

# GMT Exploration

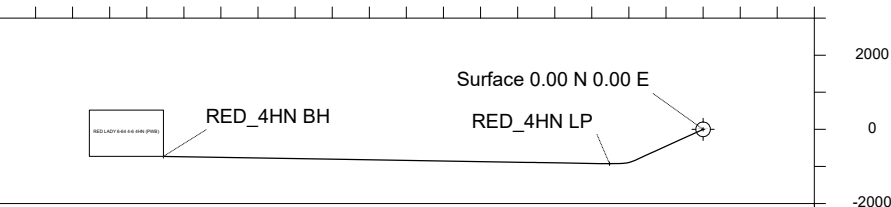
Location	DJ Basin	Slot	RED LADY 6-64 4-6 4HN
Field	Elbert County Wells	Well	RED LADY 6-64 4-6 4HN
Installation	Ragged 6-64 4 Pad	Wellbore	RED LADY 6-64 4-6 4HN (PWB)

Created by cdoke  
Date plotted 4-Apr-2023  
Plot reference is RED LADY 6-64 4-6 4HN (PWB).  
Ref wellpath is RED LADY 6-64 4-6 4HN (PWB).  
Coordinates are in Feet reference RED LADY 6-64 4-6 4HN.  
True Vertical Depths are reference Rig Datum.  
Measured Depths are reference Rig Datum.  
Rig Datum: Planned Datum #1  
Rig Datum to Mean Sea Level: 6014.00 ft.  
Plot North is aligned to TRUE North.

Scale 1 cm = 1000 ft

East (Feet) ->

-18000 -16000 -14000 -12000 -10000 -8000 -6000 -4000 -2000 0 2000

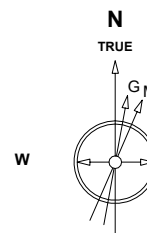
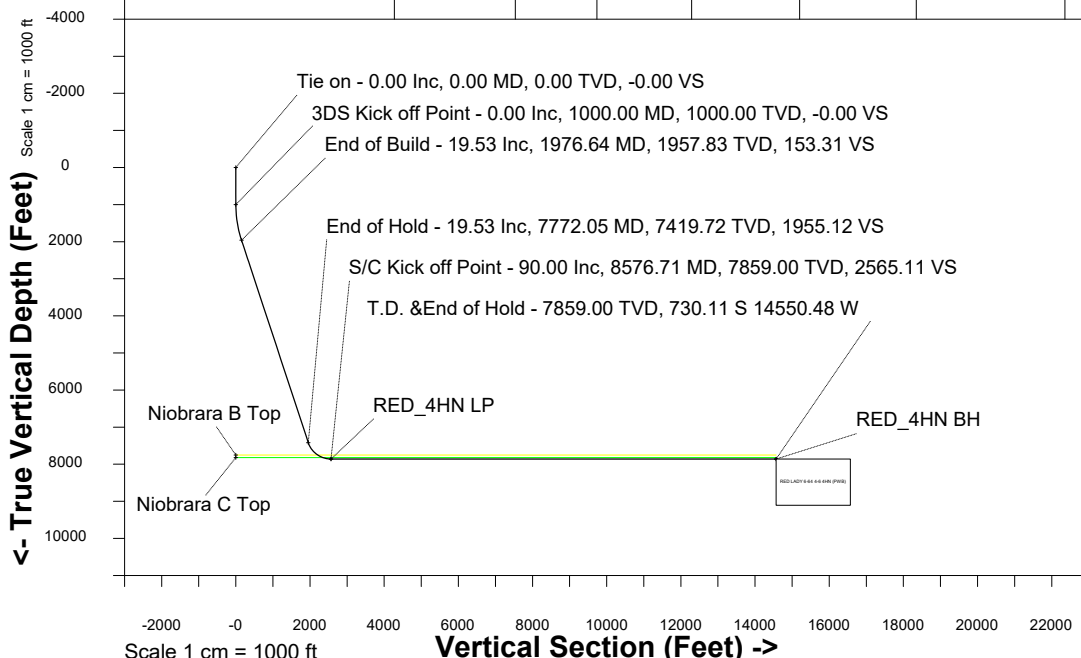


## WELL PROFILE DATA

Point	MD	Inc	Azi	TVD	North	East	deg/100ft	V. Sect
Tie on	0.00	0.00	0.00	0.00	S 0.00	W 0.00		-0.00
KOP	1000.00	0.00	245.55	1000.00	S 0.00	W 0.00	0.00	-0.00
End of Build	1976.64	19.53	245.55	1957.83	S 68.25	W 150.08	2.00	153.31
End of Hold	7772.05	19.53	245.55	7419.72	S 870.40	W 1913.91	0.00	1955.12
Target RED_4HN LP	8576.71	90.00	270.94	7859.00	S 927.28	W 2521.81	9.00	2565.11
T.D. & Target RED... BH	20607.00	90.00	270.94	7859.00	S 730.11	W 14550.48	0.00	14568.78

<- North(Feet)

Scale 1 cm = 1000 ft



Jan-3-2023  
IGRF-13 Dip: 65.95 deg Field: 51361.9 nT  
Lat: N39 33 44.1720 Long: W104 33 5.5800 Elev: 6016.70 ft  
Magnetic North is 7.50 deg East of TRUE North  
To correct azimuth from Magnetic to TRUE add 7.50 deg

Wellhead Details							
Name	Latitude	Longitude	Northing	Easting	North	East	Slot Elevation Above Installation [ft]
RED LADY 6-64 4-6 4HN	N39 33 43.5744	W104 33 4.4352	1084765.6780	3267502.3440	60.47S	89.66E	-2.70

Installation Details							
Name	Installation Position (Latitude)	Installation Position (Longitude)	Northing	Easting	Coord System Name	North Alignment	Ground Level Elev [ft]
Ragged 6-64 4 Pad	N39 33 44.1720	W104 33 5.5800	1084825.1840	3267412.0415	NAD83 Colorado State Planes, North Zone, US Foot	True	6016.70

Summary Wellpath								
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	Vertical Depth SS	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]
0.00	0.00	0.00	0.00	-6014.00	0.00N	0.00E		0.00
1000.00	0.00	245.55	1000.00	-5014.00	0.00N	0.00E	==>	0.00
1976.64	19.53	245.55	1957.83	-4056.17	68.25S	150.08W	2.00	153.31
7772.05	19.53	245.55	7419.72	1405.72	870.40S	1913.91W	==>	1955.12
8576.71	90.00	270.94	7859.00	1845.00	927.28S	2521.81W	9.00	2565.11
20607.00	90.00	270.94	7859.00	1845.00	730.11S	14550.48W	==>	14568.78

Interpolated Wellpath											
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Station Position (Latitude)	Station Position (Longitude)	All Station Comments	
0.00	0.00	0.00	0.00	0.00N	0.00E		0.00	N39 33 43.5744	W104 33 4.4352	Tie on, Slot Datum	
76.00	0.00	0.00	76.00	0.00N	0.00E	==>	0.00	N39 33 43.5744	W104 33 4.4352	Lower Dawson	
100.00	0.00	0.00	100.00	0.00N	0.00E	==>	0.00	N39 33 43.5744	W104 33 4.4352		
200.00	0.00	0.00	200.00	0.00N	0.00E	==>	0.00	N39 33 43.5744	W104 33 4.4352		
201.00	0.00	0.00	201.00	0.00N	0.00E	==>	0.00	N39 33 43.5744	W104 33 4.4352	Denver	
300.00	0.00	0.00	300.00	0.00N	0.00E	==>	0.00	N39 33 43.5744	W104 33 4.4352		
400.00	0.00	0.00	400.00	0.00N	0.00E	==>	0.00	N39 33 43.5744	W104 33 4.4352		
500.00	0.00	0.00	500.00	0.00N	0.00E	==>	0.00	N39 33 43.5744	W104 33 4.4352		
600.00	0.00	0.00	600.00	0.00N	0.00E	==>	0.00	N39 33 43.5744	W104 33 4.4352		
700.00	0.00	0.00	700.00	0.00N	0.00E	==>	0.00	N39 33 43.5744	W104 33 4.4352		
800.00	0.00	0.00	800.00	0.00N	0.00E	==>	0.00	N39 33 43.5744	W104 33 4.4352		
900.00	0.00	0.00	900.00	0.00N	0.00E	==>	0.00	N39 33 43.5744	W104 33 4.4352		
1000.00	0.00	245.55	1000.00	0.00N	0.00E	==>	0.00	N39 33 43.5744	W104 33 4.4352	3DS Kick off Point	
1088.01	1.76	245.55	1088.00	0.56S	1.23W	2.00	1.26	N39 33 43.5689	W104 33 4.4509	Upper Arapahoe	
1100.00	2.00	245.55	1099.98	0.72S	1.59W	2.00	1.62	N39 33 43.5673	W104 33 4.4555		
1200.00	4.00	245.55	1199.84	2.89S	6.35W	2.00	6.49	N39 33 43.5458	W104 33 4.5163		
1300.00	6.00	245.55	1299.45	6.50S	14.29W	2.00	14.59	N39 33 43.5102	W104 33 4.6176		
1400.00	8.00	245.55	1398.70	11.54S	25.38W	2.00	25.93	N39 33 43.4603	W104 33 4.7592		
1500.00	10.00	245.55	1497.47	18.02S	39.62W	2.00	40.47	N39 33 43.3963	W104 33 4.9411		
1600.00	12.00	245.55	1595.62	25.92S	56.99W	2.00	58.21	N39 33 43.3183	W104 33 5.1628		
1700.00	14.00	245.55	1693.06	35.23S	77.46W	2.00	79.13	N39 33 43.2262	W104 33 5.4243		
1800.00	16.00	245.55	1789.64	45.94S	101.02W	2.00	103.20	N39 33 43.1203	W104 33 5.7251		
1900.00	18.00	245.55	1885.27	58.04S	127.63W	2.00	130.38	N39 33 43.0007	W104 33 6.0649		
1908.14	18.16	245.55	1893.00	59.09S	129.93W	2.00	132.73	N39 33 42.9904	W104 33 6.0942	Laramie - Fox Hills	
1976.64	19.53	245.55	1957.83	68.25S	150.08W	2.00	153.31	N39 33 42.8999	W104 33 6.3514	End of Build	
2000.00	19.53	245.55	1979.85	71.48S	157.19W	==>	160.57	N39 33 42.8679	W104 33 6.4422		
2100.00	19.53	245.55	2074.09	85.33S	187.62W	==>	191.66	N39 33 42.7311	W104 33 6.8308		
2156.14	19.53	245.55	2127.00	93.10S	204.71W	==>	209.12	N39 33 42.6543	W104 33 7.0490	Pierre Shale (Base of Fox Hills)	
2200.00	19.53	245.55	2168.34	99.17S	218.06W	==>	222.75	N39 33 42.5943	W104 33 7.2194		
2300.00	19.53	245.55	2262.58	113.01S	248.49W	==>	253.84	N39 33 42.4575	W104 33 7.6080		
2400.00	19.53	245.55	2356.83	126.85S	278.93W	==>	284.93	N39 33 42.3207	W104 33 7.9966		
2500.00	19.53	245.55	2451.07	140.69S	309.36W	==>	316.02	N39 33 42.1839	W104 33 8.3852		
2600.00	19.53	245.55	2545.32	154.53S	339.80W	==>	347.11	N39 33 42.0471	W104 33 8.7738		
2700.00	19.53	245.55	2639.56	168.37S	370.23W	==>	378.20	N39 33 41.9103	W104 33 9.1625		
2800.00	19.53	245.55	2733.81	182.21S	400.67W	==>	409.29	N39 33 41.7735	W104 33 9.5511		
2900.00	19.53	245.55	2828.05	196.06S	431.10W	==>	440.39	N39 33 41.6367	W104 33 9.9397		
3000.00	19.53	245.55	2922.30	209.90S	461.54W	==>	471.48	N39 33 41.4999	W104 33 10.3283		
3100.00	19.53	245.55	3016.54	223.74S	491.97W	==>	502.57	N39 33 41.3631	W104 33 10.7169		
3200.00	19.53	245.55	3110.79	237.58S	522.41W	==>	533.66	N39 33 41.2263	W104 33 11.1055		
3300.00	19.53	245.55	3205.03	251.42S	552.84W	==>	564.75	N39 33 41.0895	W104 33 11.4941		
3400.00	19.53	245.55	3299.28	265.26S	583.28W	==>	595.84	N39 33 40.9527	W104 33 11.8827		
3500.00	19.53	245.55	3393.52	279.10S	613.71W	==>	626.93	N39 33 40.8159	W104 33 12.2713		
3600.00	19.53	245.55	3487.77	292.94S	644.15W	==>	658.02	N39 33 40.6791	W104 33 12.6599		
3700.00	19.53	245.55	3582.01	306.78S	674.58W	==>	689.11	N39 33 40.5423	W104 33 13.0485		
3800.00	19.53	245.55	3676.26	320.63S	705.02W	==>	720.20	N39 33 40.4055	W104 33 13.4371		
3900.00	19.53	245.55	3770.50	334.47S	735.45W	==>	751.29	N39 33 40.2687	W104 33 13.8256		
4000.00	19.53	245.55	3864.75	348.31S	765.89W	==>	782.38	N39 33 40.1319	W104 33 14.2142		
4100.00	19.53	245.55	3958.99	362.15S	796.32W	==>	813.47	N39 33 39.9951	W104 33 14.6028		
4200.00	19.53	245.55	4053.24	375.99S	826.76W	==>	844.56	N39 33 39.8583	W104 33 14.9914		
4300.00	19.53	245.55	4147.48	389.83S	857.19W	==>	875.65	N39 33 39.7215	W104 33 15.3800		
4400.00	19.53	245.55	4241.73	403.67S	887.63W	==>	906.74	N39 33 39.5847	W104 33 15.7686		
4500.00	19.53	245.55	4335.97	417.51S	918.06W	==>	937.83	N39 33 39.4479	W104 33 16.1572		

All data is in Feet unless otherwise stated  
Coordinates are from Slot MD's are from Rig and TVD's are from Rig ( Planned Datum #1 6014.0ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 267.13 degrees  
Bottom hole distance is 14568.78 Feet on azimuth 267.13 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by  
Date Printed: 6-Apr-2023

Interpolated Wellpath										
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Station Position (Latitude)	Station Position (Longitude)	All Station Comments
4600.00	19.53	245.55	4430.22	431.35S	948.50W	==>	968.92	N39 33 39.3111	W104 33 16.5458	
4700.00	19.53	245.55	4524.46	445.20S	978.93W	==>	1000.01	N39 33 39.1743	W104 33 16.9344	
4800.00	19.53	245.55	4618.71	459.04S	1009.37W	==>	1031.10	N39 33 39.0375	W104 33 17.3230	
4900.00	19.53	245.55	4712.95	472.88S	1039.80W	==>	1062.19	N39 33 38.9007	W104 33 17.7116	
5000.00	19.53	245.55	4807.20	486.72S	1070.24W	==>	1093.28	N39 33 38.7639	W104 33 18.1002	
5100.00	19.53	245.55	4901.45	500.56S	1100.67W	==>	1124.37	N39 33 38.6271	W104 33 18.4888	
5200.00	19.53	245.55	4995.69	514.40S	1131.11W	==>	1155.46	N39 33 38.4903	W104 33 18.8774	
5300.00	19.53	245.55	5089.94	528.24S	1161.54W	==>	1186.55	N39 33 38.3535	W104 33 19.2660	
5400.00	19.53	245.55	5184.18	542.08S	1191.98W	==>	1217.64	N39 33 38.2167	W104 33 19.6546	
5500.00	19.53	245.55	5278.43	555.92S	1222.41W	==>	1248.74	N39 33 38.0799	W104 33 20.0431	
5600.00	19.53	245.55	5372.67	569.77S	1252.85W	==>	1279.83	N39 33 37.9431	W104 33 20.4317	
5689.48	19.53	245.55	5457.00	582.15S	1280.08W	==>	1307.64	N39 33 37.8206	W104 33 20.7794	Sussex Sandstone
5700.00	19.53	245.55	5466.92	583.61S	1283.28W	==>	1310.92	N39 33 37.8062	W104 33 20.8203	
5800.00	19.53	245.55	5561.16	597.45S	1313.72W	==>	1342.01	N39 33 37.6694	W104 33 21.2089	
5900.00	19.53	245.55	5655.41	611.29S	1344.15W	==>	1373.10	N39 33 37.5326	W104 33 21.5975	
6000.00	19.53	245.55	5749.65	625.13S	1374.59W	==>	1404.19	N39 33 37.3958	W104 33 21.9861	
6100.00	19.53	245.55	5843.90	638.97S	1405.02W	==>	1435.28	N39 33 37.2590	W104 33 22.3747	
6200.00	19.53	245.55	5938.14	652.81S	1435.46W	==>	1466.37	N39 33 37.1222	W104 33 22.7633	
6300.00	19.53	245.55	6032.39	666.65S	1465.89W	==>	1497.46	N39 33 36.9854	W104 33 23.1519	
6400.00	19.53	245.55	6126.63	680.49S	1496.33W	==>	1528.55	N39 33 36.8486	W104 33 23.5404	
6500.00	19.53	245.55	6220.88	694.34S	1526.76W	==>	1559.64	N39 33 36.7118	W104 33 23.9290	
6600.00	19.53	245.55	6315.12	708.18S	1557.20W	==>	1590.73	N39 33 36.5750	W104 33 24.3176	
6700.00	19.53	245.55	6409.37	722.02S	1587.63W	==>	1621.82	N39 33 36.4381	W104 33 24.7062	
6800.00	19.53	245.55	6503.61	735.86S	1618.07W	==>	1652.91	N39 33 36.3013	W104 33 25.0948	
6900.00	19.53	245.55	6597.86	749.70S	1648.50W	==>	1684.00	N39 33 36.1645	W104 33 25.4834	
7000.00	19.53	245.55	6692.10	763.54S	1678.94W	==>	1715.09	N39 33 36.0277	W104 33 25.8720	
7100.00	19.53	245.55	6786.35	777.38S	1709.37W	==>	1746.18	N39 33 35.8909	W104 33 26.2605	
7200.00	19.53	245.55	6880.59	791.22S	1739.81W	==>	1777.27	N39 33 35.7541	W104 33 26.6491	
7300.00	19.53	245.55	6974.84	805.06S	1770.24W	==>	1808.36	N39 33 35.6173	W104 33 27.0377	
7400.00	19.53	245.55	7069.08	818.91S	1800.68W	==>	1839.45	N39 33 35.4805	W104 33 27.4263	
7500.00	19.53	245.55	7163.33	832.75S	1831.11W	==>	1870.54	N39 33 35.3436	W104 33 27.8149	
7600.00	19.53	245.55	7257.57	846.59S	1861.55W	==>	1901.63	N39 33 35.2068	W104 33 28.2034	
7700.00	19.53	245.55	7351.82	860.43S	1891.98W	==>	1932.72	N39 33 35.0700	W104 33 28.5920	
7772.05	19.53	245.55	7419.72	870.40S	1913.91W	==>	1955.12	N39 33 34.9714	W104 33 28.8720	End of Hold
7800.00	21.81	248.59	7445.87	874.23S	1923.00W	9.00	1964.39	N39 33 34.9336	W104 33 28.9880	
7900.00	30.25	255.81	7535.67	887.21S	1964.79W	9.00	2006.79	N39 33 34.8053	W104 33 29.5217	
7936.89	33.43	257.61	7567.01	891.67S	1983.73W	9.00	2025.92	N39 33 34.7612	W104 33 29.7635	Sharon Springs Shale Niobrara
7998.80	38.82	260.04	7617.00	898.69S	2019.53W	9.00	2062.03	N39 33 34.6918	W104 33 30.2205	
8000.00	38.92	260.08	7617.93	898.82S	2020.27W	9.00	2062.77	N39 33 34.6905	W104 33 30.2300	
8011.75	39.95	260.47	7627.01	900.08S	2027.62W	9.00	2070.18	N39 33 34.6780	W104 33 30.3239	Niobrara A
8100.00	47.70	262.98	7690.64	908.77S	2088.05W	9.00	2130.97	N39 33 34.5921	W104 33 31.0954	
8200.00	56.53	265.17	7751.99	916.82S	2166.48W	9.00	2209.70	N39 33 34.5125	W104 33 32.0968	
8200.04	56.54	265.17	7752.01	916.82S	2166.52W	9.00	2209.74	N39 33 34.5125	W104 33 32.0972	Niobrara B Top
8300.00	65.40	266.94	7800.48	922.77S	2253.62W	9.00	2297.03	N39 33 34.4536	W104 33 33.2093	
8357.37	70.49	267.85	7822.01	925.17S	2306.72W	9.00	2350.18	N39 33 34.4298	W104 33 33.8873	Niobrara C Top
8400.00	74.28	268.49	7834.91	926.47S	2347.32W	9.00	2390.80	N39 33 34.4169	W104 33 34.4057	
8500.00	83.17	269.90	7854.44	927.84S	2445.28W	9.00	2488.71	N39 33 34.4033	W104 33 35.6565	
8576.71	90.00	270.94	7859.00	927.28S	2521.81W	9.00	2565.11	N39 33 34.4088	W104 33 36.6336	S/C Kick off Point/Target, RED_4HN LP
8600.00	90.00	270.94	7859.00	926.90S	2545.09W	==>	2588.35	N39 33 34.4125	W104 33 36.9309	
8700.00	90.00	270.94	7859.00	925.26S	2645.08W	==>	2688.12	N39 33 34.4286	W104 33 38.2075	
8800.00	90.00	270.94	7859.00	923.62S	2745.07W	==>	2787.90	N39 33 34.4447	W104 33 39.4841	
8900.00	90.00	270.94	7859.00	921.98S	2845.05W	==>	2887.68	N39 33 34.4608	W104 33 40.7608	
9000.00	90.00	270.94	7859.00	920.34S	2945.04W	==>	2987.46	N39 33 34.4769	W104 33 42.0374	
9100.00	90.00	270.94	7859.00	918.70S	3045.03W	==>	3087.24	N39 33 34.4930	W104 33 43.3140	
9200.00	90.00	270.94	7859.00	917.06S	3145.01W	==>	3187.02	N39 33 34.5091	W104 33 44.5907	
9300.00	90.00	270.94	7859.00	915.42S	3245.00W	==>	3286.80	N39 33 34.5251	W104 33 45.8673	
9400.00	90.00	270.94	7859.00	913.78S	3344.99W	==>	3386.58	N39 33 34.5412	W104 33 47.1439	
9500.00	90.00	270.94	7859.00	912.15S	3444.97W	==>	3486.36	N39 33 34.5573	W104 33 48.4205	
9600.00	90.00	270.94	7859.00	910.51S	3544.96W	==>	3586.13	N39 33 34.5733	W104 33 49.6972	
9700.00	90.00	270.94	7859.00	908.87S	3644.94W	==>	3685.91	N39 33 34.5894	W104 33 50.9738	
9800.00	90.00	270.94	7859.00	907.23S	3744.93W	==>	3785.69	N39 33 34.6054	W104 33 52.2504	
9900.00	90.00	270.94	7859.00	905.59S	3844.92W	==>	3885.47	N39 33 34.6215	W104 33 53.5271	
10000.00	90.00	270.94	7859.00	903.95S	3944.90W	==>	3985.25	N39 33 34.6375	W104 33 54.8037	
10100.00	90.00	270.94	7859.00	902.31S	4044.89W	==>	4085.03	N39 33 34.6536	W104 33 56.0803	
10200.00	90.00	270.94	7859.00	900.67S	4144.88W	==>	4184.81	N39 33 34.6696	W104 33 57.3570	
10300.00	90.00	270.94	7859.00	899.03S	4244.86W	==>	4284.59	N39 33 34.6856	W104 33 58.6336	
10400.00	90.00	270.94	7859.00	897.40S	4344.85W	==>	4384.36	N39 33 34.7017	W104 33 59.9102	
10500.00	90.00	270.94	7859.00	895.76S	4444.84W	==>	4484.14	N39 33 34.7177	W104 34 1.1869	
10600.00	90.00	270.94	7859.00	894.12S	4544.82W	==>	4583.92	N39 33 34.7337	W104 34 2.4635	
10700.00	90.00	270.94	7859.00	892.48S	4644.81W	==>	4683.70	N39 33 34.7497	W104 34 3.7401	
10800.00	90.00	270.94	7859.00	890.84S	4744.80W	==>	4783.48	N39 33 34.7657	W104 34 5.0167	
10900.00	90.00	270.94	7859.00	889.20S	4844.78W	==>	4883.26	N39 33 34.7817	W104 34 6.2934	
11000.00	90.00	270.94	7859.00	887.56S	4944.77W	==>	4983.04	N39 33 34.7977	W104 34 7.5700	
11100.00	90.00	270.94	7859.00	885.92S	5044.76W	==>	5082.82	N39 33 34.8137	W104 34 8.8466	
11200.00	90.00	270.94	7859.00	884.28S	5144.74W	==>	5182.59	N39 33 34.8297	W104 34 10.1233	
11300.00	90.00	270.94	7859.00	882.65S	5244.73W	==>	5282.37	N39 33 34.8457	W104 34 11.3999	
11400.00	90.00	270.94	7859.00	881.01S	5344.72W	==>	5382.15	N39 33 34.8617	W104 34 12.6765	
11500.00	90.00	270.94	7859.00	879.37S	5444.70W	==>	5481.93	N39 33 34.8777	W104 34 13.9532	
11600.00	90.00	270.94	7859.00	877.73S	5544.69W	==>	5581.71	N39 33 34.8937	W104 34 15.2298	
11700.00	90.00	270.94	7859.00	876.09S	5644.68W	==>	5681.49	N39 33 34.9096	W104 34 16.5064	
11800.00	90.00	270.94	7859.00	874.45S	5744.66W	==>	5781.27	N39 33 34.9256	W104 34 17.7831	
11900.00	90.00	270.94	7859.00	872.81S	5844.65W	==>	5881.05	N39 33 34.9416	W104 34 19.0597	
12000.00	90.00	270.94	7859.00	871.17S	5944.64W	==>	5980.83	N39 33 34.9576	W104 34 20.3363	

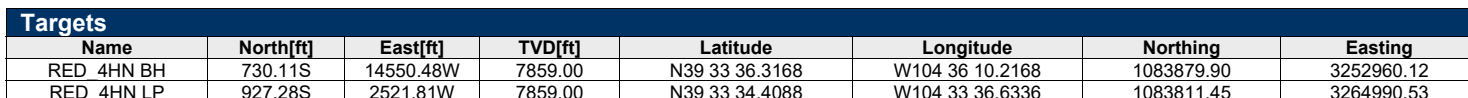
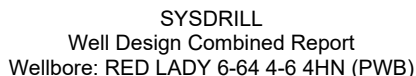
All data is in Feet unless otherwise stated  
Coordinates are from Slot MD's are from Rig and TVD's are from Rig ( Planned Datum #1 6014.0ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 267.13 degrees  
Bottom hole distance is 14568.78 Feet on azimuth 267.13 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by  
Date Printed: 6-Apr-2023

Interpolated Wellpath										
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Station Position (Latitude)	Station Position (Longitude)	All Station Comments
12100.00	90.00	270.94	7859.00	869.53S	6044.62W	==>	6080.60	N39 33 34.9735	W104 34 21.6130	
12200.00	90.00	270.94	7859.00	867.89S	6144.61W	==>	6180.38	N39 33 34.9895	W104 34 22.8896	
12300.00	90.00	270.94	7859.00	866.26S	6244.60W	==>	6280.16	N39 33 35.0054	W104 34 24.1662	
12400.00	90.00	270.94	7859.00	864.62S	6344.58W	==>	6379.94	N39 33 35.0214	W104 34 25.4429	
12500.00	90.00	270.94	7859.00	862.98S	6444.57W	==>	6479.72	N39 33 35.0373	W104 34 26.7195	
12600.00	90.00	270.94	7859.00	861.34S	6544.56W	==>	6579.50	N39 33 35.0533	W104 34 27.9961	
12700.00	90.00	270.94	7859.00	859.70S	6644.54W	==>	6679.28	N39 33 35.0692	W104 34 29.2728	
12800.00	90.00	270.94	7859.00	858.06S	6744.53W	==>	6779.06	N39 33 35.0851	W104 34 30.5494	
12900.00	90.00	270.94	7859.00	856.42S	6844.52W	==>	6878.83	N39 33 35.1011	W104 34 31.8261	
13000.00	90.00	270.94	7859.00	854.78S	6944.50W	==>	6978.61	N39 33 35.1170	W104 34 33.1027	
13100.00	90.00	270.94	7859.00	853.14S	7044.49W	==>	7078.39	N39 33 35.1329	W104 34 34.3793	
13200.00	90.00	270.94	7859.00	851.51S	7144.47W	==>	7178.17	N39 33 35.1488	W104 34 35.6560	
13300.00	90.00	270.94	7859.00	849.87S	7244.46W	==>	7277.95	N39 33 35.1647	W104 34 36.9326	
13400.00	90.00	270.94	7859.00	848.23S	7344.45W	==>	7377.73	N39 33 35.1806	W104 34 38.2092	
13500.00	90.00	270.94	7859.00	846.59S	7444.43W	==>	7477.51	N39 33 35.1965	W104 34 39.4859	
13600.00	90.00	270.94	7859.00	844.95S	7544.42W	==>	7577.29	N39 33 35.2124	W104 34 40.7625	
13700.00	90.00	270.94	7859.00	843.31S	7644.41W	==>	7677.06	N39 33 35.2283	W104 34 42.0391	
13800.00	90.00	270.94	7859.00	841.67S	7744.39W	==>	7776.84	N39 33 35.2442	W104 34 43.3158	
13900.00	90.00	270.94	7859.00	840.03S	7844.38W	==>	7876.62	N39 33 35.2601	W104 34 44.5924	
14000.00	90.00	270.94	7859.00	838.39S	7944.37W	==>	7976.40	N39 33 35.2760	W104 34 45.8691	
14100.00	90.00	270.94	7859.00	836.76S	8044.35W	==>	8076.18	N39 33 35.2919	W104 34 47.1457	
14200.00	90.00	270.94	7859.00	835.12S	8144.34W	==>	8175.96	N39 33 35.3078	W104 34 48.4223	
14300.00	90.00	270.94	7859.00	833.48S	8244.33W	==>	8275.74	N39 33 35.3236	W104 34 49.6990	
14400.00	90.00	270.94	7859.00	831.84S	8344.31W	==>	8375.52	N39 33 35.3395	W104 34 50.9756	
14500.00	90.00	270.94	7859.00	830.20S	8444.30W	==>	8475.29	N39 33 35.3554	W104 34 52.2522	
14600.00	90.00	270.94	7859.00	828.56S	8544.29W	==>	8575.07	N39 33 35.3712	W104 34 53.5289	
14700.00	90.00	270.94	7859.00	826.92S	8644.27W	==>	8674.85	N39 33 35.3871	W104 34 54.8055	
14800.00	90.00	270.94	7859.00	825.28S	8744.26W	==>	8774.63	N39 33 35.4030	W104 34 56.0822	
14900.00	90.00	270.94	7859.00	823.64S	8844.25W	==>	8874.41	N39 33 35.4188	W104 34 57.3588	
15000.00	90.00	270.94	7859.00	822.01S	8944.23W	==>	8974.19	N39 33 35.4346	W104 34 58.6354	
15100.00	90.00	270.94	7859.00	820.37S	9044.22W	==>	9073.97	N39 33 35.4505	W104 34 59.9121	
15200.00	90.00	270.94	7859.00	818.73S	9144.21W	==>	9173.75	N39 33 35.4663	W104 35 1.1887	
15300.00	90.00	270.94	7859.00	817.09S	9244.19W	==>	9273.53	N39 33 35.4822	W104 35 2.4653	
15400.00	90.00	270.94	7859.00	815.45S	9344.18W	==>	9373.30	N39 33 35.4980	W104 35 3.7420	
15500.00	90.00	270.94	7859.00	813.81S	9444.17W	==>	9473.08	N39 33 35.5138	W104 35 5.0186	
15600.00	90.00	270.94	7859.00	812.17S	9544.15W	==>	9572.86	N39 33 35.5296	W104 35 6.2953	
15700.00	90.00	270.94	7859.00	810.53S	9644.14W	==>	9672.64	N39 33 35.5455	W104 35 7.5719	
15800.00	90.00	270.94	7859.00	808.89S	9744.13W	==>	9772.42	N39 33 35.5613	W104 35 8.8485	
15900.00	90.00	270.94	7859.00	807.26S	9844.11W	==>	9872.20	N39 33 35.5771	W104 35 10.1252	
16000.00	90.00	270.94	7859.00	805.62S	9944.10W	==>	9971.98	N39 33 35.5929	W104 35 11.4018	
16100.00	90.00	270.94	7859.00	803.98S	10044.09W	==>	10071.76	N39 33 35.6087	W104 35 12.6785	
16200.00	90.00	270.94	7859.00	802.34S	10144.07W	==>	10171.53	N39 33 35.6245	W104 35 13.9551	
16300.00	90.00	270.94	7859.00	800.70S	10244.06W	==>	10271.31	N39 33 35.6403	W104 35 15.2318	
16400.00	90.00	270.94	7859.00	799.06S	10344.05W	==>	10371.09	N39 33 35.6561	W104 35 16.5084	
16500.00	90.00	270.94	7859.00	797.42S	10444.03W	==>	10470.87	N39 33 35.6719	W104 35 17.7850	
16600.00	90.00	270.94	7859.00	795.78S	10544.02W	==>	10570.65	N39 33 35.6876	W104 35 19.0617	
16700.00	90.00	270.94	7859.00	794.14S	10644.00W	==>	10670.43	N39 33 35.7034	W104 35 20.3383	
16800.00	90.00	270.94	7859.00	792.51S	10743.99W	==>	10770.21	N39 33 35.7192	W104 35 21.6150	
16900.00	90.00	270.94	7859.00	790.87S	10843.98W	==>	10869.99	N39 33 35.7350	W104 35 22.8916	
17000.00	90.00	270.94	7859.00	789.23S	10943.96W	==>	10969.76	N39 33 35.7507	W104 35 24.1682	
17100.00	90.00	270.94	7859.00	787.59S	11043.95W	==>	11069.54	N39 33 35.7665	W104 35 25.4449	
17200.00	90.00	270.94	7859.00	785.95S	11143.94W	==>	11169.32	N39 33 35.7823	W104 35 26.7215	
17300.00	90.00	270.94	7859.00	784.31S	11243.92W	==>	11269.10	N39 33 35.7980	W104 35 27.9982	
17400.00	90.00	270.94	7859.00	782.67S	11343.91W	==>	11368.88	N39 33 35.8138	W104 35 29.2748	
17500.00	90.00	270.94	7859.00	781.03S	11443.90W	==>	11468.66	N39 33 35.8295	W104 35 30.5515	
17600.00	90.00	270.94	7859.00	779.39S	11543.88W	==>	11568.44	N39 33 35.8453	W104 35 31.8281	
17700.00	90.00	270.94	7859.00	777.76S	11643.87W	==>	11668.22	N39 33 35.8610	W104 35 33.1047	
17800.00	90.00	270.94	7859.00	776.12S	11743.86W	==>	11768.00	N39 33 35.8767	W104 35 34.3814	
17900.00	90.00	270.94	7859.00	774.48S	11843.84W	==>	11867.77	N39 33 35.8925	W104 35 35.6580	
18000.00	90.00	270.94	7859.00	772.84S	11943.83W	==>	11967.55	N39 33 35.9082	W104 35 36.9347	
18100.00	90.00	270.94	7859.00	771.20S	12043.82W	==>	12067.33	N39 33 35.9239	W104 35 38.2113	
18200.00	90.00	270.94	7859.00	769.56S	12143.80W	==>	12167.11	N39 33 35.9396	W104 35 39.4880	
18300.00	90.00	270.94	7859.00	767.92S	12243.79W	==>	12266.89	N39 33 35.9553	W104 35 40.7646	
18400.00	90.00	270.94	7859.00	766.28S	12343.78W	==>	12366.67	N39 33 35.9711	W104 35 42.0412	
18500.00	90.00	270.94	7859.00	764.64S	12443.76W	==>	12466.45	N39 33 35.9868	W104 35 43.3179	
18600.00	90.00	270.94	7859.00	763.01S	12543.75W	==>	12566.23	N39 33 36.0025	W104 35 44.5945	
18700.00	90.00	270.94	7859.00	761.37S	12643.74W	==>	12666.00	N39 33 36.0182	W104 35 45.8712	
18800.00	90.00	270.94	7859.00	759.73S	12743.72W	==>	12765.78	N39 33 36.0339	W104 35 47.1478	
18900.00	90.00	270.94	7859.00	758.09S	12843.71W	==>	12865.56	N39 33 36.0496	W104 35 48.4245	
19000.00	90.00	270.94	7859.00	756.45S	12943.70W	==>	12965.34	N39 33 36.0652	W104 35 49.7011	
19100.00	90.00	270.94	7859.00	754.81S	13043.68W	==>	13065.12	N39 33 36.0809	W104 35 50.9778	
19200.00	90.00	270.94	7859.00	753.17S	13143.67W	==>	13164.90	N39 33 36.0966	W104 35 52.2544	
19300.00	90.00	270.94	7859.00	751.53S	13243.66W	==>	13264.68	N39 33 36.1123	W104 35 53.5311	
19400.00	90.00	270.94	7859.00	749.89S	13343.64W	==>	13364.46	N39 33 36.1280	W104 35 54.8077	
19500.00	90.00	270.94	7859.00	748.26S	13443.63W	==>	13464.23	N39 33 36.1436	W104 35 56.0843	
19600.00	90.00	270.94	7859.00	746.62S	13543.62W	==>	13564.01	N39 33 36.1593	W104 35 57.3610	
19700.00	90.00	270.94	7859.00	744.98S	13643.60W	==>	13663.79	N39 33 36.1749	W104 35 58.6376	
19800.00	90.00	270.94	7859.00	743.34S	13743.59W	==>	13763.57	N39 33 36.1906	W104 35 59.9143	
19900.00	90.00	270.94	7859.00	741.70S	13843.57W	==>	13863.35	N39 33 36.2063	W104 36 1.1909	
20000.00	90.00	270.94	7859.00	740.06S	13943.56W	==>	13963.13	N39 33 36.2219	W104 36 2.4676	
20100.00	90.00	270.94	7859.00	738.42S	14043.55W	==>	14062.91	N39 33 36.2375	W104 36 3.7442	
20200.00	90.00	270.94	7859.00	736.78S	14143.53W	==>	14162.69	N39 33 36.2532	W104 36 5.0209	
20300.00	90.00	270.94	7859.00	735.14S	14243.52W	==>	14262.47	N39 33 36.2688	W104 36 6.2975	
20400.00	90.00	270.94	7859.00	733.51S	14343.51W	==>	14362.24	N39 33 36.2845	W104 36 7.5742	
20500.00	90.00	270.94	7859.00	731.87S	14443.49W	==>	14462.02	N39 33 36.3001	W104 36 8.8508	

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Vertical Section is from 0.00N 0.00E on azimuth 267.13 degrees  
Bottom hole distance is 14568.78 Feet on azimuth 2

Interpolated Wellpath										
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Station Position (Latitude)	Station Position (Longitude)	All Station Comments
20600.00	90.00	270.94	7859.00	730.23S	14543.48W	==>	14561.80	N39 33 36.3157	W104 36 10.1275	
20607.00	90.00	270.94	7859.00	730.11S	14550.48W	==>	14568.78	N39 33 36.3168	W104 36 10.2168	End of Hold/Target, RED_4HN BH

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Formations						
Formation Name	Formation MD	Formation TVD	Wellpath Inc	Incidence Angle	North	East
Lower Dawson	76.00	76.00	0.00	90.00	0.00N	0.00E
Denver	201.00	201.00	0.00	90.00	0.00N	0.00E
Upper Arapahoe	1088.01	1088.00	1.76	88.24	0.56S	1.23W
Laramie - Fox Hills	1908.14	1893.00	18.16	71.84	59.09S	129.93W
Pierre Shale (Base of Fox Hills)	2156.14	2127.00	19.53	70.47	93.10S	204.71W
Sussex Sandstone	5689.48	5457.00	19.53	70.47	582.15S	1280.08W
Sharon Springs Shale	7936.89	7567.01	33.43	56.57	891.67S	1983.73W
Niobrara	7998.80	7617.00	38.82	51.18	898.69S	2019.53W
Niobrara A	8011.75	7627.01	39.95	50.05	900.08S	2027.62W
Niobrara B Top	8200.04	7752.01	56.54	33.46	916.82S	2166.52W
Niobrara C Top	8357.37	7822.01	70.49	19.51	925.17S	2306.72W

Survey Tool Program					
Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
1095748	Planned	20607.00	7859.00	WdW Rate Gvrs	Standard

Notes	

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Vertical Section is from 0.00N 0.00E on azimuth 267.13 degrees  
Bottom hole distance is 14568.78 Feet on azimuth 267.13 degrees from Wellhead  
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