

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
2N-63W-17 ACACIA 13-17HZ PAD
ACACIA 17-9HZ**

Plan B

Plan: Permit Rev-1

Standard Planning Report

25 September, 2024

Project: WELD-NAD83-UTMFT13N
 Site: 2N-63W-17 ACACIA 13-17HZ PAD
 Well: ACACIA 17-9HZ
 Wellbore: Plan B
 Design: Permit Rev-1

US ROCKIES WATTENBERG PLANNING

CASING DETAILS

TVD	MD	Name	Size
1817.00	1869.63	8.625" CSG	8-5/8
6614.85	19240.07	5.5" CSG	5-1/2

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Target
2	200.30	0.00	0.00	200.30	0.00	0.00	0.00	0.00	0.00	
3	1866.97	25.00	187.25	1814.58	-355.02	-45.16	1.50	187.25	-355.75	
4	1975.00	25.00	187.25	1912.49	-400.31	-50.93	0.00	0.00	-401.14	
5	3665.00	50.35	187.25	3239.23	-1416.61	-180.22	1.50	0.00	-1419.54	
6	7026.97	50.35	187.25	5384.49	-3984.49	-506.89	0.00	0.00	-3992.73	
7	8777.80	90.13	1.00	6638.00	-3519.17	-664.05	8.00	170.23	-3530.23	
8	19240.07	90.13	1.00	6614.85	6941.48	-481.54	0.00	0.00	6932.02	ACACIA 17-9HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

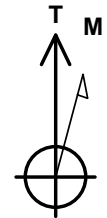
Name	TVD	Northing	Easting	Latitude	Longitude
ACACIA 17-9HZ_SHL	0.00	14575883.52	1789267.02	40.133749	-104.467449
ACACIA 17-9HZ_LP	6638.00	14572360.43	1788624.07	40.124086	-104.469825
ACACIA 17-9HZ_BPZ	6615.00	14582771.01	1788743.31	40.152671	-104.469176
ACACIA 17-9HZ_BHL	6614.85	14582821.99	1788743.90	40.152811	-104.469172

WELL DETAILS: ACACIA 17-9HZ

GL = 4860'
 RKB = 17' @ 4877.00usft (RIG)

Plan: Permit Rev-1 (ACACIA 17-9HZ/Plan B)

Date: 9/26/2024

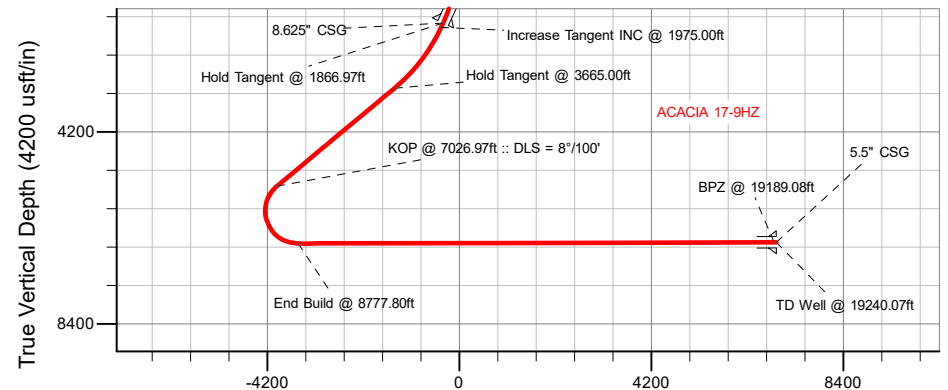
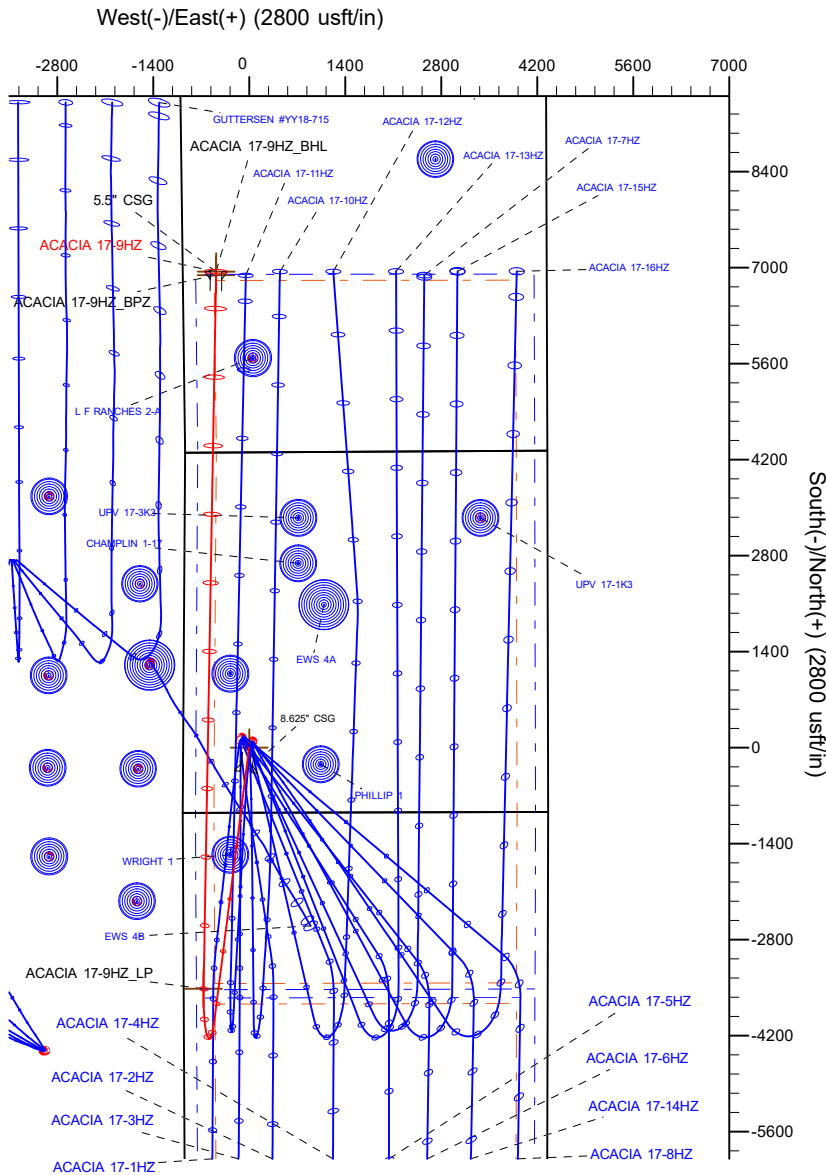

 Azimuths to True North
 Magnetic North: 7.33°
 Magnetic Field
 Strength: 51500.3nT
 Dip Angle: 66.35°
 Date: 9/19/2024
 Model: IGRF2020

SHL
 951' FSL
 962' FWL

LP
 2566' FNL
 289' FWL

BPZ
 2588' FSL
 484' FWL

BHL
 2638' FSL
 486' FWL



Vertical Section at 1.00° (4200 usft/in)

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well ACACIA 17-9HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4877.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4877.00usft (RIG)
Site:	2N-63W-17 ACACIA 13-17HZ PAD	North Reference:	True
Well:	ACACIA 17-9HZ	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 2N-63W-17 ACACIA 13-17HZ PAD			
Site Position:		Northing:	14,575,962.17 usft
From:	Map	Easting:	1,789,127.74 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	40.133968
		Longitude:	-104.467946

Well ACACIA 17-9HZ			
Well Position	+N/-S	0.00 usft	Northing: 14,575,883.52 usft
	+E/-W	0.00 usft	Easting: 1,789,267.02 usft
Position Uncertainty		3.35 usft	Wellhead Elevation: usft
Grid Convergence:		0.34 °	Ground Level: 4,860.00 usft
			Latitude: 40.133750
			Longitude: -104.467449

Wellbore Plan B					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF202013	9/19/2024	7.33	66.35	51,500.27203100

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	1.00

Plan Survey Tool Program		Date 9/25/2024		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	1,817.00 Permit Rev-1 (Plan B)	A005Mb_MWD+IFR1 OWSG MWD + IFR1	
2	1,817.00	19,240.07 Permit Rev-1 (Plan B)	A005Mb_MWD+IFR1 OWSG MWD + IFR1	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well ACACIA 17-9HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4877.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4877.00usft (RIG)
Site:	2N-63W-17 ACACIA 13-17HZ PAD	North Reference:	True
Well:	ACACIA 17-9HZ	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	
200.30	0.00	0.00	200.30	0.00	0.00	0.00	0.00	0.00	0.00	
1,866.97	25.00	187.25	1,814.58	-355.02	-45.16	1.50	1.50	0.00	187.25	
1,975.00	25.00	187.25	1,912.49	-400.31	-50.93	0.00	0.00	0.00	0.00	
3,665.00	50.35	187.25	3,239.23	-1,416.61	-180.22	1.50	1.50	0.00	0.00	
7,026.97	50.35	187.25	5,384.49	-3,984.49	-506.89	0.00	0.00	0.00	0.00	
8,777.80	90.13	1.00	6,638.00	-3,519.17	-664.05	8.00	2.27	9.92	170.23	
19,240.07	90.13	1.00	6,614.85	6,941.48	-481.54	0.00	0.00	0.00	0.00	ACACIA 17-9HZ_BHL

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well ACACIA 17-9HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4877.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4877.00usft (RIG)
Site:	2N-63W-17 ACACIA 13-17HZ PAD	North Reference:	True
Well:	ACACIA 17-9HZ	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	
200.30	0.00	0.00	200.30	0.00	0.00	0.00	0.00	0.00	0.00	
Begin Nudge @ 200.30ft										
300.00	1.50	187.25	299.99	-1.29	-0.16	-1.29	1.50	1.50	0.00	
400.00	3.00	187.25	399.91	-5.18	-0.66	-5.19	1.50	1.50	0.00	
500.00	4.50	187.25	499.69	-11.66	-1.48	-11.68	1.50	1.50	0.00	
600.00	6.00	187.25	599.27	-20.73	-2.64	-20.77	1.50	1.50	0.00	
700.00	7.50	187.25	698.58	-32.38	-4.12	-32.45	1.50	1.50	0.00	
800.00	9.00	187.25	797.54	-46.60	-5.93	-46.70	1.50	1.50	0.00	
900.00	10.50	187.25	896.09	-63.40	-8.06	-63.53	1.50	1.50	0.00	
1,000.00	12.00	187.25	994.17	-82.74	-10.53	-82.91	1.50	1.50	0.00	
1,100.00	13.50	187.25	1,091.70	-104.63	-13.31	-104.84	1.50	1.50	0.00	
1,200.00	15.00	187.25	1,188.63	-129.04	-16.42	-129.30	1.50	1.50	0.00	
1,300.00	16.50	187.25	1,284.87	-155.95	-19.84	-156.28	1.50	1.50	0.00	
1,400.00	18.00	187.25	1,380.37	-185.36	-23.58	-185.75	1.50	1.50	0.00	
1,500.00	19.50	187.25	1,475.07	-217.24	-27.64	-217.69	1.50	1.50	0.00	
1,600.00	21.00	187.25	1,568.88	-251.57	-32.00	-252.09	1.50	1.50	0.00	
1,700.00	22.50	187.25	1,661.77	-288.32	-36.68	-288.92	1.50	1.50	0.00	
1,800.00	24.00	187.25	1,753.65	-327.47	-41.66	-328.15	1.50	1.50	0.00	
1,866.97	25.00	187.25	1,814.58	-355.02	-45.16	-355.75	1.50	1.50	0.00	
Hold Tangent @ 1866.97ft										
1,869.63	25.00	187.25	1,817.00	-356.13	-45.31	-356.87	0.00	0.00	0.00	
8.625" CSG										
1,900.00	25.00	187.25	1,844.52	-368.87	-46.93	-369.63	0.00	0.00	0.00	
1,975.00	25.00	187.25	1,912.49	-400.31	-50.93	-401.14	0.00	0.00	0.00	
Increase Tangent INC @ 1975.00ft										
2,000.00	25.38	187.25	1,935.12	-410.86	-52.27	-411.71	1.50	1.50	0.00	
2,100.00	26.88	187.25	2,024.90	-454.54	-57.83	-455.48	1.50	1.50	0.00	
2,200.00	28.38	187.25	2,113.50	-500.54	-63.68	-501.57	1.50	1.50	0.00	
2,300.00	29.88	187.25	2,200.85	-548.82	-69.82	-549.96	1.50	1.50	0.00	
2,400.00	31.38	187.25	2,286.90	-599.35	-76.25	-600.59	1.50	1.50	0.00	
2,500.00	32.88	187.25	2,371.59	-652.10	-82.96	-653.45	1.50	1.50	0.00	
2,600.00	34.38	187.25	2,454.85	-707.03	-89.95	-708.50	1.50	1.50	0.00	
2,700.00	35.88	187.25	2,536.64	-764.11	-97.21	-765.69	1.50	1.50	0.00	
2,800.00	37.38	187.25	2,616.89	-823.29	-104.74	-824.99	1.50	1.50	0.00	
2,900.00	38.88	187.25	2,695.56	-884.53	-112.53	-886.36	1.50	1.50	0.00	
3,000.00	40.38	187.25	2,772.58	-947.79	-120.57	-949.75	1.50	1.50	0.00	
3,100.00	41.88	187.25	2,847.90	-1,013.04	-128.87	-1,015.13	1.50	1.50	0.00	
3,200.00	43.38	187.25	2,921.48	-1,080.21	-137.42	-1,082.45	1.50	1.50	0.00	
3,300.00	44.88	187.25	2,993.26	-1,149.28	-146.21	-1,151.65	1.50	1.50	0.00	
3,400.00	46.38	187.25	3,063.19	-1,220.18	-155.23	-1,222.71	1.50	1.50	0.00	
3,500.00	47.88	187.25	3,131.23	-1,292.88	-164.47	-1,295.55	1.50	1.50	0.00	
3,600.00	49.38	187.25	3,197.33	-1,367.32	-173.94	-1,370.14	1.50	1.50	0.00	
3,665.00	50.35	187.25	3,239.23	-1,416.61	-180.22	-1,419.54	1.50	1.50	0.00	
Hold Tangent @ 3665.00ft										
3,700.00	50.35	187.25	3,261.56	-1,443.34	-183.62	-1,446.33	0.00	0.00	0.00	
3,800.00	50.35	187.25	3,325.37	-1,519.72	-193.33	-1,522.87	0.00	0.00	0.00	
3,900.00	50.35	187.25	3,389.18	-1,596.10	-203.05	-1,599.40	0.00	0.00	0.00	
4,000.00	50.35	187.25	3,452.99	-1,672.48	-212.77	-1,675.94	0.00	0.00	0.00	
4,100.00	50.35	187.25	3,516.80	-1,748.86	-222.48	-1,752.48	0.00	0.00	0.00	
4,200.00	50.35	187.25	3,580.61	-1,825.24	-232.20	-1,829.02	0.00	0.00	0.00	
4,300.00	50.35	187.25	3,644.42	-1,901.62	-241.92	-1,905.56	0.00	0.00	0.00	
4,400.00	50.35	187.25	3,708.23	-1,978.00	-251.63	-1,982.09	0.00	0.00	0.00	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well ACACIA 17-9HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4877.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4877.00usft (RIG)
Site:	2N-63W-17 ACACIA 13-17HZ PAD	North Reference:	True
Well:	ACACIA 17-9HZ	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)
4,500.00	50.35	187.25	3,772.04	-2,054.38	-261.35	-2,058.63	0.00	0.00	0.00
4,600.00	50.35	187.25	3,835.85	-2,130.76	-271.07	-2,135.17	0.00	0.00	0.00
4,700.00	50.35	187.25	3,899.66	-2,207.14	-280.78	-2,211.71	0.00	0.00	0.00
4,800.00	50.35	187.25	3,963.47	-2,283.52	-290.50	-2,288.25	0.00	0.00	0.00
4,900.00	50.35	187.25	4,027.28	-2,359.90	-300.22	-2,364.78	0.00	0.00	0.00
5,000.00	50.35	187.25	4,091.09	-2,436.28	-309.93	-2,441.32	0.00	0.00	0.00
5,100.00	50.35	187.25	4,154.90	-2,512.66	-319.65	-2,517.86	0.00	0.00	0.00
5,200.00	50.35	187.25	4,218.71	-2,589.04	-329.37	-2,594.40	0.00	0.00	0.00
5,300.00	50.35	187.25	4,282.52	-2,665.43	-339.08	-2,670.94	0.00	0.00	0.00
5,400.00	50.35	187.25	4,346.33	-2,741.81	-348.80	-2,747.47	0.00	0.00	0.00
5,500.00	50.35	187.25	4,410.14	-2,818.19	-358.52	-2,824.01	0.00	0.00	0.00
5,600.00	50.35	187.25	4,473.95	-2,894.57	-368.24	-2,900.55	0.00	0.00	0.00
5,700.00	50.35	187.25	4,537.76	-2,970.95	-377.95	-2,977.09	0.00	0.00	0.00
5,800.00	50.35	187.25	4,601.56	-3,047.33	-387.67	-3,053.63	0.00	0.00	0.00
5,900.00	50.35	187.25	4,665.37	-3,123.71	-397.39	-3,130.17	0.00	0.00	0.00
6,000.00	50.35	187.25	4,729.18	-3,200.09	-407.10	-3,206.70	0.00	0.00	0.00
6,100.00	50.35	187.25	4,792.99	-3,276.47	-416.82	-3,283.24	0.00	0.00	0.00
6,200.00	50.35	187.25	4,856.80	-3,352.85	-426.54	-3,359.78	0.00	0.00	0.00
6,300.00	50.35	187.25	4,920.61	-3,429.23	-436.25	-3,436.32	0.00	0.00	0.00
6,400.00	50.35	187.25	4,984.42	-3,505.61	-445.97	-3,512.86	0.00	0.00	0.00
6,500.00	50.35	187.25	5,048.23	-3,581.99	-455.69	-3,589.39	0.00	0.00	0.00
6,600.00	50.35	187.25	5,112.04	-3,658.37	-465.40	-3,665.93	0.00	0.00	0.00
6,700.00	50.35	187.25	5,175.85	-3,734.75	-475.12	-3,742.47	0.00	0.00	0.00
6,800.00	50.35	187.25	5,239.66	-3,811.13	-484.84	-3,819.01	0.00	0.00	0.00
6,900.00	50.35	187.25	5,303.47	-3,887.51	-494.55	-3,895.55	0.00	0.00	0.00
7,000.00	50.35	187.25	5,367.28	-3,963.89	-504.27	-3,972.08	0.00	0.00	0.00
7,026.97	50.35	187.25	5,384.49	-3,984.49	-506.89	-3,992.73	0.00	0.00	0.00
KOP @ 7026.97ft :: DLS = 8°/100'									
7,050.00	48.54	187.67	5,399.46	-4,001.83	-509.16	-4,010.11	8.00	-7.88	1.81
7,100.00	44.60	188.66	5,433.83	-4,037.77	-514.31	-4,046.13	8.00	-7.87	1.98
7,150.00	40.68	189.80	5,470.61	-4,071.19	-519.72	-4,079.64	8.00	-7.85	2.28
7,200.00	36.76	191.14	5,509.61	-4,101.94	-525.39	-4,110.49	8.00	-7.82	2.68
7,250.00	32.87	192.74	5,550.65	-4,129.87	-531.28	-4,138.51	8.00	-7.79	3.21
7,300.00	29.00	194.73	5,593.53	-4,154.84	-537.35	-4,163.58	8.00	-7.74	3.97
7,350.00	25.17	197.26	5,638.04	-4,176.72	-543.59	-4,185.57	8.00	-7.66	5.06
7,400.00	21.40	200.63	5,683.96	-4,195.42	-549.96	-4,204.38	8.00	-7.55	6.73
7,450.00	17.72	205.33	5,731.07	-4,210.84	-556.43	-4,219.91	8.00	-7.36	9.41
7,500.00	14.21	212.34	5,779.14	-4,222.90	-562.97	-4,232.09	8.00	-7.02	14.01
7,550.00	11.02	223.54	5,827.94	-4,231.56	-569.55	-4,240.85	8.00	-6.37	22.39
7,600.00	8.54	242.24	5,877.22	-4,236.75	-576.13	-4,246.16	8.00	-4.96	37.42
7,650.00	7.50	270.25	5,926.75	-4,238.47	-582.69	-4,247.99	8.00	-2.08	56.00
7,700.00	8.45	298.57	5,976.28	-4,236.70	-589.18	-4,246.33	8.00	1.90	56.65
7,750.00	10.88	317.73	6,025.58	-4,231.44	-595.59	-4,241.19	8.00	4.86	38.32
7,800.00	14.04	329.20	6,074.40	-4,222.74	-601.87	-4,232.60	8.00	6.32	22.94
7,850.00	17.54	336.36	6,122.51	-4,210.62	-608.00	-4,220.59	8.00	7.00	14.31
7,900.00	21.22	341.15	6,169.68	-4,195.15	-613.95	-4,205.22	8.00	7.35	9.58
7,950.00	24.99	344.57	6,215.66	-4,176.40	-619.68	-4,186.58	8.00	7.54	6.83
8,000.00	28.82	347.13	6,260.24	-4,154.46	-625.18	-4,164.74	8.00	7.66	5.13
8,050.00	32.68	349.14	6,303.21	-4,129.44	-630.41	-4,139.82	8.00	7.73	4.01
8,100.00	36.58	350.76	6,344.34	-4,101.47	-635.35	-4,111.94	8.00	7.79	3.24
8,150.00	40.49	352.11	6,383.45	-4,070.68	-639.97	-4,081.23	8.00	7.82	2.70
8,200.00	44.41	353.26	6,420.33	-4,037.21	-644.26	-4,047.84	8.00	7.85	2.30
8,250.00	48.35	354.25	6,454.82	-4,001.24	-648.19	-4,011.94	8.00	7.87	2.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well ACACIA 17-9HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4877.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4877.00usft (RIG)
Site:	2N-63W-17 ACACIA 13-17HZ PAD	North Reference:	True
Well:	ACACIA 17-9HZ	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)
8,300.00	52.29	355.14	6,486.74	-3,962.93	-651.73	-3,973.70	8.00	7.88	1.77
8,350.00	56.24	355.93	6,515.94	-3,922.48	-654.89	-3,933.31	8.00	7.90	1.59
8,400.00	60.19	356.65	6,542.28	-3,880.07	-657.63	-3,890.96	8.00	7.90	1.45
8,450.00	64.14	357.32	6,565.62	-3,835.93	-659.95	-3,846.86	8.00	7.91	1.34
8,500.00	68.10	357.95	6,585.85	-3,790.26	-661.83	-3,801.23	8.00	7.92	1.25
8,550.00	72.06	358.54	6,602.88	-3,743.28	-663.27	-3,754.28	8.00	7.92	1.18
8,600.00	76.03	359.10	6,616.62	-3,695.22	-664.25	-3,706.25	8.00	7.93	1.13
8,650.00	79.99	359.65	6,627.01	-3,646.33	-664.78	-3,657.37	8.00	7.93	1.09
8,700.00	83.96	0.18	6,633.99	-3,596.83	-664.85	-3,607.88	8.00	7.93	1.07
8,750.00	87.92	0.71	6,637.53	-3,546.97	-664.46	-3,558.02	8.00	7.93	1.05
8,777.80	90.13	1.00	6,638.00	-3,519.17	-664.05	-3,530.23	8.00	7.93	1.05
End Build @ 8777.80ft									
8,800.00	90.13	1.00	6,637.95	-3,496.98	-663.66	-3,508.03	0.00	0.00	0.00
8,900.00	90.13	1.00	6,637.73	-3,396.99	-661.92	-3,408.03	0.00	0.00	0.00
9,000.00	90.13	1.00	6,637.51	-3,297.01	-660.17	-3,308.03	0.00	0.00	0.00
9,100.00	90.13	1.00	6,637.29	-3,197.02	-658.43	-3,208.03	0.00	0.00	0.00
9,200.00	90.13	1.00	6,637.07	-3,097.04	-656.68	-3,108.03	0.00	0.00	0.00
9,300.00	90.13	1.00	6,636.85	-2,997.05	-654.94	-3,008.03	0.00	0.00	0.00
9,400.00	90.13	1.00	6,636.63	-2,897.07	-653.19	-2,908.03	0.00	0.00	0.00
9,500.00	90.13	1.00	6,636.40	-2,797.09	-651.45	-2,808.03	0.00	0.00	0.00
9,600.00	90.13	1.00	6,636.18	-2,697.10	-649.71	-2,708.03	0.00	0.00	0.00
9,700.00	90.13	1.00	6,635.96	-2,597.12	-647.96	-2,608.03	0.00	0.00	0.00
9,800.00	90.13	1.00	6,635.74	-2,497.13	-646.22	-2,508.03	0.00	0.00	0.00
9,900.00	90.13	1.00	6,635.52	-2,397.15	-644.47	-2,408.03	0.00	0.00	0.00
10,000.00	90.13	1.00	6,635.30	-2,297.16	-642.73	-2,308.03	0.00	0.00	0.00
10,100.00	90.13	1.00	6,635.08	-2,197.18	-640.98	-2,208.03	0.00	0.00	0.00
10,200.00	90.13	1.00	6,634.86	-2,097.19	-639.24	-2,108.03	0.00	0.00	0.00
10,300.00	90.13	1.00	6,634.63	-1,997.21	-637.49	-2,008.03	0.00	0.00	0.00
10,400.00	90.13	1.00	6,634.41	-1,897.23	-635.75	-1,908.03	0.00	0.00	0.00
10,500.00	90.13	1.00	6,634.19	-1,797.24	-634.01	-1,808.03	0.00	0.00	0.00
10,600.00	90.13	1.00	6,633.97	-1,697.26	-632.26	-1,708.03	0.00	0.00	0.00
10,700.00	90.13	1.00	6,633.75	-1,597.27	-630.52	-1,608.03	0.00	0.00	0.00
10,800.00	90.13	1.00	6,633.53	-1,497.29	-628.77	-1,508.03	0.00	0.00	0.00
10,900.00	90.13	1.00	6,633.31	-1,397.30	-627.03	-1,408.03	0.00	0.00	0.00
11,000.00	90.13	1.00	6,633.08	-1,297.32	-625.28	-1,308.03	0.00	0.00	0.00
11,100.00	90.13	1.00	6,632.86	-1,197.33	-623.54	-1,208.03	0.00	0.00	0.00
11,200.00	90.13	1.00	6,632.64	-1,097.35	-621.79	-1,108.03	0.00	0.00	0.00
11,300.00	90.13	1.00	6,632.42	-997.36	-620.05	-1,008.03	0.00	0.00	0.00
11,400.00	90.13	1.00	6,632.20	-897.38	-618.31	-908.03	0.00	0.00	0.00
11,500.00	90.13	1.00	6,631.98	-797.40	-616.56	-808.03	0.00	0.00	0.00
11,600.00	90.13	1.00	6,631.76	-697.41	-614.82	-708.03	0.00	0.00	0.00
11,700.00	90.13	1.00	6,631.54	-597.43	-613.07	-608.03	0.00	0.00	0.00
11,800.00	90.13	1.00	6,631.31	-497.44	-611.33	-508.03	0.00	0.00	0.00
11,900.00	90.13	1.00	6,631.09	-397.46	-609.58	-408.04	0.00	0.00	0.00
12,000.00	90.13	1.00	6,630.87	-297.47	-607.84	-308.04	0.00	0.00	0.00
12,100.00	90.13	1.00	6,630.65	-197.49	-606.09	-208.04	0.00	0.00	0.00
12,200.00	90.13	1.00	6,630.43	-97.50	-604.35	-108.04	0.00	0.00	0.00
12,300.00	90.13	1.00	6,630.21	2.48	-602.61	-8.04	0.00	0.00	0.00
12,400.00	90.13	1.00	6,629.99	102.47	-600.86	91.96	0.00	0.00	0.00
12,500.00	90.13	1.00	6,629.77	202.45	-599.12	191.96	0.00	0.00	0.00
12,600.00	90.13	1.00	6,629.54	302.43	-597.37	291.96	0.00	0.00	0.00
12,700.00	90.13	1.00	6,629.32	402.42	-595.63	391.96	0.00	0.00	0.00
12,800.00	90.13	1.00	6,629.10	502.40	-593.88	491.96	0.00	0.00	0.00
12,900.00	90.13	1.00	6,628.88	602.39	-592.14	591.96	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well ACACIA 17-9HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4877.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4877.00usft (RIG)
Site:	2N-63W-17 ACACIA 13-17HZ PAD	North Reference:	True
Well:	ACACIA 17-9HZ	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)
13,000.00	90.13	1.00	6,628.66	702.37	-590.39	691.96	0.00	0.00	0.00
13,100.00	90.13	1.00	6,628.44	802.36	-588.65	791.96	0.00	0.00	0.00
13,200.00	90.13	1.00	6,628.22	902.34	-586.91	891.96	0.00	0.00	0.00
13,300.00	90.13	1.00	6,628.00	1,002.33	-585.16	991.96	0.00	0.00	0.00
13,400.00	90.13	1.00	6,627.77	1,102.31	-583.42	1,091.96	0.00	0.00	0.00
13,500.00	90.13	1.00	6,627.55	1,202.30	-581.67	1,191.96	0.00	0.00	0.00
13,600.00	90.13	1.00	6,627.33	1,302.28	-579.93	1,291.96	0.00	0.00	0.00
13,700.00	90.13	1.00	6,627.11	1,402.26	-578.18	1,391.96	0.00	0.00	0.00
13,800.00	90.13	1.00	6,626.89	1,502.25	-576.44	1,491.96	0.00	0.00	0.00
13,900.00	90.13	1.00	6,626.67	1,602.23	-574.69	1,591.96	0.00	0.00	0.00
14,000.00	90.13	1.00	6,626.45	1,702.22	-572.95	1,691.96	0.00	0.00	0.00
14,100.00	90.13	1.00	6,626.22	1,802.20	-571.21	1,791.96	0.00	0.00	0.00
14,200.00	90.13	1.00	6,626.00	1,902.19	-569.46	1,891.96	0.00	0.00	0.00
14,300.00	90.13	1.00	6,625.78	2,002.17	-567.72	1,991.96	0.00	0.00	0.00
14,400.00	90.13	1.00	6,625.56	2,102.16	-565.97	2,091.96	0.00	0.00	0.00
14,500.00	90.13	1.00	6,625.34	2,202.14	-564.23	2,191.96	0.00	0.00	0.00
14,600.00	90.13	1.00	6,625.12	2,302.13	-562.48	2,291.96	0.00	0.00	0.00
14,700.00	90.13	1.00	6,624.90	2,402.11	-560.74	2,391.96	0.00	0.00	0.00
14,800.00	90.13	1.00	6,624.68	2,502.09	-558.99	2,491.96	0.00	0.00	0.00
14,900.00	90.13	1.00	6,624.45	2,602.08	-557.25	2,591.96	0.00	0.00	0.00
15,000.00	90.13	1.00	6,624.23	2,702.06	-555.51	2,691.96	0.00	0.00	0.00
15,100.00	90.13	1.00	6,624.01	2,802.05	-553.76	2,791.96	0.00	0.00	0.00
15,200.00	90.13	1.00	6,623.79	2,902.03	-552.02	2,891.96	0.00	0.00	0.00
15,300.00	90.13	1.00	6,623.57	3,002.02	-550.27	2,991.96	0.00	0.00	0.00
15,400.00	90.13	1.00	6,623.35	3,102.00	-548.53	3,091.96	0.00	0.00	0.00
15,500.00	90.13	1.00	6,623.13	3,201.99	-546.78	3,191.96	0.00	0.00	0.00
15,600.00	90.13	1.00	6,622.91	3,301.97	-545.04	3,291.96	0.00	0.00	0.00
15,700.00	90.13	1.00	6,622.68	3,401.96	-543.29	3,391.96	0.00	0.00	0.00
15,800.00	90.13	1.00	6,622.46	3,501.94	-541.55	3,491.96	0.00	0.00	0.00
15,900.00	90.13	1.00	6,622.24	3,601.92	-539.81	3,591.96	0.00	0.00	0.00
16,000.00	90.13	1.00	6,622.02	3,701.91	-538.06	3,691.95	0.00	0.00	0.00
16,100.00	90.13	1.00	6,621.80	3,801.89	-536.32	3,791.95	0.00	0.00	0.00
16,200.00	90.13	1.00	6,621.58	3,901.88	-534.57	3,891.95	0.00	0.00	0.00
16,300.00	90.13	1.00	6,621.36	4,001.86	-532.83	3,991.95	0.00	0.00	0.00
16,400.00	90.13	1.00	6,621.14	4,101.85	-531.08	4,091.95	0.00	0.00	0.00
16,500.00	90.13	1.00	6,620.91	4,201.83	-529.34	4,191.95	0.00	0.00	0.00
16,600.00	90.13	1.00	6,620.69	4,301.82	-527.59	4,291.95	0.00	0.00	0.00
16,700.00	90.13	1.00	6,620.47	4,401.80	-525.85	4,391.95	0.00	0.00	0.00
16,800.00	90.13	1.00	6,620.25	4,501.79	-524.11	4,491.95	0.00	0.00	0.00
16,900.00	90.13	1.00	6,620.03	4,601.77	-522.36	4,591.95	0.00	0.00	0.00
17,000.00	90.13	1.00	6,619.81	4,701.75	-520.62	4,691.95	0.00	0.00	0.00
17,100.00	90.13	1.00	6,619.59	4,801.74	-518.87	4,791.95	0.00	0.00	0.00
17,200.00	90.13	1.00	6,619.36	4,901.72	-517.13	4,891.95	0.00	0.00	0.00
17,300.00	90.13	1.00	6,619.14	5,001.71	-515.38	4,991.95	0.00	0.00	0.00
17,400.00	90.13	1.00	6,618.92	5,101.69	-513.64	5,091.95	0.00	0.00	0.00
17,500.00	90.13	1.00	6,618.70	5,201.68	-511.89	5,191.95	0.00	0.00	0.00
17,600.00	90.13	1.00	6,618.48	5,301.66	-510.15	5,291.95	0.00	0.00	0.00
17,700.00	90.13	1.00	6,618.26	5,401.65	-508.41	5,391.95	0.00	0.00	0.00
17,800.00	90.13	1.00	6,618.04	5,501.63	-506.66	5,491.95	0.00	0.00	0.00
17,900.00	90.13	1.00	6,617.82	5,601.62	-504.92	5,591.95	0.00	0.00	0.00
18,000.00	90.13	1.00	6,617.59	5,701.60	-503.17	5,691.95	0.00	0.00	0.00
18,100.00	90.13	1.00	6,617.37	5,801.58	-501.43	5,791.95	0.00	0.00	0.00
18,200.00	90.13	1.00	6,617.15	5,901.57	-499.68	5,891.95	0.00	0.00	0.00
18,300.00	90.13	1.00	6,616.93	6,001.55	-497.94	5,991.95	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well ACACIA 17-9HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4877.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4877.00usft (RIG)
Site:	2N-63W-17 ACACIA 13-17HZ PAD	North Reference:	True
Well:	ACACIA 17-9HZ	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)
18,400.00	90.13	1.00	6,616.71	6,101.54	-496.19	6,091.95	0.00	0.00	0.00
18,500.00	90.13	1.00	6,616.49	6,201.52	-494.45	6,191.95	0.00	0.00	0.00
18,600.00	90.13	1.00	6,616.27	6,301.51	-492.71	6,291.95	0.00	0.00	0.00
18,700.00	90.13	1.00	6,616.05	6,401.49	-490.96	6,391.95	0.00	0.00	0.00
18,800.00	90.13	1.00	6,615.82	6,501.48	-489.22	6,491.95	0.00	0.00	0.00
18,900.00	90.13	1.00	6,615.60	6,601.46	-487.47	6,591.95	0.00	0.00	0.00
19,000.00	90.13	1.00	6,615.38	6,701.45	-485.73	6,691.95	0.00	0.00	0.00
19,100.00	90.13	1.00	6,615.16	6,801.43	-483.98	6,791.95	0.00	0.00	0.00
19,189.08	90.13	1.00	6,614.96	6,890.50	-482.43	6,881.03	0.00	0.00	0.00
BPZ @ 19189.08ft									
19,200.00	90.13	1.00	6,614.94	6,901.41	-482.24	6,891.95	0.00	0.00	0.00
19,240.07	90.13	1.00	6,614.85	6,941.48	-481.54	6,932.02	0.00	0.00	0.00
TD Well @ 19240.07ft - 5.5" CSG									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,869.63	1,817.00	8.625" CSG	8-5/8	12-1/4	
19,240.07	6,614.85	5.5" CSG	5-1/2	7-7/8	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
200.30	200.30	0.00	0.00	Begin Nudge @ 200.30ft	
1,866.97	1,814.58	-355.02	-45.16	Hold Tangent @ 1866.97ft	
1,975.00	1,912.49	-400.31	-50.93	Increase Tangent INC @ 1975.00ft	
3,665.00	3,239.23	-1,416.61	-180.22	Hold Tangent @ 3665.00ft	
7,026.97	5,384.49	-3,984.49	-506.89	KOP @ 7026.97ft :: DLS = 8°/100'	
8,777.80	6,638.00	-3,519.17	-664.05	End Build @ 8777.80ft	
19,189.08	6,614.96	6,890.50	-482.43	BPZ @ 19189.08ft	
19,240.07	6,614.85	6,941.48	-481.54	TD Well @ 19240.07ft	