

# GMT Exploration

Location	DJ Basin	Slot	SILVERSIDE 6-64 4-2 4HN
Field	Elbert County Wells	Well	SILVERSIDE 6-64 4-2 4HN
Installation	Ragged 6-64 4 Pad	Wellbore	SILVERSIDE 6-64 4-2 4HN (PWB)

Created by	cdoke
Date plotted	4-Apr-2023
Plot reference is SILVERSIDE 6-64 4-2 4HN (PWB).	
Ref wellpath is SILVERSIDE 6-64 4-2 4HN (PWB).	
Coordinates are in Feet reference SILVERSIDE 6-64 4-2 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: 6017.70 ft.	
Plot North is aligned to TRUE North.	

Scale 1 cm = 800 ft

East (Feet) ->

000 -3200 -1600 0 1600 3200 4800 6400 8000 9600 11200 12800

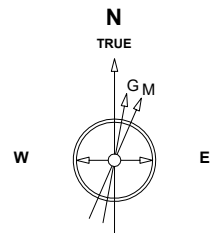
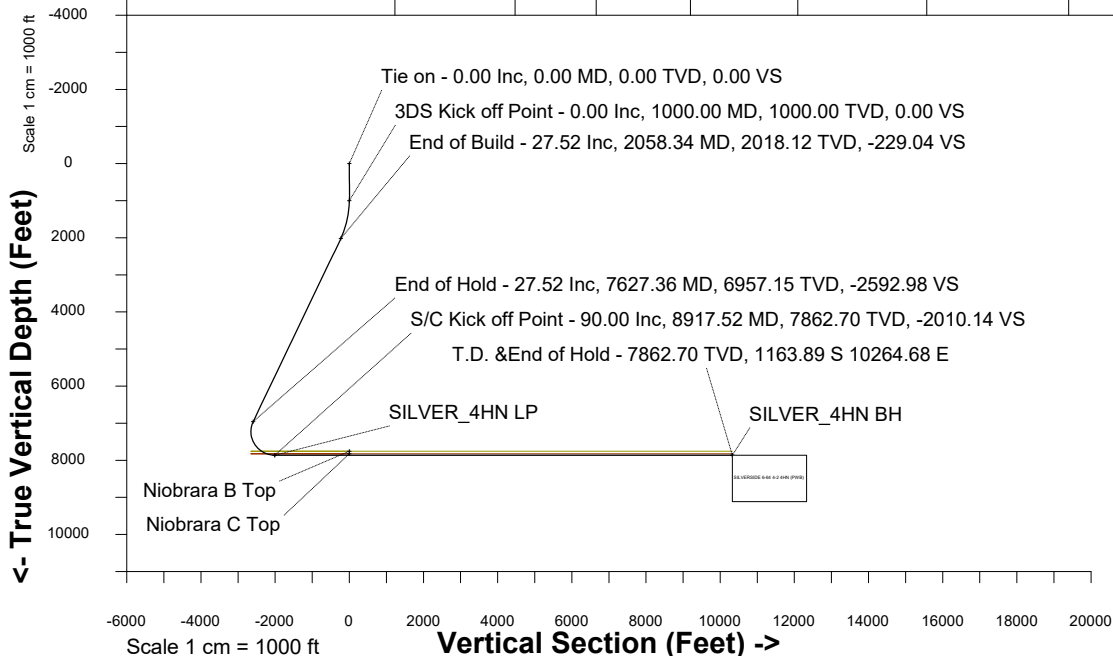


## WELL PROFILE DATA

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	253.22	1000.00	S 0.00	W 0.00	0.00	0.00
End of Build	2058.34	27.52	253.22	2018.12	S 71.99	W 238.67	2.60	-229.04
End of Hold	7627.36	27.52	253.22	6957.15	S 814.97	W 2702.00	0.00	-2592.98
Target SILVER_4HN LP	8917.52	90.00	90.91	7862.70	S 967.38	W 2132.71	9.00	-2010.14
T.D. & Target SIL... BH	21316.47	90.00	90.91	7862.70	S 1163.89	E 10264.68	0.00	10330.46

<- North(Feet)

Scale 1 cm = 800 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

Azimuth 96.47 with reference 0.00 N, 0.00 E from SILVERSIDE 6-64 4-2 4HN

Wellhead Details							
Name	Latitude	Longitude	Northing	Easting	North	East	Slot Elevation Above Installation [ft]
SILVERSIDE 6-64 4-2 4HN	N39 33 43.5780	W104 33 5.5836	1084765.0800	3267412.4024	60.10S	0.28W	1.00

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	-6017.70	0.00N	0.00E		0.00
1000.00	0.00	253.22	1000.00	-5017.70	0.00N	0.00E	==>	0.00
2058.34	27.52	253.22	2018.12	-3999.58	71.99S	238.67W	2.60	-229.04
7627.36	27.52	253.22	6957.15	939.45	814.97S	2702.00W	==>	-2592.98
8917.52	90.00	90.91	7862.70	1845.00	967.38S	2132.71W	9.00	-2010.14
21316.47	90.00	90.91	7862.70	1845.00	1163.89S	10264.68E	==>	10330.46

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 43.5780	W104 33 5.5836	Tie on, Slot Datum	
80.00	0.00	0.00	80.00	0.00N	0.00E	==>	0.00	N39 33 43.5780	W104 33 5.5836	Lower Dawson	
100.00	0.00	0.00	100.00	0.00N	0.00E	==>	0.00	N39 33 43.5780	W104 33 5.5836		
200.00	0.00	0.00	200.00	0.00N	0.00E	==>	0.00	N39 33 43.5780	W104 33 5.5836		
205.00	0.00	0.00	205.00	0.00N	0.00E	==>	0.00	N39 33 43.5780	W104 33 5.5836	Denver	
300.00	0.00	0.00	300.00	0.00N	0.00E	==>	0.00	N39 33 43.5780	W104 33 5.5836		
400.00	0.00	0.00	400.00	0.00N	0.00E	==>	0.00	N39 33 43.5780	W104 33 5.5836		
500.00	0.00	0.00	500.00	0.00N	0.00E	==>	0.00	N39 33 43.5780	W104 33 5.5836		
600.00	0.00	0.00	600.00	0.00N	0.00E	==>	0.00	N39 33 43.5780	W104 33 5.5836		
700.00	0.00	0.00	700.00	0.00N	0.00E	==>	0.00	N39 33 43.5780	W104 33 5.5836		
800.00	0.00	0.00	800.00	0.00N	0.00E	==>	0.00	N39 33 43.5780	W104 33 5.5836		
900.00	0.00	0.00	900.00	0.00N	0.00E	==>	0.00	N39 33 43.5780	W104 33 5.5836		
1000.00	0.00	253.22	1000.00	0.00N	0.00E	==>	0.00	N39 33 43.5780	W104 33 5.5836	3DS Kick off Point	
1092.03	2.39	253.22	1092.00	0.55S	1.84W	2.60	-1.77	N39 33 43.5725	W104 33 5.6071	Upper Arapahoe	
1100.00	2.60	253.22	1099.97	0.66S	2.17W	2.60	-2.08	N39 33 43.5715	W104 33 5.6113		
1200.00	5.20	253.22	1199.73	2.62S	8.68W	2.60	-8.33	N39 33 43.5521	W104 33 5.6945		
1300.00	7.80	253.22	1299.07	5.89S	19.52W	2.60	-18.73	N39 33 43.5198	W104 33 5.8328		
1400.00	10.40	253.22	1397.81	10.45S	34.66W	2.60	-33.26	N39 33 43.4747	W104 33 6.0262		
1500.00	13.00	253.22	1495.72	16.31S	54.07W	2.60	-51.89	N39 33 43.4168	W104 33 6.2740		
1600.00	15.60	253.22	1592.61	23.44S	77.72W	2.60	-74.58	N39 33 43.3463	W104 33 6.5760		
1700.00	18.20	253.22	1688.29	31.84S	105.55W	2.60	-101.29	N39 33 43.2634	W104 33 6.9313		
1800.00	20.80	253.22	1782.54	41.47S	137.51W	2.60	-131.96	N39 33 43.1681	W104 33 7.3393		
1900.00	23.40	253.22	1875.19	52.34S	173.52W	2.60	-166.52	N39 33 43.0607	W104 33 7.7992		
1923.82	24.02	253.22	1897.00	55.10S	182.69W	2.60	-175.32	N39 33 43.0334	W104 33 7.9163	Laramie - Fox Hills	
2000.00	26.00	253.22	1966.03	64.40S	213.52W	2.60	-204.91	N39 33 42.9415	W104 33 8.3100		
2058.34	27.52	253.22	2018.12	71.99S	238.67W	2.60	-229.04	N39 33 42.8665	W104 33 8.6311	End of Build	
2100.00	27.52	253.22	2055.07	77.55S	257.10W	==>	-246.73	N39 33 42.8116	W104 33 8.8663		
2185.62	27.52	253.22	2131.00	88.97S	294.97W	==>	-283.07	N39 33 42.6987	W104 33 9.3499	Pierre Shale (Base of Fox Hills)	
2200.00	27.52	253.22	2143.76	90.89S	301.33W	==>	-289.17	N39 33 42.6797	W104 33 9.4311		
2300.00	27.52	253.22	2232.44	104.23S	345.56W	==>	-331.62	N39 33 42.5479	W104 33 9.9959		
2400.00	27.52	253.22	2321.13	117.57S	389.80W	==>	-374.07	N39 33 42.4160	W104 33 10.5607		
2500.00	27.52	253.22	2409.82	130.91S	434.03W	==>	-416.52	N39 33 42.2842	W104 33 11.1255		
2600.00	27.52	253.22	2498.51	144.25S	478.26W	==>	-458.97	N39 33 42.1523	W104 33 11.6902		
2700.00	27.52	253.22	2587.19	157.59S	522.50W	==>	-501.41	N39 33 42.0204	W104 33 12.2550		
2800.00	27.52	253.22	2675.88	170.94S	566.73W	==>	-543.86	N39 33 41.8886	W104 33 12.8198		
2900.00	27.52	253.22	2764.57	184.28S	610.96W	==>	-586.31	N39 33 41.7567	W104 33 13.3846		
3000.00	27.52	253.22	2853.26	197.62S	655.19W	==>	-628.76	N39 33 41.6248	W104 33 13.9493		
3100.00	27.52	253.22	2941.94	210.96S	699.43W	==>	-671.21	N39 33 41.4930	W104 33 14.5141		
3200.00	27.52	253.22	3030.63	224.30S	743.66W	==>	-713.65	N39 33 41.3611	W104 33 15.0789		
3300.00	27.52	253.22	3119.32	237.64S	787.89W	==>	-756.10	N39 33 41.2292	W104 33 15.6437		
3400.00	27.52	253.22	3208.01	250.98S	832.12W	==>	-798.55	N39 33 41.0974	W104 33 16.2084		
3500.00	27.52	253.22	3296.69	264.33S	876.36W	==>	-841.00	N39 33 40.9655	W104 33 16.7732		
3600.00	27.52	253.22	3385.38	277.67S	920.59W	==>	-883.45	N39 33 40.8336	W104 33 17.3380		
3700.00	27.52	253.22	3474.07	291.01S	964.82W	==>	-925.89	N39 33 40.7018	W104 33 17.9028		
3800.00	27.52	253.22	3562.76	304.35S	1009.06W	==>	-968.34	N39 33 40.5699	W104 33 18.4675		
3900.00	27.52	253.22	3651.44	317.69S	1053.29W	==>	-1010.79	N39 33 40.4380	W104 33 19.0323		
4000.00	27.52	253.22	3740.13	331.03S	1097.52W	==>	-1053.24	N39 33 40.3061	W104 33 19.5971		
4100.00	27.52	253.22	3828.82	344.37S	1141.75W	==>	-1095.69	N39 33 40.1743	W104 33 20.1618		
4200.00	27.52	253.22	3917.51	357.72S	1185.99W	==>	-1138.13	N39 33 40.0424	W104 33 20.7266		
4300.00	27.52	253.22	4006.19	371.06S	1230.22W	==>	-1180.58	N39 33 39.9105	W104 33 21.2914		
4400.00	27.52	253.22	4094.88	384.40S	1274.45W	==>	-1223.03	N39 33 39.7786	W104 33 21.8561		
4500.00	27.52	253.22	4183.57	397.74S	1318.69W	==>	-1265.48	N39 33 39.6468	W104 33 22.4209		

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 6017.7ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 96.47 degrees  
Bottom hole distance is 10330.46 Feet on azimuth 96.47 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	27.52	253.22	4272.26	411.08S	1362.92W	=>	-1307.93	N39 33 39.5149	W104 33 22.9857	
4700.00	27.52	253.22	4360.94	424.42S	1407.15W	=>	-1350.37	N39 33 39.3830	W104 33 23.5504	
4800.00	27.52	253.22	4449.63	437.76S	1451.38W	=>	-1392.82	N39 33 39.2511	W104 33 24.1152	
4900.00	27.52	253.22	4538.32	451.11S	1495.62W	=>	-1435.27	N39 33 39.1192	W104 33 24.6800	
5000.00	27.52	253.22	4627.01	464.45S	1539.85W	=>	-1477.72	N39 33 38.9874	W104 33 25.2447	
5100.00	27.52	253.22	4715.69	477.79S	1584.08W	=>	-1520.17	N39 33 38.8555	W104 33 25.8095	
5200.00	27.52	253.22	4804.38	491.13S	1628.32W	=>	-1562.61	N39 33 38.7236	W104 33 26.3743	
5300.00	27.52	253.22	4893.07	504.47S	1672.55W	=>	-1605.06	N39 33 38.5917	W104 33 26.9390	
5400.00	27.52	253.22	4981.76	517.81S	1716.78W	=>	-1647.51	N39 33 38.4598	W104 33 27.5038	
5500.00	27.52	253.22	5070.44	531.15S	1761.01W	=>	-1689.96	N39 33 38.3279	W104 33 28.0685	
5600.00	27.52	253.22	5159.13	544.50S	1805.25W	=>	-1732.41	N39 33 38.1961	W104 33 28.6333	
5700.00	27.52	253.22	5247.82	557.84S	1849.48W	=>	-1774.85	N39 33 38.0642	W104 33 29.1981	
5800.00	27.52	253.22	5336.51	571.18S	1893.71W	=>	-1817.30	N39 33 37.9323	W104 33 29.7628	
5900.00	27.52	253.22	5425.19	584.52S	1937.94W	=>	-1859.75	N39 33 37.8004	W104 33 30.3276	
5940.37	27.52	253.22	5461.00	589.91S	1955.80W	=>	-1876.89	N39 33 37.7472	W104 33 30.5556	Sussex Sandstone
6000.00	27.52	253.22	5513.88	597.86S	1982.18W	=>	-1902.20	N39 33 37.6685	W104 33 30.8923	
6100.00	27.52	253.22	5602.57	611.20S	2026.41W	=>	-1944.65	N39 33 37.5366	W104 33 31.4571	
6200.00	27.52	253.22	5691.26	624.54S	2070.64W	=>	-1987.09	N39 33 37.4047	W104 33 32.0218	
6300.00	27.52	253.22	5779.94	637.89S	2114.88W	=>	-2029.54	N39 33 37.2728	W104 33 32.5866	
6400.00	27.52	253.22	5868.63	651.23S	2159.11W	=>	-2071.99	N39 33 37.1410	W104 33 33.1514	
6500.00	27.52	253.22	5957.32	664.57S	2203.34W	=>	-2114.44	N39 33 37.0091	W104 33 33.7161	
6600.00	27.52	253.22	6046.01	677.91S	2247.57W	=>	-2156.89	N39 33 36.8772	W104 33 34.2809	
6700.00	27.52	253.22	6134.69	691.25S	2291.81W	=>	-2199.33	N39 33 36.7453	W104 33 34.8456	
6800.00	27.52	253.22	6223.38	704.59S	2336.04W	=>	-2241.78	N39 33 36.6134	W104 33 35.4104	
6900.00	27.52	253.22	6312.07	717.93S	2380.27W	=>	-2284.23	N39 33 36.4815	W104 33 35.9751	
7000.00	27.52	253.22	6400.76	731.28S	2424.51W	=>	-2326.68	N39 33 36.3496	W104 33 36.5399	
7100.00	27.52	253.22	6489.44	744.62S	2468.74W	=>	-2369.13	N39 33 36.2177	W104 33 37.1046	
7200.00	27.52	253.22	6578.13	757.96S	2512.97W	=>	-2411.57	N39 33 36.0858	W104 33 37.6694	
7300.00	27.52	253.22	6666.82	771.30S	2557.20W	=>	-2454.02	N39 33 35.9539	W104 33 38.2341	
7400.00	27.52	253.22	6755.51	784.64S	2601.44W	=>	-2496.47	N39 33 35.8220	W104 33 38.7989	
7500.00	27.52	253.22	6844.19	797.98S	2645.67W	=>	-2538.92	N39 33 35.6901	W104 33 39.3636	
7600.00	27.52	253.22	6932.88	811.32S	2689.90W	=>	-2581.37	N39 33 35.5582	W104 33 39.9284	
7627.36	27.52	253.22	6957.15	814.97S	2702.00W	=>	-2592.98	N39 33 35.5221	W104 33 40.0829	End of Hold
7700.00	21.47	247.17	7023.23	824.99S	2730.35W	9.00	-2620.02	N39 33 35.4231	W104 33 40.4448	
7800.00	13.85	230.96	7118.50	839.66S	2756.57W	9.00	-2644.42	N39 33 35.2781	W104 33 40.7796	
7900.00	9.13	190.89	7216.61	855.02S	2767.39W	9.00	-2653.44	N39 33 35.1262	W104 33 40.9177	
8000.00	11.64	141.11	7315.15	870.70S	2762.54W	9.00	-2646.86	N39 33 34.9713	W104 33 40.8558	
8100.00	18.67	118.85	7411.69	886.31S	2742.15W	9.00	-2624.83	N39 33 34.8170	W104 33 40.5954	
8200.00	26.87	109.12	7503.86	901.47S	2706.71W	9.00	-2587.91	N39 33 34.6673	W104 33 40.1428	
8277.73	33.51	104.74	7571.01	912.69S	2669.32W	9.00	-2549.49	N39 33 34.5564	W104 33 39.6654	Sharon Springs Shale
8300.00	35.44	103.76	7589.37	915.79S	2657.10W	9.00	-2537.00	N39 33 34.5258	W104 33 39.5094	
8339.71	38.89	102.23	7621.01	921.17S	2633.73W	9.00	-2513.17	N39 33 34.4726	W104 33 39.2110	Niobrara
8352.65	40.02	101.78	7631.01	922.88S	2625.68W	9.00	-2504.98	N39 33 34.4557	W104 33 39.1082	Niobrara A
8400.00	44.16	100.29	7666.13	928.94S	2594.53W	9.00	-2473.36	N39 33 34.3959	W104 33 38.7105	
8500.00	52.96	97.77	7732.25	940.58S	2520.56W	9.00	-2398.54	N39 33 34.2809	W104 33 37.7660	
8541.21	56.60	96.90	7756.01	944.87S	2487.17W	9.00	-2364.88	N39 33 34.2386	W104 33 37.3397	Niobrara B Top
8600.00	61.81	95.78	7786.10	950.43S	2437.00W	9.00	-2314.40	N39 33 34.1837	W104 33 36.6991	
8698.94	70.58	94.11	7826.00	958.18S	2346.90W	9.00	-2224.00	N39 33 34.1072	W104 33 35.5487	Niobrara C Top
8700.00	70.67	94.09	7826.35	958.25S	2345.90W	9.00	-2223.01	N39 33 34.1065	W104 33 35.5360	
8800.00	79.56	92.58	7852.02	963.84S	2249.52W	9.00	-2126.61	N39 33 34.0513	W104 33 34.3054	
8900.00	88.44	91.15	7862.46	967.07S	2150.22W	9.00	-2027.58	N39 33 34.0195	W104 33 33.0376	
8917.52	90.00	90.91	7862.70	967.38S	2132.71W	9.00	-2010.14	N39 33 34.0164	W104 33 32.8140	S/C Kick off Point/Target, SILVER 4HN LP
9000.00	90.00	90.91	7862.70	968.69S	2050.24W	=>	-1928.05	N39 33 34.0035	W104 33 31.7610	
9100.00	90.00	90.91	7862.70	970.27S	1950.25W	=>	-1828.52	N39 33 33.9880	W104 33 30.4843	
9200.00	90.00	90.91	7862.70	971.86S	1850.26W	=>	-1728.99	N39 33 33.9724	W104 33 29.2077	
9300.00	90.00	90.91	7862.70	973.44S	1750.28W	=>	-1629.46	N39 33 33.9568	W104 33 27.9311	
9400.00	90.00	90.91	7862.70	975.03S	1650.29W	=>	-1529.93	N39 33 33.9412	W104 33 26.6544	
9500.00	90.00	90.91	7862.70	976.61S	1550.30W	=>	-1430.40	N39 33 33.9256	W104 33 25.3778	
9600.00	90.00	90.91	7862.70	978.20S	1450.32W	=>	-1330.87	N39 33 33.9100	W104 33 24.1012	
9700.00	90.00	90.91	7862.70	979.78S	1350.33W	=>	-1231.34	N39 33 33.8944	W104 33 22.8245	
9800.00	90.00	90.91	7862.70	981.37S	1250.34W	=>	-1131.81	N39 33 33.8788	W104 33 21.5479	
9900.00	90.00	90.91	7862.70	982.95S	1150.35W	=>	-1032.28	N39 33 33.8631	W104 33 20.2712	
10000.00	90.00	90.91	7862.70	984.54S	1050.37W	=>	-932.75	N39 33 33.8475	W104 33 18.9946	
10100.00	90.00	90.91	7862.70	986.12S	950.38W	=>	-833.22	N39 33 33.8319	W104 33 17.7180	
10200.00	90.00	90.91	7862.70	987.71S	850.39W	=>	-733.70	N39 33 33.8163	W104 33 16.4413	
10300.00	90.00	90.91	7862.70	989.29S	750.40W	=>	-634.17	N39 33 33.8006	W104 33 15.1647	
10400.00	90.00	90.91	7862.70	990.88S	650.42W	=>	-534.64	N39 33 33.7850	W104 33 13.8881	
10500.00	90.00	90.91	7862.70	992.46S	550.43W	=>	-435.11	N39 33 33.7694	W104 33 12.6114	
10600.00	90.00	90.91	7862.70	994.05S	450.44W	=>	-335.58	N39 33 33.7537	W104 33 11.3348	
10700.00	90.00	90.91	7862.70	995.63S	350.45W	=>	-236.05	N39 33 33.7381	W104 33 10.0582	
10800.00	90.00	90.91	7862.70	997.22S	250.47W	=>	-136.52	N39 33 33.7224	W104 33 8.7815	
10900.00	90.00	90.91	7862.70	998.80S	150.48W	=>	-36.99	N39 33 33.7068	W104 33 7.5049	
11000.00	90.00	90.91	7862.70	1000.39S	50.49W	=>	62.54	N39 33 33.6911	W104 33 6.2283	
11100.00	90.00	90.91	7862.70	1001.97S	49.50E	=>	162.07	N39 33 33.6755	W104 33 4.9516	
11200.00	90.00	90.91	7862.70	1003.56S	149.48E	=>	261.60	N39 33 33.6598	W104 33 3.6750	
11300.00	90.00	90.91	7862.70	1005.14S	249.47E	=>	361.13	N39 33 33.6441	W104 33 2.3984	
11400.00	90.00	90.91	7862.70	1006.73S	349.46E	=>	460.66	N39 33 33.6284	W104 33 1.1217	
11500.00	90.00	90.91	7862.70	1008.31S	449.45E	=>	560.19	N39 33 33.6128	W104 32 59.8451	
11600.00	90.00	90.91	7862.70	1009.90S	549.43E	=>	659.72	N39 33 33.5971	W104 32 58.5685	
11700.00	90.00	90.91	7862.70	1011.48S	649.42E	=>	759.25	N39 33 33.5814	W104 32 57.2918	
11800.00	90.00	90.91	7862.70	1013.06S	749.41E	=>	858.77	N39 33 33.5657	W104 32 56.0152	
11900.00	90.00	90.91	7862.70	1014.65S	849.40E	=>	958.30	N39 33 33.5500	W104 32 54.7386	
12000.00	90.00	90.91	7862.70	1016.23S	949.38E	=>	1057.83	N39 33 33.5343	W104 32 53.4619	
12100.00	90.00	90.91	7862.70	1017.82S	1049.37E	=>	1157.36	N39 33 33.5186	W104 32 52.1853	

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 6017.7ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 96.47 degrees  
Bottom hole distance is 10330.46 Feet on azimuth 96.47 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
12200.00	90.00	90.91	7862.70	1019.40S	1149.36E	=>	1256.89	N39 33 33.5029	W104 32 50.9087	
12300.00	90.00	90.91	7862.70	1020.99S	1249.35E	=>	1356.42	N39 33 33.4872	W104 32 49.6320	
12400.00	90.00	90.91	7862.70	1022.57S	1349.33E	=>	1455.95	N39 33 33.4715	W104 32 48.3554	
12500.00	90.00	90.91	7862.70	1024.16S	1449.32E	=>	1555.48	N39 33 33.4558	W104 32 47.0788	
12600.00	90.00	90.91	7862.70	1025.74S	1549.31E	=>	1655.01	N39 33 33.4400	W104 32 45.8021	
12700.00	90.00	90.91	7862.70	1027.33S	1649.30E	=>	1754.54	N39 33 33.4243	W104 32 44.5255	
12800.00	90.00	90.91	7862.70	1028.91S	1749.28E	=>	1854.07	N39 33 33.4086	W104 32 43.2489	
12900.00	90.00	90.91	7862.70	1030.50S	1849.27E	=>	1953.60	N39 33 33.3928	W104 32 41.9723	
13000.00	90.00	90.91	7862.70	1032.08S	1949.26E	=>	2053.13	N39 33 33.3771	W104 32 40.6956	
13100.00	90.00	90.91	7862.70	1033.67S	2049.25E	=>	2152.66	N39 33 33.3614	W104 32 39.4190	
13200.00	90.00	90.91	7862.70	1035.25S	2149.23E	=>	2252.19	N39 33 33.3456	W104 32 38.1424	
13300.00	90.00	90.91	7862.70	1036.84S	2249.22E	=>	2351.72	N39 33 33.3299	W104 32 36.8657	
13400.00	90.00	90.91	7862.70	1038.42S	2349.21E	=>	2451.24	N39 33 33.3141	W104 32 35.5891	
13500.00	90.00	90.91	7862.70	1040.01S	2449.20E	=>	2550.77	N39 33 33.2983	W104 32 34.3125	
13600.00	90.00	90.91	7862.70	1041.59S	2549.18E	=>	2650.30	N39 33 33.2826	W104 32 33.0358	
13700.00	90.00	90.91	7862.70	1043.18S	2649.17E	=>	2749.83	N39 33 33.2668	W104 32 31.7592	
13800.00	90.00	90.91	7862.70	1044.76S	2749.16E	=>	2849.36	N39 33 33.2511	W104 32 30.4826	
13900.00	90.00	90.91	7862.70	1046.35S	2849.14E	=>	2948.89	N39 33 33.2353	W104 32 29.2060	
14000.00	90.00	90.91	7862.70	1047.93S	2949.13E	=>	3048.42	N39 33 33.2195	W104 32 27.9293	
14100.00	90.00	90.91	7862.70	1049.52S	3049.12E	=>	3147.95	N39 33 33.2037	W104 32 26.6527	
14200.00	90.00	90.91	7862.70	1051.10S	3149.11E	=>	3247.48	N39 33 33.1879	W104 32 25.3761	
14300.00	90.00	90.91	7862.70	1052.69S	3249.09E	=>	3347.01	N39 33 33.1721	W104 32 24.0994	
14400.00	90.00	90.91	7862.70	1054.27S	3349.08E	=>	3446.54	N39 33 33.1563	W104 32 22.8228	
14500.00	90.00	90.91	7862.70	1055.86S	3449.07E	=>	3546.07	N39 33 33.1406	W104 32 21.5462	
14600.00	90.00	90.91	7862.70	1057.44S	3549.06E	=>	3645.60	N39 33 33.1247	W104 32 20.2696	
14700.00	90.00	90.91	7862.70	1059.03S	3649.04E	=>	3745.13	N39 33 33.1089	W104 32 18.9929	
14800.00	90.00	90.91	7862.70	1060.61S	3749.03E	=>	3844.66	N39 33 33.0931	W104 32 17.7163	
14900.00	90.00	90.91	7862.70	1062.20S	3849.02E	=>	3944.19	N39 33 33.0773	W104 32 16.4397	
15000.00	90.00	90.91	7862.70	1063.78S	3949.01E	=>	4043.71	N39 33 33.0615	W104 32 15.1631	
15100.00	90.00	90.91	7862.70	1065.37S	4048.99E	=>	4143.24	N39 33 33.0457	W104 32 13.8864	
15200.00	90.00	90.91	7862.70	1066.95S	4148.98E	=>	4242.77	N39 33 33.0299	W104 32 12.6098	
15300.00	90.00	90.91	7862.70	1068.53S	4248.97E	=>	4342.30	N39 33 33.0140	W104 32 11.3332	
15400.00	90.00	90.91	7862.70	1070.12S	4348.96E	=>	4441.83	N39 33 32.9982	W104 32 10.0565	
15500.00	90.00	90.91	7862.70	1071.70S	4448.94E	=>	4541.36	N39 33 32.9824	W104 32 8.7799	
15600.00	90.00	90.91	7862.70	1073.29S	4548.93E	=>	4640.89	N39 33 32.9665	W104 32 7.5033	
15700.00	90.00	90.91	7862.70	1074.87S	4648.92E	=>	4740.42	N39 33 32.9507	W104 32 6.2267	
15800.00	90.00	90.91	7862.70	1076.46S	4748.91E	=>	4839.95	N39 33 32.9348	W104 32 4.9500	
15900.00	90.00	90.91	7862.70	1078.04S	4848.89E	=>	4939.48	N39 33 32.9190	W104 32 3.6734	
16000.00	90.00	90.91	7862.70	1079.63S	4948.88E	=>	5039.01	N39 33 32.9031	W104 32 2.3968	
16100.00	90.00	90.91	7862.70	1081.21S	5048.87E	=>	5138.54	N39 33 32.8873	W104 32 1.1202	
16200.00	90.00	90.91	7862.70	1082.80S	5148.86E	=>	5238.07	N39 33 32.8714	W104 31 59.8435	
16300.00	90.00	90.91	7862.70	1084.38S	5248.84E	=>	5337.60	N39 33 32.8555	W104 31 58.5669	
16400.00	90.00	90.91	7862.70	1085.97S	5348.83E	=>	5437.13	N39 33 32.8396	W104 31 57.2903	
16500.00	90.00	90.91	7862.70	1087.55S	5448.82E	=>	5536.66	N39 33 32.8238	W104 31 56.0137	
16600.00	90.00	90.91	7862.70	1089.14S	5548.81E	=>	5636.18	N39 33 32.8079	W104 31 54.7370	
16700.00	90.00	90.91	7862.70	1090.72S	5648.79E	=>	5735.71	N39 33 32.7920	W104 31 53.4604	
16800.00	90.00	90.91	7862.70	1092.31S	5748.78E	=>	5835.24	N39 33 32.7761	W104 31 52.1838	
16900.00	90.00	90.91	7862.70	1093.89S	5848.77E	=>	5934.77	N39 33 32.7602	W104 31 50.9072	
17000.00	90.00	90.91	7862.70	1095.48S	5948.76E	=>	6034.30	N39 33 32.7443	W104 31 49.6305	
17100.00	90.00	90.91	7862.70	1097.06S	6048.74E	=>	6133.83	N39 33 32.7284	W104 31 48.3539	
17200.00	90.00	90.91	7862.70	1098.65S	6148.73E	=>	6233.36	N39 33 32.7125	W104 31 47.0773	
17300.00	90.00	90.91	7862.70	1100.23S	6248.72E	=>	6332.89	N39 33 32.6966	W104 31 45.8007	
17400.00	90.00	90.91	7862.70	1101.82S	6348.71E	=>	6432.42	N39 33 32.6807	W104 31 44.5240	
17500.00	90.00	90.91	7862.70	1103.40S	6448.69E	=>	6531.95	N39 33 32.6648	W104 31 43.2474	
17600.00	90.00	90.91	7862.70	1104.99S	6548.68E	=>	6631.48	N39 33 32.6489	W104 31 41.9708	
17700.00	90.00	90.91	7862.70	1106.57S	6648.67E	=>	6731.01	N39 33 32.6329	W104 31 40.6942	
17800.00	90.00	90.91	7862.70	1108.16S	6748.66E	=>	6830.54	N39 33 32.6170	W104 31 39.4176	
17900.00	90.00	90.91	7862.70	1109.74S	6848.64E	=>	6930.07	N39 33 32.6011	W104 31 38.1409	
18000.00	90.00	90.91	7862.70	1111.33S	6948.63E	=>	7029.60	N39 33 32.5851	W104 31 36.8643	
18100.00	90.00	90.91	7862.70	1112.91S	7048.62E	=>	7129.13	N39 33 32.5692	W104 31 35.5877	
18200.00	90.00	90.91	7862.70	1114.50S	7148.60E	=>	7228.65	N39 33 32.5533	W104 31 34.3111	
18300.00	90.00	90.91	7862.70	1116.08S	7248.59E	=>	7328.18	N39 33 32.5373	W104 31 33.0344	
18400.00	90.00	90.91	7862.70	1117.67S	7348.58E	=>	7427.71	N39 33 32.5214	W104 31 31.7578	
18500.00	90.00	90.91	7862.70	1119.25S	7448.57E	=>	7527.24	N39 33 32.5054	W104 31 30.4812	
18600.00	90.00	90.91	7862.70	1120.83S	7548.55E	=>	7626.77	N39 33 32.4894	W104 31 29.2046	
18700.00	90.00	90.91	7862.70	1122.42S	7648.54E	=>	7726.30	N39 33 32.4735	W104 31 27.9280	
18800.00	90.00	90.91	7862.70	1124.00S	7748.53E	=>	7825.83	N39 33 32.4575	W104 31 26.6513	
18900.00	90.00	90.91	7862.70	1125.59S	7848.52E	=>	7925.36	N39 33 32.4415	W104 31 25.3747	
19000.00	90.00	90.91	7862.70	1127.17S	7948.50E	=>	8024.89	N39 33 32.4256	W104 31 24.0981	
19100.00	90.00	90.91	7862.70	1128.76S	8048.49E	=>	8124.42	N39 33 32.4096	W104 31 22.8215	
19200.00	90.00	90.91	7862.70	1130.34S	8148.48E	=>	8223.95	N39 33 32.3936	W104 31 21.5449	
19300.00	90.00	90.91	7862.70	1131.93S	8248.47E	=>	8323.48	N39 33 32.3776	W104 31 20.2682	
19400.00	90.00	90.91	7862.70	1133.51S	8348.45E	=>	8423.01	N39 33 32.3616	W104 31 18.9916	
19500.00	90.00	90.91	7862.70	1135.10S	8448.44E	=>	8522.54	N39 33 32.3456	W104 31 17.7150	
19600.00	90.00	90.91	7862.70	1136.68S	8548.43E	=>	8622.07	N39 33 32.3296	W104 31 16.4384	
19700.00	90.00	90.91	7862.70	1138.27S	8648.42E	=>	8721.60	N39 33 32.3136	W104 31 15.1618	
19800.00	90.00	90.91	7862.70	1139.85S	8748.40E	=>	8821.12	N39 33 32.2976	W104 31 13.8851	
19900.00	90.00	90.91	7862.70	1141.44S	8848.39E	=>	8920.65	N39 33 32.2816	W104 31 12.6085	
20000.00	90.00	90.91	7862.70	1143.02S	8948.38E	=>	9020.18	N39 33 32.2656	W104 31 11.3319	
20100.00	90.00	90.91	7862.70	1144.61S	9048.37E	=>	9119.71	N39 33 32.2496	W104 31 10.0553	
20200.00	90.00	90.91	7862.70	1146.19S	9148.35E	=>	9219.24	N39 33 32.2336	W104 31 8.7787	
20300.00	90.00	90.91	7862.70	1147.78S	9248.34E	=>	9318.77	N39 33 32.2175	W104 31 7.5020	
20400.00	90.00	90.91	7862.70	1149.36S	9348.33E	=>	9418.30	N39 33 32.2015	W104 31 6.2254	
20500.00	90.00	90.91	7862.70	1150.95S	9448.32E	=>	9517.83	N39 33 32.1855	W104 31 4.9488	
20600.00	90.00	90.91	7862.70	1152.53S	9548.30E	=>	9617.36	N39 33 32.1694	W104 31 3.6722	

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Coordinates are from Slot MD's are from Rig and TVD's are from Rig ( Planned Datum #1 6017.7ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 96.47 degrees  
Bottom hole distance is 10330.46 Feet on azimuth 96.47 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
20700.00	90.00	90.91	7862.70	1154.12S	9648.29E	==>	9716.89	N39 33 32.1534	W104 31 2.3956	
20800.00	90.00	90.91	7862.70	1155.70S	9748.28E	==>	9816.42	N39 33 32.1373	W104 31 1.1190	
20900.00	90.00	90.91	7862.70	1157.29S	9848.27E	==>	9915.95	N39 33 32.1213	W104 30 59.8423	
21000.00	90.00	90.91	7862.70	1158.87S	9948.25E	==>	10015.48	N39 33 32.1052	W104 30 58.5657	
21100.00	90.00	90.91	7862.70	1160.46S	10048.24E	==>	10115.01	N39 33 32.0892	W104 30 57.2891	
21200.00	90.00	90.91	7862.70	1162.04S	10148.23E	==>	10214.54	N39 33 32.0731	W104 30 56.0125	
21300.00	90.00	90.91	7862.70	1163.63S	10248.22E	==>	10314.07	N39 33 32.0570	W104 30 54.7359	
21316.47	90.00	90.91	7862.70	1163.89S	10264.68E	==>	10330.46	N39 33 32.0544	W104 30 54.5256	End of Hold/Target, SILVER_4HN BH

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 Vertical Section is from 0.00N 0.00E on azimuth 96.47 degrees  
 Bottom hole distance is 10330.46 Feet on azimuth 96.47 degrees from Wellhead  
 Calculation method uses Minimum Curvature method  
 Prepared by  
 Date Printed: 6-Apr-2023

Targets							
Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting
SILVER 4HN BH	1163.89S	10264.68E	7862.70	N39 33 32.0544	W104 30 54.5256	1083711.02	3277689.22
SILVER 4HN LP	967.38S	2132.71W	7862.70	N39 33 34.0164	W104 33 32.8140	1083774.92	3265290.10

Formations						
Formation Name	Formation MD	Formation TVD	Wellpath Inc	Incidence Angle	North	East
Lower Dawson	80.00	80.00	0.00	90.00	0.00N	0.00E
Denver	205.00	205.00	0.00	90.00	0.00N	0.00E
Upper Arapahoe	1092.03	1092.00	2.39	87.61	0.55S	1.84W
Laramie - Fox Hills	1923.82	1897.00	24.02	65.98	55.10S	182.69W
Pierre Shale (Base of Fox Hills)	2185.62	2131.00	27.52	62.48	88.97S	294.97W
Sussex Sandstone	5940.37	5461.00	27.52	62.48	589.91S	1955.80W
Sharon Springs Shale	8277.73	7571.01	33.51	56.49	912.69S	2669.32W
Niobrara	8339.71	7621.01	38.89	51.11	921.17S	2633.73W
Niobrara A	8352.65	7631.01	40.02	49.98	922.88S	2625.68W
Niobrara B Top	8541.21	7756.01	56.60	33.40	944.87S	2487.17W
Niobrara C Top	8698.94	7826.00	70.58	19.42	958.18S	2346.90W

Survey Tool Program					
Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
1095568	Planned	21316.47	7862.70	WdW Rate Gyro	Standard

Notes