon Springs									
7,050.00	32.26	86.68	6,861.03	-161.21	-1,259.59	-1,265.52	8.00	8.00	-0.22
7,063.05	33.30	86.65	6,872.00	-160.80	-1,252.54	-1,258.45	8.00	8.00	-0.20
Niobrara									
7,100.00	36.26	86.58	6,902.35	-159.56	-1,231.50	-1,237.38	8.00	8.00	-0.18
7,150.00	40.25	86.51	6,941.60	-157.69	-1,200.61	-1,206.43	8.00	8.00	-0.16
7,200.00	44.25	86.44	6,978.60	-155.62	-1,167.06	-1,172.82	8.00	8.00	-0.13
7,224.71	46.23	86.41	6,996.00	-154.53	-1,149.54	-1,155.28	8.00	8.00	-0.12
Nio B									
7,250.00	48.25	86.38	7,013.17	-153.36	-1,131.01	-1,136.72	8.00	8.00	-0.11
7,300.00	52.25	86.33	7,045.13	-150.92	-1,092.65	-1,098.29	8.00	8.00	-0.10
7,331.74	54.79	86.30	7,064.00	-149.28	-1,067.18	-1,072.77	8.00	8.00	-0.09
Nio C									

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well SCHMERGE 4-14HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4912.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4912.00usft (RIG)
Site:	5N-67W-04 SCHMERGE 9-4HZ PAD	North Reference:	True
Well:	SCHMERGE 4-14HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
Design:	Permit Rev-1		

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)
7,350.00	56.25	86.29	7,074.33	-148.31	-1,052.16	-1,057.72	8.00	8.00	-0.09
7,400.00	60.25	86.25	7,100.64	-145.54	-1,009.74	-1,015.22	8.00	8.00	-0.08
7,450.00	64.25	86.21	7,123.91	-142.63	-965.60	-970.99	8.00	8.00	-0.08
7,500.00	68.25	86.17	7,144.04	-139.59	-919.94	-925.24	8.00	8.00	-0.07
7,550.00	72.25	86.14	7,160.93	-136.43	-873.00	-878.20	8.00	8.00	-0.07
7,570.87	73.92	86.13	7,167.00	-135.09	-853.08	-858.24	8.00	8.00	-0.07
Fort Hayes									
7,600.00	76.25	86.11	7,174.50	-133.18	-824.99	-830.10	8.00	8.00	-0.06
7,650.00	80.25	86.08	7,184.67	-129.84	-776.16	-781.17	8.00	8.00	-0.06
7,671.54	81.98	86.06	7,188.00	-128.38	-754.93	-759.89	8.00	8.00	-0.06
Codell									
7,700.00	84.25	86.04	7,191.41	-126.44	-726.75	-731.65	8.00	8.00	-0.06
7,750.00	88.25	86.01	7,194.68	-122.98	-676.98	-681.79	8.00	8.00	-0.06
7,774.84	90.24	86.00	7,195.00	-121.26	-652.21	-656.96	8.00	8.00	-0.06
End Build @ 7774.84ft									
7,800.00	90.24	86.00	7,194.90	-119.50	-627.11	-631.81	0.00	0.00	0.00
7,900.00	90.24	86.00	7,194.48	-112.52	-527.35	-531.84	0.00	0.00	0.00
8,000.00	90.24	86.00	7,194.06	-105.55	-427.60	-431.87	0.00	0.00	0.00
8,100.00	90.24	86.00	7,193.64	-98.57	-327.84	-331.90	0.00	0.00	0.00
8,200.00	90.24	86.00	7,193.22	-91.60	-228.09	-231.94	0.00	0.00	0.00
8,300.00	90.24	86.00	7,192.80	-84.62	-128.33	-131.97	0.00	0.00	0.00
8,400.00	90.24	86.00	7,192.39	-77.65	-28.58	-32.00	0.00	0.00	0.00
8,500.00	90.24	86.00	7,191.97	-70.67	71.18	67.96	0.00	0.00	0.00
8,600.00	90.24	86.00	7,191.55	-63.70	170.93	167.93	0.00	0.00	0.00
8,700.00	90.24	86.00	7,191.13	-56.72	270.69	267.90	0.00	0.00	0.00
8,800.00	90.24	86.00	7,190.71	-49.74	370.45	367.87	0.00	0.00	0.00
8,900.00	90.24	86.00	7,190.29	-42.77	470.20	467.83	0.00	0.00	0.00
9,000.00	90.24	86.00	7,189.87	-35.79	569.96	567.80	0.00	0.00	0.00
9,100.00	90.24	86.00	7,189.45	-28.82	669.71	667.77	0.00	0.00	0.00
9,200.00	90.24	86.00	7,189.03	-21.84	769.47	767.73	0.00	0.00	0.00
9,270.00	90.24	86.00	7,188.74	-16.96	839.30	837.71	0.00	0.00	0.00
Begin Turn to BHL @ 9270.00ft									
9,300.00	90.24	86.45	7,188.62	-14.98	869.23	867.70	1.50	0.00	1.50
9,397.02	90.24	87.91	7,188.21	-10.21	966.13	964.71	1.50	0.00	1.50
End Turn @ 9397.02ft									
9,400.00	90.24	87.91	7,188.20	-10.10	969.11	967.70	0.00	0.00	0.00
9,500.00	90.24	87.91	7,187.78	-6.44	1,069.04	1,067.69	0.00	0.00	0.00
9,600.00	90.24	87.91	7,187.37	-2.79	1,168.97	1,167.69	0.00	0.00	0.00
9,700.00	90.24	87.91	7,186.95	0.87	1,268.90	1,267.69	0.00	0.00	0.00
9,800.00	90.24	87.91	7,186.54	4.52	1,368.84	1,367.68	0.00	0.00	0.00
9,900.00	90.24	87.91	7,186.12	8.18	1,468.77	1,467.68	0.00	0.00	0.00
10,000.00	90.24	87.91	7,185.71	11.83	1,568.70	1,567.67	0.00	0.00	0.00
10,100.00	90.24	87.91	7,185.29	15.49	1,668.63	1,667.67	0.00	0.00	0.00
10,200.00	90.24	87.91	7,184.88	19.14	1,768.57	1,767.67	0.00	0.00	0.00
10,300.00	90.24	87.91	7,184.46	22.80	1,868.50	1,867.66	0.00	0.00	0.00
10,400.00	90.24	87.91	7,184.05	26.45	1,968.43	1,967.66	0.00	0.00	0.00
10,500.00	90.24	87.91	7,183.63	30.11	2,068.36	2,067.65	0.00	0.00	0.00
10,600.00	90.24	87.91	7,183.22	33.76	2,168.30	2,167.65	0.00	0.00	0.00
10,700.00	90.24	87.91	7,182.80	37.42	2,268.23	2,267.65	0.00	0.00	0.00
10,800.00	90.24	87.91	7,182.39	41.07	2,368.16	2,367.64	0.00	0.00	0.00
10,900.00	90.24	87.91	7,181.97	44.73	2,468.09	2,467.64	0.00	0.00	0.00
11,000.00	90.24	87.91	7,181.56	48.38	2,568.02	2,567.63	0.00	0.00	0.00
11,100.00	90.24	87.91	7,181.14	52.04	2,667.96	2,667.63	0.00	0.00	0.00

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Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4912.00usft (RIG)
Site:	5N-67W-04 SCHMERGE 9-4HZ PAD	North Reference:	True
Well:	SCHMERGE 4-14HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
Design:	Permit Rev-1		

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)
11,200.00	90.24	87.91	7,180.73	55.70	2,767.89	2,767.63	0.00	0.00	0.00
11,300.00	90.24	87.91	7,180.31	59.35	2,867.82	2,867.62	0.00	0.00	0.00
11,400.00	90.24	87.91	7,179.90	63.01	2,967.75	2,967.62	0.00	0.00	0.00
11,500.00	90.24	87.91	7,179.48	66.66	3,067.69	3,067.61	0.00	0.00	0.00
11,600.00	90.24	87.91	7,179.07	70.32	3,167.62	3,167.61	0.00	0.00	0.00
11,700.00	90.24	87.91	7,178.65	73.97	3,267.55	3,267.61	0.00	0.00	0.00
11,800.00	90.24	87.91	7,178.24	77.63	3,367.48	3,367.60	0.00	0.00	0.00
11,900.00	90.24	87.91	7,177.82	81.28	3,467.42	3,467.60	0.00	0.00	0.00
12,000.00	90.24	87.91	7,177.40	84.94	3,567.35	3,567.59	0.00	0.00	0.00
12,100.00	90.24	87.91	7,176.99	88.59	3,667.28	3,667.59	0.00	0.00	0.00
12,200.00	90.24	87.91	7,176.57	92.25	3,767.21	3,767.59	0.00	0.00	0.00
12,300.00	90.24	87.91	7,176.16	95.90	3,867.14	3,867.58	0.00	0.00	0.00
12,400.00	90.24	87.91	7,175.74	99.56	3,967.08	3,967.58	0.00	0.00	0.00
12,500.00	90.24	87.91	7,175.33	103.21	4,067.01	4,067.57	0.00	0.00	0.00
12,600.00	90.24	87.91	7,174.91	106.87	4,166.94	4,167.57	0.00	0.00	0.00
12,700.00	90.24	87.91	7,174.50	110.52	4,266.87	4,267.57	0.00	0.00	0.00
12,800.00	90.24	87.91	7,174.08	114.18	4,366.81	4,367.56	0.00	0.00	0.00
12,900.00	90.24	87.91	7,173.67	117.83	4,466.74	4,467.56	0.00	0.00	0.00
13,000.00	90.24	87.91	7,173.25	121.49	4,566.67	4,567.55	0.00	0.00	0.00
13,100.00	90.24	87.91	7,172.84	125.14	4,666.60	4,667.55	0.00	0.00	0.00
13,200.00	90.24	87.91	7,172.42	128.80	4,766.54	4,767.55	0.00	0.00	0.00
13,300.00	90.24	87.91	7,172.01	132.45	4,866.47	4,867.54	0.00	0.00	0.00
13,400.00	90.24	87.91	7,171.59	136.11	4,966.40	4,967.54	0.00	0.00	0.00
13,500.00	90.24	87.91	7,171.18	139.76	5,066.33	5,067.53	0.00	0.00	0.00
13,600.00	90.24	87.91	7,170.76	143.42	5,166.27	5,167.53	0.00	0.00	0.00
13,700.00	90.24	87.91	7,170.35	147.07	5,266.20	5,267.53	0.00	0.00	0.00
13,800.00	90.24	87.91	7,169.93	150.73	5,366.13	5,367.52	0.00	0.00	0.00
13,900.00	90.24	87.91	7,169.52	154.38	5,466.06	5,467.52	0.00	0.00	0.00
14,000.00	90.24	87.91	7,169.10	158.04	5,565.99	5,567.51	0.00	0.00	0.00
14,100.00	90.24	87.91	7,168.69	161.70	5,665.93	5,667.51	0.00	0.00	0.00
14,200.00	90.24	87.91	7,168.27	165.35	5,765.86	5,767.51	0.00	0.00	0.00
14,265.16	90.24	87.91	7,168.00	167.73	5,830.97	5,832.66	0.00	0.00	0.00
TD Well @ 14265.16ft - 5.5" CSG									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
2,700.60	2,652.00	9 5/8"		9-5/8	13-1/2
14,265.16	7,168.00	5.5" CSG		5-1/2	7-7/8

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Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4912.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4912.00usft (RIG)
Site:	5N-67W-04 SCHMERGE 9-4HZ PAD	North Reference:	True
Well:	SCHMERGE 4-14HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
Design:	Permit Rev-1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
760.19	760.00	Fox Hills				
3,621.33	3,544.00	Parkman				
4,122.98	4,030.00	Sussex				
7,019.62	6,835.00	Sharon Springs				
7,063.05	6,872.00	Niobrara				
7,224.71	6,996.00	Nio B				
7,331.74	7,064.00	Nio C				
7,570.87	7,167.00	Fort Hayes				
7,671.54	7,188.00	Codell				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
505.00	505.00	0.00	0.00	Begin Nudge @ 505.00ft	
1,461.67	1,451.70	-31.59	-114.91	Hold Tangent @ 1461.67ft	
1,600.67	1,586.36	-40.72	-148.13	Change Tangent Direction @ 1600.67ft	
1,760.76	1,741.48	-47.94	-187.01	Hold Tangent @ 1760.76ft	
6,467.54	6,301.41	-163.19	-1,347.85	KOP @ 6467.54ft :: DLS = 8"/100'	
7,774.84	7,195.00	-121.26	-652.21	End Build @ 7774.84ft	
9,270.00	7,188.74	-16.96	839.30	Begin Turn to BHL @ 9270.00ft	
9,397.02	7,188.21	-10.21	966.13	End Turn @ 9397.02ft	
14,265.16	7,168.00	167.73	5,830.97	TD Well @ 14265.16ft	