



# **NI 43-101 Technical Report on the Hemlo South Property Bomby and Lecours Townships NORTHWESTERN ONTARIO Thunder Bay Mining Division**

Respectfully submitted to:

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-and-  
Trojan Gold Inc.**

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## List of Abbreviation

Ag	Silver
As	Arsenic
Au	Gold
Ba	Barium
DDH	Diamond Drill Hole
DEM	Digital Elevation Model
eK	Equivalent Potassium
EM	Electromagnetic
ENDM	Ministry of Energy, Northern Development and Mines eTh Equivalent Thorium
FP	Feldspar Porphyry
GSC	Geological Survey of Canada
g/t	Grams per tonne (Metric ton of 1,000 kg): 34.286 g/t = 1 troy oz/st Hg Mercury
IP	Induced Polarization
kg	Kilogram
kV	Kilovolt
m	Metre
mm	Millimetre
MMI	Mobile Metal Ion
Mo	Molybdenum
NAD83	North American Datum 1983
NASA	National Aeronautics and Space Administration (USA) NMH Non-Magnetic Heavy Mineral Fraction.
NSR	Net Smelter Returns
ODM	Overburden Drilling Management
OGS	Ontario Geological Survey
ounce	Troy ounce (used for precious metals) = 31.103 grams ppb Parts Per Billion
ppm	Parts Per Million
QA	Quality Assurance
QC	Quality Control
QFP	Quartz-Feldspar Porphyry
Sb	Antimony
SRTM	Shuttle Radar Topography Mission
st	Short ton (2,000 pounds or 907.18 kg)
TDEM	Time-Domain ElectroMagnetic
Te	Tellurium
Th	Thorium
Tl	Thallium
U3O8	Uranium oxide (or“yellowcake”; the unit of uranium trading)
UTM	Universal Transverse Mercator (map projection)
V	Vanadium
VLF	Very Low Frequency
W	Tungsten
WI	Working Interest
Zn	Zinc

## 1. Summary

This report was prepared by Faarnad Geological Consulting Inc. (“FGC”) and Sibley Basin Group Geological Consulting Services Ltd. (“SBG”), on behalf of Trojan Gold Inc. and Tashota Resources Inc. as part of an independent review of their Hemlo South Property (the “Property”), located in northwestern Ontario. This report is intended to accompany a prospectus or similar document for Trojan Gold Inc., which is proposing to have its securities qualified for public distribution.

The Hemlo South Property is located in Bomby and Lecours Townships, approximately 330 km northeast of Thunder Bay, 33 km east from the town of Marathon, and approximately 2 km south of the Hemlo operations of Barrick Gold Inc (Williams Mine). The Hemlo South Property comprises 78 single cell claims, 13 boundary cell claims, and 7 encumbered or partial cell claims with a total area of approximately 1,876 hectares. The property is situated 600 m south of the Trans-Canada Highway 17, and existing logging roads give access to the Property. The Canadian Pacific Railway's main transcontinental line crosses the property.

The property is currently held by Tashota Resources Inc. (“TRI”) under a signed option agreement dated March 4th, 2014 from Rudolf Wahl, a prospector from Marathon, Ontario. Trojan Gold Inc. (“TGI”) has signed a letter of intent with TRI to acquire 50 percent of TRI’s interest in the Hemlo South Property by issuing to TRI common shares and cash payments. Full details of these agreements are discussed in the text of this report.

In a regional context, the Hemlo South property occurs within the Schreiber-Hemlo greenstone belt (SHGB) of the Archean Wawa-Abitibi Terrane (W-AT) in the Superior Province of the Canadian Shield. The SHGB is situated on the north shore of Lake Superior and extends from near White River in the east to Schreiber in the west. The eastern Hemlo portion of the belt is separated from the western Schreiber portion by the Coldwell alkalic complex. The eastern part of the SHGB is designated as the Hemlo greenstone belt (HGB). The HGB is comprised of massive to pillowed, tholeiitic basalt±komatiitic flows, and felsic to intermediate, calc-alkalic pyroclastic rocks., and minor related sedimentary deposits dominating the western part of the belt. The eastern portion of the belt is dominated by turbiditic wacke–mudstone and minor conglomerate deposits. Granitoid plutons core and flank a large portion of the greenstone belt.

The central part of the HGB hosts the Hemlo gold deposits as well as the Hemlo South Property. It is bounded to the south by the Pukaskwa Batholith (or Pukaskwa Gneissic Complex or PGC), and to the northwest by the Black-Pic Batholith. The supracrustal (greenstone) rocks are intruded by later felsic intrusives that form large bodies (i.e. the Cedar Lake, Heron Bay, Gowan Lake, and Musher Lake Plutons) as well as smaller stocks (e.g., Cedar Creek) and numerous hypabyssal intrusions (quartz- and/or feldspar-porphyrries). The Hemlo South Property is predominantly underlain by the PGC, which occupies the southern 40% of the property area and the remaining 60% is comprised of greenstone rocks (volcanic-sedimentary). There is no known significant mineralization on the Hemlo South Property. However, there are several mineral occurrences/showings with over 1 g/t gold is known to occur adjacent to the Property.

The Hemlo South Property is ideally located in proximity to the Hemlo gold mines, which combined have produced 20 plus million ounces of gold. The Hemlo deposit was emplaced after

the development of F2 folds defined by lithologic layering, synchronous with incipient development of D2 high strain zones during mid-D2, and in association with the development of a restraining bend in the Hemlo greenstone belt during sinistral transpression. Much of the mineralization is confined to high strain zones and spatially associated with the contact between porphyritic felsic volcanic (or porphyry intrusion?) and sedimentary rocks. The ore zone is sericite-rich and carries pyrite, gold, and molybdenite. It is geochemically anomalous in silver, arsenic, barium, antimony, vanadium, and mercury.

The Hemlo-type gold deposit is sought on the Hemlo South Property. There is also a potential for conventional orogenic-type (or “greenstone-type”) gold mineralization to occur on the Property. The main characteristics of orogenic or greenstone-type gold deposits include: host rocks are usually volcanic-sedimentary sequences with minor felsic (porphyry) intrusions; mineralization occurs as veins, vein clusters, or wall rock dissemination; alteration usually confined to silica, carbonate, and sericite; usually simple mineralogy; close association with shear zones and a more general association with proximity to major tectonic zones; and, a tendency to occur at or close to the volcanic-sedimentary contact in greenstone belts where there are well defined mafic volcanic sequences overlain by clastic sediments.

In 2014, a helicopter-borne, magnetic-TDEM-spectrometric survey was flown on the Hemlo South Property. In 2017, TRI/TGI drilled a 422.5m diamond drill hole to acquire geological information about strike-parallel shear zones/faults. A late, brittle fault was encountered under the creek draining Cigar Lake. Numerous feldspar porphyry intrusions were intersected in mafic volcanic rocks (tuff?). Silicification and shearing were observed in increasing intensity towards the end of the hole. Unfortunately, the drill hole could not reach its target depth of 700 metres, so the contact of the PGC, where a possible major shear structure had been anticipated, was not tested by the 2017 drill hole. Most recently (May and July 2020), limited prospecting and a soil orientation survey were carried out by TRI/TGI on the Property. This work provided favourable results.

It is concluded that the Hemlo South property has significant untested potential for gold mineralization, based on the following geological features: volcano-sedimentary-PGC contact zone, volcanic- sedimentary transition; mapped and interpreted shear zones; and two recently delineated sulphidic horizons by prospecting and strong gold-in-soil geochemical anomalies in the eastern part of the Property.

A two-phase exploration program is recommended: **Phase 1**, consists of an expanded follow-up of the 2020 soil geochemical orientation survey, and prospecting/mapping. **Phase 2**, dependent on favourable results from Phase 1, would comprise 2,000m of diamond drilling. The estimated cost of Phase 1 is CD\$106,573 and the estimated cost of the Phase 2 drilling program is CD\$508, 806, a total budget of CD\$615,379 is required to complete these two phases of exploration programs.

## 2. Introduction

### 2.1 General

Faarnad Geological Consulting Inc. (“FGC”) and Sibley Basin Group Geological Consulting Services Ltd. (“SBG”), collectively referred to herein as the “Consultants”, were commissioned by Mr. Charles Elbourne, the CEO and director of Trojan Gold Inc. and Tashota Resources Inc. (“TGI”/“TRI”), on October 5<sup>th</sup>, 2020 to prepare a NI 43-101 compliant technical report as part of an independent review of their Hemlo South Property (the “Property”), located 33 km east of Marathon, Ontario (Figure 1).

TRI and TGI are Canadian-based mineral exploration and development companies with their head offices located in Toronto, Ontario. This report is intended to accompany a prospectus or similar document for Trojan Gold Inc., which is proposing to have its securities qualified for public distribution. The Report describes a full review of the geology, mineralization, exploration history, and exploration potential of the Hemlo South Property, as well as a report on a recent geochemical survey conducted by TGI/TRI on the Property. Lastly, to provide recommendations for future exploration work to be carried out on the Property.

### 2.2 Terms of Reference

This technical report on the Hemlo South Property was prepared by Ike A. Osmani, M.Sc., P.Geo. and, in part, by Alan J. Aubut, M.Sc., P.Geo., both qualified persons as defined under NI 43-101 regulations.

This technical report has been prepared following the guidelines set under “Form 43-101F1 Technical Report” of National Instrument 43-101 – Standards and Disclosure for Mineral Projects. The certificate of qualification for the Qualified Persons responsible for this technical report is located in the “Certificates of Qualifications” section of this report.

Mr. Aubut of “SBG” visited the Hemlo South Property on October 13<sup>th</sup>, 2020. The three grouped claims covered during the inspection are:

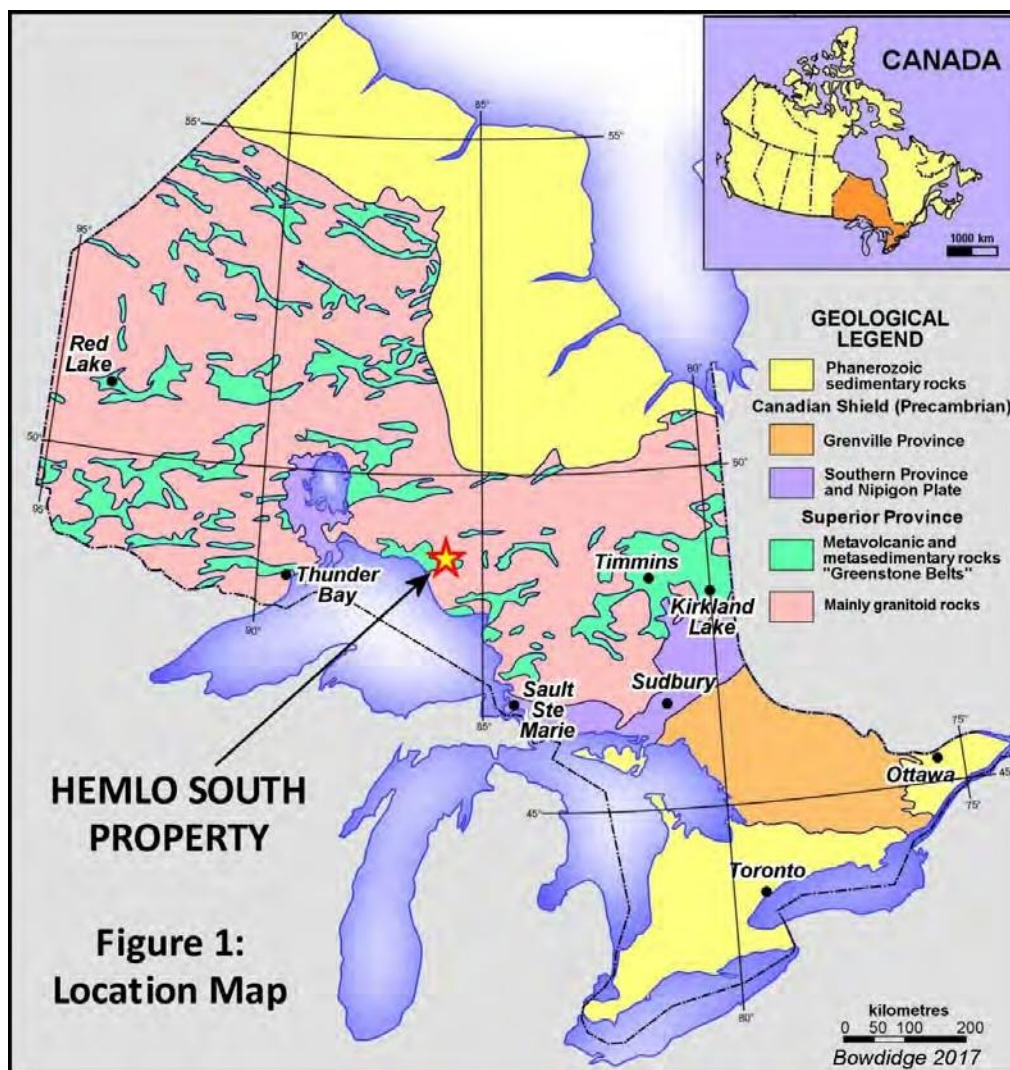
Claim No.	No. of Cells	Claim Holder	Anniversary Date
586288	6	Rudolf Wahl	2022-07-28
586286	9	Rudolf Wahl	2021-03-08
586284	22	Rudolf Wahl	2020-07-03

### 2.3 Source of Information

The Consultants sourced the information from reference documents as cited in the text and summarized in Section 27 – “References” of this Report.

Three main sources for technical data used in this report are from the following reports that were previously prepared for TGI and TRI:

*Bowdidge, C. (2017). Technical Report on the Hemlo South Property, Bamby and Lecours townships, Northwest Ontario; Prepared for Tashota Resources Inc. and Trojan Gold Inc., 47p.*



*Figure 1: Location Map*



*Bowdidge, C. (2019). Technical Report on the Hemlo South Property, Bamby and Lecours townships, Northwest Ontario; Prepared for Tashota Resources Inc. and Trojan Gold Inc., 51p.*

*Barber, R.A. (2020). Report on Prospecting and MIG Soil Orientation Survey on the Hemlo South Property of Tashota Resources Inc. and Trojan Gold Inc., Bamby and Lecours Townships, Ontario, 28p.*

Additional information, both background and technical, on the Property was requested from and provided by TRI and TGI.

## **2.4 Disclaimer**

This technical report represents the professional opinions of Ikramuddin (Ike) A. Osmani, M.Sc., P.Geo. and, Alan J. Aubut, M.Sc., P.Geo. as to the interpretations to be made and conclusions drawn in light of information made available to, inspections performed by, and assumptions made by the authors using their professional judgment and reasonable care. This document has been prepared based on a scope of work agreed with TGI/TRI and is subject to inherent limitations in light of the scope of work and information provided by both companies.

## **3. Reliance on Other Experts**

FGC and SBG have assumed and have relied on the fact that all information in existing technical documents listed in Section 27 – “References” of this report are accurate and complete in all material aspects. While the authors carefully reviewed all the available information presented, FGC and SBG cannot guarantee its accuracy and completeness.

Additionally, the authors have relied upon historical data, and recent exploration work (e.g., mapping, diamond drilling, soil geochemical, and geophysical surveys) completed between 2014 and 2020 by TRI/TGI on the Hemlo South Property. The authors have not validated the data to confirm the results of such work, however, since these works were carried out and reported by qualified persons (P.Geo), the authors have no reason to doubt the correctness of such work and reports.

The authors have not independently verified the legal title to the Property, nor have they verified or are qualified to comment on legal issues related to TRI/TGI Property agreement, royalties, permitting, and environmental matters. They rely on public documents and information provided by TRI/TGI for the descriptions of the title and status of the Property agreements, and they have no reason to doubt that the status of the legal title is anything other than what is reported by TRI/TGI.

## 4. Property Description and Location

The Hemlo South property is located in Bomby and Lecours Townships, approximately 330 km northeast of Thunder Bay, Ontario, 33 km east from the town of Marathon and approximately 2 km south of the Hemlo operations of Barrick Gold Inc (Williams Mine), on the north shore of Lake Superior (Figure 1). The property extends from 85°55'18" to 86°01'21" West and from 48°39'08" to 48°41'03" North. The Property is centred approximately at UTM NAD83, ZONE 17N: 575000mE/5391500mN) (Figure 2).

The Hemlo South property comprises 78 single cell claims, 13 boundary cell claims, and 7 encumbered or partial cell claims with a total area of approximately 1,876 hectares. The claims are shown in Figure 2, and full details are given in Appendix 1.

**Tashota Resources Inc. Option Agreement:** The claims are held by Tashota Resources Inc. ("TRI") under option from Rudolf Wahl, a prospector resident in Marathon, Ontario. The option agreement has an effective date of March 4<sup>th</sup>, 2014, and a 4-year term. On March 7<sup>th</sup>, 2017, and May 3<sup>rd</sup>, 2019, and most recently on April 29<sup>th</sup>, 2020, Rudolf Wahl signed amendments to the TRI-Wahl Option Agreement extending due dates for certain expenditure requirements (Appendix 2). Salient terms of the agreement are:

### 1. Cash Payments and Share Issuances:

- (i) 200,000 shares of TRI within 15 days of the effective date [issued];
- (ii) 250,000 shares of TRI within 30 days of listing of TRI shares on the TSX Venture Exchange or the Canadian Securities Exchange [not yet issued];
- (iii) \$25,000 cash [paid] and 200,000 shares of TRI [issued] on or before March 4th, 2015;
- (iv) \$25,000 cash [paid] and 200,000 shares of TRI [issued] on or before March 4th, 2016;
- (v) \$25,000 cash [paid] and 200,000 shares of TRI [issued] on or before March 4th, 2017;
- (vi) \$25,000 cash [paid] and 200,000 shares of TRI [issued] on or before March 4th, 2018;

### 2. Exploration Expenditures on the Property:

- (i) \$50,000 on or before November 25<sup>th</sup>, 2014 [done];
- (ii) \$100,000 on or before March 4<sup>th</sup>, 2016 [due date extended by Mr. Wahl to May 4<sup>th</sup>, 2017 by the March 7<sup>th</sup>, 2017 amendment - done];
- (iii) \$150,000 on or before March 4<sup>th</sup>, 2017 [done, Trojan has advanced the amount of \$300,000 to Tashota Resources Inc. in order to satisfy the terms of the agreement, with Tashota Resources Inc. agreeing to complete the exploration work on the Hemlo South Property.];

3. Upon exercise of all the terms of the option agreement, TRI will have 100% interest in the Property and will be so recorded on title, subject to a 3% net smelter returns royalty in favour of Mr. Wahl. TRI will have the option of buying back a portion of the royalty (2% of NSR) for \$2,000,000 at any time.

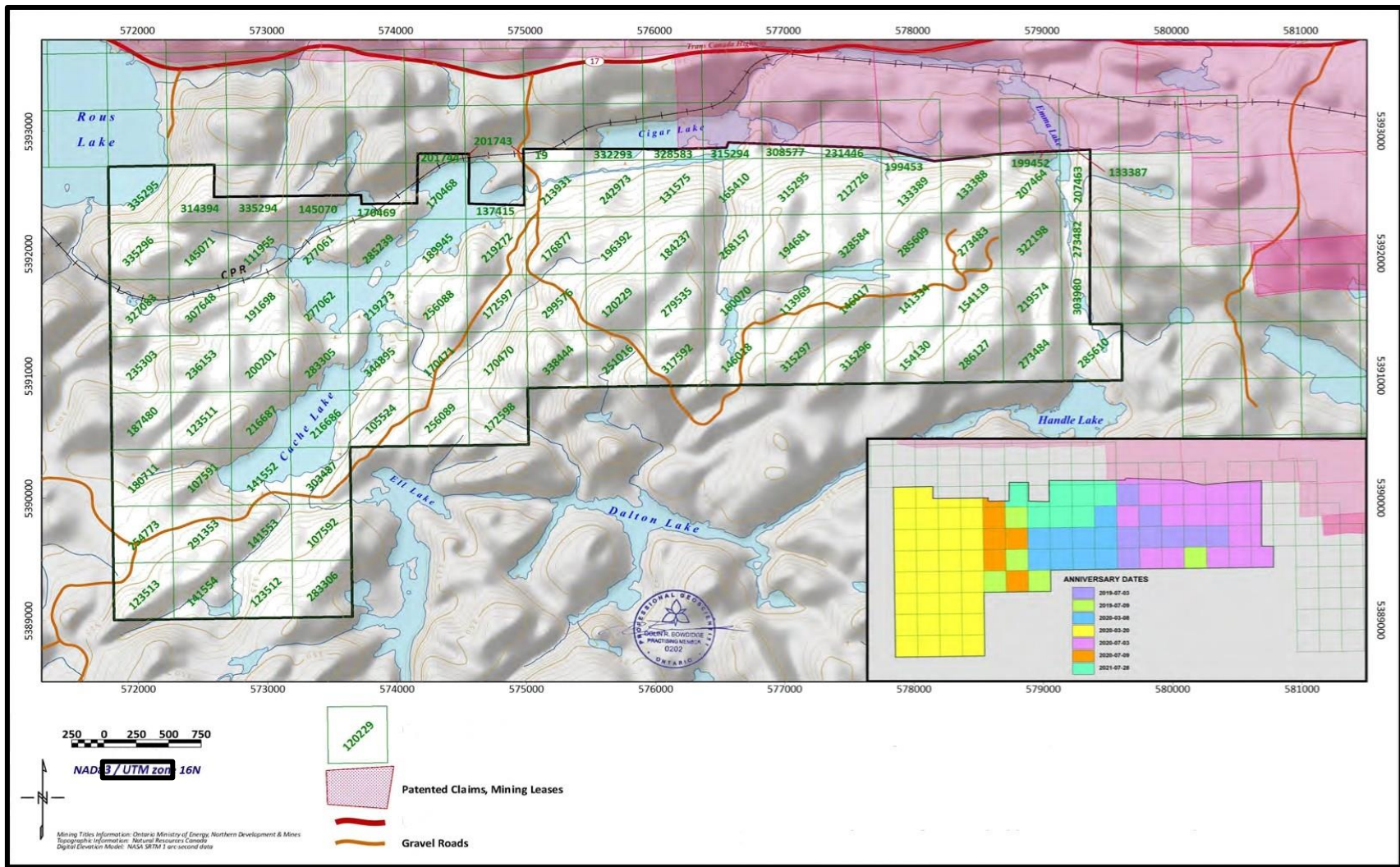


Figure 2: Claim Map. Inset map showing colour-coded claims by next anniversary date. Source: Bowdidge 2019

**Trojan Gold Inc. Buy-In and Joint Venture:** Trojan Gold Inc. (“TGI”) has signed a letter of intent, dated March 1<sup>st</sup> 2017, with TRI to acquire 50 percent of TRI’s interest in the Hemlo South Property by (Appendix 2):

- A. Issuing to TRI 1,250,000 common shares of TGI with a deemed value of \$0.10, effective immediately;
- B. Making, or reimbursing TRI for making, the cash payments in items 1(v) and 1(vi) above, for a total of \$50,000; if by mutual agreement, TRI makes one or both payments in cash, TGI shall have the option of reimbursing TRI by issuing its common shares with a deemed value of \$0.10 per share to TRI;
- C. Incurring, or reimbursing TRI for incurring, the work requirements in terms 2(ii) and 2(iii) above, for a total of \$250,000;

On January 21, 2021, Tashota Resources Inc. and Rudolph Wahl entered into an agreement to the Tri-Wahl Option Agreement (the “Amending Agreement”). Pursuant to the terms of the Amending Agreement, the remaining share issuances owed from TRI to Wahl to be issued within thirty (30) days of the date of the Amending Agreement. In addition, pursuant to the Amending Agreement, TRI has granted a non-interest bearing promissory note, in the amount of \$20,000, in favour of Rudolph Wahl (the “Promissory Note”), payable within sixty (60) days in satisfaction of all remaining exploration expenditures contemplated by the Tri-Wahl Option Agreement. Upon execution of the Amending Agreement, and Promissory Note, TRI earned 100% interest in the Hemlo South Property.

The Company has met all of the above commitments and on January 22, 2021, the Company and TRI entered into a joint venture agreement (the “Joint Venture Agreement”) which sets out the terms of their joint venture arrangement regarding the Hemlo South Property. The Joint Venture Agreement provides that each of the Company and TRI has a 50% working interest in the Hemlo South Property, which is subject to the NSR royalty in favour of Mr. Wahl. More specifically, the Joint Venture Agreement provides for the following:

- Management and budget control is to be by a joint management committee;
- Each party will have an initial WI and a deemed initial contribution of \$450,000;
- TRI and TGI will be joint operators unless the interest of either party is diluted below 50%, in which case, the party with the larger WI will have the right to become the operator;
- Budgets will be set annually, or more frequently if requested by either party;
- If either party (a “Non-Contributing Party”) is unable or unwilling to provide its *pro-rata* share of an approved budget, the other party (the “Contributing Party”) will have the right to provide the difference between the amount which the Non-Contributing Party has contributed to an approved budget, and its *pro-rata* share of the approved budget.
- The WI of a Non-Contributing Party shall be diluted according to the industry-standard formula based on the ratio of the aggregate totals of expenditures on the project of the two parties since the inception of the Joint Venture, plus each party’s deemed initial contribution of \$450,000.

## **Mining Rights Tenure and Work Permits**

In Ontario, “unpatented” mining claims can be held indefinitely by performing and reporting assessment work to the value of \$400 per single cell claim or \$200 per boundary cell or partial cell claim, per year.

Exploration permits are required to carry out exploration activities that include:

- stripping more than 100 m<sup>2</sup>
- drilling with a drill weighing more than 150 kg
- cutting lines more than 1.5 metres wide
- geophysical surveys requiring a generator

Exploration permits are issued in the name of the recorded claim holder. The Hemlo South property is covered by exploration permit PR-17-11042, issued to Rudolf Wahl, the recorded claim holder, on March 21<sup>st</sup>, 2017, and valid for 3 years. A previous permit had expired in February 2017. No objections to the permit were raised by local First Nations or Métis groups. The ENDM requires advance notice of the start and finish of drilling operations.

If the project results in the development of a mineralized zone requiring more work (bulk sampling, stripping over 10,000 m<sup>2</sup>, underground development), an **Advanced Exploration Permit** is required. To apply for an Advanced Exploration Permit, the relevant claims must be brought to lease. This will require a land survey of the claim, consultation and possibly an agreement of some sort with First Nations, and submission of evidence that a “substantial mineral deposit” exists (NB this does not necessarily require a Mineral Resource estimate). Land surveys of a claim or claims to be leased typically cost a few tens of thousands of dollars, so they are not normally undertaken unless they are necessary. Leases are valid for 21 years and can be maintained by payment of provincial land taxes (and municipal land taxes if the lease is inside a municipality). No work reports are required, but if a second 21-year lease is requested, evidence of some work to advance the project will be required (actual work requirements seem to vary from one lease to another). Exploration work carried out on a leased claim can be applied as assessment work on contiguous non- leased claims, and reports of this type of work can also be used to support a lease renewal application.

Leased mining claims do not grant ownership of surface rights, but they do grant the mining rights holder use of the surface rights, including timber and aggregate materials unless there is a separate surface rights owner or lessee (which is not the case for the Hemlo South property). In those cases, negotiations are necessary to compensate the surface rights owner for damages caused by exploration or development.

## **Environmental Liabilities**

The author is not aware of any environmental liabilities on the Hemlo South Property.

## **5. Accessibility, Climate, Local Resources, Infrastructure, And Physiography**

### **5.1 Accessibility**

The Property is easily accessed by Trans-Canada Highway 17 which passes approximately 600 metres north of the Hemlo South claims (Figure 2). An all-weather gravel forestry access road extending south from highway 17 bifurcates into two branches covering the east and west parts of the property. Much of the eastern two-thirds of the property has been logged approximately 20 to 25 years ago and about half of that area has been replanted. The eastern forestry road is overgrown but needs only brushing out and re-grading to be fully functional. The Canadian Pacific Railway transcontinental line passes through the property. The former community of Hemlo, which lies just outside the property boundary, was a stop on the railway with a station and a small cluster of houses; it is now abandoned.

### **5.2 Climate**

Climate is typical of northern Ontario, with cold winters and warm summers. Proximity to Lake Superior modifies the climate slightly, with more snowfall and slightly milder winter temperatures than more inland regions (except when Lake Superior freezes over which occurs on average about once per decade). The average recorded temperature in the Marathon/Hemlo area over the last 36 years varies from a low of -13 °C in February to a high of 14 °C in August. Meanwhile the average high and low temperatures during the same period were -8 °C to -19 °C in February and 18 °C to 10 °C in August (<https://weatherspark.com/y/14897/Average-Weather-in-Marathon-Canada-Year-Round>). The average precipitation over the 39 years on record ranges from a low of 49 mm in February to a high of 92 mm in September.

### **5.3 Local Resources and Infrastructure**

There is a skilled workforce in the neighbouring towns of Marathon, Manitouwadge, White River, and the Biigtigong Nishnaabeg and Pic Mobert First Nations communities. The two largest nearby population centres are Marathon (2011 pop. 3,353) and Manitouwadge (2011 pop. 2,105) which supply the bulk of the labour to the Hemlo area. They are 33 and 54 kilometres, respectively, from Hemlo by road. The adjacent Williams Mine alone employs approximately 700 people, including contractors and temporary employees. The average age of the workforce at the mine is 46 years old. This illustrates that local and regional resources are adequate to supply a large combined open pit and underground gold mine.

Hydro One, the provincial electric distribution utility, operates a 230 kV transmission line that runs approximately 1200 kilometres, from Sudbury to the Manitoba border. This line passes through Marathon, and a local 115 kV line branches off it to feed the town of White River (52 km east of Hemlo) and the Hemlo gold mines. The Hemlo transformer station is 2.4 kilometres northeast of the Hemlo South property.

Water is readily available locally. Liquid natural gas (LNG) is available from a storage depo in Wawa, located east of Hemlo on Hwy 17. Mining equipment and supplies are readily available in the mining centres of Sudbury and North Bay, approximately 600 and 700 kilometres respectively from Hemlo, by road.

#### **5.4 Physiography**

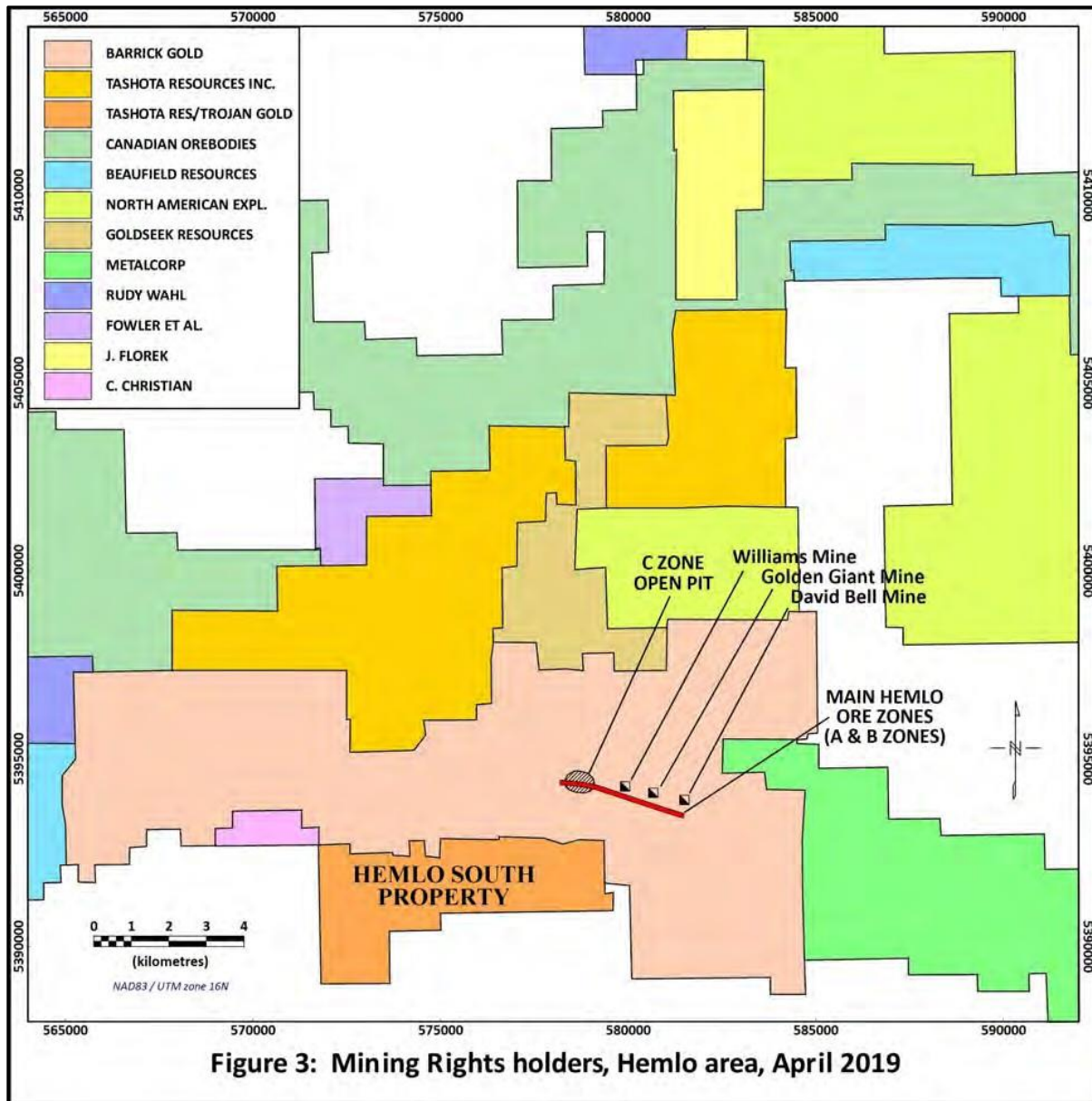
The terrain is typical of glaciated Precambrian shield, with smooth to locally rugged hills separated by ice-gouged depressions along fault zones and areas of softer lithology. Lower-lying areas are occupied by lakes, swamps, or peat-bogs. The maximum relief in the area of the Hemlo South Property is about 120 metres. Rous Lake, at 264 metres elevation, is the lowest point on the Property. Several ridges in the eastern part of the Property rise just over 380 metres elevation. The higher ground tends to have abundant outcrops separated by areas of thin glacial till. The lower ground tends to be covered in thicker till often with a surface layer of organic overburden.

Primary forest is a typical boreal forest dominated by white spruce, black spruce, jackpine, balsam fir, aspen (poplar), birch, eastern white cedar, and tamarack. Tag alders and willows tend to grow thickly along creeks and in swamps. White and red pine, although common in the region, are not observed on the property. Reforested areas are dominated by jackpine; as the fastest-growing of the local conifers, it is favoured for replanting where future timber harvest is anticipated.

According to the Ontario's Ecological Land Classification, the Hemlo area falls into Site Region 3W (a total area of 8.9 M ha) which breaks down into the following percentage of total area and includes ownership by the crown, parks, and others: water 17.1%, wetland 0.80%, field/agriculture land 0.00%, tree bog 3.40%, productive forest 78.1%, and other 0.70%.

## 6.0 History

Gold was first discovered in 1944 by Peter Moses, an Ojibway prospector from Marathon, at the site of the present Williams mine, located approximately 1500 metres north of the Hemlo South Property (Figure 3). At that time two individuals, Harry Ollmann and Dr. J.K. Williams staked the 11 claims that make up the core of the current Williams mine property. Stripping, trenching, and shallow X-ray drill holes outlined a pyritic shear with gold assays up to 4.11 g/t Au. In 1946, 33 claims adjoining the Ollmann-Williams property were staked by Trevor Page, Williams, Moses,



*Figure 3: Mining Rights holders, Hemlo area, April 2019.*



and Mel Bartley on what is now part of the Golden Giant and David Bell mine properties. Subsequently, these 33 claims were acquired by Lake Superior Mining Corporation which carried out the stripping, trenching, and bored 16 to 20 diamond drill holes. A “reserve” of 28,675 short tons (st) grading 8.57 g/t Au was calculated on what was called the “Lake Superior Shear Zone”. This was the beginning of a lengthy history of staking/re-staking of claims, court battles, and exploration and development efforts that finally culminated in the production of three Hemlo gold mines (Williams, Golden Giant, and David Bell mines) in the mid-eighties.

For a detailed chronological history of the three Hemlo mines, the reader is referred to both scientific (e.g., Muir, 1995; *The Northern Miner*, 1983) and non-scientific publications (e.g., Hart, 1986), and website reviews (e.g., <http://www.fundinguniverse.com/company-histories/hemlo-gold-mines-inc-history/>).

**Note:** *this “reserve” and other subsequently published “reserves” are historical mineral resources that do not comply with current practice.*

Production from the Golden Giant mine ceased in 2006, and the David Bell mine closed in 2014. Barrick Gold Corporation, which had acquired all three mines, continues producing from the Williams mine. By the end of 2018, the combined production from all three Hemlo mines was 22.23 million ounces (Puumula et al., 2014; Barrick Gold Corp. Annual Reports 2014 to 2018). On December 31, 2020, Barrick reported ([2020 Mineral Reserves and Resources \(q4cdn.com\)](https://www.barrick.com/~/media/Files/2020/2020_Mineral_Reserves_and_Resources_q4cdn.com)) the following figures on *Measured*, *Indicated*, and *Inferred* mineral resources at the Williams mine:  
Measured: 1.7 Mt at 3.42 g/t Au (0.19 million ounces gold)  
Indicated: 41 Mt at 2.37 g/t Au (3.1 million ounces gold)  
Inferred: 9.4 Mt at 3.0 g/t Au (0.90 million ounces gold)

**Note:** *The Consultants have not been able to verify the information on the mineral resources at Williams Mine and its nature of gold mineralization and thus the information on the adjacent mine is not necessarily indicative of the mineralization on the Hemlo South Property that is the subject of the technical report.*

## 6.1 History of the Hemlo South Property

The Hemlo South Property area, being adjacent to the Williams mine property, was staked early in the 1982 staking rush (Figures 3 and 4). The northeastern portion of the Property, approximately east of UTM 576200E) of the present property, was held by Harlin Resources Ltd., whose claims extended for a further 900 metres beyond the present eastern boundary. The northernmost tier of claims covering the western half of the present property was held by Bel-Air Resources Ltd., whose claims also extended north to the Trans-Canada Highway. An 800-metre deep swath of claims extending east from the Lecours-Bomby township line to the east boundary of the present property plus a further 2 kilometres, was held by Pricemore Resources Ltd. The southwestern quadrant of the present property was held by a company called Vanstate in 1982, but in 1984 it was held by Pryme Energy. These property configurations continued through most of the 1980s.

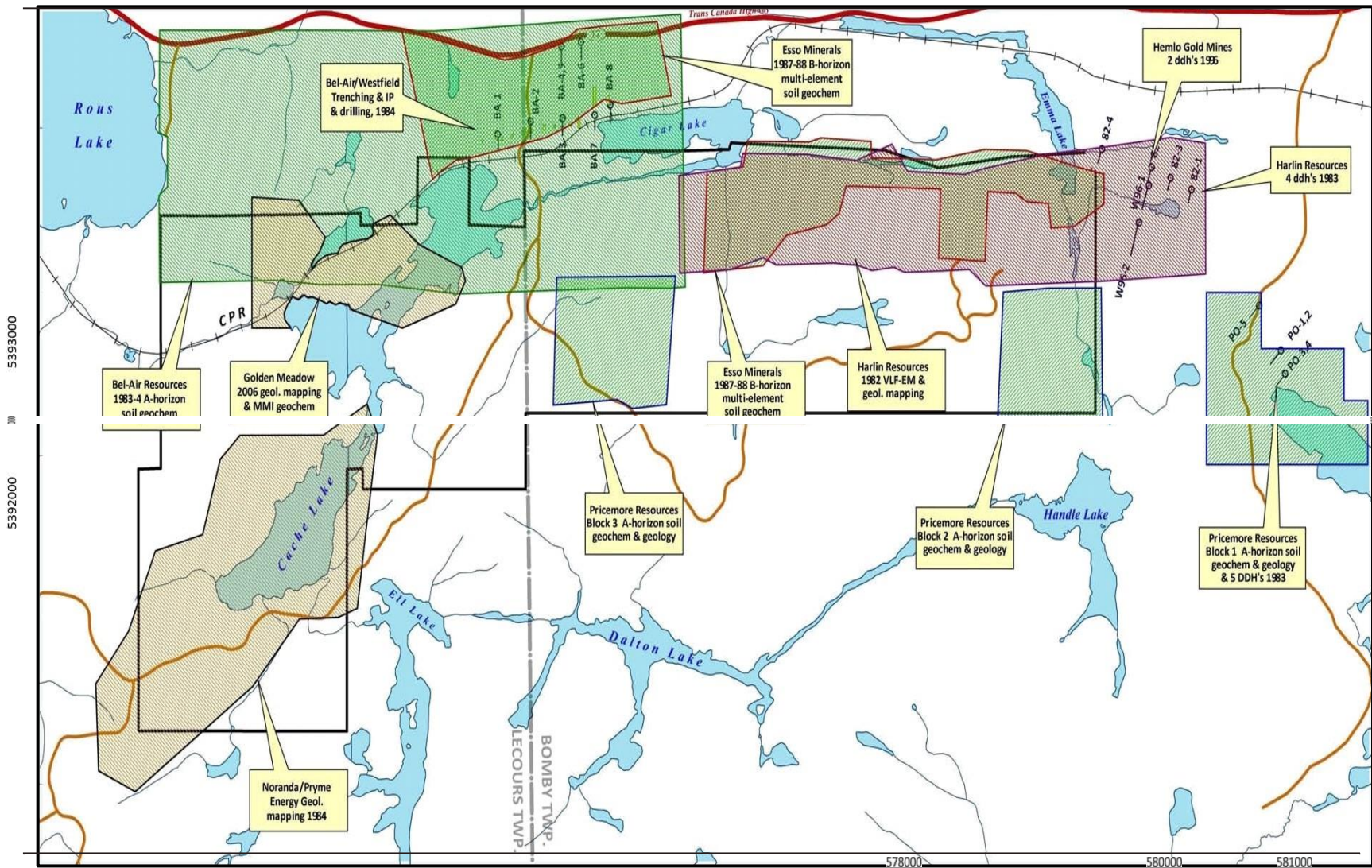


Figure 4: Areas of Exploration Work Conducted by Companies and individuals during the 1980s. Source: Bowdidge 2019

Figure 4 shows the areas covered by the exploration work (e.g., geological, geophysical, and geochemical surveys, and drilling) conducted during the 1980s by various companies and individuals both within and immediate area of the Hemlo South Property.

**Bel-Air Resources 1981-1983:** In 1981, the company conducted an exploration program that consisted of line cutting, magnetic and VLF-EM surveys, a B-horizon soil geochemical survey, geological mapping, prospecting, stripping, and trenching. The main focus of interest was a pyritic tuff unit that was traced for 1,000 metres in a west-southwest direction from the northwest corner of Cigar Lake (i.e. outside the area of the present property). In 1982-83 the Bel-Air claims were under option to Westfield Minerals, which carried out an IP survey, a humus geochemical survey, and drilled 8 diamond drill holes. Of these drill holes, five were on the Cigar Lake pyritic tuff trend, and three were drilled to test a similar pyritic zone further north, close to the Trans-Canada highway (Carlson, 1982; Deevy, 1984a, b). It should be noted that all the drill holes (with one possible exception) and much of the survey work lay outside the limits of the present Hemlo South Property however the results of these work, in the authors' opinion, are relevant because they either overlap or are on strike with the Hemlo South Property.

**Harlin Resources 1982:** The company carried out geological mapping, and conducted a VLF-EM survey in 1982 (Ross, 1982; Yeomans & Bradshaw, 1983). Four diamond drill holes totaling 2,000 feet (610 metres) tested a VLF conductor east of the present property, although drill hole 82-4 may lie at the extreme northeast corner of the current Hemlo South claims (Bradshaw, 1982).

**Aerodat Airborne Survey 1983:** During 1983, Aerodat Ltd., which had at that time the most popular and successful airborne electromagnetic survey system in Canada, decided to fly a survey of the whole Hemlo greenstone belt, and to sell "windowed" portions of the survey results to companies that needed or wanted the results. Of the companies referred to above, Pricemore Resources and Pryme Energy acquired Aerodat magnetic and electromagnetic survey data over their claim blocks. The Aerodat survey was subsequently purchased in its entirety by the Ontario Geological Survey and published in 2002 (OGS, 2002).

**Pricemore Resources 1983:** Pricemore Resources Ltd. and Narex Ore Search Consultants carried out geological mapping and an A-horizon soil geochemical survey on three blocks, two of which were on the present Hemlo South property, while the third was off to the east on claims now held by Barrick Gold. Pricemore also put down five diamond drill holes on its easternmost property, between 1250 and 1500 metres east of the present Hemlo South property boundary (Born, 1984a, b; Abolins, 1983).

**Pryme Energy 1984:** The Pryme Energy claims surrounding Cache Lake was under option to Noranda Exploration in 1984. Noranda carried out a program of geological mapping. No other work was done on that property (Kuhns, 1984).

**Walton/Esso Minerals Canada 1987-1988:** The Harlin claims reportedly lapsed in 1987 and were re-staked by R. Walton. Esso Minerals Canada optioned the Walton claims and conducted the B-horizon soil geochemical survey both within and immediately north of the current property (Hall, 1988; Grant, 1989). Esso Minerals is also reported (Tims, 1996) to have carried out an IP survey over the area of the Harlin drill holes that lie outside the Hemlo South property.

**Walton 1995-1996:** In 1995, the Walton claims were under option to Hemlo Gold Mines, which cut a grid over the whole property (the purpose of the grid and the work done on it are not reported). In 1996, Hemlo Gold Mines drilled two holes totaling 486 metres, in the same area as the four Harlin drill holes (Tims, 1996).

**1988-2006:** ENDM assessment files show no reports of work in the area of the Hemlo South property between 1988 and 2006 other than the Hemlo Gold Mines work on the Walton claims in 1995-1996, referred to above. Most of the Bel-Air claims were re-staked for Esso Resources Canada in 1987, then transferred to Homestake Mining Canada in 1989. Through a series of name changes and corporate acquisitions, Homestake became part of Barrick Gold Inc. in 2003, and the claims continue to be held by Barrick Gold. The ENDM website includes a few historical claim maps for Bomby and Lecours townships, and these show that parts of the present Hemlo South property were staked from time to time.

**Golden Meadow 2006:** In 2006, Golden Meadow Explorations held a narrow strip of claims that measured 16 kilometres long from east to west, but only 800 to 1200 metres from north to south. It included, approximately, the northern half of what is now the Hemlo South property. The company carried out semi-reconnaissance geological mapping and MMI (Mobile Metal Ion) geochemical sampling and analysis over selected areas. Within the limits of the Hemlo South property, a 40-sample reconnaissance-level MMI sampling and mapping grid was surveyed on the northwest side of Cache Lake, and two small areas on the south side of Cigar Lake and around Emma Lake had a handful of rock samples collected. Also, mapping and sampling were done in two areas just to the east of the Hemlo South property, around Harlin drill holes 82-1 and 82-2, and around the four Pricemore drill holes (Komarechka, 2006).

**Government Mapping and Other Activities:** J.E. Thomson mapped the Hemlo area in 1930 and 1931 for the Ontario Department of Mines (Thomson, 1932). In 1978, Hemlo area was mapped in detail (1:15,840) by the Ontario Geological Survey (OGS) (Muir, 1980, 1982). Following the discovery of the main Hemlo gold deposit in 1981-82, Muir returned to Hemlo between 1985 and 1990 and carried out detailed (1:2,500 to 1:250) lithological and structural mapping around the mines (Muir, 1993, 1997). Finally, Muir led a compilation of the geology of the whole Hemlo greenstone belt on a single map that also included a list of all 227 recorded mineral occurrences (Muir, 2000).

The Geological Survey of Canada (GSC) also produced a map of the Hemlo area, based partly on its independent mapping, accompanied by a series of mine cross-sections provided by the mining companies (Lin, 2001a). The GSC also published a detailed mineralogical study of the ore zones (Harris, 1989). Another GSC publication, a manual on the use of airborne gamma-ray spectrometry, featured the Hemlo gold deposits (Shives et al., 1995). The Hemlo gold zones gave a very distinct potassium anomaly on airborne radiometric surveys, which was their only detectable response to remote sensing systems available at the time (with the ore zones now mined out, it is no longer possible to test alternative geophysical methods).

The OGS purchased the results of the Aerodat airborne magnetic and electromagnetic survey of the entire Hemlo greenstone belt that was flown in 1983, referred above. The survey was done

using frequency-domain methods with coaxial and coplanar coils. The OGS geophysical staff reprocessed and refined the data and re-released the survey in digital form (OGS, 2002).

## 7.0 Geological Setting and Mineralization

### 7.1 Regional Geology

In a regional context, the Hemlo South Property occurs within the Archean age Superior Province of the Canadian Shield. The Superior province has been subdivided into subprovinces and “terranes” according to structural styles and perceived age differences. The currently favoured subdivision of the Superior Province is shown in Figure 5 (Stott et al., 2010).

The Wawa-Abitibi Terrane (W-AT) extends from northern Minnesota (USA) in the west to the Kapuskasing structural zone (KSZ) in eastern Ontario, a distance of about 860 km., and 470 km east from KSZ to the Grenville Front Tectonic Zone (GFTZ) in Quebec (Figure 5). The older subdivision places the Wawa Subprovince between Minnesota and KSZ and the Abitibi Subprovince east of KSZ to the GFTZ. The older subdivision of the Superior Province is still widely used.

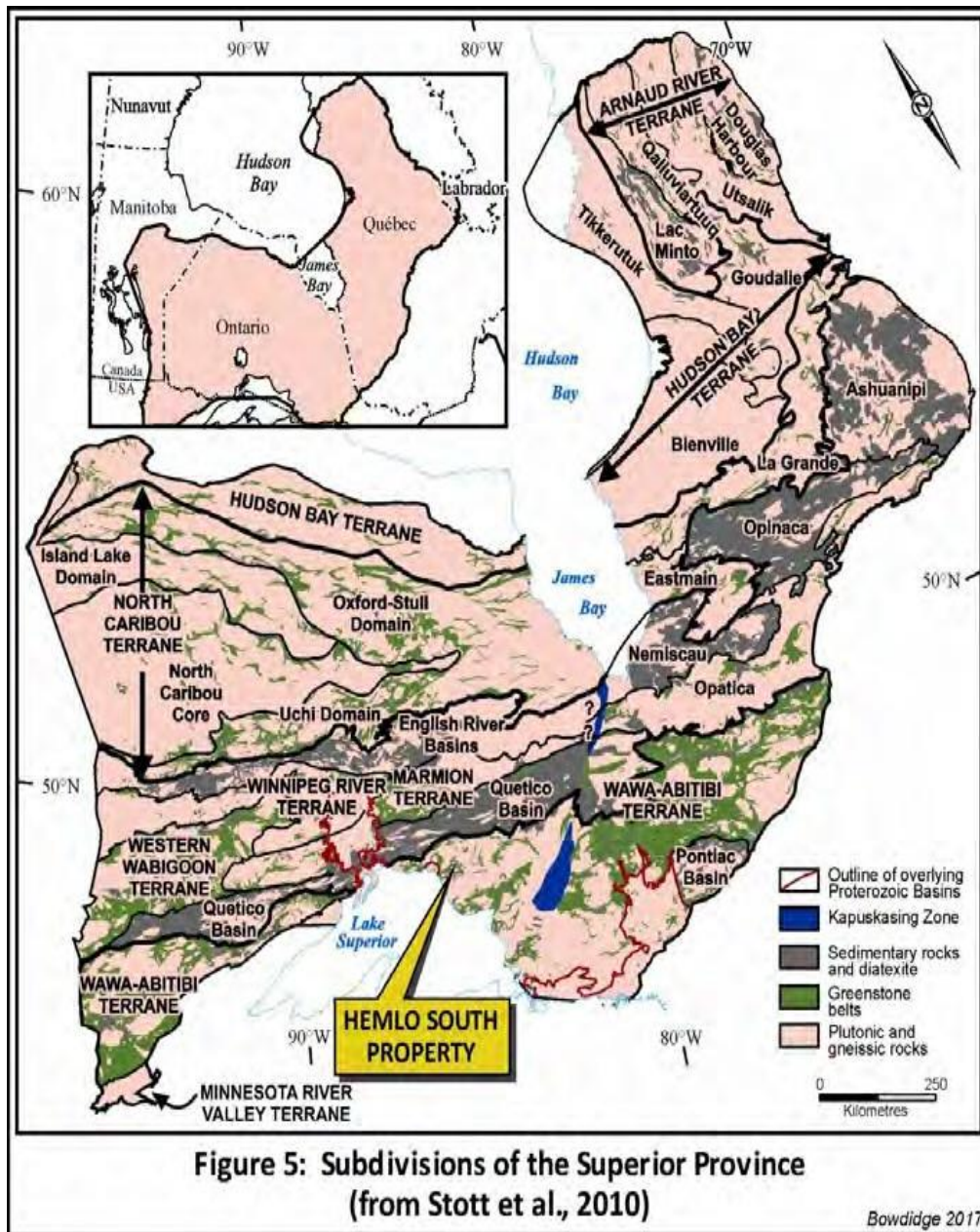
The south-central part of the W-AT is obscured by the waters of Lake Superior and unconformably overlain by the Proterozoic rocks of the Animikie Basin.

The Schreiber–Hemlo greenstone belt (SHGB), which occurs within the east-central part of the W-AT (Wawa subprovince), is bounded by granitoid batholithic complexes in the east and by the metasedimentary-dominated Quetico subprovince in the north.

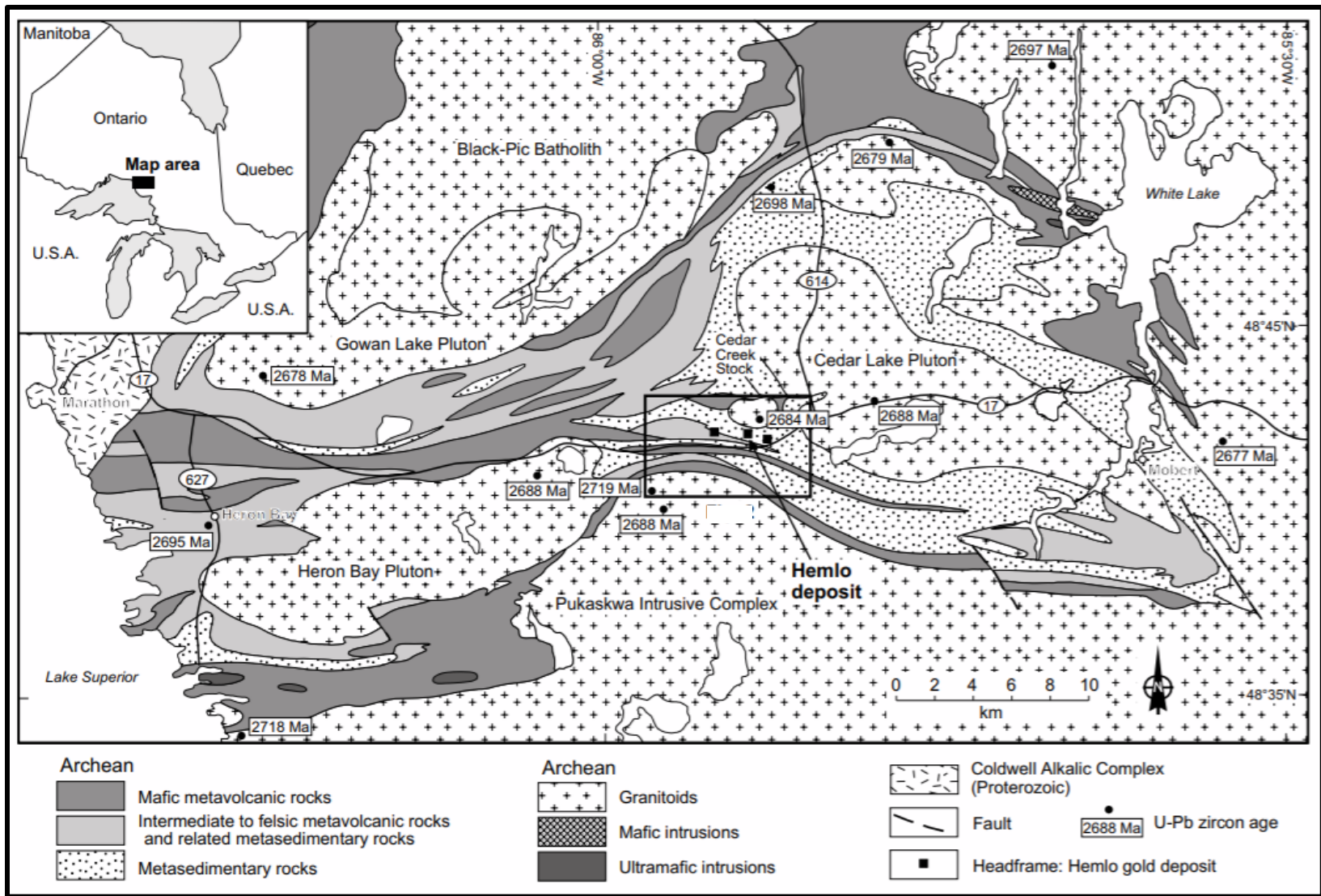
The SHGB is situated on the north shore of Lake Superior and extends from near White River in the east to Schreiber in the west (Figure 6). The eastern Hemlo portion of the belt is separated from the western Schreiber portion by the Coldwell alkalic complex (1.1 Ga, Heaman and Machado, 1987). The geology of the eastern half of the SHGB is designated as the Hemlo greenstone belt (HGB) (Figure 6).

The HGB is comprised of massive to pillowed, tholeiitic basalt±komatiitic flows, and felsic to intermediate, calc-alkalic pyroclastic rocks with minor interflow sedimentary rocks dominate the western part of the belt (Figure 6). The eastern portion of the belt is dominated by turbiditic wacke–mudstone and minor conglomerate, and relatively minor volcanic rocks and their intrusive equivalents. Granitoid plutons core and flank a large portion of the greenstone belt.

The minimum age of mafic volcanism is best constrained by crosscutting apophyses of the Dotted Lake pluton (ca. 2697 Ma). Contact relationships with the Pukaskwa batholith (ca. 2719 Ma) are unclear. Felsic calc-alkalic volcanism took place from ca. 2698 to ca. 2692 Ma and intermediate volcanism appear to be ca. 2689 Ma (Corfu and Muir, 1989, Davis and Lin, 2003). Sedimentation of turbiditic wacke–mudstone in the HGB occurred after ca. 2693 Ma for volcaniclastic deposits and possibly as late as ca. 2685 Ma for wacke (Davis and Lin, 2003).



*Figure 5: Subdivisions of the Superior Province ( from Stott et al., 2010 )*



**Figure 6:** Simplified geologic map of the Hemlo greenstone belt, showing the regional geologic setting of the Hemlo gold deposit.

A preliminary regional structural history of the HGB recognized two main stages of deformation in the HGB: (i) a penetrative regional foliation (D1), which formed during a medium-grade metamorphic event; and (ii) a later regional event (D2) involving the development of a second foliation and folding of the earlier fabric of the greenstone belt boundaries, and some internal plutons (Davis and Lin, 2003).

The metamorphic grade in HGB increases from low in the western part to medium in the central and eastern parts of the belt, with an increase also toward the batholiths and toward the “central axis” of the belt, particularly between the Pukaskwa batholith and the Cedar Lake pluton. Mesoproterozoic, rift-related magmatism, ca. 1.1 Ga, is reflected in the Port Coldwell alkalic complex and a variety of lamprophyre and alkalic intrusions, which occur throughout the HGB (Heaman and Machado, 1987).

The central part of the Hemlo greenstone belt (HGB), which hosts the Hemlo gold deposits and the Hemlo South Property, is bounded in the south by the Pukaskwa Batholith (or Pukaskwa Gneissic Complex), and on the northwest by the Black-Pic Batholith (Figure 7) (Bowdidge 2019). The supracrustal rocks are intruded by later felsic intrusives that form large bodies (Cedar Lake, Heron Bay, Gowan Lake, and Musher Lake Plutons) as well as smaller bodies. The largest of these smaller bodies is the 1.5 × 2.5 km Cedar Creek Stock, just north of the Hemlo gold mines, and there are numerous hypabyssal intrusive bodies (quartz- and/or feldspar-porphyrries), which typically do not show on smaller-scale maps like that in Figure 7, but are identified on property-scale mapping.

In terms of its volcanic-sedimentary stratigraphy, the central HGB is unusual in having a relatively small proportion of mafic volcanic flows, which form a roughly estimated 10% of the total volume of surficial rocks (Bowdidge 2019). Mafic volcanic flows are interpreted to represent the base of the stratigraphic sequence (Bowdidge 2019). The core of the belt is made up of felsic to intermediate flows and pyroclastics, and clastic metasediments.

Conglomerate is an important sedimentary rock unit that is present beside the main gold zone at the Hemlo mines and has led some to speculate a possible genetic association between gold camps and conglomerates (Poulson 2013). The conglomerate has also been mapped in the big “V” of the interfingering contact between intermediate volcanic, pyroclastics, and metasedimentary rocks, about 6 km northwest of the Hemlo gold mines (Coster et al., 1984). The conglomerates are also observed west of the Hemlo mines north of Rous Lake (Osmani, 1997a) and in the extreme eastern part of the HGB (Whitefish Lake and Spruce Bay areas) (Osmani et al., 1997b,c,d,e).

## **7.2 Property Geology**

The geology of the Hemlo South Property is based on reports and maps by Muir (1980, 1982, 1993, 1997, 2000) and Lin (2001a). The property is predominantly underlain by the Pukaskwa Batholith (also referred to as the Pukaskwa Gneissic Complex), which occupies the southern 40 percent of the property area (Figure 8). It is an “older” granodiorite and gneissic granodiorite complex with pegmatitic, aplitic, and porphyritic phases. It probably represents a partially



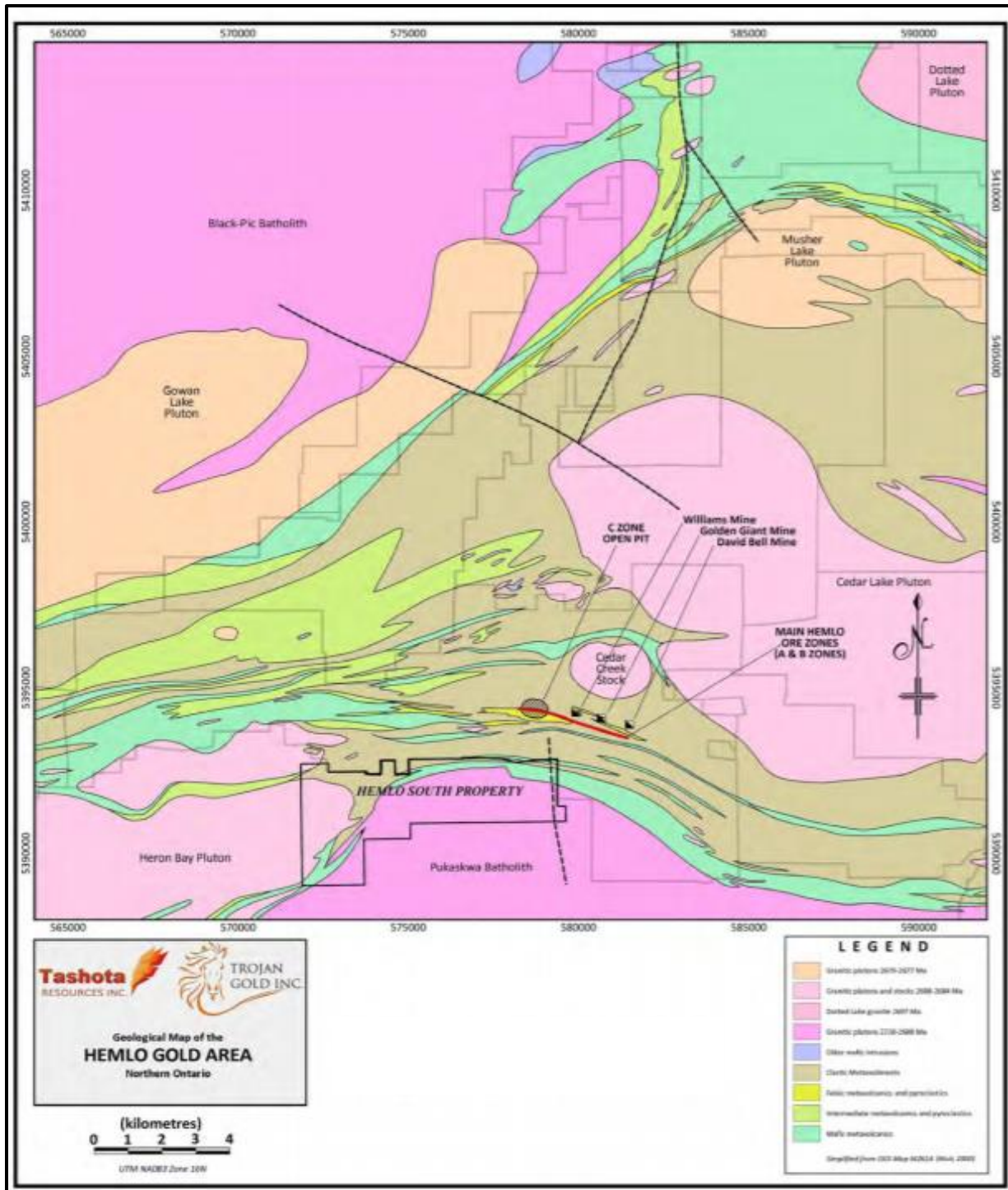


Figure 7: Geological Map of the Central Part of the Hemlo Greenstone Belt

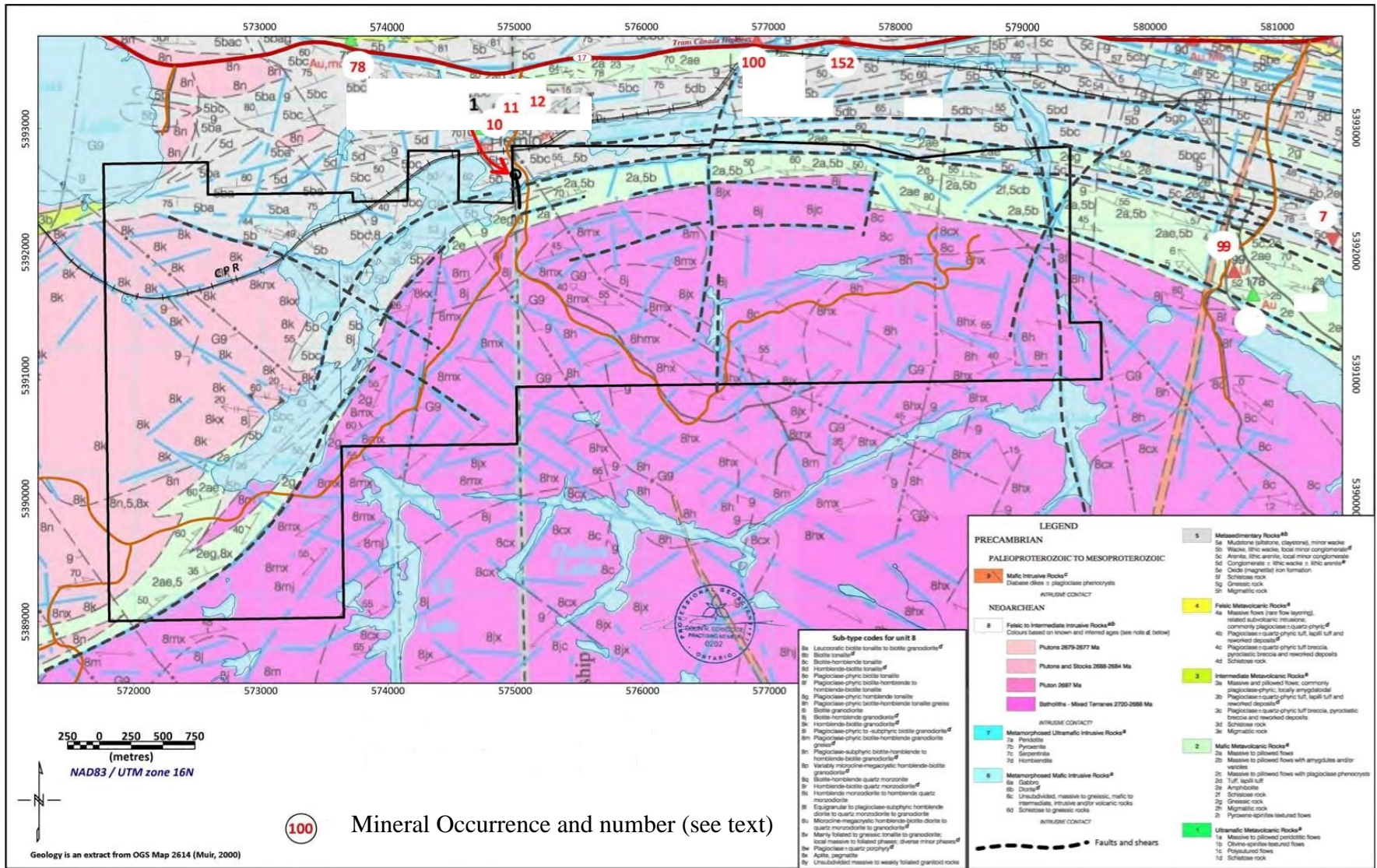


Figure 8: Local Geology of the Hemlo South Property

remobilized basement on which the volcanic and sedimentary rocks were originally deposited (Muir, 2000).

On the west side of the map, the Heron Bay Batholith, a later “intra-greenstone-belt” granodiorite intrusion appears as three apophyses separated by septa of metasedimentary and metavolcanic rocks.

A recent limited prospecting/mapping program by TRI/TGI indicating the north part of the Property consists mainly of strongly foliated, amphibolitic, mafic volcanic rocks (Barber, 2020). In places, deformed varioles are also present. These rocks are interbedded with amphibolitic and quartzo-feldspathic banded sediments. Some of these rocks are similar in appearance to banded sediments exposed along Highway 17, in the footwall stratigraphy of the Hemlo deposit (Barber, 2020). In the northeast portion of the property, interbedded arenites, siltstones, and mudstones are more common. Several outcrops of feldspar porphyry occur at Cache Creek. This appears to form a mappable unit oriented parallel to the foliation and there are indications that there may be more than one porphyry unit. The supracrustal rocks, including porphyry, are strongly foliated, and lithological contacts tend to be juxtaposed into parallelism with the foliation. Measured strikes range from east-west to  $117^{\circ}$  and dips are consistently  $60^{\circ}$  to  $80^{\circ}$  to the north.

There are several strike-parallel fault/shear structures at the contact between the Pukaskwa Batholith/ Gneissic Complex (“PGC”) and the overlying mafic volcanic rocks, as well as within the PGC and the volcanic-sedimentary sequence. Recent prospecting/mapping by TRI/TGI identified a shear zone at the mafic volcanic-sedimentary contact which can be traced from Cache Lake through the long peninsula in Cigar Lake to the bay at the south end of Emma Lake (Barber, 2020).

In addition to the predominantly strike-parallel fault/shear structures, there are several high-angle cross-faults. The north-south fault passing through Handle Lake, whose existence is inferred from its topographic expression, curves as it passes under Emma Lake and points more or less directly at the “C” Zone open pit of the Williams gold mine (just outside the map and of course outside the property). This observation, although interesting, should not be taken to have any implications for the economic potential of the Hemlo South property.

Metamorphic grade ranges from greenschist to amphibolite facies adjacent to the Pukaskwa Batholith/Gneissic Complex. Coarse-grained amphibolites (mafic volcanic rocks) are reported along the northern margin of the Pukaskwa/gneissic complex.

### **7.3 Mineralization**

There is no known significant mineral mineralization on the Hemlo South Property. However, there are several mineral occurrences/showings (with over 1 g/t Au, Bowdidge 2019) known to occur adjacent to the Hemlo South Property (Figure 8). In Figure 8, mineral occurrences are shown as the upright triangles and upside-down triangles represent showings, and red indicates a surface occurrence/showing while green indicates one in a drill hole (Muir, 2000). Each occurrence/showing has a number, which has been added inside a white circle for clarity. Although all these occurrences are outside the Hemlo South Property however in the authors’ opinion, they are worth a brief

mention as they illustrate that mineralization is present in the general area. They are listed under their original numbers and briefly described below.

**10, 11, 12:** These occurrences are in the pyritic tuff unit that was trenched and drilled by Bel-Air Mines. No. 10 gave 2.4 g/t Au across 0.61 m in a trench. No. 11 was a molybdenite occurrence in a trench with up to 569 ppm Mo. No. 12 indicates surface assays up to 7.54 g/t Au in grab samples, that could not be duplicated in drill holes. None of the Bel-Air drill holes returned significant gold values. This occurrence is known locally as one of the “Sucker Zones” that tantalize with sporadic gold values in surface samples, but do not stand up to diamond drilling.

**78:** This occurrence of gold is in Golden Sceptre diamond drill hole NGS-220 described by Muir (2000) as “several intersections in quartz-feldspar porphyry (QFP) and mafic volcanic, 1.42 to 6.63 g/t Au across 1.0 to 1.4 m”.

**100:** This occurrence is in an outcrop beside Highway 17, described by Muir (2000) as “sheared, brecciated, rusty, banded pyritic sericite schist yielding 2.09 g/t Au” (grab sample?).

**152:** This is the “Highway Zone” discovered by Muir when he was mapping for the OGS. It caused a stir at the time because it is exposed in a rock-cut on Highway 17, and had never been examined or sampled since the highway was built in the early 1960s. Muir (2000) summarizes it as “up to 2 m wide volcanoclastic sediment traced for 3 km; up to 10.96 g/t Au and 16.45 g/t Ag (grab samples), up to 4.46 g/t Au across 3.8 m in DDH”.

**99:** The precise location of this uranium occurrence is not known. It was found during the late 1940s or early 1950s on the Lake Superior Mining Corporation claims. It was described as five parallel, radioactive fractures at a granite-greenstone contact. Radiometric analysis by the GSC gave up to 0.09% (1.8 pounds/st) U<sub>3</sub>O<sub>8</sub> equivalent (Robertson & Gould, 1983).

**178:** This occurrence of gold and molybdenum is in Pricemore Resources diamond drill hole PO-2, which reported 1.29 g/t Au across 1.0 m in biotite schist (Abolins, 1983).

**7:** This is a molybdenite occurrence in a quartz vein with no assay reported (Muir, 2000). It is perhaps significant that it is the first of a string of 8 molybdenite occurrences over a length of 1.6 km that continues outside the area of Figure 7. Molybdenite, being one of the unusual minerals associated with gold in the main Hemlo deposit exploited by the three gold mines, is one of the potential indicator minerals for gold that is actively sought by explorers in the Hemlo area.

## 8. Deposit Types

The Hemlo-type or similar style of gold mineralization is sought on the Hemlo South property. The term Hemlo-type refers to a unique gold deposit that is not typically known to occur in a greenstone belt setting (i.e., orogenic-type).

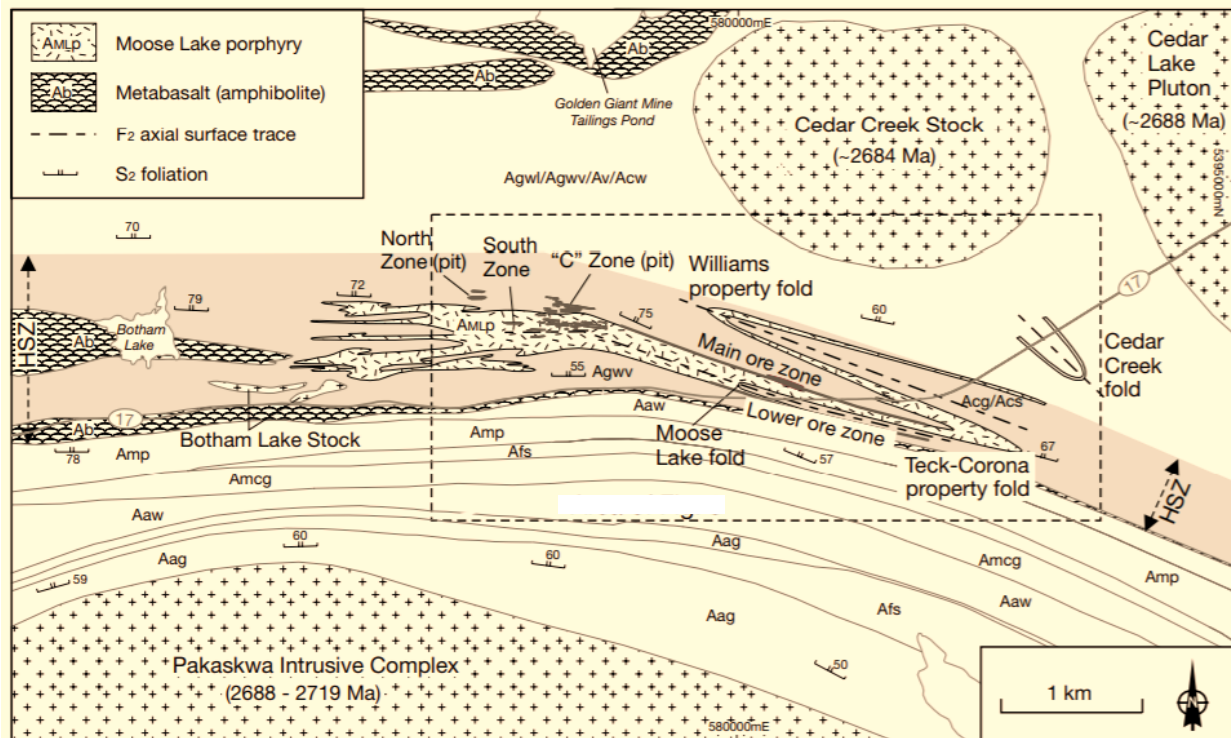
Muir (2002) who carried out for several years of regional and deposit scale studies of the Hemlo deposit with the Ontario Geological Survey (Muir 1997), preferred a shear zone model (also the similar view of the current authors) and interpreted the Hemlo deposit to be an atypical, mesozonal-orogenic, disseminated-replacement-stockwork deposit, broadly synchronous with D2 deformation and “middle” stage granitoid plutonism, before or synchronous with peak regional metamorphism, and involving magmatic±metamorphic fluids.

Figure 9 shows the litho-structural framework is thought to have played an important role in the emplacement of the Hemlo deposit (Lin, 2001a).

The Hemlo deposit was emplaced after the development of F2 folds defined by lithologic layering, synchronous with incipient development of D2 high strain zones during mid-D2, and in association with the development of a restraining bend in the Hemlo greenstone belt during sinistral transpression (Muir, 2002). The following account is excerpted from Muir (2002) which applies to deposits for all three mines located from east to west are David Bell, Golden Giant, and Williams mines.

Much of the mineralization is confined to high strain zones and spatially associated with the contact between porphyritic felsic volcanic (or porphyry intrusion?) and sedimentary rocks. Localization of hydrothermal fluid flow (e.g., silica and potassium-rich) was aided by competency contrast at the contact, strain softening in the developing high-strain zones, and formation of the restraining bend with induced dilation. The Hemlo deposit is spatially associated with and replaces felsic volcanic rocks of the Moose Lake volcanic complex, reworked volcanoclastic and epiclastic rocks, in increasing proportions, respectively. The deposit has undergone considerable progressive D2 ductile strain, including mylonitization, with a sinistral component, interpreted to reflect sinistral transpression. The mineralized zones are structurally controlled by D2 elements at a variety of scales, being broadly tabular and parallel to subparallel to S2 (and S2 mylonitic) fabrics. The deposit was further modified slightly by a D3, dextral transpressional event, in which the D2 high-strain zones localized much of the D3 strain. Dikes of numerous types crosscut the deposit. Strain and metamorphism have modified some characteristics of the deposit. More than one stage of mineralization has occurred.

The restraining bend marks general changes in many characteristics of the alteration and mineralization between what is termed the ‘Main Segment’ and the ‘West Segment’ (Muir, 2002). The ‘Main Segment’ is characterized largely by potassium metasomatism and replacement-style mineralization, whereas the ‘West Segment’ is noted for sodium (+calcium) and potassium metasomatism, as well as fracture-controlled mineralization. Mineralization consists predominantly of Au+Mo with anomalous Sb, As, V, and Ba. Barite is common in parts of the deposit, though its origin is contentious but considered to be part of the hydrothermal system.



**Figure 9:** Generalized sketch showing the structural outline of the Hemlo gold deposit area. HSZ: Hemlo shear zone (shaded area). Aag-amphibolitic gneiss/amphibolite, Afs-felsic schist (QFP), Aaw-amphibole-rich wacke, Amcg-conglomerate, Amp-pelite/graywacke, and Agwv-lower graywacke. Source: Lin (2001a)

The earlier interpretations of the Hemlo gold deposit transforming from being syngenetic (i.e. formed at the same time as the host rocks) to an epigenetic (i.e. introduced into pre-existing rocks) model, by 1991, brought the deposit into the same general class of the “normal” greenstone-type (i.e., orogenic-type) gold deposits. The apparent stratiform shape of the deposit was the main reason for the deposit being syngenetic in origin. However, the form of the deposit is a result of intense deformation, and current thinking assumes that the gold mineralization may represent the deep parts of an alkalic epithermal system (Barber, 2020).

The Hemlo gold deposit represents a potential deposit type sought on the Hemlo South Property. There is also a potential for conventional orogenic (or “greenstone-type”) gold mineralization. The main characteristics of greenstone-type gold deposits are:

1. host rocks are usually submarine mafic metavolcanic rocks, minor felsic intrusions (quartz-feldspar porphyry), clastic metasediments, iron formations, larger felsic intrusions, ultramafic volcanic and intrusive rocks, gabbro;
2. mineralization occurs as veins, vein clusters, or wall rock disseminations;
3. alteration usually confined to silica, carbonate, and sericite;
4. usually simple mineralogy with native (“free”) gold, and auriferous pyrite or other sulphide minerals. Associated elements are commonly restricted to arsenic (in arsenopyrite), boron (in tourmaline), tungsten (in scheelite), and zinc, lead, and copper (as sphalerite, galena, and chalcopyrite). Telluride

- minerals are abundant in a few gold deposits; and
5. close association with shear zones and a more general association with proximity to major tectonic zones, and a tendency to occur at or close to the volcano-sedimentary contact in greenstone belts where there are well-defined mafic volcanic sequences overlain by clastic sediments.

Geophysical features that can be useful in exploring orogenic/greenstone-type gold are IP and magnetic surveys (ground-based and airborne), which are invaluable in mapping lithology and structure.

## 9. Exploration

In 2014 and 2017, TRI/TGI carried out a helicopter-borne, time-domain electromagnetic, magnetic, and gamma-ray spectrometric survey (“geophysical survey”), and bored a single diamond drill hole (discussed under the heading of “Drilling” in Section 10), respectively on the Hemlo South Property. Most recently, between May and July 2020, TRI/TGI jointly conducted limited prospecting and a soil orientation survey on the Property. The following are a brief account of work performed by TRI/TGI between 2014 and 2020.

### 9.1 Geophysical Survey

The helicopter-borne geophysical survey (TD-EM, Magnetic, and Gamma-ray spectrometry) was flown by Prospectair Geosurveys of Gatineau, Québec. Flight line spacing was 100 m. The western part of the property was flown on the northwest to southeast lines, and the eastern part on the northeast to southwest lines, with an area of overlap in the centre.

#### 9.1.1 Results of Survey

Figure 10 shows the magnetic survey and EM anomalies (Dubé 2014). The only EM anomalies on the property are a string of weak conductors along the CPR track, reflecting either the track itself or a telegraph line. There are a few weak conductors just outside the north property boundary, probably responding to some of the inferred shear zones that show up on the older, frequency-domain survey. There is a cluster of stronger conductors outside the eastern property boundary, in the area where Harlin Resources and Hemlo Gold Mines drilled.

The magnetic map shows the volcano-sedimentary rocks of potential economic interest wrapping around the Pukaskwa batholith/gneissic complex. Four discrete magnetic anomalies have been identified and labeled M1 to M4. They are presumed to be caused by magnetite-bearing rocks and should be briefly examined to determine their petrology. At least two sets of diabase dykes, north and northwest-trends, are represented by long, linear anomalies of higher susceptibilities. They are of no economic interest.

The purpose of the gamma-ray spectrometer survey was to identify areas of alteration involving potassium enrichment. The two maps (Figure 11 and Figure 12) showing “equivalent potassium” (eK for short) and the potassium to thorium ratio, which is one of the better parameters to show potassium enrichment. The granodiorite and/or migmatite bodies are shown by grey shading; they are naturally potassium-rich rocks and their high potassium content is not a result of alteration.

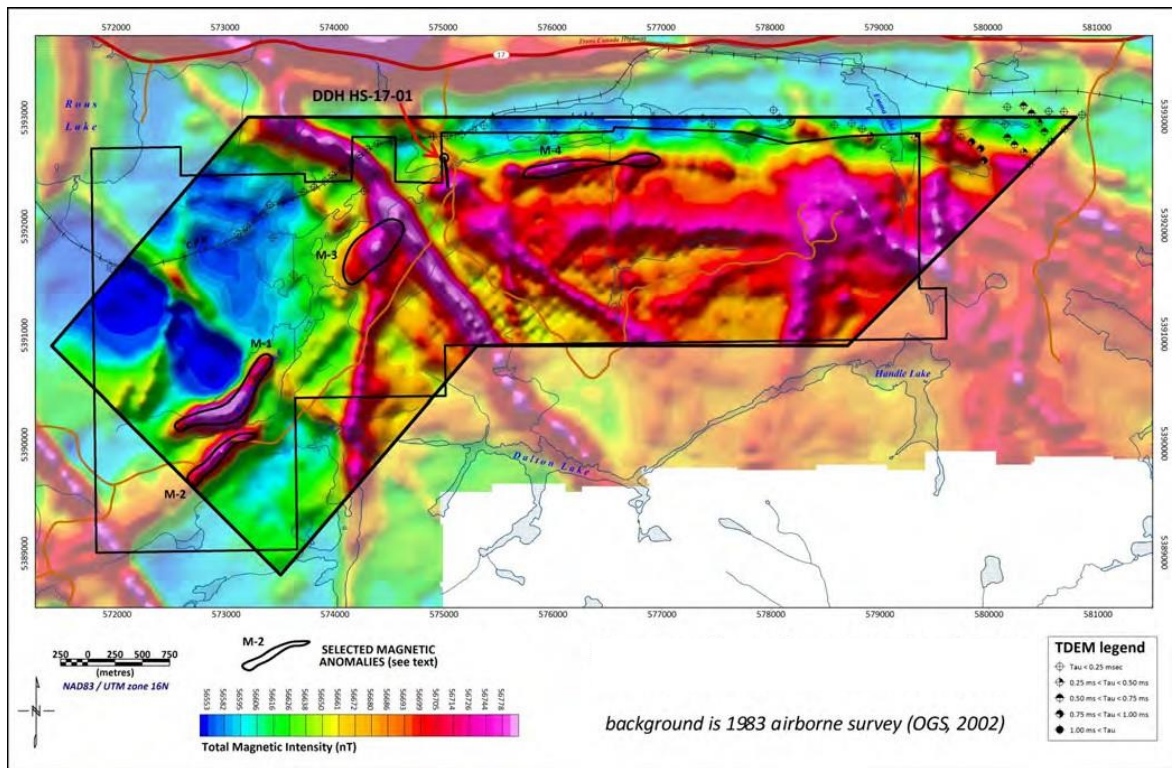
Figure 11 shows very low potassium content over lakes and swamps, where water has absorbed any gamma rays emitted by bedrock or soil. In Figure 11, the K/Th grid is dummied out over the bigger lakes, where radioactivity is so attenuated that ratios become meaningless.

Nine separate potassium anomalies have been identified within the volcanic and sedimentary rocks. They are labeled K-1 to K-9 and are based on high values of either or both of equivalent potassium or

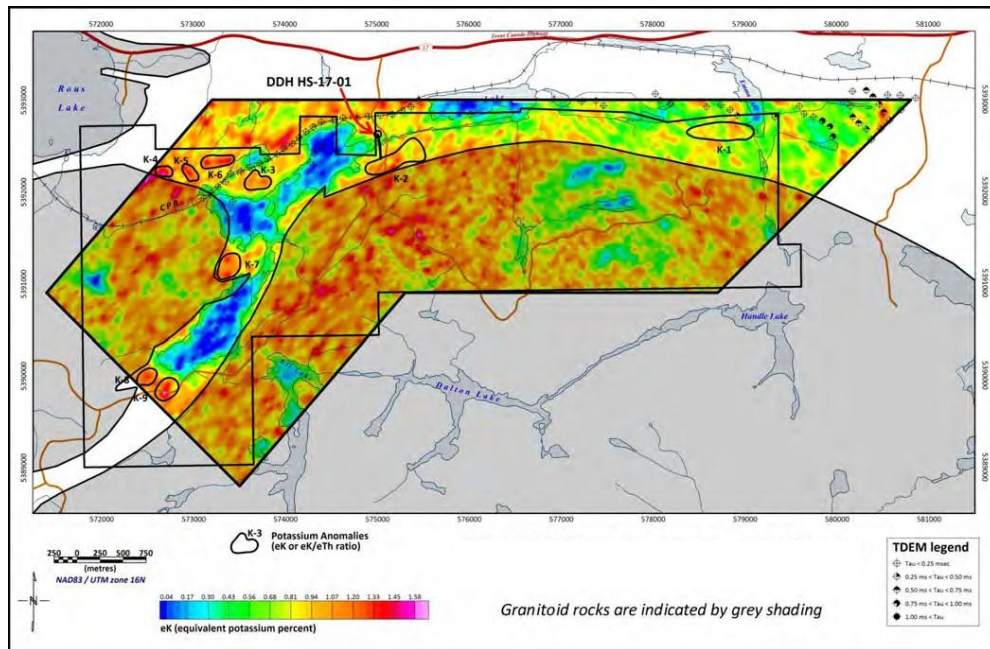


K/Th ratios. They may represent rocks with a high native potassium content, or particularly large areas of a bare outcrop, particularly on the tops of hills, or potassium alteration. Anomalies K-4 and K-9, in particular, register higher eK values than anywhere within the granodioritic bodies - 1.66% eK versus a maximum of 1.58% eK. They lie in relatively low ground and are hence not caused by bare hilltops of otherwise normal rock.

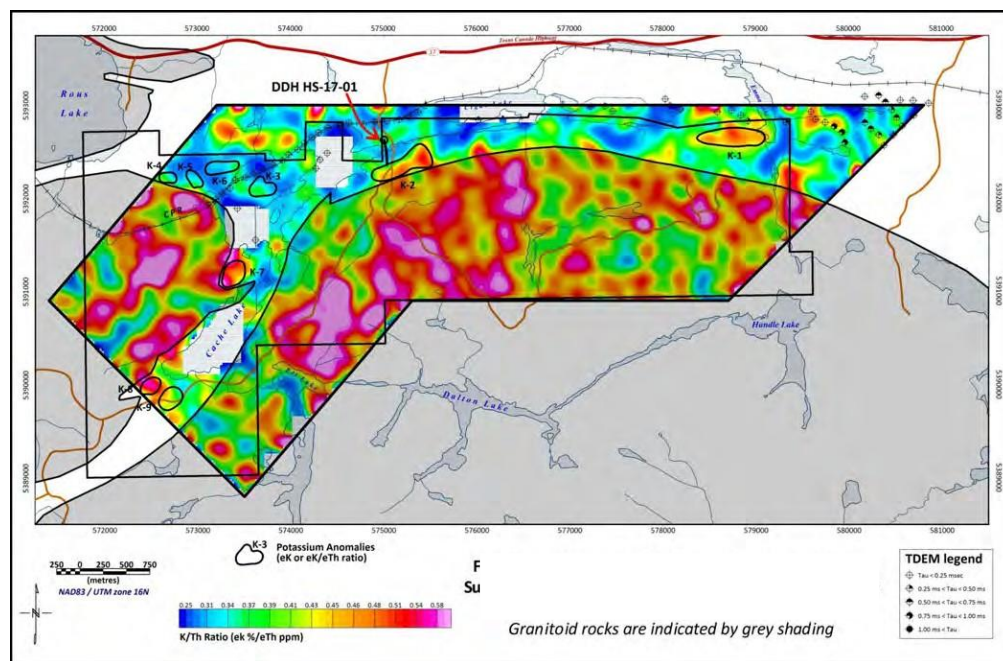
The K/Th ratio grid shown in Figure 12 has been aggressively smoothed to remove a lot of high-frequency noise. Note that anomalies K-3 to K-6 and K-9 do not show up on the ratio, although they are prominent on the eK map in Figure 13. This means that there are elevated thorium contents as well as elevated potassium in these areas. Because thorium is not mobile during hydrothermal processes, these anomalies are more likely to be caused by small felsic intrusions, possibly of (quartz-) feldspar porphyry, so they are still valid locations to prospect for gold. This area is underlain by metasediments with feldspar porphyry intrusions (Komarechka, 2006).



**Figure 10:** Helicopter-borne Magnetic and TDEM Electromagnetic Survey, Hemlo South Property.



**Figure 11:** Helicopter-borne Gamma-ray Spectrometry Survey Potassium Channel, Hemlo South Property.



**Figure 12:** Helicopter-borne Survey, Gamma-ray Spectrometry Survey, Potassium/Thorium Ratio, Hemlo South Property.

## 9.2 Prospecting and Soil Geochemical Orientation Survey

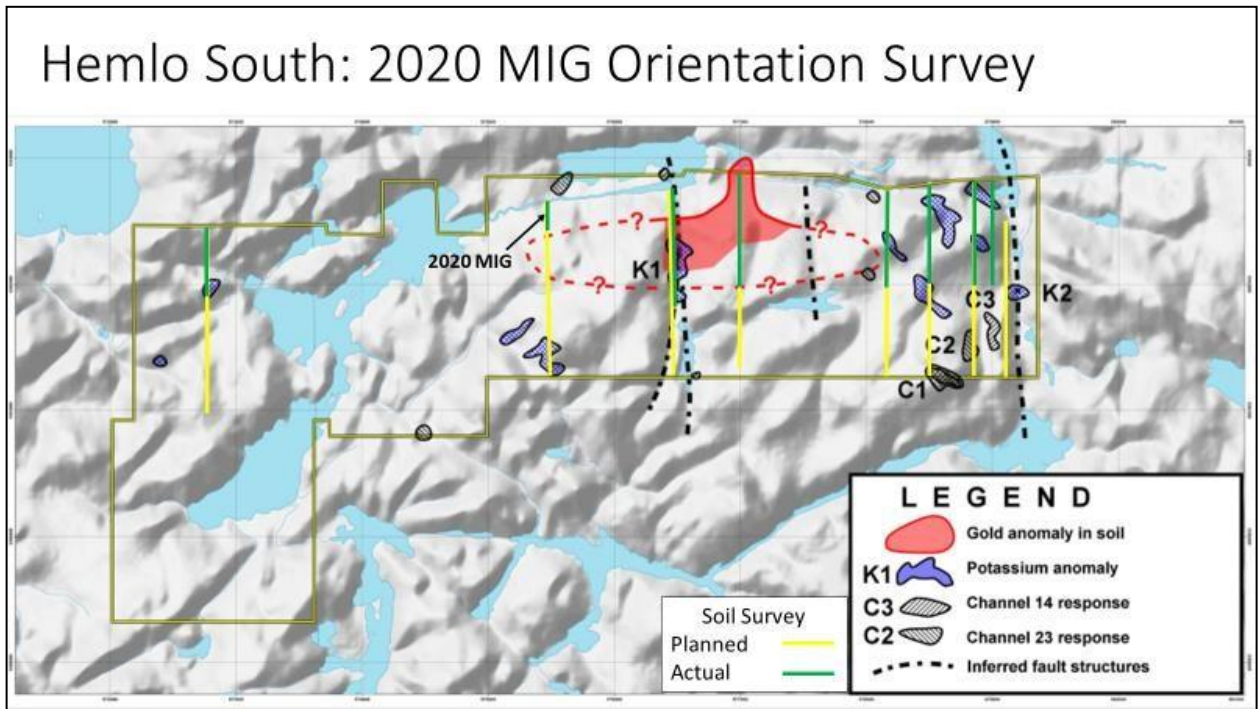
Between May and July 2020, TRI/TGI carried out limited prospecting and a soil geochemical orientation survey on the Hemlo South Property (Figure 13). The soil survey was conducted on flagged lines oriented north-south and correlating to UTM eastings 572800, 575450, 576500, 577000, 578200, 578500, 578800, and 579000. Line 572800E was 472 m long and Line 575450E was only 200 m long, while the rest of the lines were between 750-800m long. These gridlines covered the ground from the northern claim boundary across the contact between the mafic volcanic rocks and the Pukaskwa gneiss and well into the Pukaskwa rocks. Samples were taken every 25m along each line. Thirty-two (32) rock samples, 230 humus, and 155 B horizon samples were collected on a flagged grid and submitted to Activation Laboratories for Mobile Ion Geochemistry (MIG) analysis.

Prospecting reported having delineated at least two continuous sulphidic “horizons“ on the property (Barber, 2020). The first is associated with a shear zone occurring at the contact between the mafic volcanic rocks and clastic sediments consisting of arenites, siltstones, and mudstones. The second is best exposed at L578800E/5392365N. Disseminated pyrite and pyrrhotite occur within a finely banded siliceous and amphibolitic unit. Small quartz veins are also present and they and the sulphide-bearing unit exhibit Z drag folds, which appear to plunge to the west.

Another gossanous/sulphidic outcrop was found at L578500E/5392475N. The exposure is approximately 10 m across strike/with the sulphide-bearing material being spit by a feldspar-porphyry approximately 3 m thick. The unit consists of finely banded siliceous and amphibolitic material containing 2-3% disseminated pyrite and pyrrhotite, with a few small quartz veins.

Grab samples collected from these sulphidic horizons did not yield significant gold and other metals value. The highest gold assay obtained was only 12 ppb gold.

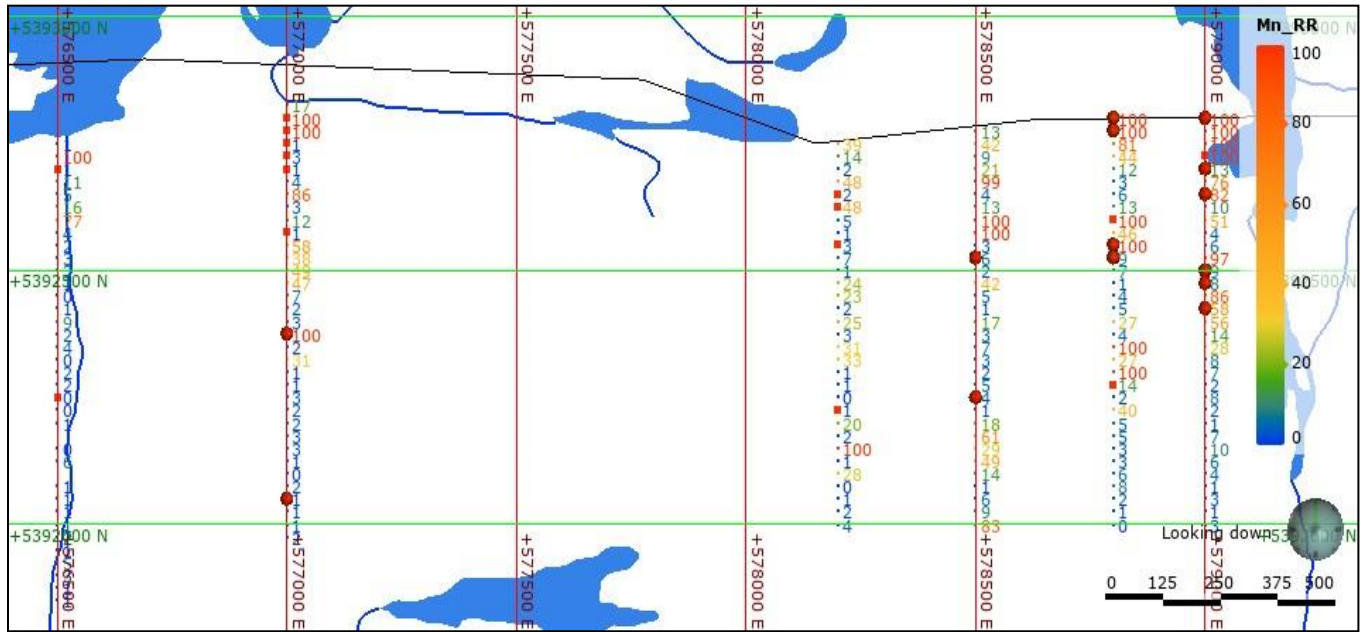
The soil geochemistry survey has been successful in obtaining several strong Au and/ or Ag anomalies. These anomalies are supported by responses in several other elements, such as Ba, Mn, Cu, W, Ca, and Zn. These occur in three areas, all in the eastern part of the property and one on the west side.



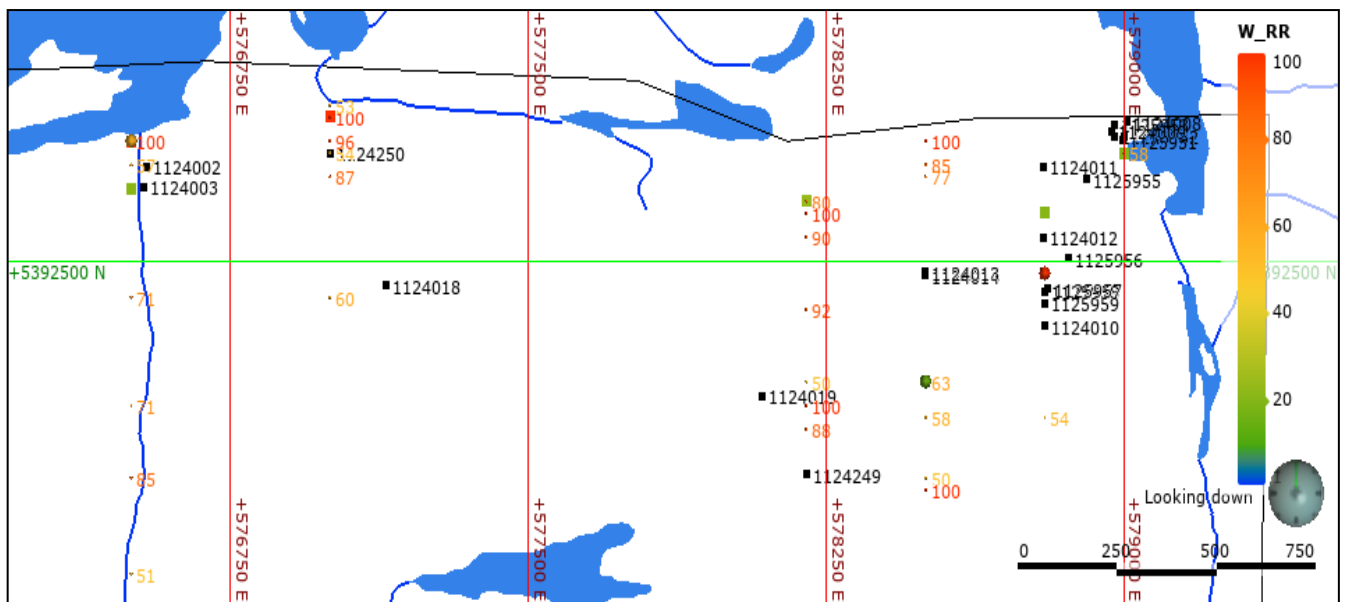
**Figure 13:** Grid map showing the areas and results of soil geochemical survey – Hemlo South Property. Source: Barber (2020).

1. A strong response of **Au** in humus samples is found near the north end of gridlines 578800E and 579000E, as well as at 5932425N on Line 579000E and 5392375N on gridline 577000E (Figure 14).
2. A strong response in **Au** was found at 578800E, 5392475N in B horizon, flanked by moderate responses in humus samples (Figure 15).
3. A roughly east-west trend is defined mainly by responses in **Ag**, which parallels a prominent valley.
4. Anomalous responses in **Ag, Cu, Mn, Ca, Zn** in the northwest corner of the property, on line 572800E.

Prospecting is recommended to locate the source of gold in soil anomalies as well as geological mapping and a detailed soil geochemistry survey, followed by trenching and drilling. An IP survey was also recommended that would help in determining the depth of drilling targets.



**Figure 14:** A composite plot of strongly anomalous response ratio (RR) in humus for Au (circles) Ag (squares) and Mn (dots with values)



**Figure 15:** A composite plot of strongly anomalous response ratio (RR) in B horizon for Au (circles) Ag (squares) and W (dots with values).

## 10. Drilling

In May 2017, TRI/TGI drilled a single diamond drill hole (HS17-01) on the Hemlo South Property. The drill hole is located in the northwest corner of the property, beside the access road that runs south from Highway 17 (*see* Figure 8).

The hole ( $170^{\circ}/-55^{\circ}$ ) was collared at 575002E/5392625N (NAD 83) and drilled (BTW core) to a depth of 422.5 m. Initially, the drill hole was planned to reach a depth of 700 m but unfortunately, it could not reach beyond 422.5 m, and the hole was terminated at that depth. The drill hole was surveyed for deviation with a Reflex digital survey instrument.

The main objective of this drilling was to assess the nature of the strike-parallel shear zones or faults interpreted to occur along with the contact between the supracrustal rocks and the Pukaskwa batholith of the gneissic complex (PGC). The hole intersected two lithologies, amphibolite schist (mafic tuff?) and schistose feldspar porphyry. Minor fine, disseminated pyrite occurs throughout the hole, in both schistose amphibolite and feldspar porphyry. There are also occasional quartz veins with crack-seal textures. Two types of alteration affected both units: silicification and hematization. Silicification is loosely associated with shearing, and both become more abundant towards the end of the hole (Figure 16). Hematization also tends to increase with depth. Minor amounts of very fine, disseminated pyrite occur throughout the hole, in both mafic tuff and feldspar porphyry.

Two narrow fault gouges are reported at 69.1-69.5 m, and 76.9-77.0 m, and are presumed to be the fault that runs along the creek draining from Cigar Lake into Cache Lake (Bowdidge, 2017, 2019).

The entire hole was split and assayed. No significant assay values have been reported.

# 11. Sample Preparation, Analysis, And Security

## 11.1 2017 Drilling

The following description of the sampling of the 2017 diamond drill hole (HS17-01) is excerpted from Bowdidge (2017, 2019).

Drill core was delivered by drill crews to the building rented by TRI in Marathon, which had core logging and cutting facilities. The core was stored in the secure building while it was being processed, and it was logged and marked for sampling by Gerry White, P.Geo.

The core was cut using a diamond-bladed rock saw, with half being returned to the core boxes and half placed in sample bags with bar-coded tags supplied by ALS Global, all under the direct supervision of Mr. White. Bagged samples were stored in the building, which was locked when it was

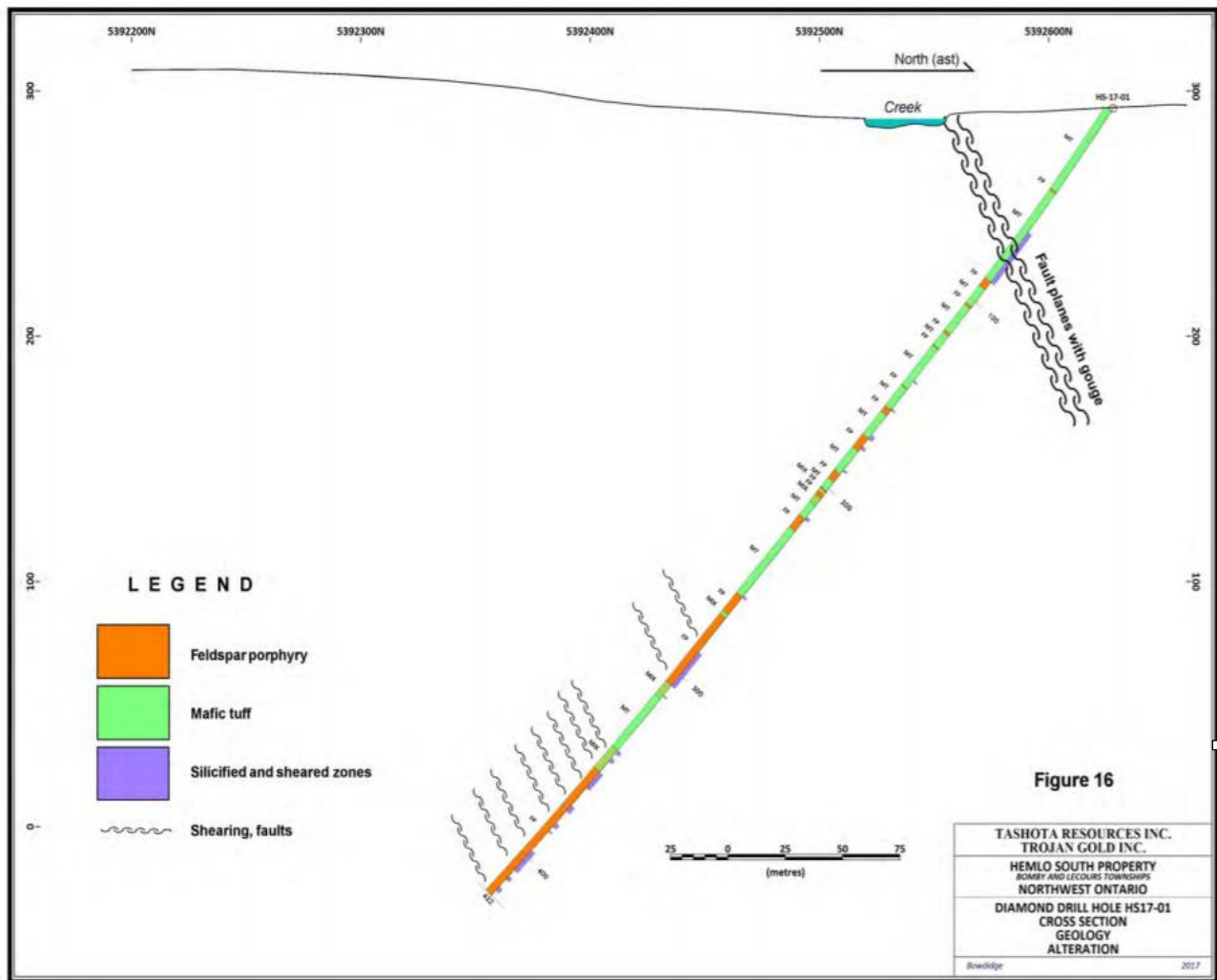


Figure 16: Cross Section of Diamond Drill Hole HS17-01.

unattended. Mr. White took samples, in three successive batches, to the ALS Global preparation facility in Thunder Bay, where they were crushed to 70% passing 10 mesh. A 100-gram split of crushed material was pulverized to 75% passing 200 mesh. The pulverized samples (pulp) were sent to the ALS Global assay laboratory in Vancouver, where they were analyzed using a standard fire assay procedure on 30-gram splits, with the gold-silver bead dissolved in aqua regia. The final analysis of the solution was by ICP-AES (Inductively coupled plasma atomic emission spectroscopy). ALS Global has ISO 17025-2005 certification.

Given the expectation that no major mineralized zones would be represented in assayed samples, the program relied on internal QA/QC procedures of the ALS Global laboratory. These included standards, blanks, and repeats, all reported with the assay certificate. The following table summarizes the results of the QA/QC procedure.

Out of 33 separate assays of standards, only one was outside the expected bounds, with a result about 11 percent low. Of 9 separate assays of the blank, one gave a result that was high by 0.001 g/t Au. Out of 12 primary/repeat pairs, all were within the acceptable range. The author considers that the QA/QC procedures demonstrate that the assay results are reliable and within acceptable limits.

INTERNAL LABORATORY STANDARDS, BLANKS AND REPEAT ASSAY, ALS GLOBAL, HEMLO SOUTH DRILL CORE (ALL GOLD ASSAYS IN G/T OR PPM)												
JOB No.		TB17097964				TB17098372				TB17103693		
STANDARD	Hi/Lo Bounds	Assay 1	Assay 2	Assay 3		Assay 1	Assay 2	Assay 3		Assay 1	Assay 2	Assay 3
CDN-PG MS18	0.555 0.552	0.552	0.555							0.493		
GPP-13		0.626				0.584	0.625	0.624		0.626	0.628	
LEA-16	0.532 0.470	0.499				0.476	0.521	0.503		0.493	0.509	
OREAS-904	0.049 0.041	0.046	0.044							0.044		
CDN-PG MS25	0.513 0.453	0.506				0.484	0.513	0.495		0.508	0.490	
Ox120	2.51 2.22	2.28	2.34							2.39		
PK2	5.07 4.50	4.87	4.97							4.92		
G912-1	7.73 6.85	7.18				7.46	7.37	7.08		7.38	7.48	
GAu-12a	0.023 0.019	0.019				0.020				0.019		
BLANK	0.002 <0.001	0.003	0.002	0.001		<0.001	<0.001	<0.001		<0.001	0.001	<0.001
INTERNAL LABORATORY REPEATS (SECOND SPLIT FROM PULP)												
Sample	Primary	Repeat			Sample	Primary	Repeat		Sample	Primary	Repeat	
W063033	<0.001	<0.001			W063114	<0.001	<0.001		W063201	<0.001	<0.001	
W063053	0.001	0.001			W063134	<0.001	0.001		W063221	<0.001	<0.001	
W063073	<0.001	<0.001			W063175	0.001	<0.001		W063260	<0.001	<0.001	
					W063195	<0.001	<0.001		W063280	<0.001	<0.001	
									W063308	<0.001	<0.001	

Note: Assay values in red are outside the high and low bounds of expected results for standards and blanks  
Repeat assays show Primary/Repeat pairs



## 11.2 2020 Soil Geochemistry Orientation Survey

The soil survey was carried out by Mr. R. Barber, P.Geo., a senior geologist with over 32 years of experience, of which, 18 years in the Hemlo area. Mr. Barber was responsible for all aspects of this survey, including but not limited to, sampling, security, and QA/QC procedures and interpretation of the results. The following account is partially taken directly from the report he prepared for TRI/TGI (Barber, 2020).

Soil samples were collected every 25 m interval along each flagged line-oriented north-south (correlating to UTM Eastings) as shown in Figures 13 to 15. The sampling was done for both the A and B horizon at each location. Field duplicates were made approximately every 20 samples. A total of 230 A horizon and 155 B horizon samples were submitted to the Activation Laboratories (Thunder Bay) for analysis.

Because raw analytical results vary greatly for different metals, from ppt level in the case of gold to ppm for Ca and K, results of Metal Ion Geochemical (MIG) analyses are commonly viewed as response ratios against a background value. First, values below the lower detection limit are replaced by values equal to ½ of the lower detection limit. The background value for each element is then calculated as the mean of the lower quartile. Response ratios (RR) are calculated by dividing the values for each element by the respective background values. The RR < 10 are considered background responses, between 11 and 20 indicates weak anomalies, between 21 and 50 moderate anomalies, and RR > 50 are considered strong anomalies. For presentation purposes, response ratios greater than 100 are typically capped at 100 so that weaker trends can be seen more clearly.

## 11.3 Field Duplicates

### ***A Horizon Duplicates:***

Field duplicates were taken approximately 1 in every 20 samples. At duplicate stations, approximately twice the normal volume of material was taken, the bag was closed and the sample homogenized as much as possible by shaking or kneading. Half of the sample was then transferred to another bag to make a duplicate.

Duplicate values were compared for selected elements and plotted. Duplicate values in humus are in general agreement for the important pathfinder elements like Ag, As, Cu, V, and Zn (Table 1). Mn shows the most variation but displays good distribution around a best-fit line. In general, the results of the duplicate samples are considered acceptable.

***Table 1: A horizon duplicates.***

A Horizon Duplicates										Correlation
Ag 1	0.1	0.1	0.6	0.2	8.9	0.3	0.1	0.1	0.7	
Ag 2	0.1	0.1	0.3	0.3	10	0.1	0.1	0.1	0.6	1
As 1	28.1	158	49.2	79.8	31.1	42.8	45.2	49.6	40.9	
As 2	34.1	139	47.4	83.1	31.8	43.5	47.1	53.8	36.8	0.99
Br 1	261	258	162	212	292	164	173	135	81	

Br 2	278	237	150	189	309	162	189	145	67	0.98
Cu 1	329	62.2	432	120	3590	413	540	385	1220	
Cu 2	299	98.7	455	130	3490	412	495	386	1060	1
I 1	35	91	50	56	148	34	33	53	53	
I 2	47	84	35	49	158	35	34	60	49	0.98
Mn 1	526	683	11300	590	11500	627	9550	1320	20500	
Mn 2	451	626	14900	623	3590	521	9730	1230	17500	0.9
V 1	82	193	155	234	78	83	87	115	91	
V 2	70	199	148	212	83	81	83	128	79	0.98
Zn 1	578	503	8320	1120	5900	2810	23900	16000	37500	
Zn 2	632	1270	8680	1250	4950	2660	22700	16100	35200	1

**B Horizon Duplicates:**

Field duplicates of B Horizon samples are likewise in general agreement for pathfinder elements (Table 2). Mn and V show the greatest variability but the overall correlation of Mn is quite high. As the background value for Mn is 594 ppb the observed variability would not significantly affect response ratios. The overall correlation for V is acceptable but lower than would be considered ideal. However, if the outlier is removed then the correlation coefficient increases to 0.97. Overall, the results of field duplicates are acceptable.

**Table 2: B horizon duplicates.**

										Correlation
Ag 1	0.1	3.4	2.9	2	8.9	0.9	1.8	1		
Ag 2	0.1	3.2	3.8	2.4	9	1	1.7	0.7		0.99
As 1	10.2	20.4	20.5	10.2	8.9	9.3	9.6	21.1		
As 2	10	21.8	16.9	11.6	9.1	10.3	8.9	14.6		0.88
Br 1	110	259	363	283	640	198	243	126		
Br 2	110	255	419	349	688	235	245	81		0.99
Ca 1	17	16	14	19	5	22	24	72		
Ca 2	16	20	22	18	5	22	27	100		0.99
Cu 1	277	225	152	376	564	158	103	149		
Cu 2	271	203	190	364	589	178	105	149		0.99
I 1	37	72	129	179	275	51	70	31		
I 2	39	66	159	220	280	64	61	18		0.98
Mn 1	146	670	504	859	167	335	318	942		
Mn 2	145	676	384	971	176	384	356	1240		0.97
V 1	79	35	63	53	37	38	31	159		
V 2	79	37	69	57	37	54	24	85		0.81
Zn 1	117	1080	219	270	161	403	354	588		
Zn 2	99	1070	250	312	201	418	451	866		0.96

## **12. Data Verification**

Historical data presented in this report are taken from reports filed for assessment credit by companies that worked on the property in the past, and from government geological reports and data compilations. All sources have been properly cited. The reports all appear to represent normal course exploration activities, and there is no reason to anticipate any misrepresentation. No procedures have been taken by the authors to verify any of the data.

Information concerning production, reserves, and resources at the Williams gold mine, owned and operated by Barrick Gold, are in the public domain, and available on the SEDAR website. No attempt was made by the authors to verify such data.

The exploration activities between 2014-2020 carried out on the Hemlo South Property by TRI/TGI were the 2014 geophysical (airborne electromagnetic, magnetic and spectrometric survey) and soil geochemical surveys (MIG) described above under the heading “Exploration”. The core drilling conducted in 2017 by TRI/TGI is described under the heading of “Drilling”. Quality control procedures were applied to the airborne survey data by Dubé & Desaulniers Geoscience and are described in the technical report by Dubé (2015). The authors consider that those procedures were adequate for the survey to which they were applied. Similarly, the authors consider that the results of the drilling carried out in 2017 and soil geochemical survey in 2020 do not need further verification, based on the internal quality control procedures practiced by the assay laboratory, as described above.

## **13. Mineral Processing And Metallurgical Testing**

The Hemlo South property is an early-stage exploration prospect. No mineralized zones are known to occur on the Property. No mineral processing or metallurgical testing has been performed; none would be possible at the present stage of exploration on the property.

## **14. Mineral Resource Estimates**

The Hemlo South Property is an early-stage exploration prospect. No mineralized zones are known on the property. No mineral resource estimates have been made; none would be possible at the present stage of exploration on the property.

## **15. Mineral Reserve Estimates**

There are no mineral reserve estimations on the Hemlo South Property at this stage.

## **16. Mining Methods**

There is no mining on the Hemlo South Property at this stage.

## **17. Recovery Methods**

Recovery methods are not applicable at this stage.

## 18. Project Infrastructure

There is no project infrastructure on the Hemlo South Property at this stage.

## 19. Market Studies And Contracts

There have been no market studies or contracts on the Hemlo South Property at this stage.

## 20. Environmental Studies, Permitting and Social or Community Impact

Not applicable at this stage.

## 21. Capital and Operating Costs

There have been no capital and operating cost studies done for the Hemlo South Property at this stage.

## 22. Economic Analysis

There is no economic Analysis for the Hemlo South Property at this stage.

## 23. Adjacent Properties

Properties adjacent to the Hemlo South Property referred to in this report under the heading of “History of Hemlo South Property” include Harlin Resources, Pricemore Resources, and Bellair Resources. Currently, part of these properties, to the east and north, are held by Barrick Gold Inc (*see* Figure 3 and Figure 4). Exploration work carried out on these properties by relevant companies is briefly discussed above under the headings of “History” and “Geological Setting and Mineralization”.

The Hemlo gold deposit and its geological and mineralogical characteristics have been referred to several times in this report. It lies on the property held by Barrick Gold Inc., which encompasses the Williams Mine and the former producing Golden Giant and David Bell mines, and which adjoins the Hemlo South property to the north (*see* Figure 3). The discovery of the 20-plus million ounces Hemlo gold deposit dominated the history of the area, and an understanding of the nature of the Hemlo gold deposit and its geological environment is important to an appreciation of the geology of the Hemlo greenstone belt in general.

When the authors referred to adjacent properties or areas outside the Hemlo South Property, every attempt was made by the authors to distinguish that information from information on the Hemlo Property itself. It is again emphasized that the adjacent properties listed above are separate from the Hemlo South property. ***It is further emphasized that the presence of mineralization on adjacent properties does not imply the existence of mineralization on the Hemlo South property.***

The authors made no effort to verify any of the information on adjacent properties.

## 24. Other Relevant Data And Information

The authors are not aware of any other relevant data or information, which would be required to make this technical report more understandable and not misleading.

## 25. Interpretation And Conclusions

The Hemlo South Property is located in proximity to the current and past producing Hemlo gold mines, which have produced collectively over 20 plus million ounces of gold to date. The discovery of this giant deposit dominated the history of the area, and an understanding of the nature of the Hemlo gold deposit and its geological environment is important to appreciate the geology of the Hemlo greenstone belt.

The Hemlo South Property covers the contact between the Pukaskwa Gneissic Complex (PGC), presumably a partially remobilized basement, and the volcano-sedimentary rocks of the Hemlo greenstone belt. Historical mapping of both Property and adjacent areas (e.g., Lin, 2001, Muir, 2000), plus the recent prospecting/mapping by TRI/TGI suggests the Property is mainly underlain by strongly foliated, amphibolitic mafic volcanic and clastic metasedimentary rocks. Some of these rocks are interlayered with quartzo-feldspathic banded sediments, resembling in appearance to banded sediments exposed along Highway 17, in the footwall stratigraphy of the Hemlo deposit (Barber 2020). Mappable outcrops of feldspar (+quartz) porphyry are also mapped within the volcano-sedimentary sequences on the Property.

The granite-greenstone contact zone is generally considered a potential location for the development of large-scale shear zones and associated splays (Robert et al., 1994) where hydrothermal fluids may have been channeled through. A similar setting exists between the sheared supracrustal-PGC contact on the Hemlo South Property which may present an opportunity to find a potential shear zone hosted gold mineralization on the Property. Several strike-parallel fault/shear structures occur at the contact between the PGC and the overlying mafic metavolcanic rocks, as well as within the PGC, and between the volcanic-sedimentary sequences. Recent prospecting/mapping by TRI/TGI identified two sulphidic horizons, of which, one is associated with a shear zone at the mafic volcanic-sedimentary contact traceable from Cache Lake through the long peninsula in Cigar Lake to the bay at the south end of Emma Lake (Barber, 2020). Historical exploration in the Cache Lake area (Kuhns, 1984; Komarechka, 2006) also refers to and describes the intensely developed schistosity and/or shearing in metasedimentary rocks in the Cache Lake area. The second horizon is best exposed at L578800E, 5392365N. Disseminated pyrite and pyrrhotite occur within a finely banded siliceous and amphibolitic unit. Small quartz veins are also present and they and the sulphide-bearing unit exhibit Z-drag folds, which appear to plunge to the west. This unit can be traced intermittently along a low outcrop ridge for at least 50 m. Shearing in combination with volcanic-sedimentary inter-layering indicates a potentially favourable environment for greenstone-type gold deposition in many greenstone belts (Poulsen, 2013) hence a similar possibility exists on the Hemlo South Property.

The conglomerate has yet to be found on the Property. This lithological unit is considered by some to be of significance in the Hemlo and other gold camps (Poulsen, 2013). The presence of local conglomerate in the Hemlo greenstone belt is possibly indicative of structural activity during sedimentation; the implication for mineral potential is that hydrothermal activity might be channeled in fault structures causing local uplift and the development of coarse sedimentary rocks (conglomerate) (Bowdidge, 2019). Detailed mapping should be conducted to see if this unit occurs on the Property.

Porphyries (QFP/FP) have been mapped on the surface (Barber, 2020, Yeomans and Bradshaw, 1982) and are also intersected in the drill hole (e.g., HS17-01, Figure 16) on the Property. The diamond drill hole intersected 15 separate feldspar porphyry zones, ranging from less than 1 m to 70 m core length. The presence of porphyries is a good indication for potential greenstone-type gold deposits to occur on the Hemlo South Property. Because porphyries are often associated with gold deposits in greenstone belts.

The recent soil geochemical orientation survey conducted by TRI/TGI has successfully delineated strong Au and/ or Ag anomalies on several lines (e.g., UTM-associated gridlines 578800E and 579000E, as well as at 5932425N on Line 579000E and 5392375N on gridline 577000E). These anomalies are also supported by responses in several other elements, such as Ba, Mn, Cu, W, Ca, and Zn. These soil geochemical anomalies occur in three main areas, all in the eastern part of the property and one on the west side (*see* Figures 13 to 15). The current survey represents a small part of the Property and it should be expanded to cover a larger area and more detailed soil geochemistry survey. If the expanded survey gives similar or better results then they should be investigated further by prospecting/mapping and geophysical surveys (e.g., IP) to locate the source of the anomalies. An IP survey would be a useful tool in determining the depth of drilling targets.

Airborne geophysical surveys (magnetic and electromagnetic) tend to respond well with strike-parallel shear zones both on and adjacent areas of the Hemlo South Property. The magnetic map shows (Figure 10) the volcano-sedimentary rocks of potential economic interest wrapping around the PGC. Four discrete magnetic anomalies have also been identified and labeled M1 to M4. They are presumably caused by magnetite-bearing rocks but their lithologies are unknown. These anomalies should be investigated by prospecting/mapping to assess if they have the potential of gold mineralization. At least two sets of diabase dykes, north and northwest-trends, are well defined by long, linear anomalies of higher magnetic susceptibilities, but are of no economic interest.

Nine separate potassium anomalies have been identified within the volcanic and sedimentary rocks in the gamma-ray (Figure 11 and Figure 12). They are labeled K-1 to K-9 and are based on high values of either or both of equivalent potassium or K/Th ratios. They may represent rocks with a high native potassium content, or particularly large areas of a bare outcrop, particularly on the tops of hills, or potassium alteration. Anomalies K-3 to K-6 and K-9 do not show in Figure 11 but are present in Figure 12 which means they contain high thorium content. Since thorium is not mobile during hydrothermal processes, these anomalies are more likely to be caused by small felsic intrusions, possibly of (quartz-) feldspar porphyry, so they are still valid locations to prospect for gold. This area is known to be underlain by metasediments with feldspar porphyry intrusions.

It is concluded that the Hemlo South property has significant, untested potential to host greenstone-type gold mineralization.

## 26. Recommendations

The following recommendations are made for an effective exploration program on the Hemlo South Property. A two-phase exploration program is proposed: phase 1 to develop drill targets, and phase 2 drilling program is to test them.

### Phase 1

Phase 1 should include the following programs:

As a follow-up to 2020 prospecting it is recommended that a detailed geological mapping program using GPS-controlled, flagged lines be done. Vigorous prospecting is recommended, especially in the northeastern portion of the Property, focusing on the recently identified sulphide horizons and in the areas of moderate to strong gold and silver soil geochemical anomalies, and their vicinity. The detailed mapping should be accompanied by careful measurements of structural elements, including, but not limited to schistosity/foliation, lineations that could be of help in defining large-scale shear and fold structures of potentially concentrated mineralization sites.

Since the results of the 2020 soil geochemical orientation survey proved successful in obtaining moderate to strong gold and silver anomalies, a more thorough and complete soil geochemistry survey (MMI) is recommended which would help define both known and new anomalous areas of Au/Ag on the Property. Lines should be extended to cover more of the Pukaskwa Gneiss Complex (PGC). Hundred-metre (100m) line spacing, with samples every 20m is recommended. The areas of strong anomalies warrant further investigations by prospecting and geological mapping to locate the source of the anomalies. An IP survey would be a useful tool in determining the depth of drilling targets.

### Phase 2

It is recommended that the second phase of exploration, involving 2,000m of diamond drilling, be done to test favourable results from Phase 1. It is anticipated that the Phase 1 program could be completed in the Fall of 2021 followed by drilling in Phase 2.

The following table gives a summary budget for the recommended phases of exploration at Hemlo South Property.

## Phase 1 Exploration Program

Item	Units	Quantity	Unit Cost	Subtotal (\$CAD)
MMI Analysis	24 km	700	33.5	23,450
Sample QC	5%	35	33.5	1,173
Follow-up	5%	35	33.5	1,173
Materials	Bags, tags, etc.	60	10	600
Field Crew*	25 days	25	1100	27,500
Vehicle	6 weeks	6	620	3,720
Mileage	Included			0
Mapping	20 days	20	1100	22,000
Assaying	100 Au+Trace	100	31.5	3,150
Hotel+Meals**	45 days	45	150	6,750
<b>Subtotal</b>				<b>89,515</b>
Report	10 days	10	750	7,500
Contingency	15%			9,558
<b>Total</b>				<b>106,573</b>

\* Geologist @ \$750/day + student @\$350/day. Also includes 5 days of selective prospecting mapping.

\*\* Assumes at least one person will be from out of town.

## Phase 2 Exploration Program – Diamond Drilling

Item	Units	Quantity	Unit Cost	Subtotal (\$CAD)
Drilling	8 holes	2000	150	300,000
Mob/Demob		1	30000	30,000
Drill Moves	20 hrs x \$80/hr	7	1600	11,200
Helicopter	N/A		0	0
<b>Subtotal</b>				<b>341,200</b>
Logging+Oversight	25 days	25	750	18,750
Core Cutting		1400	10	14,000
Gold Assays		1500	31.5	47,250
WR + Trace		150	70	10,500
Core Shack	1 month	1	2000	2,000
Vehicle	3 weeks	2	620	1,240
Mileage	1200 km	1200	0	0
Report	10 days	10	750	7,500
<b>Subtotal</b>				<b>101,240</b>
Contingency	15%			66,366
<b>Total</b>				<b>508,806</b>



## 27. References

- Abolins, U., 1983. Pricemore Resources, Hemlo Area Claims, Bomby Township, Sault Ste Marie Mining Division, Ontario. Pricemore Resources Geochemical Survey, Hemlo-Bomby Township Property. In ENDM Assessment File AFRI No. 42C12NW0180, 42C12NW0064.
- Barber, R., 2020. Report on Prospecting and MIG Soil Orientation Survey on the Hemlo South Property of Tashota Resources Inc. and Trojan Gold Inc., Bamby and Lecours Townships, Ontario, Unpublished Report, 28p.
- Bowdidge, C. (2017). Technical Report on the Hemlo South Property, Bamby and Lecours townships, Northwest Ontario; Prepared for Tashota Resources Inc. and Trojan Gold Inc., 47p.
- Bowdidge, C. (2019). Technical Report on the Hemlo South Property, Bamby and Lecours townships, Northwest Ontario; Prepared for Tashota Resources Inc. and Trojan Gold Inc., 51p.
- Born, P., 1984a. Pricemore Resources Geochemical Survey, Hemlo-Bomby Township Property. In ENDM Assessment File AFRI No. 42C12NW0088, AFRO No. 2.6301.
- Born, P., 1984b. Pricemore Resources Geological Survey, Hemlo-Bomby Township Property. In ENDM Assessment File AFRI No. 42C12NW0104, AFRO No. 2.6302.
- Bradshaw, R.J., 1982. Diamond Drill Logs, DDHs H-82-1 to H-82-4. In ENDM Assessment File AFRI No. 42C12NW0151. Brown, P., Chong, A. Kusins, B., and McNena, K., 1991. Geology of the Golden Giant Mine, *in* Franklin, J.M., Schnieders, B.R. & Koopman, E.R. (Eds.) Mineral Deposits in the Western Superior Province, Ontario. Geological Survey of Canada Open File 2164, pp 39-50.
- Carlson, H.D., 1982. Progress Report on Mineral Exploration of Bel-Air Resources Ltd in the Hemlo Area, District of Thunder Bay, Ontario in the Period October 4<sup>th</sup> - November 27<sup>th</sup>, 1981. In ENDM Assessment File AFRI No. 42C12NW0147, AFRO No. 2.5188.
- Coker, W.B., and DiLabio, R.N.W., 1987. Geochemical Exploration in Glaciated Terrain: Geochemical Responses. *In* Proceedings of Exploration '87. Ontario Geological Survey Special Volume 3, pp 336-383.
- Corfu, F., and Muir, T.L., 1989. The Hemlo-Heron Bay Greenstone Belt and the Hemlo Au-Mo Deposit, Superior Province, Ontario, Canada: I Sequence of Igneous Activity Determined by Zircon U-Pb Geochronology. *Chemical Geology*, Volume 79, pp. 183-200.
- Coster, I., Cairn, N. & Middleton, R.S., 1984. Geological and Geophysical Report on the Melrose Resources Ltd. Property, Hemlo Gold Region, Rous Lake, and Molson Lake Area, Thunder Bay Mining Division, Ontario. In ENDM Assessment Report, AFRI No. 42D09NE0013, AFRO No. 63.4580.
- Davis, D.W., and Lin, S., 2003. Unravelling the Geologic History of the Hemlo Archean Gold Deposit. *Economic Geology*, Volume 98, pp. 51-67.

- Deevy, A.J., 1984a. Technical Report on Mining Claims (for Bel-Air Resources Ltd.). In ENDM Assessment File AFRI No. 42C12NW0092, AFRO No. 2.6460.
- Deevy, A.J., 1984b. Westfield Minerals Limited, Bel-Air Project, Hemlo. Project 468, Exploration Report 1983. . In ENDM Assessment File AFRI No. 42C12NW0179, AFRO No. 2.6526
- Dubé, 2014. Technical Report, Heliborne Magnetic, Spectrometric and TDEM Survey, Hemlo South Project. In ENDM Assessment Report AFRO No. 2.55774.
- Grant, J.W., 1989. Results of the Summer and Fall, 1988 Exploration on the Bomby Properties, Hemlo, Ontario. In ENDM Assessment File AFRI No. 42D09NE0097, AFRO No. 2.12213.
- Hall, R.S., 1988. Results of the 1987-1988 Exploration Program of the Bomby Claim Group, Bomby Township, Ontario. In ENDM Assessment File AFRI No. 42C12NW0176, AFRO No. 2.6336.
- Harris, D.C., 1989. The Mineralogy and Geochemistry of the Hemlo Gold Deposit, Ontario. Geological Survey of Canada Economic Geology Report 38, 91 pp.
- Hart, M. 1986. Inside Canada's New Gold Rush (Paperback), January 1986.
- Heaman, L.M., and Machado, H., 1987. Isotope Geochemistry of the Coldwell Complex I – U-Pb Studies on Accessory minerals. *In* Program with Abstracts, Joint Annual Meeting, Geological Association of Canada – Mineralogical Association of Canada, Volume 12, 54 pp.
- Jackson, S.I., Beakhouse, G.P., and Davis, D.W., 1998. Regional Geological Setting of the Hemlo Gold Deposit: An Interim Progress Report. Ontario Geological Survey, Open File Report 5977, 151 pp.
- Komarechka, R.D., 2006. Geological and MMI Geochemical Report of the GMX and Mussy Lake Properties, Lecours, Bomby Townships and Mussy Lake Area. Geochemical Survey, Hemlo-Bomby Township Property. In ENDM Assessment File AFRI No. 2002959, 20005960 (Alternative AFRI No. 20000001782). AFRO No. 2.33527.
- Kuhns, R.J., 1984. Geological Assessment Report, Pryme South Joint Venture, Thunder Bay District. In ENDM Assessment File AFRI No. 42D09NE0104, AFRO No. 2.8464.
- Lin, S., 2001a. Geology, the Hemlo Gold Camp, Ontario. Geological Survey of Canada Map 1975A, 1:10,000.
- Lin, S., 2001b. Stratigraphic and Structural Setting of the Hemlo Gold Deposit, Ontario, Canada. Economic Geology, Volume 96, pp. 477-507.
- Muir, T.L., 1980. Geology of the Hemlo Area, District of Thunder Bay. Ontario Geological Survey Open File Report 5280, 78 pp, includes maps.
- Muir, T.L., 1982. Geology of the Hemlo Area, District of Thunder Bay. Ontario Geological Survey Report 217, 85pp. Accompanied by Map 2452.

- Muir, T.L., 1993. Geology of the Hemlo Gold Deposit Area. Ontario Geological Survey Open File Report 5877, 264 pp.
- Muir, T.L., 1997. Precambrian Geology, Hemlo Gold Deposit Area; Ontario Geological Survey Report 289, 219 pp., Accompanied by Maps 2602 to 2609, 1:5,000 scale, Map 2629, 1:20,000 scale.
- Muir, T.L., 2000. Geological Compilation of the Eastern Half of the Schreiber-Hemlo Greenstone Belt. Ontario Geological Survey Map M2614, 1:50,000 scale.
- Muir, T.L., 2002a. Muir, T.L., Schnieders, B.R. & Smyk, M.C., 1995 (Compilers and Editors). Geology and Gold Deposits of the Hemlo Area; Geological Association of Canada - Toronto '91, Hemlo Field Trip Guidebook, 120 pp.
- Muir, T.L., 2002. The Hemlo Gold Deposit, Ontario, Canada: principal deposit characteristics and constraints on mineralization. Ore Geology Reviews, Volume 21, Issues 1-2, p.1-66.
- OGS, 2002. Ontario Airborne Geophysical Surveys, Magnetic and Electromagnetic Data, Hemlo Area. Ontario Geological Survey Geophysical Data Set 1207 rev.
- Osmani, I.A., Durdevic, Z., and MacTavish, A., 1997a. Geological report on the Rous Lake property, Hemlo area, Northern Ontario, prepared for Homestake Canada.
- Osmani, I.A., Durdevic, Z., and MacTavish, A., 1997b. Geological report on the White Lake property, White Lake area, Northern Ontario. prepared for Homestake Canada, 23p.
- Osmani, I.A., Durdevic, Z., and MacTavish, A., 1997c. Geological report on the Spruce Bay property, White Lake area, Northern Ontario. prepared for Homestake Canada, 27p.
- Osmani, I.A., MacTavish, A., and Samson, J., 1997d. Ground Magnetic Survey Report, White Lake Property, White Lake Area (North Part), Thunder Bay Mining Division. Prepared for Homestake Canada, 16p.
- Osmani, I.A., MacTavish, A., and Samson, J., 1997e. Ground Magnetic Survey Report, Spruce Bay Property, White Lake Area (North Part), Thunder Bay Mining Division. Prepared for Homestake Canada, 15p.
- Poulsen, K.H., 2013. Greenstone Gold. Notes for a Short Course, Lakehead University, February 2013.
- Puumula, M.A., Campbell, D.A., Tuomi, R.D., Debicki, R.L., Wilson, A.C., Moses, P., and Brunelle, M.R., 2014. Report of Activities, 2013, Resident Geologist Program, Thunder Bay South Regional Resident Geologist Report. Ontario Geological Survey Open File Report 6293, 71 pp.
- Robert, F., Poulsen, K.H., and Dubé, 1994. Notes for a Short Course on Structural Analysis of Ore Deposits, Ottawa, January 19-21, 1994. Unpublished.
- Robertson, J.A., and Gould, K.L., 1983. Uranium and Thorium Deposits of Northern Ontario. Ontario Geological Survey Mineral Deposits Circular 25, 152 pp.

- Ross, D.M., 1982. Report on Geophysical Surveys on Property of Harlin Resources Ltd., Hemlo Area, Northwestern Ontario. In ENDM Assessment File AFRI No. 42C12NW0120, AFRO No. 2.5743.
- Shives, R.B.K., Ford, K.L., and Charbonneau, B.W., 1995. Applications of Gamma-Ray Spectrometric/Magnetic/VLF-EM Surveys. Geological Survey of Canada Open File 3061, 85 pp.
- Stott, G.M., Corkery, M.T., Percival, J.A., Simard, M., and Goutier, J., 2010. A Revised Terrane Subdivision of the Superior Province, *in* Summary of Field Work and Other Activities 2010, Ontario Geological Survey Open File Report 6260, pp 20-1 to 20-10.
- The Northern Miner, 1983. The Geochronological Story of the Hemlo Gold Camp as it appeared in The Northern Miner. Northern Miner Press Limited, Toronto, Ontario, 24pp.
- Thomson, J.E., 1932. Geology of the Heron Bay area, District of Thunder Bay; Ontario Department of Mines, Annual Report, 1931, v.40, pt.2, pp.21-39.
- Tims, A.A.B., 1996. Diamond Drilling Report on the Bomby-Walton Property, Bomby Township, Thunder Bay Mining District. In ENDM Assessment File AFRI No. 42C12NW0019.
- Yeomans, W.C., and Bradshaw, R.J., 1983. Geological Survey and Sampling on the Property of Harlin Resources Ltd., Bomby Township, Hemlo Area. In ENDM Assessment File AFRI No. 42C12NW0120, AFRO No. 2.5743.
- Zoltai, S.C., 1965. Thunder Bay, Surficial Geology. Ontario Department of Mines Map MS265.

## 28. Certificates of Qualifications

I, Ikramuddin (Ike) A. Osmani, P. Geo., as an author of this report entitled “NI 43-101 Technical Report on the Hemlo South Property, Bomby and Lecours Townships, Northwest Ontario”, dated January 29, 2021, do certify that:

1. I operate under the business name of Faarnad Geological Consulting Inc. (FGC Inc.), a company independent of Tashota Resources Inc./Trojan Gold Inc. The business address of FGC Inc. is:  
  
1803-5611 Goring Street  
Burnaby, British Columbia  
V5B 0A3
2. I am a graduate of Lucknow University, Lucknow, India, with a Bachelor of Science Degree in Geology (1971).
3. I hold a Master of Science Degree in Geology from Aligarh Muslim University, Aligarh, India (1973).
4. I hold a Master of Science degree in Geology with a major in Geophysics from the University of Windsor, Ontario, Canada (1982).
5. I am a member of the Association of Professional Geoscientists of Ontario (#0609); and a member of the Association of Professional Engineers and Geoscientists of British Columbia (#32050).
6. I have over thirty-five years of geological mapping, geoscientific research, and mineral exploration (precious and base metals) experience in the Archean greenstone belts across the Canadian Shield, especially the western shield areas in northwestern Ontario where the Subject Property is located. My extensive experience provided adequate knowledge and understanding of the geology, deposit types, and mineralization styles to critically review and assess technical data and to make recommendations on the subject Property.
7. I take responsibility for all sections of the Technical Report.
8. I have read the definition of “qualified person” set out in NI 43-101 and certify that because of my education, affiliation with professional associations (as defined by NI43-101), and past relevant work experience, I fulfill the requirements to be a qualified person for NI 43-101.
9. I have not visited the property that is the subject of this Technical Report.
10. I have read National Instrument 43-101 and Form 43-101FI, and this Technical Report has been prepared in compliance with that instrument and that form.
11. At the effective date of this Technical Report, to the best of my knowledge, information, and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

12. I am independent, as defined by Section 8.1 (2) (f) of NI 43-101, of Tashota Resources Inc. and Trojan Gold Inc. and all other parties related to the subject property and do not expect to become an insider, associate or employee of any of the parties.

Dated this 29<sup>th</sup> day of January 2021, at Burnaby, British Columbia



Ike A. Osmani, M.Sc., P.Geo.

I, Alan James Aubut, do hereby certify the following:

I operate under the business name of Sibley Basin Group Geological Consulting Services Ltd., a company independent of Tashota Resources Inc. The business address of Sibley Basin Group Geological Consulting Services Ltd. is:

Sibley Basin Group  
PO Box 304  
300 First St. West  
Nipigon, ON  
P0T 2J0

I am a graduate Geologist of Lakehead University, in Thunder Bay, Ontario with the degree of Honours Bachelor of Science, Geology (1977).

I am a graduate Geologist of the University of Alberta, in Edmonton, Alberta with the degree of Master of Science, Geology (1979).

I hold an Applied Geostatistics Citation through the Faculty of Extension of the University of Alberta, in Edmonton, Alberta.

I have been a practicing Geologist since 1979.

I am currently a member in good standing of Professional Geoscientists of Ontario.

I am a member of the Society of Economic Geologists.

I have read National Instrument 43-101 and confirm that I am a “qualified person” for the purposes of this instrument.

I have visited the Hemlo South property that is the subject of this report on October 13, 2020.

I take responsibility for this personal inspection.

I am independent, as defined by Chapter 5 Section 1.5 of NI 43-101, of Tashota Resources Inc. and Trojan Gold Inc. and all other parties related to the subject property and do not expect to become an insider, associate or employee of any of the parties.



Alan Aubut PGeo  
January 29, 2021



## **APPENDIX 1**



## List of Claims with Summary Report

Tenure ID	Cell ID(s)	Tenure Type	Tenure Status	Due Date	Holder	Area (ha)	Township/Area	Work Required	Total Approved Reserve
107591	42D09H038	SCMC	Hold Pending extension of time	2020-03-20	Rudolf Wahl	21.33	LECOURS	\$ 400	\$ -
107592	42D09H060	SCMC	Hold Pending extension of time	2020-03-20	Rudolf Wahl	21.34	LECOURS	\$ 400	\$ -
123511	42D09H018	SCMC	Hold Pending extension of time	2020-03-20	Rudolf Wahl	21.33	LECOURS	\$ 400	\$ -
123512	42D09H079	SCMC	Hold Pending extension of time	2020-03-20	Rudolf Wahl	21.34	LECOURS	\$ 400	\$ -
123513	42D09H077	SCMC	Hold Pending extension of time	2020-03-20	Rudolf Wahl	21.34	LECOURS	\$ 400	\$ -
141552	42D09H039	SCMC	Hold Pending extension of time	2020-03-20	Rudolf Wahl	21.33	LECOURS	\$ 400	\$ -
141553	42D09H059	SCMC	Hold Pending extension of time	2020-03-20	Rudolf Wahl	21.34	LECOURS	\$ 400	\$ -
141554	42D09H078	SCMC	Hold Pending extension of time	2020-03-20	Rudolf Wahl	21.34	LECOURS	\$ 400	\$ -
180711	42D09H037	SCMC	Hold Pending extension of time	2020-03-20	Rudolf Wahl	21.33	LECOURS	\$ 400	\$ -
187480	42D09H017	SCMC	Hold Pending extension of time	2020-03-20	Rudolf Wahl	21.33	LECOURS	\$ 400	\$ -
200201	42D09I399	SCMC	Hold Pending extension of time	2020-03-20	Rudolf Wahl	21.33	LECOURS	\$ 400	\$ -
216686	42D09H020	SCMC	Hold Pending extension of time	2020-03-20	Rudolf Wahl	21.33	LECOURS	\$ 400	\$ -
216687	42D09H019	SCMC	Hold Pending extension of time	2020-03-20	Rudolf Wahl	21.33	LECOURS	\$ 400	\$ -
235303	42D09I397	SCMC	Hold Pending extension of time	2020-03-20	Rudolf Wahl	21.33	LECOURS	\$ 400	\$ -
236153	42D09I398	SCMC	Hold Pending extension of time	2020-03-20	Rudolf Wahl	21.33	LECOURS	\$ 400	\$ -
254773	42D09H057	SCMC	Hold Pending extension of time	2020-03-20	Rudolf Wahl	21.34	LECOURS	\$ 400	\$ -
283305	42D09I400	SCMC	Hold Pending extension of time	2020-03-20	Rudolf Wahl	21.33	LECOURS	\$ 400	\$ -
283306	42D09H080	SCMC	Hold Pending extension of time	2020-03-20	Rudolf Wahl	21.34	LECOURS	\$ 400	\$ -
291353	42D09H058	SCMC	Hold Pending extension of time	2020-03-20	Rudolf Wahl	21.34	LECOURS	\$ 400	\$ 138
303487	42D09H040	SCMC	Hold Pending extension of time	2020-03-20	Rudolf Wahl	21.33	LECOURS	\$ 400	\$ -
	42C12L383, 42C12L384, 42C12L385, 42C12L386, 42C12L363, 42C12L364, 42C12L365, 42C12L366,								
586286	42C12L346	MCMC	Active	2021-03-08	Rudolf Wahl	191.96	BOMBY,	\$ 3,600	\$ 3
145070	42D09I340	BCMC	Active	2021-03-20	Rudolf Wahl	12.54	LECOURS	\$ 200	\$ -
314394	42D09I338	BCMC	Active	2021-03-20	Rudolf Wahl	13.09	LECOURS	\$ 200	\$ -
335294	42D09I339	BCMC	Active	2021-03-20	Rudolf Wahl	12.81	LECOURS	\$ 200	\$ -
	42D09I337, 42D09I357, 42D09I358, 42D09I359, 42D09I360, 42D09I377, 42D09I378, 42D09I379,								
586287	42D09I380	MCMC	Active	2021-03-20	Rudolf Wahl	192.31	LECOURS	\$ 3,600	\$ -
133387	42C12L313	BCMC	Active	2021-07-03	Rudolf Wahl	0.63	BOMBY	\$ 200	\$ -
133388	42C12L331	SCMC	Active	2021-07-03	Rudolf Wahl	21.32	BOMBY	\$ 200	\$ -
133389	42C12L330	SCMC	Active	2021-07-03	Rudolf Wahl	21.32	BOMBY	\$ 200	\$ -
199452	42C12L312	SCMC	Active	2021-07-03	Rudolf Wahl	21.32	BOMBY	\$ 200	\$ -
199453	42C12L310	SCMC	Active	2021-07-03	Rudolf Wahl	21.32	BOMBY	\$ 200	\$ -
207463	42C12L333	BCMC	Active	2021-07-03	Rudolf Wahl	10.05	BOMBY	\$ 200	\$ -
207464	42C12L332	SCMC	Active	2021-07-03	Rudolf Wahl	21.32	BOMBY	\$ 200	\$ -
231446	42C12L309	SCMC	Active	2021-07-03	Rudolf Wahl	21.32	BOMBY	\$ 200	\$ 1
273482	42C12L353	BCMC	Active	2021-07-03	Rudolf Wahl	9.81	BOMBY	\$ 200	\$ -
303980	42C12L373	BCMC	Active	2021-07-03	Rudolf Wahl	9.50	BOMBY	\$ 200	\$ -
308577	42C12L308	SCMC	Active	2021-07-03	Rudolf Wahl	21.32	BOMBY	\$ 200	\$ 1

Tenure ID	Cell ID(s)	Tenure Type	Tenure Status	Due Date	Holder	Area (ha)	Township/Area	Work Required	Total Approved Reserve
315294	42C12L307	SCMC	Active	2021-07-03	Rudolf Wahl	21.32	BOMBY	\$ 200	\$ 1
	42C12L327, 42C12L328, 42C12L329, 42C12L347, 42C12L348, 42C12L349, 42C12L350, 42C12L351, 42C12L352, 42C12L367, 42C12L368, 42C12L369, 42C12L370, 42C12L371, 42C12L372, 42C12L387, 42C12L388, 42C12L389, 42C12L390, 42C12L391, 42C12L392								
586284	42C12L393	MCMC	Active	2021-07-03	Rudolf Wahl	466.64	BOMBY	\$ 8,800	\$ 11
170469	42C12L321	BCMC	Active	2021-07-09	Rudolf Wahl	8.64	LECOURS	\$ 200	\$ -
	42C12E001, 42C12E002, 42C12E003, 42C12L341, 42C12L342, 42C12L361, 42C12L362, 42C12L381								
586285	42C12L382	MCMC	Active	2021-07-09	Rudolf Wahl	191.84	LECOURS	\$ 3,600	\$ -
170468	42C12L322	BCMC	Active	2021-07-28	Rudolf Wahl	18.63	LECOURS	\$ 200	\$ -
137415	42C12L323	BCMC	Active	2022-07-28	Rudolf Wahl	8.87	BOMBY,LE COURS	\$ 200	\$ 1
328583	42C12L306	BCMC	Active	2022-07-28	Rudolf Wahl	4.05	BOMBY	\$ 200	\$ 2
	42C12L343, 42C12L344, 42C12L324, 42C12L345, 42C12L325								
586288	42C12L326	MCMC	Active	2022-07-28	Rudolf Wahl	127.95	BOMBY,LE COURS	\$ 2,400	\$ 6
<b>44</b>						<b>1,876.58</b>		<b>\$ 33,800</b>	<b>\$ 164</b>

**Abbreviations:** SCMC – Single Cell Mining Claim  
MC MC – Multiple Cell Mining Claim  
BCMC – Boundary Cell Mining Claim

## APPENDIX 2

47 Graham Crescent  
PO Box 1022  
Marathon, Ontario  
P0T 2E0

May 3<sup>rd</sup> 2019

To: Tashota Resources Inc,  
Suite 1600, 144 - 4<sup>th</sup> Avenue SW  
Calgary AB T2P 3N4  
("TRI" or the "Optionee")

**Re: Amendment to the Hemlo South Option Agreement**

In reference to the agreement between myself as Optionor and Tashota Resources Inc. as Optionee, dated March 4<sup>th</sup>, 2014 regarding the Hemlo South mining property (the "Agreement"), I hereby acknowledge receipt of the following option payments of cash and shares as follows:

- 200,000 shares of TRI within 15 days of the effective date of the Agreement;
- \$25,000 cash and 200,000 shares of TRI originally due on or before March 4<sup>th</sup>, 2015;
- \$25,000 cash [paid] and 200,000 shares of TRI originally due on or before March 4<sup>th</sup>, 2016;
- \$25,000 cash [paid] and 200,000 shares of TRI originally due on or before March 4<sup>th</sup>, 2017;
- \$25,000 cash and 200,000 shares of TRI originally due on or before March 4<sup>th</sup>, 2018;

I also acknowledge that Exploration Expenditures on the Hemlo South property of \$50,000 due before November 25<sup>th</sup>, 2014, plus \$100,000 originally due before March 4<sup>th</sup>, 2016 have been completed.

I also note for the record that an additional 250,000 shares of TRI due to be issued to me within 30 days of the shares of TRI being listed on the TSX-V or the CSE, still remain to be issued upon such listing.

I hereby agree to amendment of the Agreement by extending the due date for an additional \$150,000 of Exploration Expenditures, originally due before March 4<sup>th</sup>, 2017 to December 31<sup>st</sup>, 2019, subject to TRI maintaining the Hemlo South property, as it is now constituted after conversion to cell claims, in good standing by performance of assessment work, specifically in the following amounts:

- \$3,200 due before July 3<sup>rd</sup>, 2019;
- an additional \$2,000 due before July 9<sup>th</sup>, 2019;

Dated at Marathon, Ontario  
May 3<sup>rd</sup>, 2019

  
Rudolf Wahl

47 Graham Crescent  
PO Box 1022  
Marathon, Ontario  
P0T 2E0

April 29th 2020

To: Tashota Resources Inc,  
Suite 1600, 144 - 4<sup>th</sup> Avenue SW  
Calgary AB T2P 3N4  
("TRI" or the "Optionee")

**Re: Amendment to the Hemlo South Option Agreement**

In reference to the agreement between myself as Optionor and Tashota Resources Inc. as Optionee, dated March 4<sup>th</sup>, 2014 regarding the Hemlo South mining property (the "Agreement"), I hereby acknowledge receipt of the following option payments of cash and shares as follows:

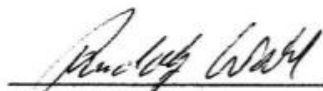
- 200,000 shares of TRI within 15 days of the effective date of the Agreement;
- \$25,000 cash and 200,000 shares of TRI originally due on or before March 4<sup>th</sup>, 2015;
- \$25,000 cash [paid] and 200,000 shares of TRI originally due on or before March 4<sup>th</sup>, 2016;
- \$25,000 cash [paid] and 200,000 shares of TRI originally due on or before March 4<sup>th</sup>, 2017;
- \$25,000 cash and 200,000 shares of TRI originally due on or before March 4<sup>th</sup>, 2018;

I also acknowledge that Exploration Expenditures on the Hemlo South property of \$50,000 due before November 25<sup>th</sup>, 2014, plus \$100,000 originally due before March 4<sup>th</sup>, 2016 have been completed.

I also note for the record that an additional 250,000 shares of TRI due to be issued to me within 30 days of the shares of TRI being listed on the TSX-V or the CSE, still remain to be issued upon such listing.

I hereby agree to amendment of the Agreement by extending the due date for an additional \$150,000 of Exploration Expenditures, originally due before March 4<sup>th</sup>, 2017 to December 31<sup>st</sup>, 2020, subject to TRI maintaining the Hemlo South property, as it is now constituted after conversion to cell claims, in good standing.

Dated at Marathon, Ontario  
April 29<sup>th</sup>, 2020

  
Rudolf Wahl



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March 1<sup>st</sup>, 2017

**LETTER OF INTENT  
ACQUISITION OF 50 PERCENT INTEREST IN HEMLO SOUTH PROPERTY  
CREATION OF JOINT VENTURE ON COMPLETION OF EARN-IN**

This Letter of Intent ("LOI") is made this 1<sup>st</sup> day of March, 2017, between Tashota Resources Inc. ("TRI") and Trojan Gold Inc. ("TGI")

**WHEREAS** TRI holds the Hemlo South Property (as defined in Schedule B hereto) under an option agreement between Rudolf Wahl, Optionor and TRI, Optionee (the "TRI-Wahl Option Agreement"), a copy of which is appended hereto as Schedule "A";

**AND WHEREAS** TGI wishes to acquire a 50 percent interest in the Hemlo South Property, and TRI wishes to grant to TGI the right to acquire a 50 percent interest in the Hemlo South Property on certain terms and conditions;

**THIS LETTER OF INTENT** spells the terms and conditions under which TRI grants to TGI the right to acquire a 50 percent interest in the Hemlo South Property.

**SUMMARY OF THE TERMS OF THE TRI-WAHL OPTION AGREEMENT:** The agreement made between TRI and TGI makes extensive reference to the terms of the TRI-Wahl Option Agreement, which are summarized in the following paragraphs, to give clarity to the agreement between TRI and TGI. The TRI-Wahl Option Agreement has an effective date of March 4<sup>th</sup>, 2014 and a 4 year term.

On March 7<sup>th</sup>, 2017, Rudolf Wahl signed an amendment to the TRI-Wahl Option Agreement extending the due dates for certain expenditure requirements.

The salient terms of the TRI-Wahl Option Agreement with amendments, are as follows:

1. Cash Payments and Share Issuances:
  - (i) 200,000 shares of TRI within 15 days of the effective date [issued];
  - (ii) 250,000 shares of TRI within 30 days of listing of TRI shares on the TSX Venture Exchange or the Canadian Securities Exchange [not yet issued];
  - (iii) \$25,000 cash [paid] and 200,000 shares of TRI [issued] on or before March 4<sup>th</sup>, 2015;
  - (iv) \$25,000 cash [paid] and 200,000 shares of TRI [issued] on or before March 4<sup>th</sup>, 2016;
  - (v) \$25,000 cash [paid] and 200,000 shares of TRI [issued] on or before March 4<sup>th</sup>, 2017;
  - (vi) \$25,000 cash and 200,000 shares of TRI on or before March 4<sup>th</sup>, 2018;

2. Exploration Expenditures on the Property:
  - (i) \$50,000 on or before November 25<sup>th</sup>, 2014 [done];
  - (ii) \$100,000 on or before March 4<sup>th</sup>, 2016 [not yet completed, approximately \$15,000 expended to date, due date extended by Mr. Wahl to May 4<sup>th</sup>, 2017 by the March 7<sup>th</sup>, 2017 amendment];
  - (iii) \$150,000 on or before March 4<sup>th</sup>, 2017 [not yet done, due date extended by Mr. Wahl to November 1<sup>st</sup>, 2017 by the March 7<sup>th</sup>, 2017 amendment];
3. Upon exercise of all the terms of the option agreement, TRI will have 100% interest in the Property and will be so recorded on title, subject to a 3% net smelter returns royalty in favour of Mr. Wahl. TRI will have the option of buying back ⅓ of the royalty (2% of NSR) for \$2,000,000 at any time.

**TERMS OF THE TRI-TGI AGREEMENT:**

TRI hereby grants to TGI the right to acquire a 50 percent interest in the Hemlo South Property by:

- A. Issuing to TRI 1,250,000 common shares of TGI with a deemed value of \$0.10, effective immediately;
- B. Making, or reimbursing TRI for making, the cash payments in items 1(v) and 1(vi) above, for a total of \$50,000; if, by mutual agreement, TRI makes one or both payments in cash, TGI shall have the option of reimbursing TRI by issuing its own common shares with a deemed value of \$0.10 per share to TRI
- C. Incurring, or reimbursing TRI for incurring, the work requirements in terms 2(ii) and 2(iii) above, for a total of \$250,000;

On completion of these terms and exercise of the TRI option, TGI will be vested as to 50% working interest (WI), and will be so recorded on the claims at the Provincial Mining Recorder's Office (or on title in the event that the claims comprising the property, or a portion of them, are brought to lease). The term "Working Interest" refers to the interests held by the Joint Venture partners, which is subject to the NSR royalty in favour of Mr. Wahl. A joint venture is to be formed between TRI and TGI with initial WIs of 50% each. A formal joint venture agreement is to be prepared at the time that TGI is vested as to 50% WI, or as soon thereafter as practicable. The salient terms of the joint venture will be as follows:

- Management and budget control is to be by a joint management committee;
- Each party will have an initial WI of 50% and a deemed initial contribution of \$450,000;
- TRI and TGI will be joint operators, unless the interest of either party is diluted below 50%, in which case, the party with the larger WI will have the right to become the operator;
- Budgets will be set annually, or more frequently if requested by either party;
- Reports will be prepared in a timely manner on all activities, submitted to Mr. Wahl and reported to the MNDM for assessment credit;
- If either party (a "Non-Contributing Party") is unable or unwilling to provide its *pro rata* share of an approved budget, the other party (the "Contributing Party") will have the right to provide the difference between the amount which the Non-Contributing Party has contributed to an approved budget, and its *pro rata* share of the approved budget.
- The WI of a Non-Contributing Party shall be diluted according to the industry-standard formula of:

$$WI(a) = \frac{Exp(a)}{Exp(a)+Exp(b)} \times 100\%$$

Where WI(a) is the Working Interest of party (a) and Exp(a) and Exp(b) are the aggregate totals of expenditures on the project of parties (a) and (b) respectively since the inception of the Joint Venture, plus each party's deemed initial contribution of \$450,000.

If you are in agreement with these terms and conditions, please so indicate by signing in the appropriate place below.

Yours very truly  
**TASHOTA RESOURCES INC.**

Per:   
ASO

Date: March 1<sup>st</sup>, 2017

The above terms are accepted and agreed to, this \_\_ day of March, 2017:

**TROJAN GOLD INC.**

Per:   
ASO