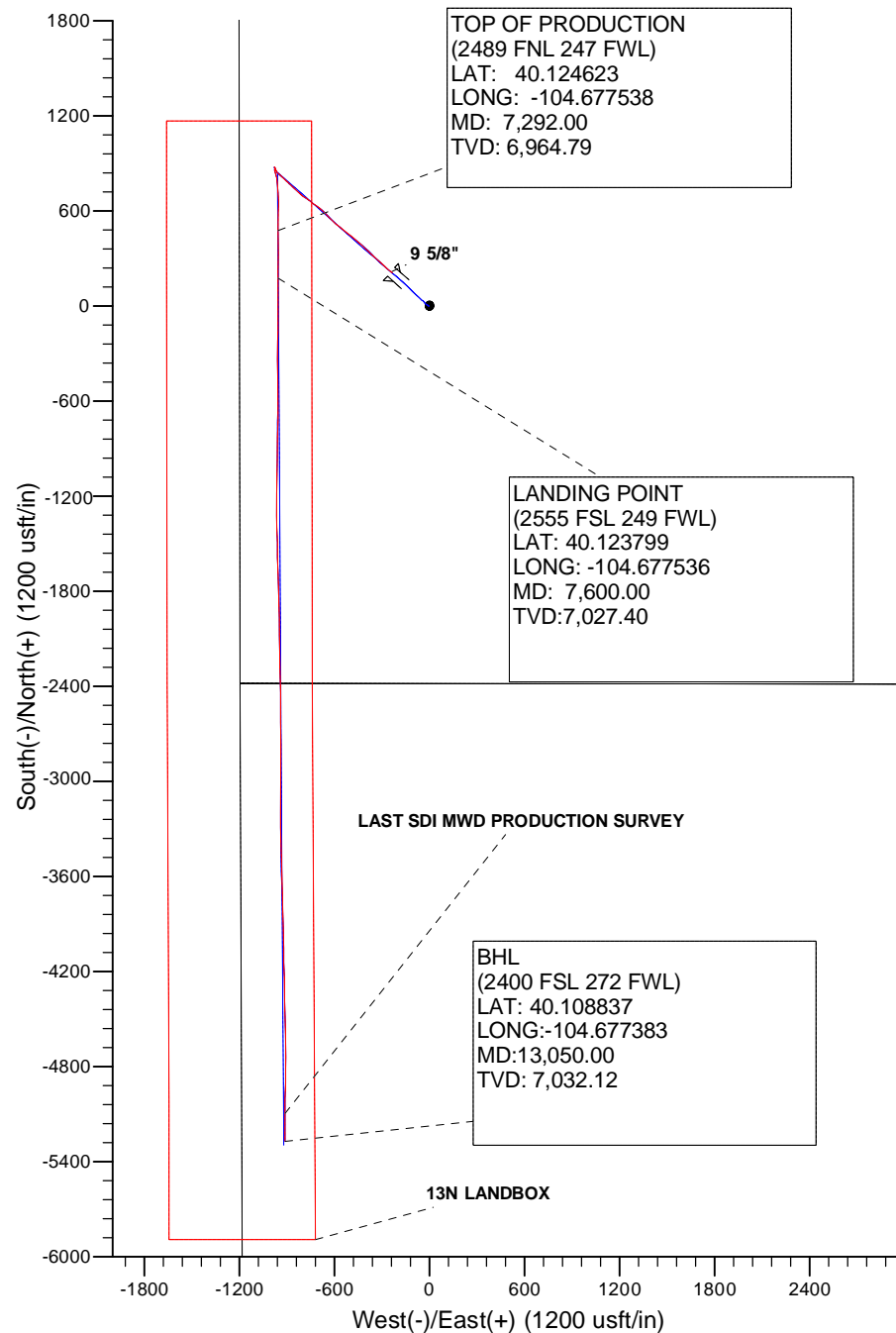
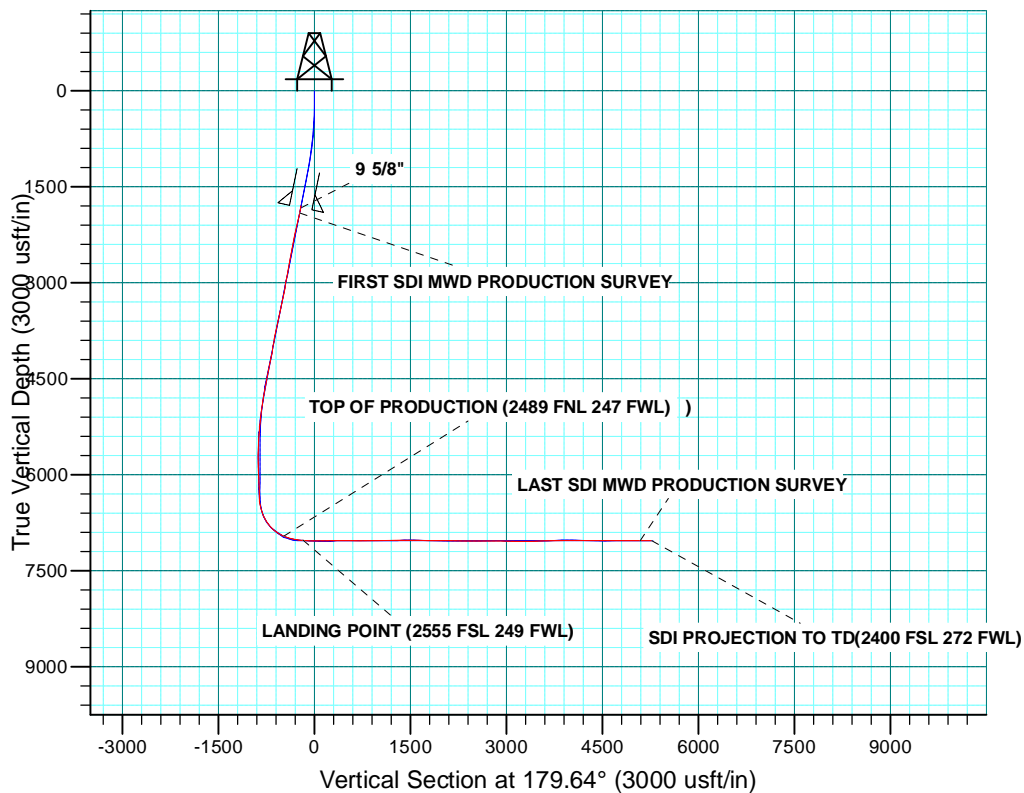


WELL DETAILS: ADAMSON 13N-28HZ					
GL 4892 & KB 20 @ 4912.00usft (PRECISION 461)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14571804.89	1731516.21	40.123315	-104.674117

PROJECT DETAILS: WELD-NAD83-UTMFT13N	
Geodetic System: Universal Transverse Mercator (US Survey Feet)	
Datum: North American Datum 1983	
Ellipsoid: GRS 1980	
Zone: Zone 13N (108 W to 102 W)	
Location:	
System Datum: Mean Sea Level	



Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well ADAMSON 13N-28HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	GL 4892 & KB 20 @ 4912.00usft (PRECISION 461)
Site:	2N-65W-21 ADAMSON 22-21HZ PAD	MD Reference:	GL 4892 & KB 20 @ 4912.00usft (PRECISION 461)
Well:	ADAMSON 13N-28HZ	North Reference:	True
Wellbore:	PLAN A	Survey Calculation Method:	Minimum Curvature
Design:	PLAN A	Database:	Denver Sales

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-65W-21 ADAMSON 22-21HZ PAD				
Site Position:		Northing:	14,571,804.88 usft	Latitude:	40.123315
From:	Lat/Long	Easting:	1,731,516.21 usft	Longitude:	-104.674117
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.21 °

Well	ADAMSON 13N-28HZ					
Well Position	+N/-S	0.00 usft	Northing:	14,571,804.88 usft	Latitude:	40.123315
	+E/-W	0.00 usft	Easting:	1,731,516.21 usft	Longitude:	-104.674117
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,892.00 usft

Wellbore	PLAN A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	7/20/2015	8.40	66.65	52,508

Design	PLAN A				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	179.64	

Survey Program	Date	10/13/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
13.00	1,828.00	Survey #1 SDI MWD SURFACE (PLAN A)	APC_ISCWSA REV 2 MWD	Fixed:v2:standard declination	
1,954.00	13,050.00	Survey #2 SDI MWD PRODUCTION (PLA	APC_ISCWSA REV 2 MWD+	Fixed:v2:crustal field declination	

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	
13.00	0.00	0.00	13.00	0.00	0.00	0.00	0.00	0.00	0.00	
132.00	0.93	194.33	131.99	-0.94	-0.24	0.93	0.78	0.78	0.00	
FIRST SDI MWD SURFACE SURVEY										
222.00	1.15	282.48	221.98	-1.45	-1.30	1.44	1.62	0.24	97.94	
313.00	2.59	294.38	312.93	-0.40	-4.07	0.38	1.63	1.58	13.08	
410.00	4.20	299.77	409.76	2.27	-9.15	-2.32	1.69	1.66	5.56	
505.00	5.18	306.35	504.44	6.54	-15.62	-6.63	1.18	1.03	6.93	

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well ADAMSON 13N-28HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	GL 4892 & KB 20 @ 4912.00usft (PRECISION 461)
Site:	2N-65W-21 ADAMSON 22-21HZ PAD	MD Reference:	GL 4892 & KB 20 @ 4912.00usft (PRECISION 461)
Well:	ADAMSON 13N-28HZ	North Reference:	True
Wellbore:	PLAN A	Survey Calculation Method:	Minimum Curvature
Design:	PLAN A	Database:	Denver Sales

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)
599.00	6.43	314.79	597.96	12.76	-22.77	-12.90	1.61	1.33	8.98
694.00	7.80	314.87	692.23	21.06	-31.12	-21.25	1.44	1.44	0.08
884.00	11.38	312.25	879.54	42.76	-54.14	-43.10	1.90	1.88	-1.38
979.00	12.49	312.07	972.49	55.95	-68.70	-56.38	1.17	1.17	-0.19
1,074.00	13.02	313.12	1,065.14	70.15	-84.14	-70.67	0.61	0.56	1.11
1,169.00	13.92	312.32	1,157.53	85.15	-100.40	-85.78	0.97	0.95	-0.84
1,264.00	13.28	315.32	1,249.86	100.61	-116.52	-101.34	1.00	-0.67	3.16
1,359.00	14.42	316.19	1,342.10	116.90	-132.38	-117.73	1.22	1.20	0.92
1,454.00	16.20	314.58	1,433.73	134.74	-150.01	-135.68	1.93	1.87	-1.69
1,707.00	17.93	308.16	1,675.60	183.58	-205.78	-184.87	1.01	0.68	-2.54
1,828.00	16.73	309.98	1,791.11	206.28	-233.77	-207.75	1.09	-0.99	1.50
LAST SDI MWD SURFACE SURVEY									
1,870.00	17.21	311.17	1,831.28	214.26	-243.08	-215.78	1.42	1.15	2.84
9 5/8"									
1,954.00	18.20	313.37	1,911.30	231.45	-261.97	-233.09	1.42	1.17	2.62
FIRST SDI MWD PRODUCTION SURVEY									
2,049.00	17.94	311.61	2,001.61	251.35	-283.70	-253.13	0.64	-0.27	-1.85
2,144.00	16.71	311.43	2,092.30	270.11	-304.88	-272.02	1.30	-1.29	-0.19
2,239.00	17.94	312.84	2,182.99	289.09	-325.85	-291.13	1.37	1.29	1.48
2,335.00	16.44	313.01	2,274.70	308.41	-346.62	-310.58	1.56	-1.56	0.18
2,525.00	16.62	314.07	2,456.85	345.65	-385.81	-348.07	0.18	0.09	0.56
2,620.00	14.68	313.50	2,548.32	363.39	-404.30	-365.92	2.05	-2.04	-0.60
2,715.00	15.30	310.73	2,640.09	379.85	-422.53	-382.50	1.00	0.65	-2.92
2,810.00	16.18	310.55	2,731.52	396.64	-442.09	-399.41	0.93	0.93	-0.19
2,903.00	14.51	307.92	2,821.21	412.22	-461.13	-415.11	1.94	-1.80	-2.83
2,998.00	17.06	308.09	2,912.62	428.14	-481.48	-431.15	2.68	2.68	0.18
3,093.00	17.76	308.80	3,003.26	445.81	-503.74	-448.97	0.77	0.74	0.75
3,188.00	16.80	308.97	3,093.98	463.52	-525.71	-466.82	1.01	-1.01	0.18
3,284.00	17.32	310.91	3,185.75	481.61	-547.30	-485.04	0.80	0.54	2.02
3,379.00	16.09	310.03	3,276.74	499.34	-568.06	-502.90	1.32	-1.29	-0.93
3,473.00	17.50	311.78	3,366.73	517.13	-588.58	-520.82	1.59	1.50	1.86
3,568.00	15.56	311.43	3,457.80	535.08	-608.79	-538.90	2.04	-2.04	-0.37
3,663.00	17.06	315.65	3,548.98	553.48	-628.08	-557.42	2.01	1.58	4.44
3,758.00	17.94	317.23	3,639.58	574.19	-647.76	-578.24	1.05	0.93	1.66
3,854.00	15.83	317.41	3,731.44	594.68	-666.66	-598.86	2.20	-2.20	0.19
3,948.00	16.00	306.16	3,821.85	611.77	-685.80	-616.07	3.28	0.18	-11.97
4,042.00	18.38	306.16	3,911.65	628.16	-708.23	-632.60	2.53	2.53	0.00
4,137.00	17.67	306.16	4,001.99	645.50	-731.96	-650.09	0.75	-0.75	0.00
4,232.00	17.50	306.16	4,092.55	662.44	-755.14	-667.17	0.18	-0.18	0.00
4,327.00	16.18	304.23	4,183.47	678.31	-777.61	-683.19	1.51	-1.39	-2.03
4,423.00	16.00	305.10	4,275.71	693.44	-799.50	-698.45	0.31	-0.19	0.91
4,518.00	16.97	314.60	4,366.82	710.71	-820.08	-715.85	3.01	1.02	10.00

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well ADAMSON 13N-28HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	GL 4892 & KB 20 @ 4912.00usft (PRECISION 461)
Site:	2N-65W-21 ADAMSON 22-21HZ PAD	MD Reference:	GL 4892 & KB 20 @ 4912.00usft (PRECISION 461)
Well:	ADAMSON 13N-28HZ	North Reference:	True
Wellbore:	PLAN A	Survey Calculation Method:	Minimum Curvature
Design:	PLAN A	Database:	Denver Sales

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)	
4,613.00	16.18	314.07	4,457.87	729.65	-839.47	-734.91	0.85	-0.83	-0.56	
4,709.00	15.12	312.31	4,550.31	747.38	-858.34	-752.76	1.21	-1.10	-1.83	
4,804.00	14.51	310.73	4,642.16	763.49	-876.52	-768.98	0.77	-0.64	-1.66	
4,898.00	15.56	315.12	4,732.94	780.11	-894.34	-785.71	1.65	1.12	4.67	
4,993.00	14.60	312.66	4,824.67	797.25	-912.13	-802.97	1.21	-1.01	-2.59	
5,087.00	13.63	308.44	4,915.83	812.17	-929.52	-817.99	1.50	-1.03	-4.49	
5,183.00	10.73	314.42	5,009.66	825.46	-944.77	-831.38	3.29	-3.02	6.23	
5,278.00	10.11	314.95	5,103.10	837.54	-956.99	-843.53	0.66	-0.65	0.56	
5,373.00	7.12	328.31	5,197.02	848.44	-965.98	-854.49	3.77	-3.15	14.06	
5,468.00	5.80	331.65	5,291.42	857.68	-971.36	-863.76	1.44	-1.39	3.52	
5,563.00	2.73	353.62	5,386.15	864.15	-973.89	-870.25	3.60	-3.23	23.13	
5,658.00	2.11	349.58	5,481.06	868.12	-974.46	-874.22	0.68	-0.65	-4.25	
5,753.00	1.76	338.29	5,576.01	871.19	-975.31	-877.30	0.54	-0.37	-11.88	
5,847.00	1.41	320.88	5,669.97	873.43	-976.58	-879.55	0.63	-0.37	-18.52	
5,942.00	1.41	305.42	5,764.95	875.02	-978.27	-881.15	0.40	0.00	-16.27	
6,038.00	2.29	167.60	5,860.92	873.83	-978.82	-879.96	3.61	0.92	-143.56	
6,132.00	2.29	166.90	5,954.85	870.16	-977.99	-876.29	0.03	0.00	-0.74	
6,226.00	2.11	170.06	6,048.78	866.63	-977.26	-872.75	0.23	-0.19	3.36	
6,320.00	1.76	179.56	6,142.73	863.48	-976.95	-869.60	0.50	-0.37	10.11	
6,414.00	1.49	200.30	6,236.69	860.89	-977.37	-867.02	0.68	-0.29	22.06	
6,509.00	1.67	200.65	6,331.65	858.44	-978.28	-864.57	0.19	0.19	0.37	
6,604.00	7.65	168.48	6,426.30	850.94	-977.51	-857.07	6.63	6.29	-33.86	
6,699.00	13.98	158.46	6,519.58	834.05	-972.03	-840.14	6.93	6.66	-10.55	
6,794.00	20.84	170.42	6,610.20	806.67	-964.99	-812.72	8.11	7.22	12.59	
6,889.00	29.11	175.16	6,696.25	766.91	-960.22	-772.93	8.95	8.71	4.99	
6,984.00	37.11	175.34	6,775.76	715.24	-955.93	-721.23	8.42	8.42	0.19	
7,079.00	46.34	181.31	6,846.61	652.16	-954.39	-658.14	10.57	9.72	6.28	
7,174.00	55.40	182.72	6,906.51	578.59	-957.03	-584.59	9.61	9.54	1.48	
7,269.00	63.31	177.45	6,954.92	496.97	-957.00	-502.97	9.59	8.33	-5.55	
7,292.00	65.83	178.03	6,964.79	476.21	-956.18	-482.21	11.21	10.98	2.51	
TOP OF PRODUCTION (2489 FNL 247 FWL))										
7,365.00	73.86	179.73	6,989.92	407.76	-954.87	-413.75	11.21	10.99	2.33	
7,460.00	81.43	180.96	7,010.23	315.03	-955.44	-321.02	8.07	7.97	1.29	
7,556.00	83.54	179.73	7,022.79	219.86	-956.01	-225.86	2.54	2.20	-1.28	
7,600.00	84.43	179.73	7,027.40	176.10	-955.81	-182.11	2.03	2.03	0.00	
LANDING POINT (2555 FSL 249 FWL)										
7,651.00	85.47	179.73	7,031.89	125.30	-955.57	-131.30	2.03	2.03	0.00	
7,746.00	88.02	180.26	7,037.28	30.46	-955.56	-36.47	2.74	2.68	0.56	
7,841.00	88.99	180.44	7,039.76	-64.50	-956.14	58.49	1.04	1.02	0.19	
7,936.00	90.22	180.61	7,040.41	-159.49	-957.01	153.48	1.31	1.29	0.18	
8,032.00	91.36	180.79	7,039.09	-255.47	-958.18	249.45	1.20	1.19	0.19	
8,127.00	89.96	179.73	7,038.00	-350.46	-958.61	344.43	1.85	-1.47	-1.12	

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well ADAMSON 13N-28HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	GL 4892 & KB 20 @ 4912.00usft (PRECISION 461)
Site:	2N-65W-21 ADAMSON 22-21HZ PAD	MD Reference:	GL 4892 & KB 20 @ 4912.00usft (PRECISION 461)
Well:	ADAMSON 13N-28HZ	North Reference:	True
Wellbore:	PLAN A	Survey Calculation Method:	Minimum Curvature
Design:	PLAN A	Database:	Denver Sales

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)	
8,222.00	91.10	179.03	7,037.12	-445.45	-957.59	439.43	1.41	1.20	-0.74	
8,317.00	90.13	179.73	7,036.10	-540.44	-956.56	534.42	1.26	-1.02	0.74	
8,413.00	91.10	180.61	7,035.07	-636.43	-956.84	630.41	1.36	1.01	0.92	
8,507.00	90.04	180.96	7,034.13	-730.42	-958.13	724.38	1.19	-1.13	0.37	
8,602.00	89.69	180.44	7,034.36	-825.41	-959.29	819.36	0.66	-0.37	-0.55	
8,698.00	89.96	181.14	7,034.65	-921.40	-960.61	915.34	0.78	0.28	0.73	
8,793.00	90.66	180.44	7,034.14	-1,016.39	-961.92	1,010.32	1.04	0.74	-0.74	
8,889.00	91.80	180.79	7,032.07	-1,112.36	-962.95	1,106.28	1.24	1.19	0.36	
8,984.00	89.69	180.61	7,030.84	-1,207.34	-964.11	1,201.26	2.23	-2.22	-0.19	
9,079.00	90.57	179.38	7,030.62	-1,302.33	-964.11	1,296.25	1.59	0.93	-1.29	
9,174.00	91.80	178.50	7,028.66	-1,397.29	-962.35	1,391.22	1.59	1.29	-0.93	
9,269.00	90.75	179.21	7,026.55	-1,492.25	-960.45	1,486.19	1.33	-1.11	0.75	
9,364.00	88.20	178.50	7,027.42	-1,587.22	-958.55	1,581.16	2.79	-2.68	-0.75	
9,460.00	88.99	178.68	7,029.77	-1,683.16	-956.19	1,677.12	0.84	0.82	0.19	
9,555.00	90.31	178.68	7,030.35	-1,778.13	-954.00	1,772.10	1.39	1.39	0.00	
9,649.00	88.99	179.21	7,030.92	-1,872.11	-952.27	1,866.09	1.51	-1.40	0.56	
9,743.00	89.78	178.33	7,031.93	-1,966.08	-950.26	1,960.07	1.26	0.84	-0.94	
9,838.00	89.43	178.85	7,032.59	-2,061.05	-947.92	2,055.05	0.66	-0.37	0.55	
9,931.00	88.02	179.21	7,034.66	-2,154.01	-946.34	2,148.02	1.56	-1.52	0.39	
10,025.00	88.64	179.03	7,037.40	-2,247.96	-944.90	2,241.98	0.69	0.66	-0.19	
10,121.00	89.69	178.68	7,038.80	-2,343.93	-942.98	2,337.96	1.15	1.09	-0.36	
10,216.00	90.75	178.50	7,038.43	-2,438.90	-940.64	2,432.94	1.13	1.12	-0.19	
10,311.00	89.78	179.56	7,037.99	-2,533.88	-939.04	2,527.93	1.51	-1.02	1.12	
10,406.00	89.16	180.26	7,038.87	-2,628.88	-938.89	2,622.92	0.98	-0.65	0.74	
10,502.00	90.31	179.91	7,039.31	-2,724.87	-939.03	2,718.92	1.25	1.20	-0.36	
10,597.00	91.80	179.56	7,037.57	-2,819.85	-938.59	2,813.90	1.61	1.57	-0.37	
10,690.00	88.99	180.44	7,036.92	-2,912.84	-938.59	2,906.89	3.17	-3.02	0.95	
10,785.00	88.37	180.79	7,039.11	-3,007.81	-939.61	3,001.85	0.75	-0.65	0.37	
10,880.00	89.69	179.73	7,040.72	-3,102.79	-940.04	3,096.82	1.78	1.39	-1.12	
10,975.00	90.92	180.08	7,040.21	-3,197.79	-939.88	3,191.82	1.35	1.29	0.37	
11,071.00	90.04	179.38	7,039.41	-3,293.78	-939.43	3,287.81	1.17	-0.92	-0.73	
11,166.00	90.40	179.56	7,039.05	-3,388.78	-938.55	3,382.81	0.42	0.38	0.19	
11,259.00	91.36	178.15	7,037.62	-3,481.74	-936.69	3,475.79	1.83	1.03	-1.52	
11,355.00	91.28	178.15	7,035.41	-3,577.67	-933.60	3,571.73	0.08	-0.08	0.00	
11,449.00	90.66	178.68	7,033.81	-3,671.62	-931.00	3,665.70	0.87	-0.66	0.56	
11,544.00	92.33	178.33	7,031.34	-3,766.55	-928.52	3,760.64	1.80	1.76	-0.37	
11,638.00	91.19	177.97	7,028.45	-3,860.46	-925.49	3,854.56	1.27	-1.21	-0.38	
11,734.00	89.60	179.03	7,027.79	-3,956.42	-922.97	3,950.54	1.99	-1.66	1.10	
11,829.00	88.99	178.50	7,028.96	-4,051.39	-920.93	4,045.52	0.85	-0.64	-0.56	
11,923.00	90.48	179.03	7,029.39	-4,145.36	-918.90	4,139.50	1.68	1.59	0.56	
12,019.00	89.34	178.85	7,029.54	-4,241.34	-917.12	4,235.50	1.20	-1.19	-0.19	
12,114.00	88.46	179.03	7,031.37	-4,336.31	-915.37	4,330.47	0.95	-0.93	0.19	

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well ADAMSON 13N-28HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	GL 4892 & KB 20 @ 4912.00usft (PRECISION 461)
Site:	2N-65W-21 ADAMSON 22-21HZ PAD	MD Reference:	GL 4892 & KB 20 @ 4912.00usft (PRECISION 461)
Well:	ADAMSON 13N-28HZ	North Reference:	True
Wellbore:	PLAN A	Survey Calculation Method:	Minimum Curvature
Design:	PLAN A	Database:	Denver Sales

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)	
12,209.00	89.52	178.15	7,033.04	-4,431.26	-913.03	4,425.44	1.45	1.12	-0.93	
12,303.00	91.01	178.85	7,032.61	-4,525.22	-910.57	4,519.41	1.75	1.59	0.74	
12,398.00	89.69	179.03	7,032.03	-4,620.20	-908.81	4,614.40	1.40	-1.39	0.19	
12,494.00	89.60	179.73	7,032.62	-4,716.20	-907.77	4,710.40	0.74	-0.09	0.73	
12,589.00	90.48	180.44	7,032.55	-4,811.19	-907.91	4,805.39	1.19	0.93	0.75	
12,684.00	89.60	180.61	7,032.49	-4,906.19	-908.78	4,900.38	0.94	-0.93	0.18	
12,779.00	89.08	180.44	7,033.58	-5,001.18	-909.65	4,995.36	0.58	-0.55	-0.18	
12,874.00	90.57	180.79	7,033.87	-5,096.17	-910.67	5,090.35	1.61	1.57	0.37	
LAST SDI MWD PRODUCTION SURVEY										
13,050.00	90.57	180.79	7,032.12	-5,272.14	-913.10	5,266.30	0.00	0.00	0.00	
SDI PROJECTION TO TD(2400 FSL 272 FWL)										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,870.00	1,831.28	9 5/8"	9.625	13.500	

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
7,292.00	6,964.79	476.21	-956.18	TOP OF PRODUCTION (2489 FNL 247 FWL))	
7,600.00	7,027.40	176.10	-955.81	LANDING POINT (2555 FSL 249 FWL)	
12,874.00	7,033.87	-5,096.17	-910.67	LAST SDI MWD PRODUCTION SURVEY	
13,050.00	7,032.12	-5,272.14	-913.10	SDI PROJECTION TO TD(2400 FSL 272 FWL)	

Checked By: _____	Approved By: _____	Date: _____
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