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2020 PROSPECTING REPORT
– Drill Holes: 20Swill-1 and 2

CLAIMS# 04769,105577,105578,105579,109049,110968,110969,111534,111535,111589,112279,
112280,113567,120809,120810,124353,124354,125977,125978,125979,125980,127905,
135753,135754,137212,137963,137964,137965,139365,139366,139367,141017,142329,
143191,147142,153306,155910,170517,170518,170519,170520,171913,172389,172390,
172642,172643,176416,177458,183730,184320,184321,187051,188381,188382,191374,
191375,194516,194517,201041,201042,201904,207066,207882,207883,213692,213693,
213694,213781,213782,220674,224709,224710,231364,238527,240786,243566,245122,
246321,248084,248085,248086,250481,251609,255686,256630,257433,262469,263125,
265206,266361,266362,267164,267165,267678,269243,269244,269285,271929,275381,
277882,280120,281514,281515,281516,285805,292880,292881,298702,299657,302945,
305200,306014,312500,315217,315218,317036,317037,317655,317656,319123,322527,
325111,328015,329185,333019,336634,339030,339031,341737,341738,345446

Swill Diamond Drill Project

THUNDER BAY MINING DISTRICT

Prepared By: Martin Drennan, P. Eng
Robert Meek, MSc, GIT
Ben Goldman, BSc

August 19, 2020

Contents

List of Figures:

1. Work Summary

Work during Spring and Summer 2020 was based on a surface anomaly identified during 2016/2017 as well as drilling completed in 2019. Three drill holes were planned for this program. Two of the three holes were completed with the third hole collared and partially drilled. No core logging or assays were completed as the core is being logged and anticipated to be logged by next week as well as assay samples prepared. Work was performed by Martin Drennan, Christopher Bottomley, Riley Olsen, Raymond Osawamick, Brenden Anderson, and Dustin Danis.

2. Introduction

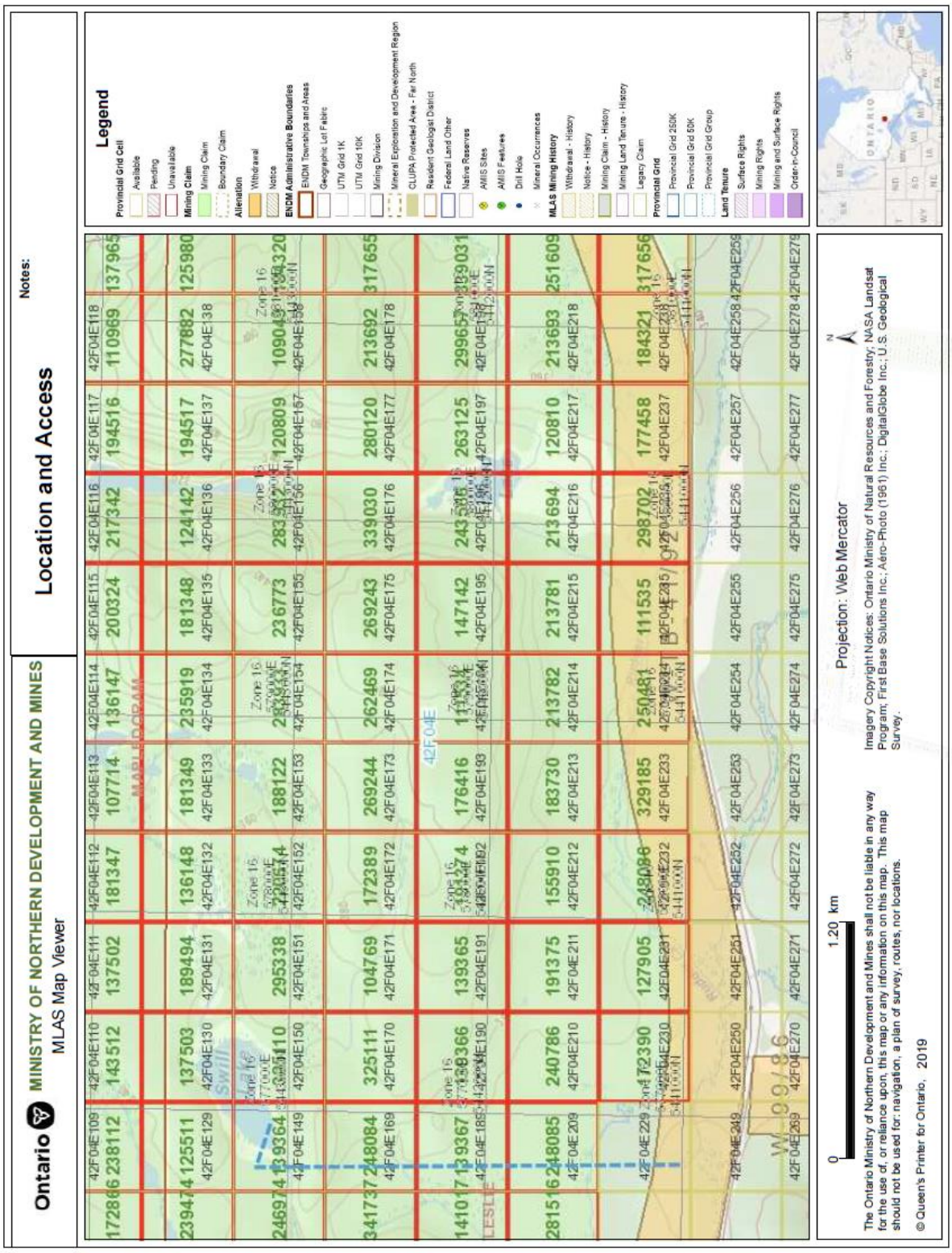
This report is a description of the drilling completed on claim 139364 which is a claim in the Leslie Townships in the Thunder Bay Mining District. The claims can be described as being located in the Manitouwadge mining camp (as defined by previous copper producers – Wilroy and Geco Mines).

The work in this report has been reviewed by the author and determined to be accurate. These claims are held by the author.

3. Location and Access

Leslie Township is located south east of Thunder Bay. Access is via Regional Road 614 to Caramat Industrial road. Caramat Industrial leads to the access road – Swill Lake Road. Swill Lake road was used to access the work area. See Figure 1 – Location and Access (work areas are highlighted with blue lines). No area organize was established to define "working areas" as the initial work was to establish anomaly locations. Once anomaly locations are established – a reference will be defined.

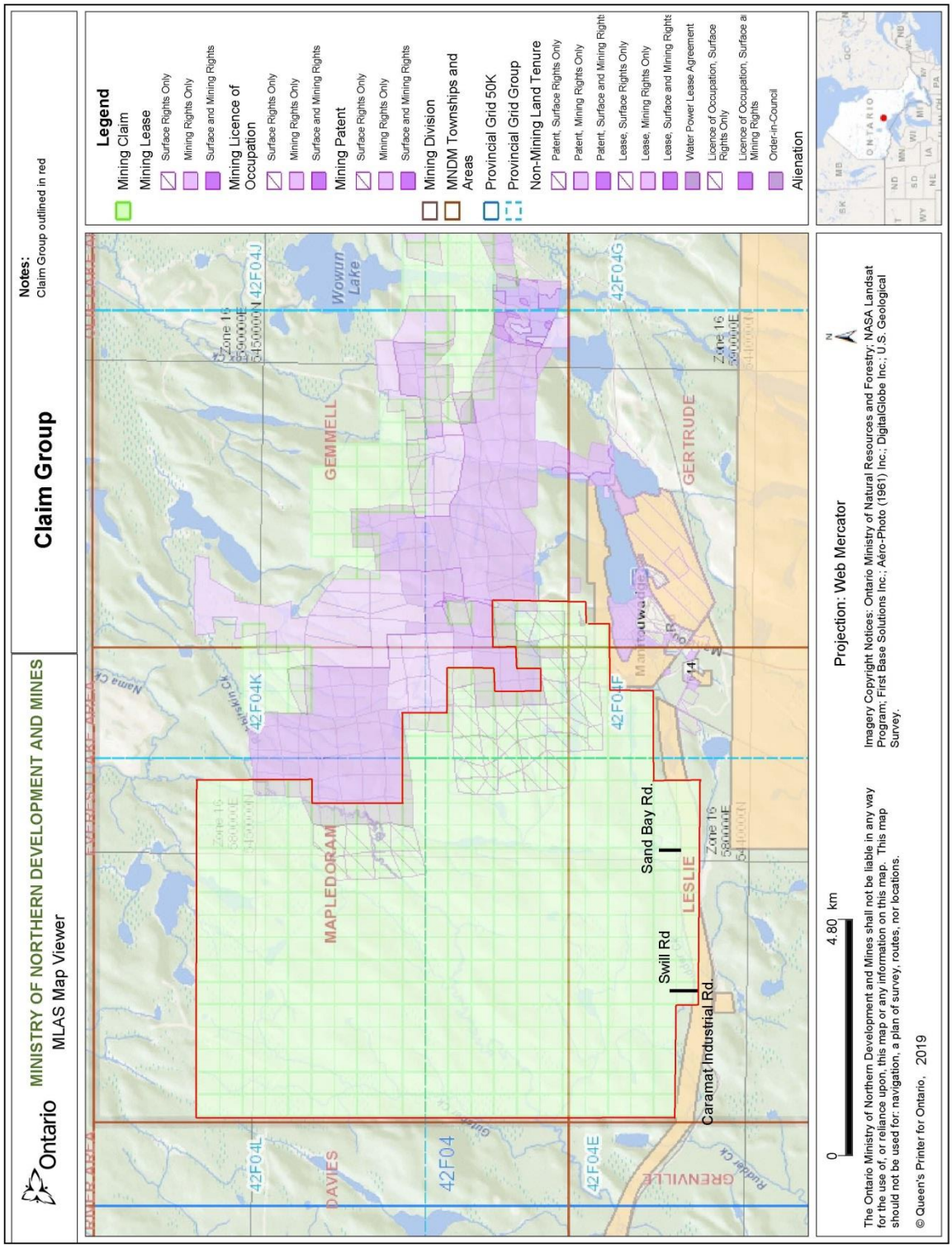
Figure 1 – Location and Access



4. Property Description

The claim group consists of 381 claims in Manitouwadge area within the Thunder Bay Mining District. See Figure 2 –Claim Group Map. The claims are a continuous package (outlined in red) with the eastern claims adjacent to the patented Geco Mine claims and some surface property lots. The claims are:
103541,103542,103543,103544,103545,104022,104769,105000,105001,105002,105003,105372,105577,105578,105579,105806,106894,107714,107882,109020,109049,110611,110968,110969,111534,111535,111589,111905,112279,112280,113567,114381,118817,119279,120809,120810,122552,124142,124353,124354,125281,125282,125283,125511,125977,125978,125979,125980,127905,128642,130474,130899,130900,131647,132424,135753,135754,136147,136148,136739,136815,137212,137502,137503,137963,137964,137965,139364,139365,139366,139367,140126,140127,140128,140129,140676,141017,142329,142466,143191,143512,144292,146080,146081,147142,147327,147328,147989,148331,148332,153306,155261,155262,155910,156587,157779,159618,161056,161363,162601,162602,165736,165737,166690,167188,167189,167190,170517,170518,170519,170520,171733,171734,171913,172389,172390,172642,172643,172866,172867,172888,173398,175305,175306,175340,176208,176209,176210,176211,176416,176970,177458,179158,180515,181347,181348,181349,181588,182040,182310,183730,183771,183772,184320,184321,184670,185112,186579,187051,188122,188381,188382,188807,189022,189265,189494,189749,190721,190810,191374,191375,192647,192684,193704,194516,194517,196452,196453,196648,200324,200982,201003,201041,201042,201904,202442,202932,207066,207882,207883,208546,209592,209609,209754,212925,212926,212927,213160,213659,213692,213693,213694,213781,213782,213822,214677,215523,215853,217342,220513,220514,220515,220674,221930,224709,224710,226561,229860,229901,231364,232503,232504,232704,234403,234404,234405,234406,235919,236773,238112,238388,238527,238691,239474,240124,240125,240786,241811,242068,242479,243566,245122,246321,246570,246571,246959,246974,247422,248084,248085,248086,249235,249884,250317,250318,250481,251577,251578,251579,251609,252729,255686,256365,256630,257076,257433,260356,260357,260358,260359,261983,262374,262469,263125,263872,265206,266361,266362,267164,267165,267678,268654,268655,268656,269243,269244,269285,269701,269702,269703,271781,271929,275130,275381,277882,278851,280092,280120,281514,281515,281516,281865,281866,283932,283933,285805,286538,286539,288462,288463,288464,289938,292647,292648,292649,292661,292880,292881,294115,295338,296566,296567,296568,297451,297452,297453,297454,298702,299162,299657,299924,300526,300527,302945,304782,304820,304821,304822,305200,305314,305315,305491,306014,308719,309864,310185,312232,312500,315217,315218,316891,317035,317036,317037,317655,317656,319123,321819,321820,322527,323846,323847,323885,324447,325110,325111,327733,327734,327735,328015,329185,329385,329386,329656,329657,330570,332376,332541,332542,333019,336634,336838,337292,337931,338494,339030,339031,341516,341737,341738,345446

Figure 2 –Claim Group Map



5. Regional Geography

Topography in the area is a mix of low areas with water and hills/ridges with a general east-west orientation. Outcrops are common of hillsides with numerous fragmented rocks buried in soil.

Vegetation is principally coniferous, and deciduous trees as well as numerous alder bush. In low lying areas, grass and cedars are predominant.

Wildlife activity is principally moose, bear, wolves, and beaver. Numerous bird species are present including grouse, and crows.

6. Regional Geology

The property is located within the Manitouwadge greenstone belt, which is located within the Wawa subprovince of the Archean Superior province. The Manitouwadge greenstone belt is located south of a tectonic boundary between the volcano-plutonic Wawa subprovince and the metasedimentary-migmatitic Quetico subprovince to the north (Zaleski and Peterson 1995). The Manitouwadge greenstone belt consists of bimodal felsic-mafic volcanic rocks, greywacke, iron-formation, and intrusive rocks that have all been metamorphosed to upper amphibolite facies and subject to four episodes of deformation (Zaleski and Peterson 1995). The Manitouwadge synform is the major structure present in the Swill Lake area. It is part of a group of regional Z-shaped D3 folds formed in response to dextral transpression (Zaleski and Peterson 1995). The Manitouwadge synform consists of an inner and outer volcanic belt which mantle a synvolcanic trondhjemite (Lodge 2013). The inner and outer belt are separated on the southern limb of the synform by metasedimentary rocks. Previously mined volcanogenic massive sulfide deposits are located on the southern limb of the Manitouwadge synform and have all been hosted in the inner volcanic belt (Lodge 2013).

7. Property Geology

The Swill Lake claims cover the hinge and the upper limbs of the Manitouwadge synform and have previously been interpreted to be stratigraphically above the Geco Mine Horizon (Degagne 1989). The metavolcanic rocks on this property belong to the outer volcanic belt of the Manitouwadge synform. The surficial geology of the claims from the southern limb to the core consists of mafic metavolcanics rocks including amphibolites, mafic schists and gneisses as well as foliated gabbroic units. Thin bands of felsic metavolcanics rocks including felsic gneisses and felsic schists are interlaid within the main mafic component. North of these units are felsic to intermediate metavolcanics rocks generally as muscovite-garnet to amph-muscovite-garnet schists and gneisses. Metasedimentary rocks, predominantly metagreywacke overlay the felsic to intermediate metavolcanics and

are mainly located in the eastern claims. A massive tonalite is present in the core. In the northeastern portion of the claims granodiorite-monzadiorite of the Nama Creek pluton is present. NE-SW trending and NW-SE trending diabase dikes cut through the previously described units. A minor orthoamphibole-garnet ± cordierite gneiss outcrops SW of Swill Lake. Quartz veining observed on outcrop consists of thin 1-15 cm veins with occasional minor pyrite mineralization.

8. Mineral deposit types-model-reasons

Exploration in the Swill Lake mining claims has targeted volcanogenic massive sulfide mineralization- Cu, Zn ± Au, Ag.

The Swill Lake mining claims lie east of four past producing volcanogenic massive sulfide deposits: Geco (55 Mt at 2.3% Cu, 8.2 Zn, 74 g/t Ag), Willroy (4.6 Mt at 1.3% Cu, 5.7% Zn, 48 g/t Ag), Willecho (3.8 Mt at 0.6% Cu, 3.9% Zn, 53 g/t Ag) and Nama Creek (0.3 Mt at 0.8% Cu, 3.9 % Zn, 28 g/t Ag) (Lodge 2012 and ref. within).

Although all known economic mineralization occurs in the inner volcanic belt, Zaleski and Peterson, 1995 correlated the inner and outer volcanic belts of the Manitouwadge synform as a product of D2 fold repetition. This is significant as, barring removal from erosion or faulting, altered and/or mineralized zones from the Wilroy-Geco area should be repeated (Zaleski and Peterson 1995).

9. Drill Hole Summary Tables:

Drill hole number:	Swill2020DH1
Collar Location (UTM Zone 16N)	577830 E, 5443040 N
Azimuth:	165°
Dip:	80
Hole length:	510m
Number of Samples:	X
Number of Assays:	X

Drill hole number:	Swill2020DH2
Collar Location (UTM Zone 16N)	578036 E, 5442984 N
Azimuth:	165°
Dip:	80
Hole length:	428m
Number of Samples:	X
Number of Assays:	X

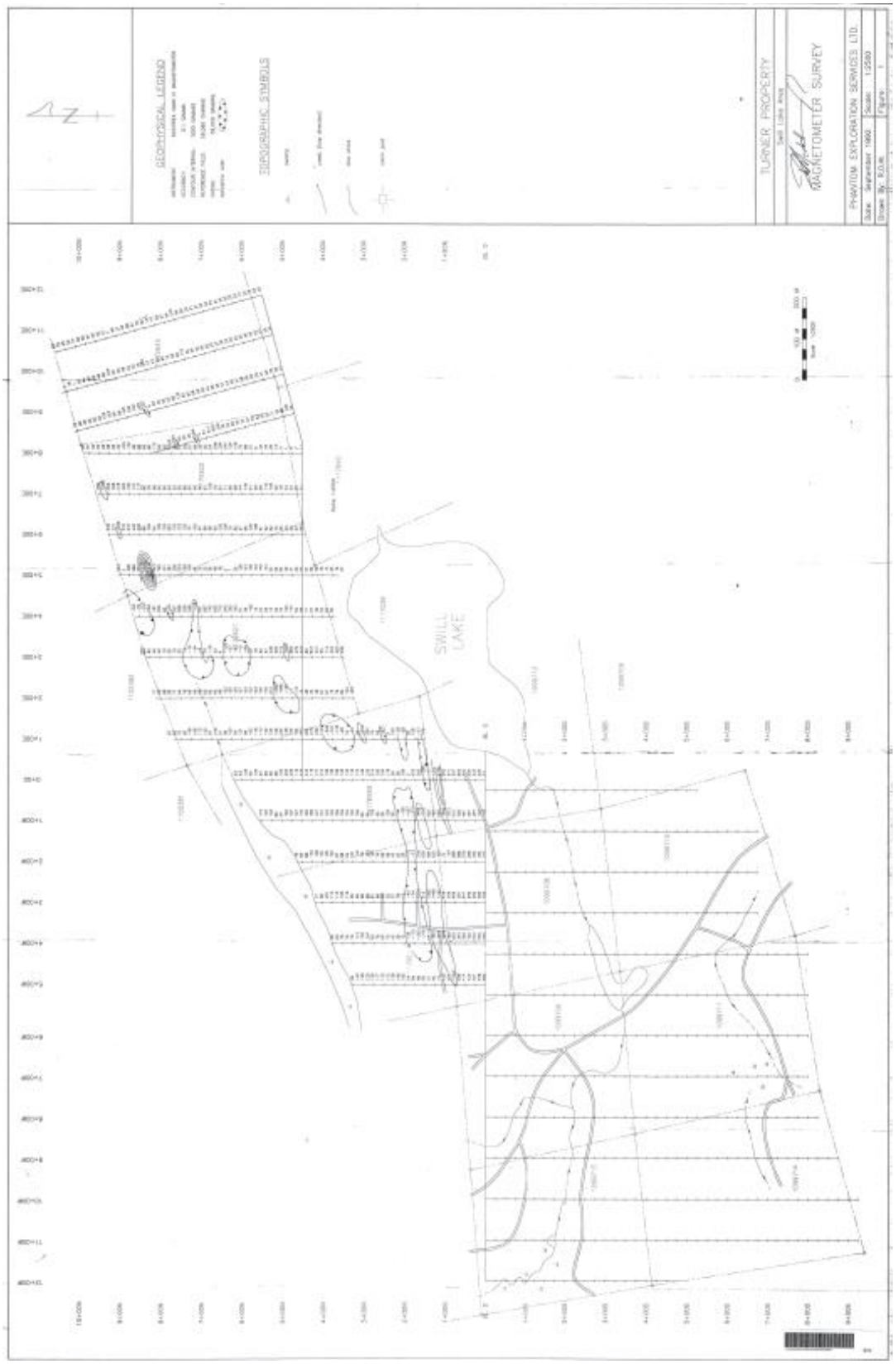
10. Work History

Work has been completed by Noranda which included magnetometer, followed by diamond drilling in any anomalous areas.[2] Other companies such as OKLECO, OKLEND, Delmico Mines and C.H.I.P. Mines performed magnetometer and geological surveys.[3] Anomalies appear to have been followed up with additional work including diamond drill. Unfortunately, no details on diamond drill results have been found by this author. Previous authors elude to finding results and reference to "G.D.I.F. 190 for further information".[4]

Further research was performed and work of interest was identified. Claims in this area were held in the early 1990's by Albert Turner. Mr. Turner drilled several shallow (less than 30m) drill holes. No significant assay data was recorded. Assays were for Ag, Au, Cu, Zn.[5] Additionally, Mr. Turner employed Phantom Exploration Services Ltd. (Phantom) of Thunder Bay to perform a geophysics study. The study consisted of VLF and proton magnetometer surveys. The surveys were conducted as per Figure 3.[6]

The results were summarized as a local magnetic high was noted as a diabase dyke. The next notable magnet anomaly was noted as iron rich mafic volcanics. Additionally, the results were cautioned as the topography and the soil clay content made all trends to be "considered superficial in nature"[7]

Figure 3 – Phantom Geophysics Testing



11. Work this Period

a. April, 2020

Period Summary

Work during this period was focused on getting a new geologist hired and to site. Robert Meek was hired April 10, 2020 and arrived in Manitouwadge shortly there after. We organized office space and Robert took the initiative to familiarize himself with the geology in the area.

Robert had 2 key tasks at hand. Firstly, the work required for this year's drill program and secondly, logging over a 1000m of core that was logged but not documented.

Additionally, trips were taken to the claims of interest. Roads were snow covered so some ATV challenges were encountered. By the end of April, trails were established to the 2019 drill area and efforts turned to access routes for 2020/2021 drill targets.

b. May, 2020

Period Summary

Tasks were happening in the background for preparation for this season's drilling efforts. There was core logging in place for cleaning up some outstanding work that had been contracted out. The first key element of this year's work is establishing a trail/access for the drill that is in around 900m. Clearing has been completed for approximately 450m using machete, bush axe and a Stihl bush cutter (FS91). Personnel completing this work were Martin Drennan, Robert Meek, Chris Bottomley, Riley Olsenand Bruce Baziuk. Personnel maintained a 2m distance for this work with access being truck and ATV.

May was a busy month as another report was completed (Work Report 3440) and trail development during Spring melt in a swamp made for

some exciting times! Doing trail development through a swamp – including beaver dam areas – resulted in numerous situations of ATVs stuck, dozers stuck and later in June even excavators stuck. Fun times. Everyone put long hours in and after almost 2 months a very reasonable trail was developed.

Figure 4 - Trail Clearing for 2020 Drill Season (Start of Trail)

Figure 5 - Initial Trail Clearing

c. June, 2020

Trail work continued in June. Words like "impossible" were tossed around by numerous persons that operated equipment in the forestry industry. We were able to find some of a corduroy road that had been made years ago to harvest trees in the area. A significant bonus plus we were able to have our dozer work areas that were nested with fine and large tree cuttings from the trail. These started to hold solids and as the sun got warmer, the access Spring runoff reduced, ground

water levels dropped and finally mud and ooze turned to branches and dirt.

Figure 6 - Second Load of Plywood and wafer for Trail Development

June saw the drill get from 2019Swill-2 staging area to half way in on the trail. But all was not that easy sadly. The track drill had hydraulic and electric lines that were noticed as we walked in to be catching on

branches used to raise the trail. We stopped the tram of the drill before any damage occurred and re-routed electrical for the lights and hydraulic lines that were low (specifically the track hydraulic lines) so they were out of harm's way. A week later and a trip to Thunder Bay for hydraulic fittings and the drill was tramming past some pretty water soaked ground like a champ. Finally, the drill was at the first hole site. Work was performed by Martin Drennan, Robert Meek, Chris Bottomley, Riley Olsen and Raymond Osawamick.

Figure 7 - Moving Plywood for Trail Development in Swanp

Figure 8 - Trail around Beaver Dam

Figure 9 - Trail around Beaver Dam (Part 2)

d. July , 2020

Work in July was focused on 2 fronts – getting to Hole 1 and establishing access for water, Hole 2 and Hole 3. Access to Hole 1 was

accomplished in early July with the drill pad constructed and water access developed. Some delays from the DEF system were encountered but Itech2000 personnel identified issue and we were back up and running. Subsequently, it was determined a heat valve had failed. Cummins personnel will be onsite at a later date and the component will be changed under warranty. Drilling on Hole 1 was completed and the drill relocated to Hole 2.

Figure 10 - Pump Access Trail through Swamp

428m were drilled at Hole 1. Access development to Hole 2 and Hole 3 were ongoing while drilling on Hole 1.

Figure 11 - Hole 1 after Teardown and Move

Figure 12 - Drill Hole 2 Setup

e. August , 2020

Drilling on Hole 2 was going well. There were a few access challenges , specifically related to low areas and water collection. More plywood and wafer board were added which greatly helped access. Water on top of plywood wood evapourate in the sun and low areas were filled with branches cut locally. Large holes slowly filled as water percolation deposited fine mud in the road bed increasing the road bed height above the ground water table. Rain was the only nemesis in time.

Figure 13 - Drill Access Road

The move to Hole 3 occurred around mid-August. Hole 2 was drilled to in around 510m. Hole 3 is not reported in this report as it is incomplete and planned to be completed in November under a new Diamond Drill Permit.

Figure 14 - Planview Hole #1 and Hole#2

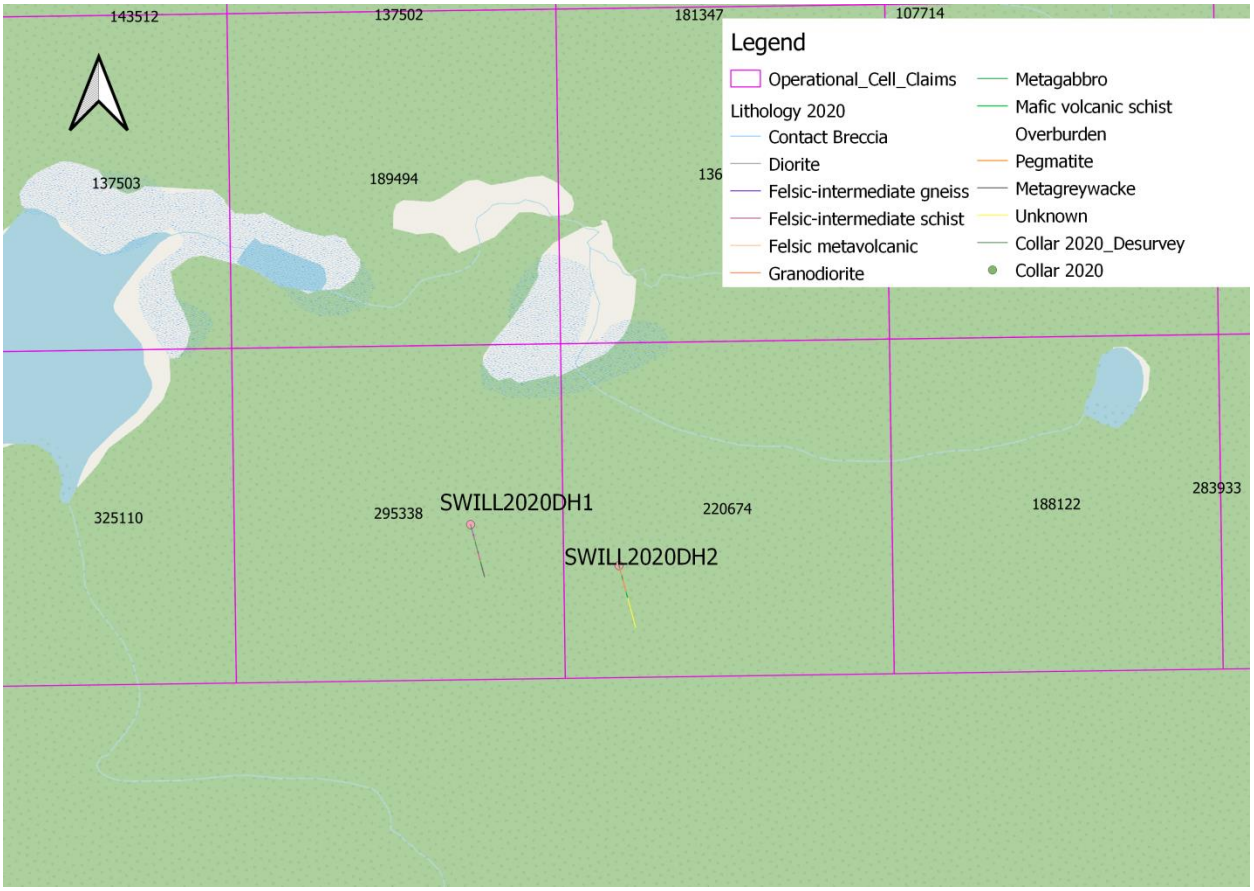
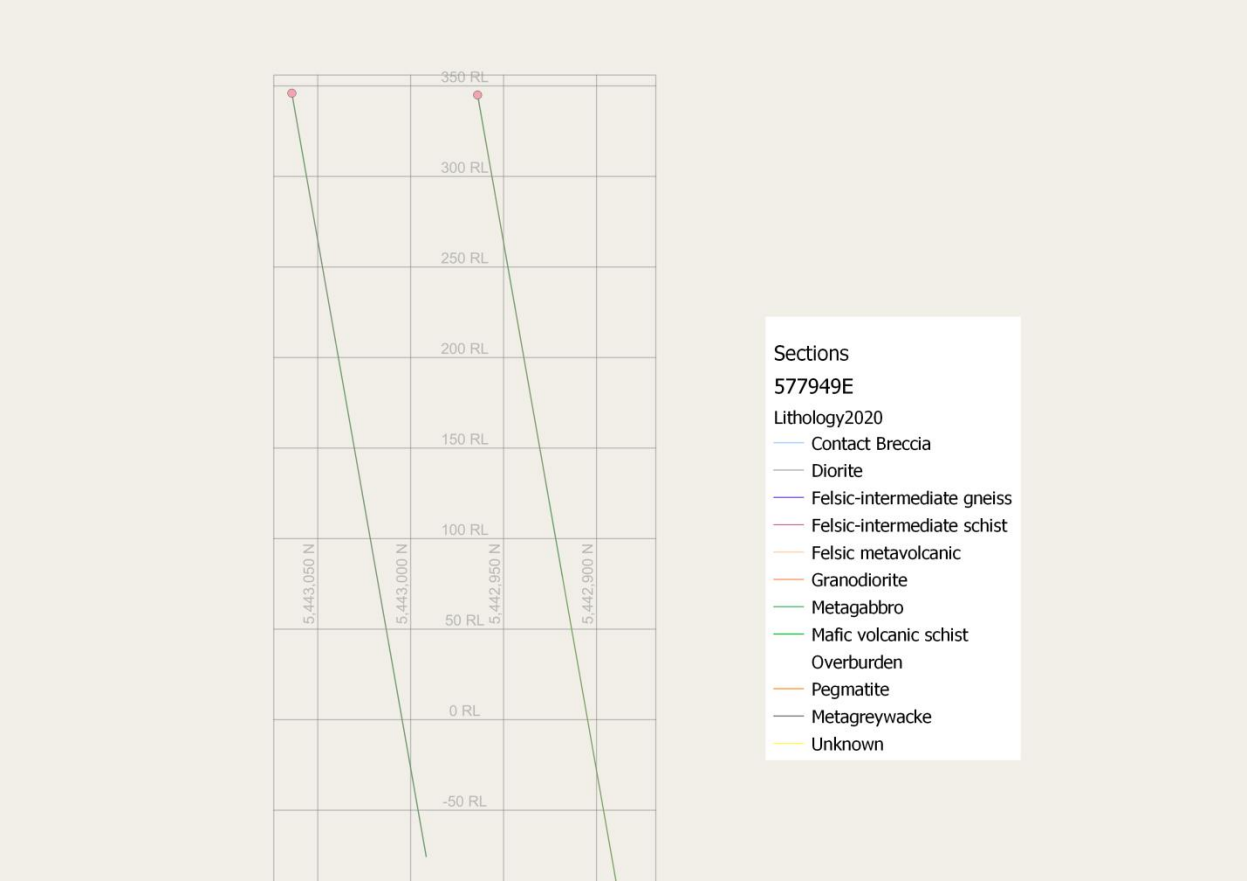

143512
137502
181347
107714
137503
189494
136
325110
295338
SWILL2020DH1
220674
188122
283933
SWILL2020DH2
Legend
Operational_Cell_Claims
Lithology 2020
Contact Breccia
Diorite
Felsic-intermediate gneiss
Felsic-intermediate schist
Felsic metavolcanic
Granodiorite
Metagabbro
Mafic volcanic schist
Overburden
Pegmatite
Metagreywacke
Unknown
Collar 2020_Desurvey
Collar 2020

Figure 15 - Cross Section Hole#1 and Hole#2



12. Conclusion and Recommendations

The work performed in 2020 was reasonable with respect to obtaining this drill hole data. The presence of granite and chloritized zones was noted in the drill core. The metres drilled were in the range for the program though having 2 of the planned 3 holes completed is a minor disappointment. The recommendation is simply to continue the planned 9 hole program and assemble data as it is acquired to realign drilling. Some additionally drilling maybe warranted at the first and second hole.

13. References

1. GRANGES INC., MAN PROJECT, GEMMEL, GERTRUDE, MAPLEDORAM AND LESLIE TOWNSHIPS CENTRAL AND NORTH CENTRAL GRID GEOLOGY REPORT, Warren Bates, B.Se., Hons. Geol August 6, 1993 (Page 2)
2. GRANGES INC., MAN PROJECT, GEMMEL, GERTRUDE, MAPLEDORAM AND LESLIE TOWNSHIPS CENTRAL AND NORTH CENTRAL GRID GEOLOGY REPORT, Warren Bates, B.Se., Hons. Geol August 6, 1993 (Page 3)
3. GRANGES INC., MAN PROJECT, GEMMEL, GERTRUDE, MAPLEDORAM AND LESLIE TOWNSHIPS CENTRAL AND NORTH CENTRAL GRID GEOLOGY REPORT, Warren Bates, B.Se., Hons. Geol August 6, 1993 (Page 3)
4. GRANGES INC., MAN PROJECT, GEMMEL, GERTRUDE, MAPLEDORAM AND LESLIE TOWNSHIPS CENTRAL AND NORTH CENTRAL GRID GEOLOGY REPORT, Warren Bates, B.Se., Hons. Geol August 6, 1993 (Page 3)
5. 42F04NW0001-Turner – Assessment work after staking a claim – work report number 1
6. 42F04NW0033-Turner-Maps - Geological and Geophysical Reports – Phantom Exploration Services Ltd. September 1992
7. 42F04NW0033-Turner – Geological and Geophysical Reports – Phantom Exploration Services Ltd. September 1992 (Page 5)

14. Appendices

14.1 Logging codes

Dt	Diorite	**Grt**	Granite
Gt	Granodiorite	**Db**	Diabase
Fis	Felsic-intermediate schist	**Fig**	Felsic-intermediate gneiss
Mvs	Mafic schist	**Mgb**	Metagabbro
Mgn	Mafic gneiss	**Peg**	Pegmatite
Sgw	Metagreywacke		

ALTERATION CODES				
Unalt	Unalterated		**Dol**	Dolomite
Chl	Chlorite		**Cc**	Calcite
Qtz	Quartz		**Ank**	Ankerite
Ser	Sericite		**K**	Potassic
Bt	Biotite		**Msc**	Muscovite
Fch	Fuchsite			
Sp	Serpentine		**ALTERATION INTENSITY**	
Tc	Talc		**Wk**	Weak
Ep	Epidote		**Md**	Moderate
Ab	Albite		**Str**	Strong

14.2 Drill hole Swill 2020DH1

Project: Swill 2019

Logged by: Ben Goldman

Hole ID: Swill 2020DH1

UTM E (survey): 577830 **UTM N** (survey): 5443040

UTM zone 16 N
Azimuth: 165 **Dip**: 80
Collar Elev.: 346 **Depth**: 428
Overburden: 0.3 **Dip srvy mthd**:
Cell Number: 42F04E151 **Mining claim**: 295338
Lease Numbers:
Drilled by: Drennan Consulting and Diamond Drilling
Core size: BQ

INTERVAL		LITHOLOGY CODE	DESCRIPTIVE LOG
From	To		
0.00	0.20	OB	Overburden
0.20	1.15	Mvs	Fine grained hornblende chlorite mafic schist. Foliation defined by alignment of chlorite and elongation of hbl 50 deg TCA. Minor Pervasive chlorite alteration. Trace pyrite proximal to 10 cm qz-carb vein at 60 cm. Lower contact is gradational over 10 cm.
1.15	3.35	Fis	Medium grained felsic intermediate chlorite magnetite schist pervasive weak chlorite alteration. Foliation defined by alignment of chlorite grains 50 deg TCA. Upper contact gradational over 10 cm. lower contact sharp and irregular. Magnetite throughout. Trace pyrite veinlets parallel to foliation. Minor qz-carb veining parallel to foliation.
3.35	3.65	Dt	Medium grained light grey bt hbl diorite with moderate potassic alteration proximal to contacts.
3.65	24.55	Fis	Medium grained felsic intermediate chlorite magnetite schist pervasive weak chlorite alteration. Foliation defined by alignment of chlorite grains 50 deg TCA. Upper contact gradational over 10 cm. lower contact sharp and irregular. Magnetite throughout. Trace pyrite veinlets parallel to foliation. Minor qz-carb veining parallel to foliation.

24.55	40.80	Mvs	Fine to medium grained hornblende chlorite mafic schist. Foliation defined by alignment of chlorite and elongation of hbl 45- 50 deg TCA. Minor Pervasive chlorite alteration. Trace pyrite along edges of small (<5 cm wide) quartz veins. Intercalated with Fis, Lower contact is where Fis begins to become predominant.
40.80	45.80	Fis	Medium grained felsic intermediate chlorite magnetite schist pervasive weak chlorite alteration. Foliation defined by alignment of chlorite grains 50 deg TCA. Upper contact gradational over 50 cm. Moderate secricitization with minor potassic alteration associated with one another. Intercalated with Mvs, lower contact is gradational over 10 cm.
45.80	47.85	Mvs	Fine grained hornblende chlorite mafic schist. Foliation defined by alignment of chlorite and elongation of hbl 50 deg TCA. Minor pervasive chlorite alteration, sericitization along fractures. Sharp lower contact.
47.85	85.05	Fis	Medium grained felsic intermediate chlorite magnetite schist pervasive weak chlorite alteration. Foliation defined by alignment of chlorite grains 50 deg TCA. Areas of strong sericitization and moderate chloritization, epidote and potassic alteration. Moderate sericitization occurs throughout the interval as haloes around fractures that range from parallel to foliation to 30 degrees TCA. Minor pyrite observed in the larger qz veins and 3% disseminated from 74 -76 m. Sharp lower contact with garnet bearing rock ~70 degrees tca
85.05	95.45	Fig	Medium to coarse grained felsic intermediate garnet amphibole gneiss, banding defined by alternating grain size parallel to foliation. Lighter bands consist of coarser grained plagioclase and amphibole rich. Darker bands are finer grained dark green. Both bands have eu to subhedral garnets present 10 mm diameter, which help easily identify this unit, prismatic amphibole is also easily identifiable. The upper contact is sharp and ~70 degrees tca. Weak sericite alteration present as haloes around fractures. ~1% 0.5 mm euhedral pyrite, locally the pyrite forms stringers parallel to the foliation ~45 degrees tca. Lower contact determined by the disappearance of large garnets.
95.45	138.75	Fis	Medium grained felsic intermediate chlorite schist pervasive weak chlorite alteration. Foliation defined by alignment of chlorite grains 50 deg TCA. Pervasive, weak potassic alteration with epidote in veins from 99 m to 104 m. 115 m to 138.5 m has strong potassic alteration associated with felsic intrusions <70 cm wide. The alteration in these sections appears as a reddish rock. Hydrothermal vein breccia 40 cm wide at 130.3 m, no sulfides associated, the vein is qz-carb fault breccia 10 cm wide at 136.6 m, with strong sericite and carbonate alteration, appearing bleached and very soft follows 45-50 degrees tca foliation. Gradational lower contact over 20 cm. 2 mm euhedral pyrite grains present throughout, <1%. Poor to moderate core recovery between 101 m to 128 m.
138.75	139.90	Mvs	Fine to medium grained hornblende chlorite mafic schist. Foliation defined by alignment of chlorite and elongation of hbl 50 deg TCA. Minor pervasive chlorite alteration, potassic alteration. Intercalated with the unit below. Gradational upper contact over 5 cm, parallel to foliation. Sharp lower contact, parallel to foliation.

139.90	144.30	Fv	Fine grained light grey felsic metavolcanics (possibly a tuff unit). Hard, silica rich, with minor potassic alteration associated with the upper contact and weak sericite alteration haloes around fractures. Sharp lower contact 40 degrees tca.
144.30	147.40	Mgb	Coarse grained dark green metagabbro. Unit defined by 1.5 cm rounded pyroxenes. Sharp contacts parallel to foliation. Intercalated with the felsic volcanic above.
147.40	160.55	Mvs	Fine grained hornblende chlorite mafic schist. Foliation defined by alignment of chlorite and elongation of hbl 50 deg TCA. Minor Pervasive chlorite alteration. Coarse grained felsic intrusion with irregular contact <40 cm wide at 151.8 m, 156.6 m and, 158.8 m Gradational upper contact over 5 cm. Lower contact is sharp, 80 degrees tca.
160.55	164.50	Peg	Reddish, pink muscovite pegmatite. Large kspar crystals up to 5 cm, 2% muscovite up to 5 mm, sharp upper and lower contacts 80 degrees tca. The reddish colour is likely due to moderate potassic alteration.
164.50	176.90	Mvs	Fine to medium grained hornblende chlorite mafic schist. Foliation defined by alignment of chlorite and elongation of hbl 50 deg TCA. Minor Pervasive chlorite alteration, minor sericitization at upper contact. Some variation in grain size on the m scale, possibly defining different flows.
176.90	180.55	Fis	Fine grained light grey felsic metavolcanics (possibly a tuff unit). Hard, silica rich, with sericite alteration haloes around fractures. Sharp upper and lower contacts 40 degrees tca. Foliation is weak.
180.55	195.65	Mgb	Coarse grained dark green metagabbro. Unit defined by 1.5 cm rounded pyroxenes, foliation 40 deg tca defined by elongation of pyroxenes and amphiboles. Minor qz veining parallel to foliation <1 cm wide, 2 larger qz veins at 195.2 -195.4 and 196.15 - 196.25 associated with moderate sericite alteration Sharp contacts parallel to foliation. Intercalated with the Mafic volcanic unit below. Feldspar porphyry intrusion at 185.7 - 188.1 with irregular contacts seen to crosscut foliation f Mgb unit, 2 cm wide chill margin at both contacts. Fp unit has 3 mm porphyritic feldspar within pink matrix, 1% 1 mm platy biotite grains.

195.65	223.05	Fis	Fine to medium grained light grey felsic to intermediate schist with 5 mm rounded brown garnets present throughout, intercalated with mvs unit large 2 cm anhedral red garnets associated with strong sericite alteration. Mineralization of pyrite and cpy between 206 and 207 associated with gt and sericite alteration. Fis unit at 197.6 - 198.5 with hematite alteration associated with contacts, contacts are sharp and parallel to foliation. Foliation defined by alignment of chlorite and elongation of hbl 40 deg TCA. Minor Pervasive chlorite alteration, minor sericitization at upper contact. Some variation in grain size on the m scale, possibly defining different flows.
223.05	241.30	Sgw	Fine grained grey metagreywacke, very weakly foliated to non-foliated, qz carb veins near upper contact ~ 5 cm wide. Weak sericite alteration associated with fractures up to 8 cm wide.
241.30	298.75	Fis	Fine to medium grained light grey felsic to intermediate schist, intercalated with Sgw unit near upper contact, large 2 cm anhedral red garnets associated with strong sericite alteration. Strong potassic alteration 284.25 - 286 m. Mineralization of pyrite associated with gt and sericite alteration. Foliation defined by alignment of chlorite and elongation of hbl 40 deg TCA. box 44 was measured backwards after the dropped box (dropped box was left unlabeled and should be box 43).
298.75	309.30	Gd	Pink-grey to light red eqigranular granodiorite, non-foliated, sharp contacts
309.30	335.15	Mvs	Fine to medium grained hornblende chlorite mafic schist. Foliation defined by alignment of chlorite and elongation of hbl 40 deg TCA. Strong epidote alteration associated with upper contact (wit Gd unit), likely a contact breccia with minor chlorite alteration and potassic alteration of feldspars. Below the epidote alteration is weak sericitization for ~5m. Trace pyrite is visible throughout this unit as veinlets <2 mm wide parallel to foliation. Granitoid intrusion for 30 cm at 317.3.
335.15	428.00	Sgw	Fine grained to very fine grained dark grey garnet metagreywacke, this unit is defined by the appearance of brown garnets 0.2 - 0.5 cm in diameter, reddish garnets are associated with veining. Garnet concentration varies between 1% to 45%. The garnets are stretched parallel to foliation ~40 degrees tca between 338.15 - 342.3 and 355 - 376. Molybdenite grains visible in blue quartz vein at 355.25, py and po mineralization is concentrated between 365.55 and 370.75. Upper contact is inferred based on reduction in grain size of the groundmass and appearance of garnets. Granodiorite to pegmatitic intrusion from 350 - 351 anastomosing contact. Graphitic subunit between 369.3 and 369.7. Bx 57 does not exist, only 15 cm between blocks 344 and 347.

ALTERATION

From	To	Chl	Ser	K	Ep	Cc	Comments
0.2	1.15	Md					Pervasive chlorite alteration
1.15	3.35	Wk					Pervasive chlorite alteration
3.35	3.65			Md			Patchy pink alteration of diorite, concentrated at the contacts of this dyke
3.65	24.55	Md	Md	Wk	Md		Pervasive weak Chlorite alteration throughout unit, pervasive moderate sericite alteration 12 m - 15 m followed by weak sericite alteration 15 m - 19.7 m. Minor amounts of potassic alteration around veinlets. Veins 5 cm wide of moderate epidote and chlorite alteration occur 15.8 - 22.8 m
24.55	40.80	Wk		Wk			Weak potassic and chlorite alteration
40.80	45.80	Wk	Wk			Wk	Weak sericitization along fractures forming halo of 1 cm around fractures. Pervasive chloritization with diffuse edges to areas of moderate chloritization. Very weak potassic alteration.
45.80	47.85	Wk	Wk				Weak pervasive chloritization, concentrated in some areas to moderate 2 cm chlorite alteration. Sercitization concentrated along fractures
47.85	85.05	Wk	Str	Md	Wk	Wk	Moderate sericitization throughout the interval, concentrated in haloes around fractures. Pervasive seriticization from 52.4 - 58 m, and 64 - 67 m. Moderate potassic alteration and minor epidote alteration seen in zones of high sericitization. Moderate chlorite, potassic alteration from 66.5 - 68 m
85.05	95.45	Wk	Wk				Pervasive weak chloritization. Sericite alteration present as 2 mm haloes around fractures
95.45	138.75	Wk		Md	Wk		Moderate to strong potassic alteration concentrated between 115 and 137 m associated with felsic granitic intrusions appearing as a red rock, little to no sulfides associated with this alteration. Similar style of alteration appears from 99 m to 104 m, lacking the associated intrusions but accompanies weak to moderate epidote alteration.
138.75	139.90	Wk					Weak pervasive chloritization, some minor potassic alteration.
139.90	144.30		Wk	Wk			Weak potassic alteration proximal to upper contact
144.30	147.40	Wk	Wk				Weak, pervasive chloritization
147.40	160.55	Wk					Weak, pervasive chloritization
160.55	164.50			Md			Pervasive
164.50	166.00	Wk	Wk				Minor sericitization at upper contact
180.55	195.65		Wk				Weak to moderate sericitization as haloes around fractures and veins up to 5 cm wide.
195.65	223.05	Wk	Md		Wk		Garnets associated with stronger sericite alteration
223.05	241.3		Wk				Weak sericite alteration associated with fractures up to 8 cm wide.
241.3	257.65		Md				Garnets associated with stronger sericite alteration pervasive through this unit

284.25	286			Str			Areas of biotite alteration 1 - 8 mm subhedral platy crystals, 2% amphiboles associated, appear shiny in core, light grey and show the foliation 40 deg tca strongly
299	309.3			Wk			Weak potassic alteration near the lower contact, alteration is gradual over 25 cm making the granodiorite appear reddish
309.3	310	Md		Wk	Str		Strong epidote alteration below granodiorite unit in the mafic volcanics.
310	313		Wk				sericite alteration associated with upper contact of mvs unit.
373	374.5	Md					Moderate chlorite alteration associated with abundant garnets

MINERALIZATION

Interval		Py	Po	Cpy	Comments & Textures
From	To	%	%	%	
0.2	1.15	<1			minor amounts of anhedral py 1 - 3 mm long, surrounding 10 cm wide qz vein at 0.6 m.
1.15	3.35	<1			Veinlets of py following the foliation at 1.8 m. Pervasive anhedral magnetite 2 mm in size.
3.35	3.65				None
3.65	24.55	1	<1		Magnetite throughout the unit, 1 - 3 mm anhedral. Pyrite veinlets associated with areas of moderate epidote alteration, also seen as disseminated throughout the moderate and weak sericite altered zones. Po associated with Py blebs in qz veins at 21.15
24.55	40.8	<1			Check Mag and Po again. Pyrite is concentrated along the margins of some quartz veins
40.8	45.8				None
45.8	47.85	1			minor amounts of anhedral py 1 - 3 mm long, within areas of moderate chloritization and along edges of quartz veins
47.85	85.05	2			Pyrite concentrated in qz veins as well as 3 from 74 - 76 m
85.05	95.45	1			Euhedral pyrite mineralization follows foliation
95.45	138.75	<1			py
138.75	139.90	<1			Pyrite concentrated at lower contact ~3%
206	207	3		1	Py and Cpy associated with sericite alteration, large 2 cm anhedral garnets. Cpy may be oxidized py. Pyrite is present throughout this unit but cpy seems to be associated with higher amounts of pyrite between 206 and 207 m.
241.3	257.7	1			Pyrite associated with strong sericite alteration and red garnets
298	298.8	<1			Trace pyrite associated with lower contact with granitoid unit
315.6	335.2	<1			Trace pyrite throughout Mvs unit, concentrated in veinlets <2 mm wide.
355.3	355.3				Molybdenite grains visible in blu quartz vein at 355.25
365.6	370.8	2	2		py and po mineralization is concentrated between 365.55 and 370.75, hosted in veins parallel to foliation (~60 deg tca), locally areas <5 cm of semi massive po.

14.3 Drill hole Swill 2020DH2

Project: Swill 2019

Logged by: Ben Goldman

Hole ID: Swill 2020DH2

UTM E (survey): 578036 **UTM N** (survey): 5442984

UTM zone 16 N

Azimuth: 165 **Dip**: 80

15. **Collar Elev.**: 345 **Depth**: 510
16. **Overburden**: 0.2 **Dip srvy mthd**:
17. **Cell Number**: 42F04E151 **Mining claim**: 220674
18. **Lease Numbers**:
19. **Drilled by**: Drennan Consulting and Diamond Drilling
20. **Core size**: BQ

INTERVAL		LITHOLOGY CODE	DESCRIPTIVE LOG
From	To		
0.00	3.20	Mvs	Garnet amphibole mafic volcanic schist. Dark green in color, the garnets are sporadic between 2 mm and 8 mm in size, typically elongate parallel to foliation. Amphibole is likely hornblende, between 1 and 3 mm long.
3.20	4.50	Fis	Felsic to intermediate schist, light grey in colour, feldspars u to 3 mm round are easily visible in this unit, the unit appears pitted, which may be a result of silicification. Pits are ~1 mm round. Sericite alteration appears lighter along fractures~ 35 deg tca.
4.50	26.05	Mvs	Garnet amphibole mafic volcanic schist. Dark green in color, the garnets are sporadic between 2 mm and 8 mm in size, typically elongate parallel to foliation. Amphibole is likely hornblende, between 1 and 3 mm long. Felsic pegmatitic intrusion with irregular contacts at 11.95 - 12.7. Trace py and po present as veinlets parallel to foliation
26.05	90.10	Gd	White to light pink biotite granodiorite non foliated, medium to coarse grained. Upper contact has 5 cm of weak potassic alteration. Relatively monotonous, cut by some pegmatitic dykes < 10 cm wide.
90.10	112.05	Mvs	Amphibole mafic volcanic schist. Dark green in colour, amphibole is likely hornblende, disseminated trace pyrite. 0.8 m of sedimentary unite at 107. Contacts are sharp and regular.

112.05	116.20	Peg	Complex pegmatite unit held within a granodiorite, the pegmatite intrusions are typically between 0.4 and 1 m in width. There are granitoid pegmatites with large ksap crystals and quartz, and another style with ab rich feldspars, a graphic texture and large biotite blades up to 3 cm long.
116.20	119.6	Mvs	Amphibole mafic volcanic schist. Dark green in colour, amphibole is likely hornblende, disseminated trace pyrite. 0.8 m of sedimentary unite at 107. Contacts are sharp and regular.
119.60	132.70	Peg	Complex pegmatite unit held within a granodiorite, the pegmatite intrusions are typically between 0.4 and 1 m in width. There are granitoid pegmatites with large ksap crystals and quartz, and another style with ab rich feldspars, a graphic texture and large biotite blades up to 3 cm long.
132.70	218.50	Gd	light grey granodiorite non foliated, medium to coarse grained. Relatively monotonous, cut by some pegmatitic dykes near the upper contact.
218.50	223.40	Mvs	Amphibole mafic volcanic schist. Dark green in colour, amphibole is likely hornblende, could be a large raft within the contact breccia unit, upper contact is ~ 40 deg tca, contacts are broken and hard to observe, the contact with the contact breccia unit is determined by the reappearance of granitoid material.
223.40	228.45	Cbx	Contact breccia between the Gd unit and Mvs, the overlying Mvs unit is thought to be a large raft held int the breccia. From 225 - 228.45 the breccia is predominantly gd breccia with ha jigsaw fit and very little Mvs included in it. The contacts for this unit are broken and unobservable.
228.45	270.00	Mvs	Amphibole mafic volcanic schist, this unit is intercalated with minor amounts of sgw and mgb all <0.7 m width. 245 - 248 m has minor sericite and epidote alteration associated with some fractures in the rock, minor py and po at 247 - 248. 251 - 252.3 m has chlorite veinlets with trace po in them, these veinlets are <5 cm wide.
270.00	510.00	Unk	Unknown/Not yet logged

14.5 Certificate of Analysis

Not completed at this time.