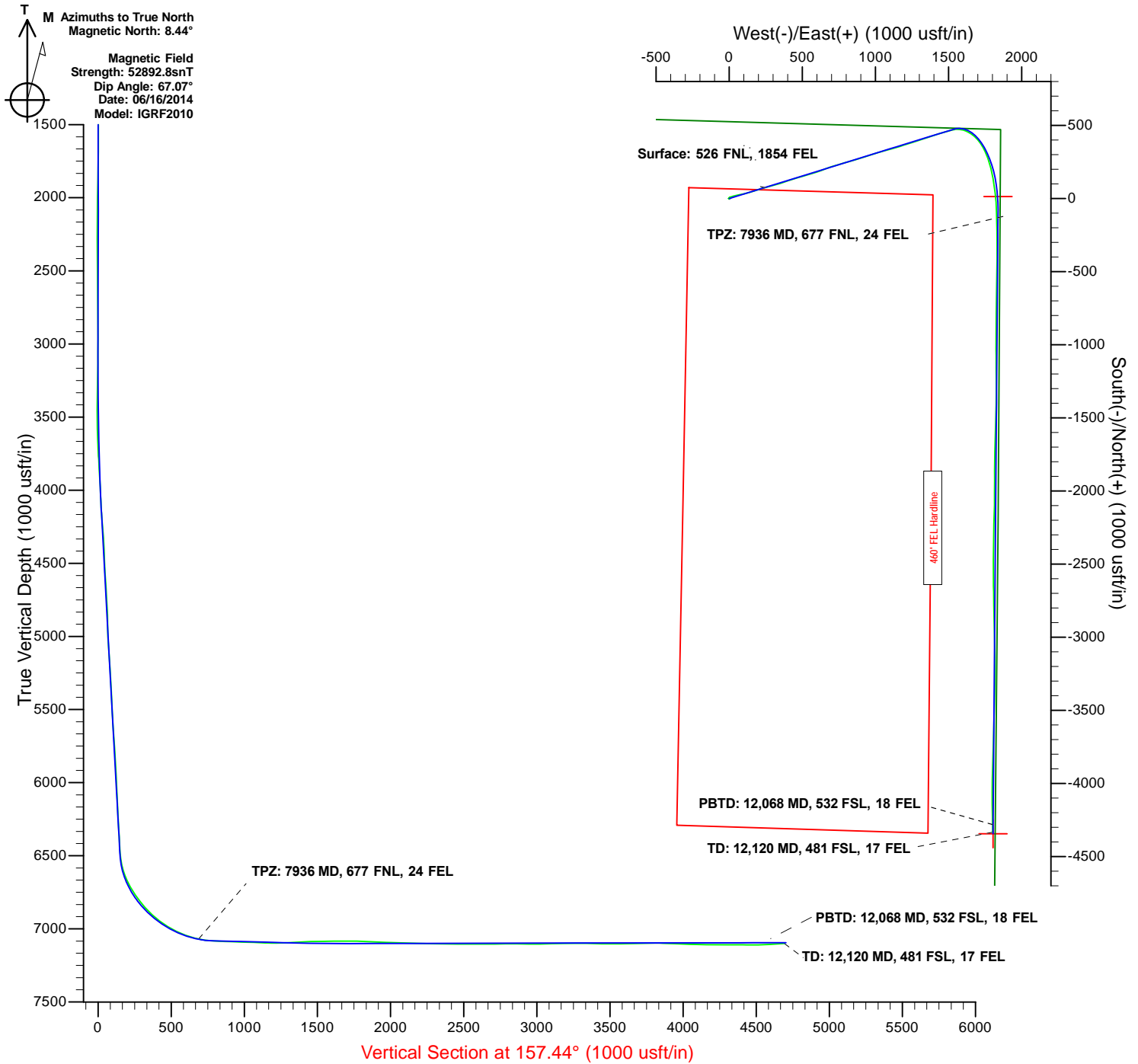




Project: Weld Co., CO  
Site: Sec.31-T7N-R65W  
Well: Schmunk EF 31-361HN  
Wellbore: Wellbore #1  
Design: Design #3  
Lat: 40° 32' 14.859 N  
Long: 104° 42' 12.161 W  
GL: 4850.30  
KB: WELL @ 4866.50usft (Original Well Elev)



**Precision**  
Directional Services





## **Great Western Oil & Gas**

**Weld Co., CO**

**Sec.31-T7N-R65W**

**Schmunk EF 31-361HN**

**Wellbore #1**

**Design: Wellbore #1**

## **Survey Report - Geographic**

**11 December, 2014**



<b>Company:</b>	Great Western Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Schmunk EF 31-361HN
<b>Project:</b>	Weld Co., CO	<b>TVD Reference:</b>	WELL @ 4866.50usft (Original Well Elev)
<b>Site:</b>	Sec.31-T7N-R65W	<b>MD Reference:</b>	WELL @ 4866.50usft (Original Well Elev)
<b>Well:</b>	Schmunk EF 31-361HN	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM

<b>Project</b>	Weld Co., CO		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

Site	Sec.31-T7N-R65W				
Site Position:		Northing:	1,439,632.37 usft	Latitude:	40° 32' 14.860 N
From:	Lat/Long	Easting:	3,221,414.62 usft	Longitude:	104° 42' 12.161 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.51 °

Well	Schmunk EF 31-361HN					
Well Position	+N/-S	0.00 usft	Northing:	1,439,632.36 usft	Latitude:	40° 32' 14.859 N
	+E/-W	0.00 usft	Easting:	3,221,414.62 usft	Longitude:	104° 42' 12.161 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	4,850.30 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	06/16/14	8.44	67.07	52,893

<b>Design</b>	Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	157.44	

<b>Survey Program</b>	<b>Date</b>	12/11/14			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
125.00	1,070.00	Gyro (Wellbore #1)	Gyroscope	Gyroscope	
1,148.00	12,120.00	Precision MWD Survey (Wellbore #1)	MWD	Std MWD	

<b>Survey</b>									
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Map Northing (usft)</b>	<b>Map Easting (usft)</b>	<b>Latitude</b>	<b>Longitude</b>
0.00	0.00	0.00	0.00	0.00	0.00	1,439,632.36	3,221,414.62	40° 32' 14.859 N	104° 42' 12.161 W
125.00	0.70	280.70	125.00	0.14	-0.75	1,439,632.49	3,221,413.87	40° 32' 14.861 N	104° 42' 12.171 W
218.00	0.40	277.70	217.99	0.29	-1.63	1,439,632.63	3,221,412.99	40° 32' 14.862 N	104° 42' 12.182 W
311.00	0.10	314.80	310.99	0.39	-2.01	1,439,632.73	3,221,412.61	40° 32' 14.863 N	104° 42' 12.187 W
404.00	0.30	143.60	403.99	0.25	-1.92	1,439,632.59	3,221,412.70	40° 32' 14.862 N	104° 42' 12.186 W
497.00	0.30	106.10	496.99	-0.01	-1.54	1,439,632.33	3,221,413.08	40° 32' 14.859 N	104° 42' 12.181 W
590.00	0.10	261.40	589.99	-0.09	-1.39	1,439,632.25	3,221,413.23	40° 32' 14.859 N	104° 42' 12.179 W
683.00	0.40	232.10	682.99	-0.30	-1.73	1,439,632.04	3,221,412.90	40° 32' 14.856 N	104° 42' 12.183 W
776.00	0.30	30.80	775.99	-0.29	-1.86	1,439,632.05	3,221,412.77	40° 32' 14.857 N	104° 42' 12.185 W
869.00	0.60	62.00	868.99	0.15	-1.30	1,439,632.49	3,221,413.32	40° 32' 14.861 N	104° 42' 12.178 W
962.00	1.10	94.10	961.98	0.31	0.02	1,439,632.67	3,221,414.64	40° 32' 14.863 N	104° 42' 12.161 W

<b>Company:</b>	Great Western Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Schmunk EF 31-361HN
<b>Project:</b>	Weld Co., CO	<b>TVD Reference:</b>	WELL @ 4866.50usft (Original Well Elev)
<b>Site:</b>	Sec.31-T7N-R65W	<b>MD Reference:</b>	WELL @ 4866.50usft (Original Well Elev)
<b>Well:</b>	Schmunk EF 31-361HN	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
1,013.00	0.50	97.60	1,012.97	0.25	0.73	1,439,632.61	3,221,415.35	40° 32' 14.862 N	104° 42' 12.151 W	
1,070.00	0.20	119.10	1,069.97	0.16	1.06	1,439,632.53	3,221,415.68	40° 32' 14.861 N	104° 42' 12.147 W	
1,148.00	0.60	228.20	1,147.97	-0.17	0.87	1,439,632.19	3,221,415.50	40° 32' 14.858 N	104° 42' 12.149 W	
1,234.00	0.60	217.60	1,233.96	-0.83	0.26	1,439,631.53	3,221,414.89	40° 32' 14.851 N	104° 42' 12.157 W	
1,319.00	0.90	220.60	1,318.96	-1.69	-0.44	1,439,630.66	3,221,414.20	40° 32' 14.843 N	104° 42' 12.167 W	
1,410.00	0.80	121.30	1,409.95	-2.56	-0.37	1,439,629.79	3,221,414.28	40° 32' 14.834 N	104° 42' 12.166 W	
1,503.00	1.70	71.90	1,502.93	-2.47	1.50	1,439,629.90	3,221,416.15	40° 32' 14.835 N	104° 42' 12.141 W	
1,595.00	1.90	65.40	1,594.88	-1.41	4.18	1,439,630.98	3,221,418.82	40° 32' 14.845 N	104° 42' 12.107 W	
1,688.00	0.90	354.60	1,687.86	-0.04	5.52	1,439,632.36	3,221,420.14	40° 32' 14.859 N	104° 42' 12.089 W	
1,781.00	1.10	325.00	1,780.85	1.41	4.94	1,439,633.82	3,221,419.55	40° 32' 14.873 N	104° 42' 12.097 W	
1,873.00	1.10	322.20	1,872.83	2.84	3.89	1,439,635.23	3,221,418.49	40° 32' 14.887 N	104° 42' 12.110 W	
1,966.00	1.40	316.20	1,965.81	4.36	2.56	1,439,636.74	3,221,417.14	40° 32' 14.903 N	104° 42' 12.128 W	
2,059.00	0.50	283.90	2,058.79	5.28	1.38	1,439,637.65	3,221,415.95	40° 32' 14.912 N	104° 42' 12.143 W	
2,152.00	0.50	269.30	2,151.79	5.37	0.58	1,439,637.73	3,221,415.15	40° 32' 14.913 N	104° 42' 12.153 W	
2,245.00	0.60	286.20	2,244.79	5.50	-0.30	1,439,637.86	3,221,414.28	40° 32' 14.914 N	104° 42' 12.165 W	
2,337.00	0.60	297.60	2,336.78	5.86	-1.19	1,439,638.21	3,221,413.38	40° 32' 14.917 N	104° 42' 12.176 W	
2,430.00	0.90	177.20	2,429.78	5.36	-1.58	1,439,637.70	3,221,412.99	40° 32' 14.912 N	104° 42' 12.181 W	
2,533.00	0.80	188.80	2,532.77	3.84	-1.65	1,439,636.18	3,221,412.94	40° 32' 14.897 N	104° 42' 12.182 W	
2,615.00	0.80	193.90	2,614.76	2.72	-1.88	1,439,635.06	3,221,412.72	40° 32' 14.886 N	104° 42' 12.185 W	
2,708.00	0.80	206.50	2,707.75	1.50	-2.32	1,439,633.84	3,221,412.29	40° 32' 14.874 N	104° 42' 12.191 W	
2,794.00	0.60	197.40	2,793.74	0.54	-2.73	1,439,632.87	3,221,411.89	40° 32' 14.865 N	104° 42' 12.196 W	
2,879.00	0.60	196.40	2,878.74	-0.31	-2.99	1,439,632.02	3,221,411.64	40° 32' 14.856 N	104° 42' 12.199 W	
2,964.00	0.40	358.40	2,963.74	-0.44	-3.12	1,439,631.88	3,221,411.51	40° 32' 14.855 N	104° 42' 12.201 W	
3,049.00	0.60	36.90	3,048.73	0.21	-2.86	1,439,632.54	3,221,411.76	40° 32' 14.861 N	104° 42' 12.198 W	
3,134.00	0.60	3.00	3,133.73	1.01	-2.57	1,439,633.34	3,221,412.05	40° 32' 14.869 N	104° 42' 12.194 W	
3,220.00	0.80	340.80	3,219.72	2.02	-2.74	1,439,634.36	3,221,411.86	40° 32' 14.879 N	104° 42' 12.196 W	
3,305.00	2.80	40.30	3,304.68	4.17	-1.60	1,439,636.51	3,221,412.99	40° 32' 14.901 N	104° 42' 12.181 W	
3,390.00	6.90	59.40	3,389.36	8.35	4.14	1,439,640.75	3,221,418.69	40° 32' 14.942 N	104° 42' 12.107 W	
3,475.00	8.90	72.10	3,473.56	12.97	14.80	1,439,645.46	3,221,429.31	40° 32' 14.988 N	104° 42' 11.969 W	
3,560.00	9.70	74.90	3,557.44	16.86	27.97	1,439,649.47	3,221,442.44	40° 32' 15.026 N	104° 42' 11.799 W	
3,645.00	10.80	77.30	3,641.08	20.48	42.65	1,439,653.22	3,221,457.09	40° 32' 15.062 N	104° 42' 11.608 W	
3,731.00	13.30	79.30	3,725.18	24.09	60.23	1,439,656.98	3,221,474.64	40° 32' 15.097 N	104° 42' 11.381 W	
3,816.00	16.40	78.90	3,807.33	28.21	81.62	1,439,661.30	3,221,495.99	40° 32' 15.138 N	104° 42' 11.104 W	
3,901.00	20.10	76.10	3,888.05	34.03	107.58	1,439,667.36	3,221,521.90	40° 32' 15.196 N	104° 42' 10.767 W	
3,986.00	23.70	74.20	3,966.90	42.20	138.21	1,439,675.79	3,221,552.45	40° 32' 15.276 N	104° 42' 10.371 W	
4,071.00	26.50	72.60	4,043.87	52.52	172.75	1,439,686.43	3,221,586.90	40° 32' 15.378 N	104° 42' 9.923 W	
4,157.00	30.60	72.60	4,119.39	64.81	211.96	1,439,699.07	3,221,626.00	40° 32' 15.500 N	104° 42' 9.415 W	
4,242.00	32.50	74.00	4,191.83	77.57	254.56	1,439,712.21	3,221,668.48	40° 32' 15.626 N	104° 42' 8.864 W	
4,327.00	32.60	74.70	4,263.47	89.91	298.60	1,439,724.95	3,221,712.40	40° 32' 15.748 N	104° 42' 8.293 W	
4,412.00	31.10	74.40	4,335.67	101.86	341.83	1,439,737.28	3,221,755.53	40° 32' 15.866 N	104° 42' 7.733 W	
4,498.00	29.80	71.20	4,409.82	114.72	383.46	1,439,750.52	3,221,797.04	40° 32' 15.993 N	104° 42' 7.194 W	
4,583.00	28.90	70.80	4,483.90	128.28	422.85	1,439,764.43	3,221,836.31	40° 32' 16.127 N	104° 42' 6.684 W	
4,669.00	28.80	74.40	4,559.24	140.69	462.43	1,439,777.19	3,221,875.77	40° 32' 16.250 N	104° 42' 6.171 W	
4,754.00	30.00	73.30	4,633.29	152.30	502.51	1,439,789.16	3,221,915.74	40° 32' 16.364 N	104° 42' 5.652 W	
4,839.00	31.00	72.60	4,706.53	164.95	543.75	1,439,802.19	3,221,956.87	40° 32' 16.489 N	104° 42' 5.118 W	
4,924.00	30.60	74.00	4,779.54	177.46	585.43	1,439,815.07	3,221,998.44	40° 32' 16.613 N	104° 42' 4.578 W	
5,010.00	30.40	70.00	4,853.65	190.94	626.93	1,439,828.92	3,222,039.81	40° 32' 16.746 N	104° 42' 4.041 W	
5,095.00	30.00	68.60	4,927.11	206.05	666.92	1,439,844.39	3,222,079.67	40° 32' 16.895 N	104° 42' 3.523 W	
5,180.00	29.50	72.60	5,000.91	220.06	706.68	1,439,858.76	3,222,119.30	40° 32' 17.034 N	104° 42' 3.008 W	
5,266.00	28.80	74.50	5,076.02	231.93	746.85	1,439,870.99	3,222,159.36	40° 32' 17.151 N	104° 42' 2.487 W	
5,351.00	29.40	74.40	5,150.29	243.01	786.68	1,439,882.43	3,222,199.08	40° 32' 17.261 N	104° 42' 1.972 W	
5,436.00	29.70	73.30	5,224.24	254.67	826.94	1,439,894.45	3,222,239.24	40° 32' 17.376 N	104° 42' 1.450 W	
5,521.00	29.10	73.70	5,298.29	266.52	866.95	1,439,906.66	3,222,279.14	40° 32' 17.493 N	104° 42' 0.932 W	
5,607.00	29.50	72.10	5,373.29	278.90	907.17	1,439,919.40	3,222,319.25	40° 32' 17.615 N	104° 42' 0.411 W	
5,692.00	28.90	71.90	5,447.49	291.72	946.61	1,439,932.57	3,222,358.57	40° 32' 17.742 N	104° 41' 59.900 W	

<b>Company:</b>	Great Western Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Schmunk EF 31-361HN
<b>Project:</b>	Weld Co., CO	<b>TVD Reference:</b>	WELL @ 4866.50usft (Original Well Elev)
<b>Site:</b>	Sec.31-T7N-R65W	<b>MD Reference:</b>	WELL @ 4866.50usft (Original Well Elev)
<b>Well:</b>	Schmunk EF 31-361HN	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,777.00	29.60	73.00	5,521.65	304.23	986.21	1,439,945.44	3,222,398.06	40° 32' 17.866 N	104° 41' 59.387 W
5,862.00	30.70	74.00	5,595.15	316.35	1,027.14	1,439,957.93	3,222,438.88	40° 32' 17.985 N	104° 41' 58.857 W
5,947.00	30.30	74.00	5,668.39	328.24	1,068.61	1,439,970.19	3,222,480.24	40° 32' 18.103 N	104° 41' 58.320 W
6,033.00	29.00	74.40	5,743.13	339.83	1,109.55	1,439,982.14	3,222,521.07	40° 32' 18.217 N	104° 41' 57.790 W
6,118.00	29.80	73.30	5,817.18	351.44	1,149.62	1,439,994.11	3,222,561.04	40° 32' 18.332 N	104° 41' 57.270 W
6,203.00	31.00	72.10	5,890.49	364.24	1,190.68	1,440,007.28	3,222,601.99	40° 32' 18.458 N	104° 41' 56.739 W
6,289.00	30.50	72.20	5,964.40	377.72	1,232.54	1,440,021.13	3,222,643.72	40° 32' 18.592 N	104° 41' 56.196 W
6,374.00	30.30	73.10	6,037.72	390.55	1,273.59	1,440,034.33	3,222,684.66	40° 32' 18.718 N	104° 41' 55.665 W
6,459.00	31.00	71.70	6,110.84	403.65	1,314.89	1,440,047.81	3,222,725.84	40° 32' 18.848 N	104° 41' 55.130 W
6,544.00	30.30	71.70	6,183.97	417.26	1,356.03	1,440,061.78	3,222,766.85	40° 32' 18.982 N	104° 41' 54.597 W
6,630.00	29.50	71.90	6,258.52	430.65	1,396.76	1,440,075.54	3,222,807.46	40° 32' 19.115 N	104° 41' 54.069 W
6,715.00	29.80	73.30	6,332.39	443.22	1,436.88	1,440,088.47	3,222,847.47	40° 32' 19.239 N	104° 41' 53.550 W
6,800.00	29.60	73.50	6,406.22	455.25	1,477.24	1,440,100.86	3,222,887.72	40° 32' 19.358 N	104° 41' 53.027 W
6,885.00	30.40	74.00	6,479.84	467.14	1,518.04	1,440,113.12	3,222,928.41	40° 32' 19.475 N	104° 41' 52.498 W
6,927.00	29.50	80.20	6,516.24	471.83	1,538.45	1,440,117.99	3,222,948.78	40° 32' 19.521 N	104° 41' 52.234 W
6,970.00	28.80	89.10	6,553.81	473.80	1,559.25	1,440,120.14	3,222,969.56	40° 32' 19.541 N	104° 41' 51.965 W
7,012.00	28.90	97.60	6,590.61	472.61	1,579.44	1,440,119.14	3,222,989.75	40° 32' 19.529 N	104° 41' 51.703 W
7,055.00	30.20	105.80	6,628.03	468.29	1,600.15	1,440,115.01	3,223,010.50	40° 32' 19.486 N	104° 41' 51.435 W
7,097.00	31.90	112.70	6,664.02	461.13	1,620.56	1,440,108.03	3,223,030.98	40° 32' 19.416 N	104° 41' 51.171 W
7,140.00	34.30	119.00	6,700.05	450.87	1,641.65	1,440,097.96	3,223,052.16	40° 32' 19.314 N	104° 41' 50.897 W
7,182.00	35.80	125.50	6,734.45	437.99	1,662.01	1,440,085.26	3,223,072.63	40° 32' 19.187 N	104° 41' 50.634 W
7,225.00	36.90	132.50	6,769.10	421.96	1,681.77	1,440,069.41	3,223,092.54	40° 32' 19.029 N	104° 41' 50.378 W
7,267.00	38.80	138.90	6,802.27	403.52	1,699.73	1,440,051.13	3,223,110.66	40° 32' 18.846 N	104° 41' 50.145 W
7,310.00	40.80	145.50	6,835.32	381.78	1,716.55	1,440,029.54	3,223,127.68	40° 32' 18.631 N	104° 41' 49.927 W
7,352.00	43.10	150.30	6,866.56	357.99	1,731.44	1,440,005.89	3,223,142.78	40° 32' 18.396 N	104° 41' 49.735 W
7,395.00	46.00	154.50	6,897.21	331.26	1,745.38	1,439,979.29	3,223,156.96	40° 32' 18.132 N	104° 41' 49.554 W
7,438.00	49.60	157.90	6,926.09	302.12	1,758.21	1,439,950.26	3,223,170.04	40° 32' 17.844 N	104° 41' 49.388 W
7,480.00	53.70	160.80	6,952.15	271.30	1,769.79	1,439,919.55	3,223,181.91	40° 32' 17.540 N	104° 41' 49.238 W
7,523.00	57.50	163.10	6,976.44	237.57	1,780.77	1,439,885.92	3,223,193.19	40° 32' 17.206 N	104° 41' 49.096 W
7,565.00	61.30	165.40	6,997.82	202.79	1,790.57	1,439,851.22	3,223,203.30	40° 32' 16.863 N	104° 41' 48.969 W
7,607.00	64.50	168.20	7,016.95	166.39	1,799.09	1,439,814.90	3,223,212.15	40° 32' 16.503 N	104° 41' 48.859 W
7,650.00	68.10	170.50	7,034.24	127.70	1,806.35	1,439,776.28	3,223,219.76	40° 32' 16.121 N	104° 41' 48.764 W
7,692.00	71.50	171.90	7,048.74	88.76	1,812.38	1,439,737.39	3,223,226.13	40° 32' 15.736 N	104° 41' 48.687 W
7,727.00	73.80	172.40	7,059.17	55.66	1,816.94	1,439,704.34	3,223,230.99	40° 32' 15.409 N	104° 41' 48.627 W
7,772.00	78.57	174.36	7,069.92	12.27	1,821.96	1,439,661.00	3,223,236.40	40° 32' 14.980 N	104° 41' 48.562 W
<b>Cross 460' HL 461' FNL &amp; 32' FEL</b>									
7,794.00	80.90	175.30	7,073.84	-9.29	1,823.91	1,439,639.46	3,223,238.55	40° 32' 14.767 N	104° 41' 48.537 W
7,837.00	84.70	177.40	7,079.23	-51.85	1,826.63	1,439,596.92	3,223,241.64	40° 32' 14.346 N	104° 41' 48.502 W
7,879.00	87.40	178.20	7,082.12	-93.72	1,828.23	1,439,555.07	3,223,243.63	40° 32' 13.933 N	104° 41' 48.481 W
7,922.00	87.20	178.10	7,084.15	-136.65	1,829.62	1,439,512.15	3,223,245.40	40° 32' 13.508 N	104° 41' 48.463 W
8,007.00	88.30	179.30	7,087.49	-221.55	1,831.55	1,439,427.27	3,223,248.09	40° 32' 12.669 N	104° 41' 48.439 W
8,092.00	88.20	180.50	7,090.08	-306.51	1,831.69	1,439,342.31	3,223,249.00	40° 32' 11.830 N	104° 41' 48.437 W
8,178.00	88.00	180.00	7,092.93	-392.47	1,831.32	1,439,256.36	3,223,249.40	40° 32' 10.981 N	104° 41' 48.442 W
8,263.00	87.70	179.70	7,096.12	-477.40	1,831.54	1,439,171.43	3,223,250.38	40° 32' 10.141 N	104° 41' 48.439 W
8,348.00	90.50	181.20	7,097.46	-562.38	1,830.87	1,439,086.45	3,223,250.48	40° 32' 9.301 N	104° 41' 48.448 W
8,433.00	93.10	181.60	7,094.79	-647.31	1,828.80	1,439,001.51	3,223,249.16	40° 32' 8.462 N	104° 41' 48.475 W
8,519.00	93.00	180.70	7,090.21	-733.17	1,827.08	1,438,915.63	3,223,248.21	40° 32' 7.614 N	104° 41' 48.497 W
8,604.00	91.70	180.50	7,086.73	-818.09	1,826.19	1,438,830.71	3,223,248.09	40° 32' 6.775 N	104° 41' 48.509 W
8,689.00	90.60	180.50	7,085.02	-903.07	1,825.44	1,438,745.73	3,223,248.11	40° 32' 5.935 N	104° 41' 48.518 W
8,774.00	91.20	180.40	7,083.68	-988.05	1,824.78	1,438,660.74	3,223,248.20	40° 32' 5.095 N	104° 41' 48.527 W
8,860.00	89.70	179.30	7,083.01	-1,074.05	1,825.00	1,438,574.75	3,223,249.20	40° 32' 4.245 N	104° 41' 48.524 W
8,945.00	89.00	179.70	7,083.97	-1,159.04	1,825.74	1,438,489.77	3,223,250.71	40° 32' 3.405 N	104° 41' 48.515 W
9,030.00	87.50	179.30	7,086.57	-1,243.99	1,826.48	1,438,404.82	3,223,252.21	40° 32' 2.566 N	104° 41' 48.505 W
9,115.00	87.10	180.40	7,090.57	-1,328.90	1,826.71	1,438,319.93	3,223,253.20	40° 32' 1.727 N	104° 41' 48.502 W
9,200.00	87.90	181.10	7,094.28	-1,413.81	1,825.60	1,438,235.01	3,223,252.85	40° 32' 0.888 N	104° 41' 48.517 W

<b>Company:</b>	Great Western Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Schmunk EF 31-361HN
<b>Project:</b>	Weld Co., CO	<b>TVD Reference:</b>	WELL @ 4866.50usft (Original Well Elev)
<b>Site:</b>	Sec.31-T7N-R65W	<b>MD Reference:</b>	WELL @ 4866.50usft (Original Well Elev)
<b>Well:</b>	Schmunk EF 31-361HN	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,286.00	89.00	181.80	7,096.61	-1,499.74	1,823.42	1,438,149.05	3,223,251.44	40° 32' 0.039 N	104° 41' 48.545 W
9,371.00	88.70	181.80	7,098.31	-1,584.69	1,820.75	1,438,064.09	3,223,249.54	40° 31' 59.199 N	104° 41' 48.580 W
9,456.00	88.70	181.20	7,100.24	-1,669.63	1,818.53	1,437,979.13	3,223,248.08	40° 31' 58.360 N	104° 41' 48.609 W
9,542.00	89.00	180.90	7,101.97	-1,755.60	1,816.95	1,437,893.15	3,223,247.27	40° 31' 57.510 N	104° 41' 48.629 W
9,627.00	89.50	180.40	7,103.08	-1,840.59	1,815.99	1,437,808.16	3,223,247.07	40° 31' 56.671 N	104° 41' 48.642 W
9,712.00	89.80	180.40	7,103.60	-1,925.59	1,815.39	1,437,723.16	3,223,247.24	40° 31' 55.831 N	104° 41' 48.649 W
9,798.00	90.60	180.50	7,103.30	-2,011.58	1,814.72	1,437,637.16	3,223,247.34	40° 31' 54.981 N	104° 41' 48.658 W
9,883.00	89.60	180.40	7,103.15	-2,096.58	1,814.05	1,437,552.16	3,223,247.44	40° 31' 54.141 N	104° 41' 48.667 W
9,968.00	90.30	181.40	7,103.22	-2,181.57	1,812.72	1,437,467.16	3,223,246.86	40° 31' 53.301 N	104° 41' 48.684 W
10,053.00	90.70	182.60	7,102.48	-2,266.51	1,809.75	1,437,382.20	3,223,244.66	40° 31' 52.462 N	104° 41' 48.723 W
10,137.00	89.20	180.50	7,102.56	-2,350.47	1,807.48	1,437,298.22	3,223,243.14	40° 31' 51.632 N	104° 41' 48.752 W
10,223.00	89.60	179.70	7,103.46	-2,436.47	1,807.33	1,437,212.23	3,223,243.77	40° 31' 50.782 N	104° 41' 48.754 W
10,308.00	90.80	179.80	7,103.16	-2,521.46	1,807.70	1,437,127.24	3,223,244.90	40° 31' 49.942 N	104° 41' 48.750 W
10,393.00	91.50	180.40	7,101.45	-2,606.44	1,807.55	1,437,042.26	3,223,245.52	40° 31' 49.103 N	104° 41' 48.752 W
10,478.00	91.10	178.90	7,099.53	-2,691.42	1,808.07	1,436,957.29	3,223,246.80	40° 31' 48.263 N	104° 41' 48.745 W
10,564.00	90.60	179.10	7,098.25	-2,777.40	1,809.57	1,436,871.33	3,223,249.07	40° 31' 47.413 N	104° 41' 48.726 W
10,649.00	88.50	178.20	7,098.92	-2,862.36	1,811.57	1,436,786.38	3,223,251.84	40° 31' 46.574 N	104° 41' 48.700 W
10,734.00	87.90	178.80	7,101.59	-2,947.29	1,813.80	1,436,701.48	3,223,254.82	40° 31' 45.734 N	104° 41' 48.671 W
10,819.00	90.50	179.10	7,102.77	-3,032.26	1,815.35	1,436,616.53	3,223,257.14	40° 31' 44.895 N	104° 41' 48.651 W
10,904.00	90.40	178.40	7,102.11	-3,117.24	1,817.21	1,436,531.57	3,223,259.76	40° 31' 44.055 N	104° 41' 48.627 W
10,990.00	92.00	180.50	7,100.31	-3,203.21	1,818.03	1,436,445.61	3,223,261.36	40° 31' 43.206 N	104° 41' 48.616 W
11,075.00	90.70	180.70	7,098.30	-3,288.18	1,817.14	1,436,360.64	3,223,261.23	40° 31' 42.366 N	104° 41' 48.628 W
11,160.00	90.00	180.90	7,097.78	-3,373.17	1,815.96	1,436,275.64	3,223,260.81	40° 31' 41.526 N	104° 41' 48.643 W
11,245.00	88.10	181.80	7,099.19	-3,458.13	1,813.95	1,436,190.67	3,223,259.57	40° 31' 40.686 N	104° 41' 48.669 W
11,331.00	87.80	181.40	7,102.27	-3,544.04	1,811.55	1,436,104.74	3,223,257.94	40° 31' 39.838 N	104° 41' 48.701 W
11,416.00	88.00	181.20	7,105.38	-3,628.96	1,809.63	1,436,019.80	3,223,256.78	40° 31' 38.998 N	104° 41' 48.726 W
11,501.00	89.30	181.90	7,107.39	-3,713.90	1,807.33	1,435,934.84	3,223,255.24	40° 31' 38.159 N	104° 41' 48.755 W
11,586.00	89.70	182.10	7,108.13	-3,798.85	1,804.36	1,435,849.87	3,223,253.04	40° 31' 37.320 N	104° 41' 48.794 W
11,671.00	89.70	181.40	7,108.57	-3,883.81	1,801.77	1,435,764.89	3,223,251.21	40° 31' 36.480 N	104° 41' 48.828 W
11,757.00	90.40	181.90	7,108.50	-3,969.77	1,799.29	1,435,678.91	3,223,249.50	40° 31' 35.631 N	104° 41' 48.860 W
11,842.00	88.80	179.80	7,109.09	-4,054.75	1,798.03	1,435,593.92	3,223,249.01	40° 31' 34.791 N	104° 41' 48.876 W
11,927.00	91.20	179.10	7,109.09	-4,139.74	1,798.85	1,435,508.94	3,223,250.59	40° 31' 33.951 N	104° 41' 48.866 W
12,012.00	92.90	179.10	7,106.05	-4,224.67	1,800.18	1,435,424.03	3,223,252.68	40° 31' 33.112 N	104° 41' 48.849 W
12,052.00	93.60	178.80	7,103.78	-4,264.60	1,800.91	1,435,384.11	3,223,253.77	40° 31' 32.717 N	104° 41' 48.839 W
12,120.00	93.60	178.80	7,099.51	-4,332.45	1,802.33	1,435,316.27	3,223,255.80	40° 31' 32.047 N	104° 41' 48.821 W
PTB @ 12120' 481' FSL & 17' FEL									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,772.00	7,069.92	12.27	1,821.96	Cross 460' HL 461' FNL & 32' FEL
12,120.00	7,099.51	-4,332.45	1,802.33	PTB @ 12120' 481' FSL & 17' FEL

Checked By: _____	Approved By: _____	Date: _____
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