

2020 Exploration Report on the Tomas claims, Watson Lake Mining District, Yukon

Fluxgate magnetic survey

Brian Atkinson P.Geol.

May 26, 2021

Claims:

Name	Grant Number
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Tomas 1	YE85887
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Tomas 2	YE85888
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Tomas 3	YF50161
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Tomas 4	YF50162
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Map: NTS 105/B01 1:50 000, Watson Lake Mining District

Registered claim holder: Brian Atkinson P.Geol.

Date of Work: June 30 to July 12, 2020

Table of Content

Introduction	2
Previous Work.....	2
Geology of the Tomas claim group	3
Quaternary Geology.....	3
Phanerozoic Geology	4
Data Collection.....	4
Magnetic Survey Results.....	5
Statement of Expenditures	5
Statement of Qualifications	5
References	6
Figures.....	7
Figure 1: Location, access and camp location for the Tomas claim group.	8
Figure 2: Contoured fluxgate magnetic data for line 2+00 E and 2+00 W. Contour interval is 500 nT. ...	9
Tables	9

Introduction

The Tomas claims (Figure 1) are located approximately 120 km west of the town of Watson Lake in the Watson Lake Mining Division. Access is via the Silvertip Mine road off the Alaska Highway. At a point 9 km along the Silvertip Mine road, an old exploration trail leads west to alpine heights and bisects the Tomas claim group. The 4 quartz mining claims of the Tomas claim group were originally staked in June 2016 and this report documents exploration work completed in the summer of 2019 with the objective of mineral discovery for gold and base metals. The present work was the continuation of exploration efforts that commenced the previous 2018 field season. Exploration work included line cutting, soil sampling, sediment sieve size analysis and topographic profiling related to glacial history and magnetic surveys.

Previous Work

Work completed on the claims in 2018 and 2019 by the author included prospecting, geological reconnaissance, line cutting, soil sampling and magnetic surveying.

Although no evidence of previous exploration work was identified on the Tomas claims, several notable mineral occurrences in the area have been the focus of ongoing exploration efforts. That has culminated in the recent opening and production of Pb-Zn-Ag at Silvertip Mine, BC, located 16 km south of the Tomas claims.

Reports of mineral discoveries by the Geological Survey of Canada during geological reconnaissance in 1944 drew attention to the area (Lord 1944). As a result, Western Ranger Prospecting Syndicate constructed road access from the newly prepared Alaska Highway southward to argentiferous galena occurrences where they did bedrock trenching. Subsequent exploration by prospectors continued until 1982 when Butler Mountain Minerals Corp. consolidated several separate claim holdings and completed geological surveys, diamond drilling, trenching and additional road access construction. A description of mineral occurrences in the vicinity of the Tomas claims is reported in an engineering report in the Yukon assessment file database (Cukor 1983).

The Dale prospect is situated 5 km west of Tomas claims. In 1958, Mountain Highgrade Mines Ltd. carried out underground exploration by way of a 168 m long adit on high grade lead, zinc and silver bearing quartz + carbonate veins with anomalous gold values. The mineralization occurs in a shear zone where quartz diorite of the Cassiar Batholith is altered to propylitic and argillic mineral assemblages. A small bulk sample of mineralization was extracted for smelting and refining by the American Smelting and Refining Company. Additional exploration work in 1995 led to the discovery of more high-grade mineralization in the Dale Fault to the east of the original showing (Power 1996, Lee and Power 1997).

Lying immediately north of the Tomas claims, the Wildcat property, as it is now known, has been the focus of exploration activities including magnetic and VLF-EM surveys, bedrock trenching, soil sampling (Casselmann 2007) and diamond drilling. Several styles of Pb Zn Ag mineralization have been encountered in argillaceous sediments and rhyolite. Besides argentiferous galena and sphalerite, arsenopyrite and low values of W, Sn and Co are reported in drill logs. Fluorite was noted in drill core from several holes associated with rhyolite (White 1983). Besides Pb Zn Ag mineralization, copper and low gold mineralization were encountered in the 2009 diamond drilling program (Mastalerz 2010).

Geology of the Tomas claim group

Quaternary Geology

Reconnaissance scale surficial mapping has covered the area of the Tomas claims (Klassen 1982). The last (McConnell) glacial episode began about 24 Ka ago (Jackson and MacKay 1990) and ended in the area at 17 Ka ago (Yukon Geological Survey 2017). Although the regional ice flow direction was from west to east, high mountain relief dictated highly variable local flow directions.

An unnamed east flowing mountain stream occupies a moderately steep sided valley on the south part of the Tomas claims. The creek has incised through several parallel glacial lateral moraines that formed during resurgent advances of ice down the valley. Collectively, the moraines exhibit a stepped or terraced nature to the valley slopes (Figure 2). Although no outcrop has been identified on the Tomas claims from which glacial striations might indicate ice flow, the convergence of lateral moraines at the confluence of 2 branches of the stream indicate ice directions merged eastward downstream from the southwest and the northwest mountain summits. That the northeast flow direction, (from the southwest) was the last and probably dominant in the local area is evidenced by the truncation of a 10 m high interlobate morainal ridge on the north side of the stream valley. Subangular glacial erratics of

granodiorite on surrounding mountain crests indicate the mountains were inundated by glacial ice in the past.

The glacial till consists of clast supported boulder conglomerate with well-rounded boulders up to 1 metre in diameter with a matrix of coarse to fine sand and little silt or clay. Clast compositions include, in order of abundance: medium to coarse grained felsic intrusive boulders, limestone, argillite, fine grained calcareous sediments, marble, rhyolite, calc-silicate skarn, and rare porphyritic diabase. The stream bed is armoured by large blocky felsic intrusive boulders but in several places of gentle slope gradient, >1 m thick deposits of humus have accumulated on the banks.

Bedrock of the nearby mountains to the southwest consist of Cassiar Batholith felsic intrusive rocks where mountains to the northwest expose sedimentary rocks of limestone, sandstone, calcareous argillite, rhyolite, shale and skarn. The predominance of glacial deposits sourced by the northeast ice flow accounts for the composition of the till that infills the stream valley and constitute the lateral moraines.

Phanerozoic Geology

The Tomas claim group lies within the Cassiar Terrane (Colpron and Nelson 2011) at the inferred contact between the Atan Group (Rosella Formation) of Cambrian age on the west and the Carboniferous Earn Group to the east. The Rosella Formation is composed of thick bedded to massive limestone and siliceous limestone while the Earn Group includes black siliceous slate, chert, greywacke, grit and conglomerate. Clastic sediments and chert of Mississippian age comprise the Slide Mountain Group that lies 2.5 km to the southeast (Gordey and Makepeace 2001). The contact between the Atan and Earn groups is delineated by a north trending fault. (Lowey and Lowey, 1986). An intervening sliver of dolomitic siltstone and sandstone of the Askin Group lies between the Atan Group and felsic intrusive rocks of the 112 ± 4 Ma Cassiar Batholith plutonic suite (Mortensen et al 2006) located 2.5 km to the west. The Askin Group coincides with GSC mapping in the area depicted as limestone, marble, skarn and hornfels (Green, Poole and Roddick 1960).

Data Collection

For survey control, cut lines were established on the 2+00 East and 2+00 West positions of the sampling grid that was located the previous year. These lines were cut using a machette to a width of 1 m extending both north and south from the baseline to the claim boundaries. Station pickets were erected at 25 m intervals as measured by hip chain then each station was pinpointed using GPS referencing.

Using a Scintrex model MF2 magnetometer, serial # 102034, magnetic readings were recorded at each picket station on 25 m spacing. Oriented readings were recorded in a notebook at the time of field data collection. A total of 78 stations were surveyed.

Because no base station magnetometer was available to record diurnal magnetic flux, the 0+00 N picket station was used as a control point and repeatedly surveyed over the course of field data collection. As a further magnetic control, the cut lines were magnetically surveyed in both directions departing from the 0+00N control point and returning to it. Duplicate recordings were then averaged and corrected for

diurnal variation. UTM coordinates for each station and magnetic readings are listed in Table 1 and contoured data are presented in Figure 2.

Magnetic Survey Results

Previous years' work included magnetic surveying using a proton precession magnetometer. But due to technical malfunction of the proton magnetometer, the fluxgate magnetic survey was completed instead. However, because the fluxgate magnetometer only records the vertical component of the magnetic field, that data cannot be directly compared to the total field response of the proton precession instrument and the 2 data sets are incompatible. Nonetheless, the contoured fluxgate data suggest an eastward trend to the magnetic patterns similar to previously documented proton precession magnetic data in the area.

Statement of Expenditures

Travel: Bright Ontario to Rancheria YK area and return 10800 Km @ \$0.60/km	\$6480
Geological day rate* \$750 x 13 days	9750
Groceries 12 days @ \$50/day	600
Magnetometer 2 days @ \$100	200
Total	\$17030

*Line cutting, soil sampling, magnetic surveying and prospecting included in geological day rate.

Statement of Qualifications

I, Brian Atkinson, P.Geo., with postal address at Bright, Ontario, do hereby certify that:

1. I am a consulting/contract geologist.
2. I graduated with an Hon.Bachelor (Geology/Phys. Geography), from McMaster University.
3. I am a Professional Geoscientist registered with the Association of Professional Geoscientists of Ontario.
4. I have worked as a geologist for 40+ years.
5. I personally completed 12 days of line cutting, geological mapping, prospecting, soil sampling and magnetic surveys on the Tomas claim group, Watson Lake Mining Division YK from June 30 to July 12, 2020.
6. During this time, I remained in isolation on the Tomas claims as per Yukon Covid 19 policy.

Dated this May 26, 2021.



Brian Atkinson P.Geol.

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Figures

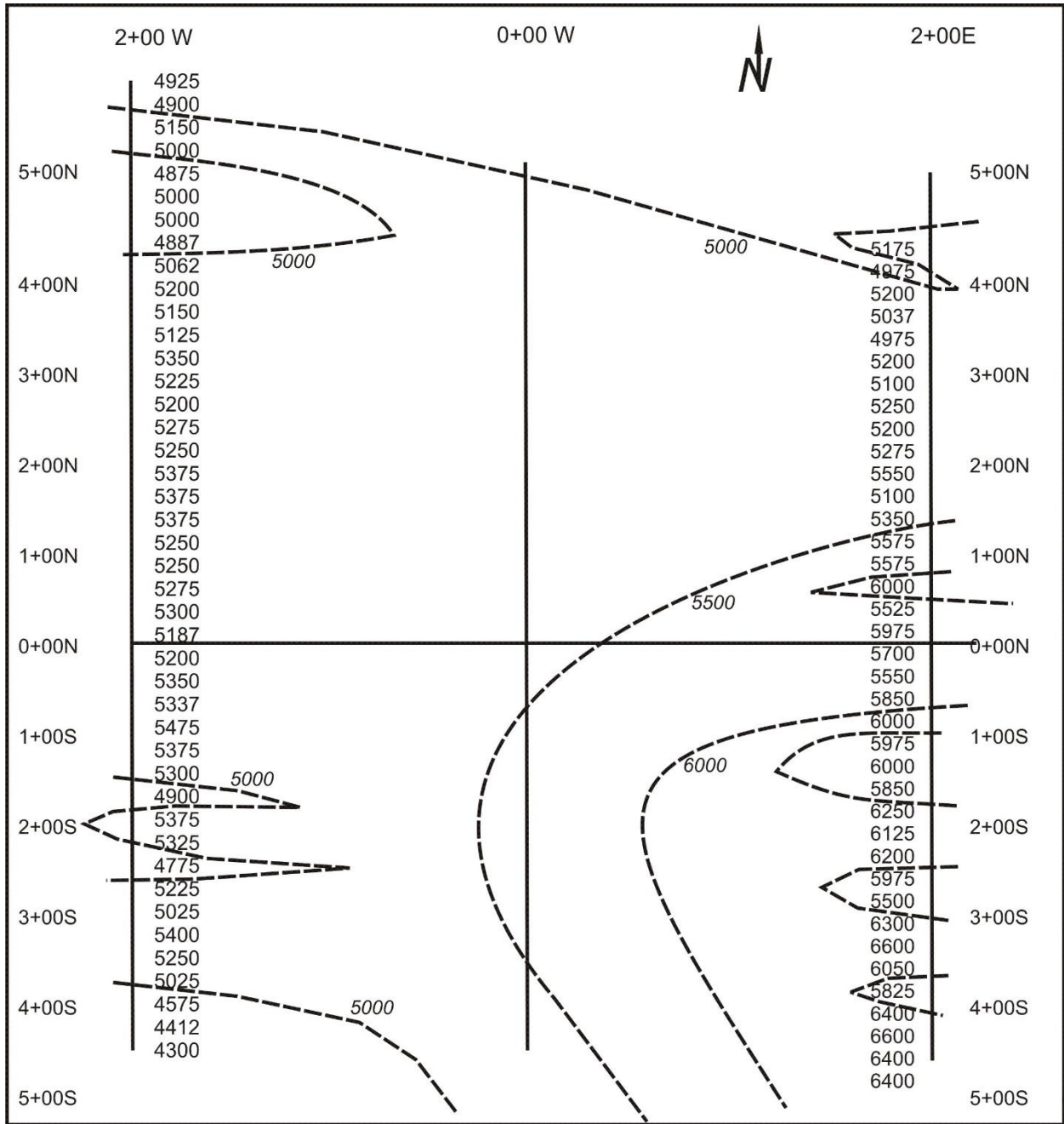


Figure 2: Contoured fluxgate magnetic data for line 2+00 E and 2+00 W. Contour interval is 500 nT.

Tables

Table 1. Station location coordinates and fluxgate magnetic readings for grid lines 2+00 East and 2+00 West.

Line 2+00 East

Grid	Station #	UTM	UTM	Elevation	Magnetic reading		Diurnal correction
		location	location		south	north	
		Easting	Northing	(m)			
0+00N	2000	425630	6656938	1226	6225	5700	5962.5
0+25N	2001	425640	6656958	1224	6050	5000	5525
0+50N	2002	425650	6656981	1229	6500	5500	6000
0+75N	2003	425660	6657006	1233	5750	5400	5575
1+00N	2004	425663	6657029	1231	6000	5150	5575
1+25N	2005	425674	6657033	1227	5300	5400	5350
1+50N	2006	425683	6657080	1227	5200	5000	5100
1+75N	2007	425691	6657094	1222	5750	5350	5550
2+00N	2008	425697	6657123	1224	5400	5150	5275
2+25N	2009	425707	6657147	1226	5300	5100	5200
2+50N	2010	425715	6657171	1226	5500	5000	5250
2+75N	2011	425727	6657198	1227	5000	5200	5100
3+00N	2012	425731	6657218	1227	5000	5400	5200
3+25N	2013	425737	6657241	1229	4750	5200	4975
3+50N	2014	425745	6657267	1230	5175	4900	5037.5
3+75N	2015	425754	6657290	1230	5000	5400	5200
4+00N	2016	425766	6657320	1228	4850	5100	4975
4+25N	2017	425768	6657332	1229	5050	5300	5175
4+50N	2018						
4+75N	2019						

Line 2 + 00 East

Grid	Station #	UTM	UTM	Elevation	Magnetic reading		Diurnal correction
		location	location		south	north	
		Easting	Northing	(m)			
0+00S	2020	425633	6656932	1226	6250	5700	5975
0+25S	2021	425627	6656905	1225	6150	5250	5700
0+50S	2022	425620	6656882	1217	6100	5000	5550
0+75S	2023	425614	6656859	1214	6100	5600	5850
1+00S	2024	425604	6656835	1212	6200	5800	6000
1+25S	2025	425598	6656810	1209	6200	5750	5975
1+50S	2026	425590	6656786	1205	6000	6000	6000
1+75S	2027	425587	6656764	1206	5900	5800	5850

2+00S	2028	425577	6656727	1205	6500	6000	6250
2+25S	2029	425570	6656705	1205	6450	5800	6125
2+50S	2030	425560	6656679	1210	6200	6200	6200
2+75S	2031	425552	6656656	1212	6200	5750	5975
3+00S	2032	425545	6656634	1221	4800	6200	5500
3+25S	2033	425539	6656607	1225	6600	6000	6300
3+50S	2034	425531	6656588	1232	6800	6400	6600
3+75S	2035	425521	6656565	1238	6100	6000	6050
4+00S	2036	425514	6656543	1244	5650	6000	5825
4+25S	2037	425509	6656522	1253	6400	6400	6400
4+50S	2038	425511	6656504	1255	6600	6600	6600
4+75S	2039	425510	6656464	1263	6400	6400	6400
4+80S	2039a	425510	6656462	1264	6400	6400	6400

Line 2 + 00 West

Grid	Station #	UTM	UTM	Elevation	Magnetic reading		Diurnal correction
		location	location		south	north	
		Easting	Northing	(m)			
0+00N	2040	425219	6657011	1290	5425	4900	5162.5
0+25N	2041	425229	6657043		5600	5000	5300
0+50N	2042	425239	6657062		5400	5050	5275
0+75N	2043	425245	6657088	1282	5500	5000	5250
1+00N	2044	425254	6657112	1282	5500	5000	5250
1+25N	2045	425262	6657132	1284	5700	5050	5375
1+50N	2046	425270	6657160	1288	5450	5300	5375
1+75N	2047	425282	6657182	1288	5500	5000	5250
2+00N	2048	425291	6657208	1285	5450	5100	5275
2+25N	2049	425300	6657231	1285	5350	5050	5200
2+50N	2050	425310	6657255	1289	5400	5050	5225
2+75N	2051	425317	6657280	1290	5500	5200	5350
3+00N	2052	425327	6657301	1290	5300	4950	5125
3+25N	2053	425337	6657330	1292	5300	5000	5150
3+50N	2054	425350	6657350	1289	5400	5000	5200
3+75N	2055	425358	6657362	1287	5175	4950	5062.5
4+00N	2056	425372	6657392	1284	5025	4750	4887.5
4+25N	2057	425383	6657422	1291	5000	5000	5000
4+50N	2058	425390	6657444	1287	5000	5000	5000
4+75N	2059	425402	6657466	1283	5000	4750	4875
5+00N	2059a	425418	6657495	1286	5150	4850	5000
5+25N	2059b	425432	6657521	1285	5300	5000	5150
5+50N	2059c	425453	6657571	1280	4800	5000	4900
5+70N	2059d	425465	6657606	1277	5000	4850	4925

Grid	Station #	UTM location		Elevation (m)	Magnetic reading		Diurnal correction
		Easting	Northing		south	north	
0+00S	2060	425218	6657016	1277	5425	4950	5187.5
0+25S	2061	425209	6656995	1277	5400	5000	5200
0+50S	2062	425200	6656969	1277	5700	5000	5350
0+75S	2063	425196	6656946	1272	5375	5300	5337.5
1+00S	2064	425180	6656920	1270	5700	5250	5475
1+25S	2065	425169	6656888	1265	5375	5375	5375
1+50S	2066	425159	6656867	1263	5500	5100	5300
1+75S	2067	425147	6656841	1258	5000	4800	4900
2+00S	2068	425134	6656813	1257	5700	5050	5375
2+25S	2069	425123	6656789	1253	5650	5000	5325
2+50S	2070	425113	6656769	1250	4950	4600	4775
2+75S	2071	425104	6656740	1244	5450	5000	5225
3+00S	2072	425092	6656706	1242	5050	5000	5025
3+25S	2073	425075	6656666	1247	5400	5400	5400
3+50S	2074	425066	6656643	1246	5250	5250	5250
3+75S	2075	425055	6656621	1240	5150	4900	5025
4+00S	2076	425043	6656598	1234	4750	4400	4575
4+25S	2077	425031	6656576	1235	4375	4450	4412.5
4+50S	2078	425029	6656572	1235	4400	4200	4300