

GMT Exploration

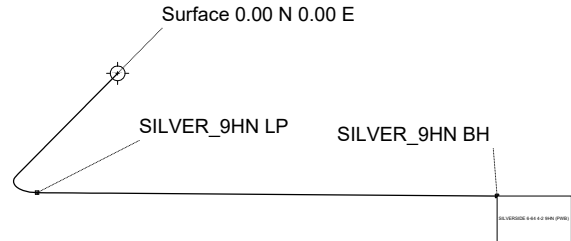
Location	DJ Basin	Slot	SILVERSIDE 6-64 4-2 9HN
Field	Elbert County Wells	Well	SILVERSIDE 6-64 4-2 9HN
Installation	Ragged 6-64 4 Pad	Wellbore	SILVERSIDE 6-64 4-2 9HN (PWB)

Created by cdoke
Date plotted 4-Apr-2023
Plot reference is SILVERSIDE 6-64 4-2 9HN (PWB).
Ref wellpath is SILVERSIDE 6-64 4-2 9HN (PWB).
Coordinates are in Feet reference SILVERSIDE 6-64 4-2 9HN.
True Vertical Depths are reference Rig Datum.
Measured Depths are reference Rig Datum.
Rig Datum: Planned Datum #1
Rig Datum to Mean Sea Level: 6017.80 ft.
Plot North is aligned to TRUE North.

Scale 1 cm = 1000 ft

East (Feet) ->

-8000 -6000 -4000 -2000 0 2000 4000 6000 8000 10000 12000



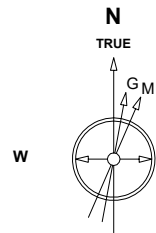
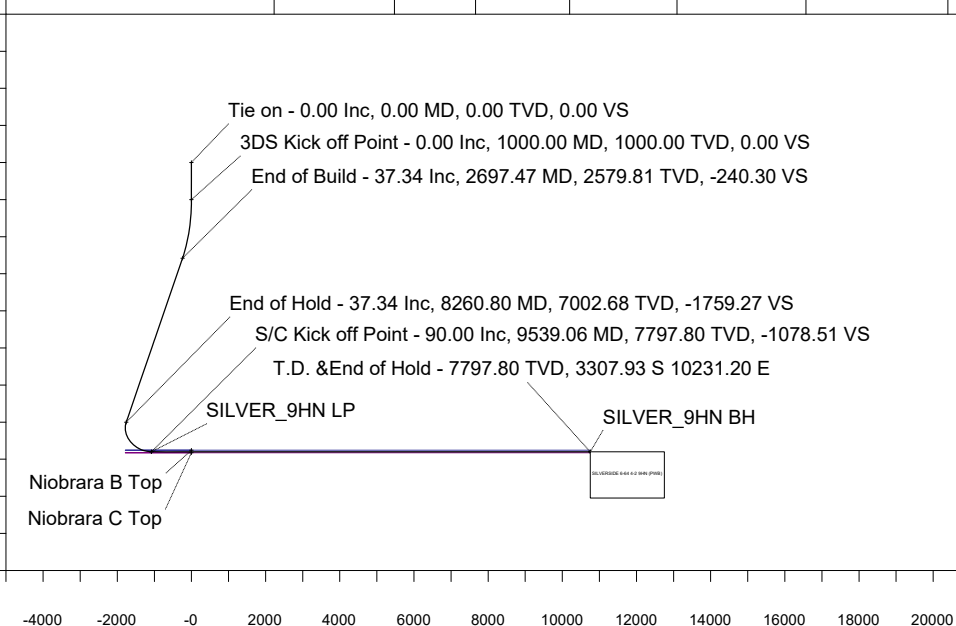
WELL PROFILE DATA

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	224.67	1000.00	S 0.00	W 0.00	0.00	0.00
End of Build	2697.47	37.34	224.67	2579.81	S 379.70	W 375.31	2.20	-240.30
End of Hold	8260.80	37.34	224.67	7002.68	S 2779.81	W 2747.70	0.00	-1759.27
Target SILVER_9HN LP	9539.06	90.00	90.41	7797.80	S 3218.50	W 2174.08	9.00	-1078.51
T.D. & Target SIL... BH	21944.67	90.00	90.41	7797.80	S 3307.93	E 10231.20	0.00	10752.67

<- North(Feet)

Scale 1 cm = 1000 ft

<- True Vertical Depth (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

Scale 1 cm = 1000 ft

Vertical Section (Feet) ->

Azimuth 107.92 with reference 0.00 N, 0.00 E from SILVERSIDE 6-64 4-2 9HN

Wellhead Details							
Name	Latitude	Longitude	Northing	Easting	North	East	Slot Elevation Above Installation [ft]
SILVERSIDE 6-64 4-2 9HN	N39 33 42.5916	W104 33 5.5944	1084665.2670	3267412.6242	159.91S	1.13W	1.10

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	-6017.80	0.00N	0.00E		0.00
1000.00	0.00	224.67	1000.00	-5017.80	0.00N	0.00E	==>	0.00
2697.47	37.34	224.67	2579.81	-3437.99	379.70S	375.31W	2.20	-240.30
8260.80	37.34	224.67	7002.68	984.88	2779.81S	2747.70W	==>	-1759.27
9539.06	90.00	90.41	7797.80	1780.00	3218.50S	2174.08W	9.00	-1078.51
21944.67	90.00	90.41	7797.80	1780.00	3307.93S	10231.20E	==>	10752.67

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 42.5916	W104 33 5.5944	Tie on, Slot Datum	
80.00	0.00	0.00	80.00	0.00N	0.00E	==>	0.00	N39 33 42.5916	W104 33 5.5944	Lower Dawson	
100.00	0.00	0.00	100.00	0.00N	0.00E	==>	0.00	N39 33 42.5916	W104 33 5.5944		
200.00	0.00	0.00	200.00	0.00N	0.00E	==>	0.00	N39 33 42.5916	W104 33 5.5944		
205.00	0.00	0.00	205.00	0.00N	0.00E	==>	0.00	N39 33 42.5916	W104 33 5.5944	Denver	
300.00	0.00	0.00	300.00	0.00N	0.00E	==>	0.00	N39 33 42.5916	W104 33 5.5944		
400.00	0.00	0.00	400.00	0.00N	0.00E	==>	0.00	N39 33 42.5916	W104 33 5.5944		
500.00	0.00	0.00	500.00	0.00N	0.00E	==>	0.00	N39 33 42.5916	W104 33 5.5944		
600.00	0.00	0.00	600.00	0.00N	0.00E	==>	0.00	N39 33 42.5916	W104 33 5.5944		
700.00	0.00	0.00	700.00	0.00N	0.00E	==>	0.00	N39 33 42.5916	W104 33 5.5944		
800.00	0.00	0.00	800.00	0.00N	0.00E	==>	0.00	N39 33 42.5916	W104 33 5.5944		
900.00	0.00	0.00	900.00	0.00N	0.00E	==>	0.00	N39 33 42.5916	W104 33 5.5944		
1000.00	0.00	224.67	1000.00	0.00N	0.00E	==>	0.00	N39 33 42.5916	W104 33 5.5944	3DS Kick off Point	
1092.02	2.02	224.67	1092.00	1.16S	1.14W	2.20	-0.73	N39 33 42.5802	W104 33 5.6090	Upper Arapahoe	
1100.00	2.20	224.67	1099.98	1.37S	1.35W	2.20	-0.86	N39 33 42.5781	W104 33 5.6116		
1200.00	4.40	224.67	1199.80	5.46S	5.40W	2.20	-3.45	N39 33 42.5376	W104 33 5.6633		
1300.00	6.60	224.67	1299.34	12.28S	12.13W	2.20	-7.77	N39 33 42.4703	W104 33 5.7493		
1400.00	8.80	224.67	1398.43	21.80S	21.55W	2.20	-13.80	N39 33 42.3761	W104 33 5.8696		
1500.00	11.00	224.67	1496.93	34.03S	33.64W	2.20	-21.54	N39 33 42.2553	W104 33 6.0239		
1600.00	13.20	224.67	1594.71	48.94S	48.37W	2.20	-30.97	N39 33 42.1079	W104 33 6.2120		
1700.00	15.40	224.67	1691.60	66.50S	65.74W	2.20	-42.09	N39 33 41.9343	W104 33 6.4337		
1800.00	17.60	224.67	1787.48	86.70S	85.70W	2.20	-54.87	N39 33 41.7347	W104 33 6.6886		
1900.00	19.80	224.67	1882.19	109.50S	108.24W	2.20	-69.30	N39 33 41.5094	W104 33 6.9764		
1915.76	20.15	224.67	1897.01	113.33S	112.02W	2.20	-71.72	N39 33 41.4715	W104 33 7.0247	Laramie - Fox Hills	
2000.00	22.00	224.67	1975.61	134.87S	133.31W	2.20	-85.36	N39 33 41.2586	W104 33 7.2966		
2100.00	24.20	224.67	2067.58	162.77S	160.89W	2.20	-103.01	N39 33 40.9829	W104 33 7.6487		
2169.96	25.74	224.67	2131.00	183.78S	181.65W	2.20	-116.31	N39 33 40.7753	W104 33 7.9138	Pierre Shale (Base of Fox Hills)	
2200.00	26.40	224.67	2157.99	193.17S	190.93W	2.20	-122.25	N39 33 40.6825	W104 33 8.0323		
2300.00	28.60	224.67	2246.68	226.00S	223.39W	2.20	-143.03	N39 33 40.3580	W104 33 8.4467		
2400.00	30.80	224.67	2333.54	261.24S	258.22W	2.20	-165.33	N39 33 40.0098	W104 33 8.8914		
2500.00	33.00	224.67	2418.43	298.82S	295.37W	2.20	-189.11	N39 33 39.6383	W104 33 9.3657		
2600.00	35.20	224.67	2501.23	338.69S	334.78W	2.20	-214.35	N39 33 39.2443	W104 33 9.8689		
2697.47	37.34	224.67	2579.81	379.70S	375.31W	2.20	-240.30	N39 33 38.8390	W104 33 10.3864	End of Build	
2700.00	37.34	224.67	2581.82	380.79S	376.39W	==>	-240.99	N39 33 38.8282	W104 33 10.4002		
2800.00	37.34	224.67	2661.32	423.93S	419.03W	==>	-268.29	N39 33 38.4018	W104 33 10.9447		
2900.00	37.34	224.67	2740.82	467.07S	461.68W	==>	-295.60	N39 33 37.9754	W104 33 11.4892		
3000.00	37.34	224.67	2820.32	510.21S	504.32W	==>	-322.90	N39 33 37.5491	W104 33 12.0336		
3100.00	37.34	224.67	2899.82	553.36S	546.96W	==>	-350.20	N39 33 37.1227	W104 33 12.5781		
3200.00	37.34	224.67	2979.32	596.50S	589.61W	==>	-377.51	N39 33 36.6963	W104 33 13.1226		
3300.00	37.34	224.67	3058.83	639.64S	632.25W	==>	-404.81	N39 33 36.2699	W104 33 13.6670		
3400.00	37.34	224.67	3138.33	682.78S	674.89W	==>	-432.11	N39 33 35.8435	W104 33 14.2115		
3500.00	37.34	224.67	3217.83	725.92S	717.54W	==>	-459.42	N39 33 35.4171	W104 33 14.7559		
3600.00	37.34	224.67	3297.33	769.06S	760.18W	==>	-486.72	N39 33 34.9908	W104 33 15.3004		
3700.00	37.34	224.67	3376.83	812.21S	802.82W	==>	-514.02	N39 33 34.5644	W104 33 15.8449		
3800.00	37.34	224.67	3456.33	855.35S	845.47W	==>	-541.33	N39 33 34.1380	W104 33 16.3893		
3900.00	37.34	224.67	3535.83	898.49S	888.11W	==>	-568.63	N39 33 33.7116	W104 33 16.9338		
4000.00	37.34	224.67	3615.33	941.63S	930.75W	==>	-595.93	N39 33 33.2852	W104 33 17.4782		
4100.00	37.34	224.67	3694.83	984.77S	973.40W	==>	-623.24	N39 33 32.8588	W104 33 18.0226		
4200.00	37.34	224.67	3774.33	1027.92S	1016.04W	==>	-650.54	N39 33 32.4324	W104 33 18.5671		
4300.00	37.34	224.67	3853.83	1071.06S	1058.68W	==>	-677.84	N39 33 32.0060	W104 33 19.1115		
4400.00	37.34	224.67	3933.33	1114.20S	1101.33W	==>	-705.15	N39 33 31.5797	W104 33 19.6560		
4500.00	37.34	224.67	4012.83	1157.34S	1143.97W	==>	-732.45	N39 33 31.1533	W104 33 20.2004		

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 6017.8ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 107.92 degrees
Bottom hole distance is 10752.67 Feet on azimuth 107.92 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	37.34	224.67	4092.33	1200.48S	1186.62W	=>	-759.75	N39 33 30.7269	W104 33 20.7448	
4700.00	37.34	224.67	4171.83	1243.62S	1229.26W	=>	-787.06	N39 33 30.3005	W104 33 21.2893	
4800.00	37.34	224.67	4251.33	1286.77S	1271.90W	=>	-814.36	N39 33 29.8741	W104 33 21.8337	
4900.00	37.34	224.67	4330.83	1329.91S	1314.55W	=>	-841.66	N39 33 29.4477	W104 33 22.3781	
5000.00	37.34	224.67	4410.33	1373.05S	1357.19W	=>	-868.97	N39 33 29.0213	W104 33 22.9226	
5100.00	37.34	224.67	4489.83	1416.19S	1399.83W	=>	-896.27	N39 33 28.5949	W104 33 23.4670	
5200.00	37.34	224.67	4569.34	1459.33S	1442.48W	=>	-923.57	N39 33 28.1685	W104 33 24.0114	
5300.00	37.34	224.67	4648.84	1502.47S	1485.12W	=>	-950.88	N39 33 27.7421	W104 33 24.5559	
5400.00	37.34	224.67	4728.34	1545.62S	1527.76W	=>	-978.18	N39 33 27.3157	W104 33 25.1003	
5500.00	37.34	224.67	4807.84	1588.76S	1570.41W	=>	-1005.48	N39 33 26.8893	W104 33 25.6447	
5600.00	37.34	224.67	4887.34	1631.90S	1613.05W	=>	-1032.79	N39 33 26.4629	W104 33 26.1891	
5700.00	37.34	224.67	4966.84	1675.04S	1655.69W	=>	-1060.09	N39 33 26.0365	W104 33 26.7335	
5800.00	37.34	224.67	5046.34	1718.18S	1698.34W	=>	-1087.39	N39 33 25.6101	W104 33 27.2779	
5900.00	37.34	224.67	5125.84	1761.32S	1740.98W	=>	-1114.70	N39 33 25.1837	W104 33 27.8224	
6000.00	37.34	224.67	5205.34	1804.47S	1783.62W	=>	-1142.00	N39 33 24.7573	W104 33 28.3668	
6100.00	37.34	224.67	5284.84	1847.61S	1826.27W	=>	-1169.30	N39 33 24.3309	W104 33 28.9112	
6200.00	37.34	224.67	5364.34	1890.75S	1868.91W	=>	-1196.61	N39 33 23.9045	W104 33 29.4556	
6300.00	37.34	224.67	5443.84	1933.89S	1911.55W	=>	-1223.91	N39 33 23.4781	W104 33 30.0000	
6321.58	37.34	224.67	5461.00	1943.20S	1920.76W	=>	-1229.80	N39 33 23.3861	W104 33 30.1175	Sussex Sandstone
6400.00	37.34	224.67	5523.34	1977.03S	1954.20W	=>	-1251.21	N39 33 23.0517	W104 33 30.5444	
6500.00	37.34	224.67	5602.84	2020.18S	1996.84W	=>	-1278.52	N39 33 22.6253	W104 33 31.0888	
6600.00	37.34	224.67	5682.34	2063.32S	2039.48W	=>	-1305.82	N39 33 22.1989	W104 33 31.6332	
6700.00	37.34	224.67	5761.84	2106.46S	2082.13W	=>	-1333.12	N39 33 21.7725	W104 33 32.1776	
6800.00	37.34	224.67	5841.34	2149.60S	2124.77W	=>	-1360.43	N39 33 21.3461	W104 33 32.7220	
6900.00	37.34	224.67	5920.84	2192.74S	2167.41W	=>	-1387.73	N39 33 20.9196	W104 33 33.2664	
7000.00	37.34	224.67	6000.34	2235.88S	2210.06W	=>	-1415.03	N39 33 20.4932	W104 33 33.8108	
7100.00	37.34	224.67	6079.84	2279.03S	2252.70W	=>	-1442.34	N39 33 20.0668	W104 33 34.3552	
7200.00	37.34	224.67	6159.35	2322.17S	2295.34W	=>	-1469.64	N39 33 19.6404	W104 33 34.8995	
7300.00	37.34	224.67	6238.85	2365.31S	2337.99W	=>	-1496.94	N39 33 19.2140	W104 33 35.4439	
7400.00	37.34	224.67	6318.35	2408.45S	2380.63W	=>	-1524.25	N39 33 18.7876	W104 33 35.9883	
7500.00	37.34	224.67	6397.85	2451.59S	2423.27W	=>	-1551.55	N39 33 18.3612	W104 33 36.5327	
7600.00	37.34	224.67	6477.35	2494.73S	2465.92W	=>	-1578.85	N39 33 17.9348	W104 33 37.0771	
7700.00	37.34	224.67	6556.85	2537.88S	2508.56W	=>	-1606.16	N39 33 17.5084	W104 33 37.6215	
7800.00	37.34	224.67	6636.35	2581.02S	2551.20W	=>	-1633.46	N39 33 17.0819	W104 33 38.1658	
7900.00	37.34	224.67	6715.85	2624.16S	2593.85W	=>	-1660.76	N39 33 16.6555	W104 33 38.7102	
8000.00	37.34	224.67	6795.35	2667.30S	2636.49W	=>	-1688.07	N39 33 16.2291	W104 33 39.2546	
8100.00	37.34	224.67	6874.85	2710.44S	2679.13W	=>	-1715.37	N39 33 15.8027	W104 33 39.7989	
8200.00	37.34	224.67	6954.35	2753.58S	2721.78W	=>	-1742.67	N39 33 15.3763	W104 33 40.3433	
8260.80	37.34	224.67	7002.68	2779.81S	2747.70W	=>	-1759.27	N39 33 15.1170	W104 33 40.6743	End of Hold
8300.00	35.28	219.83	7034.28	2796.97S	2763.32W	9.00	-1768.85	N39 33 14.9475	W104 33 40.8736	
8400.00	31.06	205.25	7118.10	2842.57S	2792.88W	9.00	-1782.95	N39 33 14.4968	W104 33 41.2510	
8500.00	28.85	187.71	7204.91	2889.90S	2807.15W	9.00	-1781.97	N39 33 14.0289	W104 33 41.4331	
8600.00	29.13	169.09	7292.55	2937.82S	2805.78W	9.00	-1765.93	N39 33 13.5554	W104 33 41.4155	
8700.00	31.83	152.10	7378.89	2985.12S	2788.80W	9.00	-1735.22	N39 33 13.0879	W104 33 41.1987	
8800.00	36.41	138.24	7461.78	3030.66S	2756.63W	9.00	-1690.60	N39 33 12.6379	W104 33 40.7879	
8900.00	42.25	127.40	7539.19	3073.30S	2710.06W	9.00	-1633.17	N39 33 12.2165	W104 33 40.1933	
8943.98	45.10	123.41	7571.00	3090.87S	2685.31W	9.00	-1604.21	N39 33 12.0429	W104 33 39.8772	Sharon Springs Shale
9000.00	48.90	118.89	7609.21	3112.00S	2650.24W	9.00	-1564.35	N39 33 11.8341	W104 33 39.4296	
9018.17	50.17	117.53	7621.00	3118.53S	2638.07W	9.00	-1550.75	N39 33 11.7696	W104 33 39.2741	Niobrara
9033.97	51.29	116.39	7631.01	3124.08S	2627.16W	9.00	-1538.66	N39 33 11.7148	W104 33 39.1348	Niobrara A
9100.00	56.06	111.99	7707.12	3145.81S	2578.64W	9.00	-1485.82	N39 33 11.5001	W104 33 38.5154	
9200.00	63.54	106.20	7720.42	3173.88S	2497.03W	9.00	-1399.52	N39 33 11.2227	W104 33 37.4734	
9291.25	70.55	101.54	7756.01	3193.92S	2415.52W	9.00	-1315.80	N39 33 11.0247	W104 33 36.4328	Niobrara B Top
9300.00	71.23	101.12	7758.87	3195.54S	2407.41W	9.00	-1307.59	N39 33 11.0087	W104 33 36.3292	
9400.00	79.04	96.49	7784.52	3210.25S	2311.99W	9.00	-1212.27	N39 33 10.8634	W104 33 35.1110	
9500.00	86.92	92.10	7796.75	3217.64S	2213.12W	9.00	-1115.92	N39 33 10.7904	W104 33 33.8487	
9539.06	90.00	90.41	7797.80	3218.50S	2174.08W	9.00	-1078.51	N39 33 10.7820	W104 33 33.3504	S/C Kick off Point/Target, SILVER 9HN LP
9600.00	90.00	90.41	7797.80	3218.94S	2113.15W	=>	-1020.40	N39 33 10.7777	W104 33 32.5725	
9700.00	90.00	90.41	7797.80	3219.66S	2013.15W	=>	-925.03	N39 33 10.7707	W104 33 31.2958	
9800.00	90.00	90.41	7797.80	3220.38S	1913.15W	=>	-829.66	N39 33 10.7636	W104 33 30.0192	
9900.00	90.00	90.41	7797.80	3221.10S	1813.16W	=>	-734.29	N39 33 10.7566	W104 33 28.7425	
10000.00	90.00	90.41	7797.80	3221.82S	1713.16W	=>	-638.92	N39 33 10.7495	W104 33 27.4659	
10100.00	90.00	90.41	7797.80	3222.54S	1613.16W	=>	-543.55	N39 33 10.7425	W104 33 26.1892	
10200.00	90.00	90.41	7797.80	3223.27S	1513.16W	=>	-448.18	N39 33 10.7354	W104 33 24.9126	
10300.00	90.00	90.41	7797.80	3223.99S	1413.17W	=>	-352.81	N39 33 10.7283	W104 33 23.6360	
10400.00	90.00	90.41	7797.80	3224.71S	1313.17W	=>	-257.44	N39 33 10.7213	W104 33 22.3593	
10500.00	90.00	90.41	7797.80	3225.43S	1213.17W	=>	-162.07	N39 33 10.7142	W104 33 21.0827	
10600.00	90.00	90.41	7797.80	3226.15S	1113.17W	=>	-66.70	N39 33 10.7071	W104 33 19.8060	
10700.00	90.00	90.41	7797.80	3226.87S	1013.18W	=>	28.67	N39 33 10.7000	W104 33 18.5294	
10800.00	90.00	90.41	7797.80	3227.59S	913.18W	=>	124.04	N39 33 10.6929	W104 33 17.2527	
10900.00	90.00	90.41	7797.80	3228.31S	813.18W	=>	219.41	N39 33 10.6858	W104 33 15.9761	
11000.00	90.00	90.41	7797.80	3229.03S	713.19W	=>	314.78	N39 33 10.6787	W104 33 14.6995	
11100.00	90.00	90.41	7797.80	3229.75S	613.19W	=>	410.14	N39 33 10.6716	W104 33 13.4228	
11200.00	90.00	90.41	7797.80	3230.47S	513.19W	=>	505.51	N39 33 10.6645	W104 33 12.1462	
11300.00	90.00	90.41	7797.80	3231.20S	413.19W	=>	600.88	N39 33 10.6574	W104 33 10.8695	
11400.00	90.00	90.41	7797.80	3231.92S	313.20W	=>	696.25	N39 33 10.6503	W104 33 9.5929	
11500.00	90.00	90.41	7797.80	3232.64S	213.20W	=>	791.62	N39 33 10.6432	W104 33 8.3162	
11600.00	90.00	90.41	7797.80	3233.36S	113.20W	=>	886.99	N39 33 10.6361	W104 33 7.0396	
11700.00	90.00	90.41	7797.80	3234.08S	13.20W	=>	982.36	N39 33 10.6290	W104 33 5.7630	
11800.00	90.00	90.41	7797.80	3234.80S	86.79E	=>	1077.73	N39 33 10.6219	W104 33 4.4863	
11900.00	90.00	90.41	7797.80	3235.52S	186.79E	=>	1173.10	N39 33 10.6147	W104 33 3.2097	
12000.00	90.00	90.41	7797.80	3236.24S	286.79E	=>	1268.47	N39 33 10.6076	W104 33 1.9330	
12100.00	90.00	90.41	7797.80	3236.96S	386.79E	=>	1363.84	N39 33 10.6004	W104 33 0.6564	
12200.00	90.00	90.41	7797.80	3237.68S	486.78E	=>	1459.21	N39 33 10.5933	W104 32 59.3798	

All data is in Feet unless otherwise stated
Coordinates are from Slot MD's are from Rig (Planned Datum #1 6017.8ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 107.92 degrees
Bottom hole distance is 10752.67 Feet on azimuth 107.92 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
12300.00	90.00	90.41	7797.80	3238.40S	586.78E	=>	1554.58	N39 33 10.5862	W104 32 58.1031	
12400.00	90.00	90.41	7797.80	3239.13S	686.78E	=>	1649.95	N39 33 10.5790	W104 32 56.8265	
12500.00	90.00	90.41	7797.80	3239.85S	786.78E	=>	1745.32	N39 33 10.5719	W104 32 55.5498	
12600.00	90.00	90.41	7797.80	3240.57S	886.77E	=>	1840.69	N39 33 10.5647	W104 32 54.2732	
12700.00	90.00	90.41	7797.80	3241.29S	986.77E	=>	1936.06	N39 33 10.5575	W104 32 52.9966	
12800.00	90.00	90.41	7797.80	3242.01S	1086.77E	=>	2031.43	N39 33 10.5504	W104 32 51.7199	
12900.00	90.00	90.41	7797.80	3242.73S	1186.77E	=>	2126.80	N39 33 10.5432	W104 32 50.4433	
13000.00	90.00	90.41	7797.80	3243.45S	1286.76E	=>	2222.17	N39 33 10.5360	W104 32 49.1666	
13100.00	90.00	90.41	7797.80	3244.17S	1386.76E	=>	2317.54	N39 33 10.5289	W104 32 47.8900	
13200.00	90.00	90.41	7797.80	3244.89S	1486.76E	=>	2412.91	N39 33 10.5217	W104 32 46.6133	
13300.00	90.00	90.41	7797.80	3245.61S	1586.76E	=>	2508.28	N39 33 10.5145	W104 32 45.3367	
13400.00	90.00	90.41	7797.80	3246.33S	1686.75E	=>	2603.65	N39 33 10.5073	W104 32 44.0601	
13500.00	90.00	90.41	7797.80	3247.05S	1786.75E	=>	2699.02	N39 33 10.5001	W104 32 42.7834	
13600.00	90.00	90.41	7797.80	3247.78S	1886.75E	=>	2794.39	N39 33 10.4929	W104 32 41.5068	
13700.00	90.00	90.41	7797.80	3248.50S	1986.74E	=>	2889.76	N39 33 10.4857	W104 32 40.2301	
13800.00	90.00	90.41	7797.80	3249.22S	2086.74E	=>	2985.13	N39 33 10.4785	W104 32 38.9535	
13900.00	90.00	90.41	7797.80	3249.94S	2186.74E	=>	3080.50	N39 33 10.4713	W104 32 37.6769	
14000.00	90.00	90.41	7797.80	3250.66S	2286.74E	=>	3175.86	N39 33 10.4641	W104 32 36.4002	
14100.00	90.00	90.41	7797.80	3251.38S	2386.73E	=>	3271.23	N39 33 10.4569	W104 32 35.1236	
14200.00	90.00	90.41	7797.80	3252.10S	2486.73E	=>	3366.60	N39 33 10.4496	W104 32 33.8469	
14300.00	90.00	90.41	7797.80	3252.82S	2586.73E	=>	3461.97	N39 33 10.4424	W104 32 32.5703	
14400.00	90.00	90.41	7797.80	3253.54S	2686.73E	=>	3557.34	N39 33 10.4352	W104 32 31.2937	
14500.00	90.00	90.41	7797.80	3254.26S	2786.72E	=>	3652.71	N39 33 10.4280	W104 32 30.0170	
14600.00	90.00	90.41	7797.80	3254.98S	2886.72E	=>	3748.08	N39 33 10.4207	W104 32 28.7404	
14700.00	90.00	90.41	7797.80	3255.71S	2986.72E	=>	3843.45	N39 33 10.4135	W104 32 27.4637	
14800.00	90.00	90.41	7797.80	3256.43S	3086.72E	=>	3938.82	N39 33 10.4062	W104 32 26.1871	
14900.00	90.00	90.41	7797.80	3257.15S	3186.71E	=>	4034.19	N39 33 10.3990	W104 32 24.9105	
15000.00	90.00	90.41	7797.80	3257.87S	3286.71E	=>	4129.56	N39 33 10.3917	W104 32 23.6338	
15100.00	90.00	90.41	7797.80	3258.59S	3386.71E	=>	4224.93	N39 33 10.3845	W104 32 22.3572	
15200.00	90.00	90.41	7797.80	3259.31S	3486.71E	=>	4320.30	N39 33 10.3772	W104 32 21.0806	
15300.00	90.00	90.41	7797.80	3260.03S	3586.70E	=>	4415.67	N39 33 10.3699	W104 32 19.8039	
15400.00	90.00	90.41	7797.80	3260.75S	3686.70E	=>	4511.04	N39 33 10.3627	W104 32 18.5273	
15500.00	90.00	90.41	7797.80	3261.47S	3786.70E	=>	4606.41	N39 33 10.3554	W104 32 17.2506	
15600.00	90.00	90.41	7797.80	3262.19S	3886.70E	=>	4701.78	N39 33 10.3481	W104 32 15.9740	
15700.00	90.00	90.41	7797.80	3262.91S	3986.69E	=>	4797.15	N39 33 10.3409	W104 32 14.6974	
15800.00	90.00	90.41	7797.80	3263.64S	4086.69E	=>	4892.52	N39 33 10.3336	W104 32 13.4207	
15900.00	90.00	90.41	7797.80	3264.36S	4186.69E	=>	4987.89	N39 33 10.3263	W104 32 12.1441	
16000.00	90.00	90.41	7797.80	3265.08S	4286.68E	=>	5083.26	N39 33 10.3190	W104 32 10.8674	
16100.00	90.00	90.41	7797.80	3265.80S	4386.68E	=>	5178.63	N39 33 10.3117	W104 32 9.5908	
16200.00	90.00	90.41	7797.80	3266.52S	4486.68E	=>	5274.00	N39 33 10.3044	W104 32 8.3142	
16300.00	90.00	90.41	7797.80	3267.24S	4586.68E	=>	5369.37	N39 33 10.2971	W104 32 7.0375	
16400.00	90.00	90.41	7797.80	3267.96S	4686.67E	=>	5464.74	N39 33 10.2898	W104 32 5.7609	
16500.00	90.00	90.41	7797.80	3268.68S	4786.67E	=>	5560.11	N39 33 10.2825	W104 32 4.4842	
16600.00	90.00	90.41	7797.80	3269.40S	4886.67E	=>	5655.48	N39 33 10.2752	W104 32 3.2076	
16700.00	90.00	90.41	7797.80	3270.12S	4986.67E	=>	5750.85	N39 33 10.2678	W104 32 1.9310	
16800.00	90.00	90.41	7797.80	3270.84S	5086.66E	=>	5846.21	N39 33 10.2605	W104 32 0.6543	
16900.00	90.00	90.41	7797.80	3271.56S	5186.66E	=>	5941.58	N39 33 10.2532	W104 31 59.3777	
17000.00	90.00	90.41	7797.80	3272.29S	5286.66E	=>	6036.95	N39 33 10.2459	W104 31 58.1011	
17100.00	90.00	90.41	7797.80	3273.01S	5386.66E	=>	6132.32	N39 33 10.2385	W104 31 56.8244	
17200.00	90.00	90.41	7797.80	3273.73S	5486.65E	=>	6227.69	N39 33 10.2312	W104 31 55.5478	
17300.00	90.00	90.41	7797.80	3274.45S	5586.65E	=>	6323.06	N39 33 10.2238	W104 31 54.2711	
17400.00	90.00	90.41	7797.80	3275.17S	5686.65E	=>	6418.43	N39 33 10.2165	W104 31 52.9945	
17500.00	90.00	90.41	7797.80	3275.89S	5786.65E	=>	6513.80	N39 33 10.2091	W104 31 51.7179	
17600.00	90.00	90.41	7797.80	3276.61S	5886.64E	=>	6609.17	N39 33 10.2018	W104 31 50.4412	
17700.00	90.00	90.41	7797.80	3277.33S	5986.64E	=>	6704.54	N39 33 10.1944	W104 31 49.1646	
17800.00	90.00	90.41	7797.80	3278.05S	6086.64E	=>	6799.91	N39 33 10.1871	W104 31 47.8880	
17900.00	90.00	90.41	7797.80	3278.77S	6186.64E	=>	6895.28	N39 33 10.1797	W104 31 46.6113	
18000.00	90.00	90.41	7797.80	3279.49S	6286.63E	=>	6990.65	N39 33 10.1723	W104 31 45.3347	
18100.00	90.00	90.41	7797.80	3280.22S	6386.63E	=>	7086.02	N39 33 10.1649	W104 31 44.0580	
18200.00	90.00	90.41	7797.80	3280.94S	6486.63E	=>	7181.39	N39 33 10.1576	W104 31 42.7814	
18300.00	90.00	90.41	7797.80	3281.66S	6586.63E	=>	7276.76	N39 33 10.1502	W104 31 41.5048	
18400.00	90.00	90.41	7797.80	3282.38S	6686.62E	=>	7372.13	N39 33 10.1428	W104 31 40.2281	
18500.00	90.00	90.41	7797.80	3283.10S	6786.62E	=>	7467.50	N39 33 10.1354	W104 31 38.9515	
18600.00	90.00	90.41	7797.80	3283.82S	6886.62E	=>	7562.87	N39 33 10.1280	W104 31 37.6749	
18700.00	90.00	90.41	7797.80	3284.54S	6986.61E	=>	7658.24	N39 33 10.1206	W104 31 36.3982	
18800.00	90.00	90.41	7797.80	3285.26S	7086.61E	=>	7753.61	N39 33 10.1132	W104 31 35.1216	
18900.00	90.00	90.41	7797.80	3285.98S	7186.61E	=>	7848.98	N39 33 10.1058	W104 31 33.8450	
19000.00	90.00	90.41	7797.80	3286.70S	7286.61E	=>	7944.35	N39 33 10.0984	W104 31 32.5683	
19100.00	90.00	90.41	7797.80	3287.42S	7386.60E	=>	8039.72	N39 33 10.0910	W104 31 31.2917	
19200.00	90.00	90.41	7797.80	3288.15S	7486.60E	=>	8135.09	N39 33 10.0836	W104 31 30.0150	
19300.00	90.00	90.41	7797.80	3288.87S	7586.60E	=>	8230.46	N39 33 10.0761	W104 31 28.7384	
19400.00	90.00	90.41	7797.80	3289.59S	7686.60E	=>	8325.83	N39 33 10.0687	W104 31 27.4618	
19500.00	90.00	90.41	7797.80	3290.31S	7786.59E	=>	8421.20	N39 33 10.0613	W104 31 26.1851	
19600.00	90.00	90.41	7797.80	3291.03S	7886.59E	=>	8516.56	N39 33 10.0538	W104 31 24.9085	
19700.00	90.00	90.41	7797.80	3291.75S	7986.59E	=>	8611.93	N39 33 10.0464	W104 31 23.6319	
19800.00	90.00	90.41	7797.80	3292.47S	8086.59E	=>	8707.30	N39 33 10.0390	W104 31 22.3552	
19900.00	90.00	90.41	7797.80	3293.19S	8186.58E	=>	8802.67	N39 33 10.0315	W104 31 21.0786	
20000.00	90.00	90.41	7797.80	3293.91S	8286.58E	=>	8898.04	N39 33 10.0241	W104 31 19.8020	
20100.00	90.00	90.41	7797.80	3294.63S	8386.58E	=>	8993.41	N39 33 10.0166	W104 31 18.5253	
20200.00	90.00	90.41	7797.80	3295.35S	8486.58E	=>	9088.78	N39 33 10.0092	W104 31 17.2487	
20300.00	90.00	90.41	7797.80	3296.08S	8586.57E	=>	9184.15	N39 33 10.0017	W104 31 15.9721	
20400.00	90.00	90.41	7797.80	3296.80S	8686.57E	=>	9279.52	N39 33 9.9942	W104 31 14.6954	
20500.00	90.00	90.41	7797.80	3297.52S	8786.57E	=>	9374.89	N39 33 9.9868	W104 31 13.4188	
20600.00	90.00	90.41	7797.80	3298.24S	8886.57E	=>	9470.26	N39 33 9.9793	W104 31 12.1422	
20700.00	90.00	90.41	7797.80	3298.96S	8986.56E	=>	9565.63	N39 33 9.9718	W104 31 10.8655	

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Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Planned Datum #1 6017.8ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 107.92 degrees
Bottom hole distance is 10752.67 Feet on azimuth 107.92 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
20800.00	90.00	90.41	7797.80	3299.68S	9086.56E	==>	9661.00	N39 33 9.9643	W104 31 9.5889	
20900.00	90.00	90.41	7797.80	3300.40S	9186.56E	==>	9756.37	N39 33 9.9568	W104 31 8.3122	
21000.00	90.00	90.41	7797.80	3301.12S	9286.55E	==>	9851.74	N39 33 9.9493	W104 31 7.0356	
21100.00	90.00	90.41	7797.80	3301.84S	9386.55E	==>	9947.11	N39 33 9.9419	W104 31 5.7590	
21200.00	90.00	90.41	7797.80	3302.56S	9486.55E	==>	10042.48	N39 33 9.9344	W104 31 4.4823	
21300.00	90.00	90.41	7797.80	3303.28S	9586.55E	==>	10137.85	N39 33 9.9269	W104 31 3.2057	
21400.00	90.00	90.41	7797.80	3304.00S	9686.54E	==>	10233.22	N39 33 9.9193	W104 31 1.9291	
21500.00	90.00	90.41	7797.80	3304.73S	9786.54E	==>	10328.59	N39 33 9.9118	W104 31 0.6524	
21600.00	90.00	90.41	7797.80	3305.45S	9886.54E	==>	10423.96	N39 33 9.9043	W104 30 59.3758	
21700.00	90.00	90.41	7797.80	3306.17S	9986.54E	==>	10519.33	N39 33 9.8968	W104 30 58.0992	
21800.00	90.00	90.41	7797.80	3306.89S	10086.53E	==>	10614.70	N39 33 9.8893	W104 30 56.8225	
21900.00	90.00	90.41	7797.80	3307.61S	10186.53E	==>	10710.07	N39 33 9.8818	W104 30 55.5459	
21944.67	90.00	90.41	7797.80	3307.93S	10231.20E	==>	10752.67	N39 33 9.8784	W104 30 54.9756	End of Hold/Target, SILVER_9HN BH

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 6017.8ft above Mean Sea Level)
 Vertical Section is from 0.00N 0.00E on azimuth 107.92 degrees
 Bottom hole distance is 10752.67 Feet on azimuth 107.92 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 9HN BH	3307.93S	10231.20E	7797.80	N39 33 9.8784	W104 30 54.9756	1081466.87	3277678.90
SILVER 9HN LP	3218.50S	2174.08W	7797.80	N39 33 10.7820	W104 33 33.3504	1081423.61	3265273.03

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	1092.02	1092.00	2.02	87.98	1.16S	1.14W
Laramie - Fox Hills	1915.76	1897.01	20.15	69.85	113.33S	112.02W
Pierre Shale (Base of Fox Hills)	2169.96	2131.00	25.74	64.26	183.78S	181.65W
Sussex Sandstone	6321.58	5461.00	37.34	52.66	1943.20S	1920.76W
Sharon Springs Shale	8943.98	7571.00	45.10	44.90	3090.87S	2685.31W
Niobrara	9018.17	7621.00	50.17	39.83	3118.53S	2638.07W
Niobrara A	9033.97	7631.01	51.29	38.71	3124.08S	2627.16W
Niobrara B Top	9291.25	7756.01	70.55	19.45	3193.92S	2415.52W

Survey Tool Program					
Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
1095658	Planned	21944.67	7797.80	WdW Rate Gyro	Standard

Notes