



TECHNICAL REPORT

(Prepared in compliance with National Instrument 43-101)

ON THE

HEMLO SOUTH PROPERTY

**Bomby and Lecours Townships
Thunder Bay Mining Division
NORTHWEST ONTARIO, CANADA**

Prepared for

TASHOTA RESOURCES INC.

- and -

TROJAN GOLD INC.

- by -

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SUMMARY

Property: *The Hemlo South property is an early stage exploration prospect. It consists of 8 mining claims with a total of 89 claim units, with a nominal area of 1,424 hectares (measured area of 1,408 hectares). The claims are in good standing until at least March 20th, 2018 Annual assessment work requirements are \$35,600..*

Agreements: *The property is held by Tashota Resources Inc. ("TRI") under an option agreement dated March 4th, 2014 from Rudolf Wahl, prospector. The option agreement requires TRI to issue to Mr. Wahl 200,000 of TRI shares on signing (issued), and 250,000 shares within 30 days of TRI shares being listed on the TSX-V or CSE exchanges (not issued) and pay \$25,000 cash and 200,000 TRI shares on March 4th of 2015, 2016, 2017 (all paid and issued) and 2018. Exploration expenditures on the property are required: \$50,000 by November 25th, 2014 (done); and further amounts of \$100,000 by March 4th, 2016 (extended to May 7th, 2017 -done) and \$150,000 by March 4th of 2017(extended to November 1st, 2017). Mr Wahl will hold a 3% NSR royalty, of which TRI will have the option of buying back 2/3 of the royalty (2% of NSR) for \$2,000,000 at any time.*

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 1,250,000 TGI common shares; making or reimbursing TRI for making the two \$25,000 option payments due in 2017 and 2018; and incurring or reimbursing TRI for incurring, the \$100,000 and \$150,000 expenditure requirements due by May 7th and November 1st, 2017. On completion of those conditions, TRI and TGI will form a 50/50 joint venture on the Hemlo South property with deemed initial expenditures of \$450,000 each. Industry standard joint venture arrangements will apply.

Location, Tenure etc: *The Hemlo South property is 33 km east of the town of Marathon, on the north shore of Lake Superior. The property lies immediately south of the Williams mine property of Barrick Gold, and the area has seen renewed interest following announcements from Barrick Gold about increases in reserves and resources.*

Mining claims in Ontario may be held indefinitely by performing assessment work to the value of \$400 per claim unit (16 ha) per year. An exploration permit has been received by Rudolf Wahl, the recorded claim holder. It is valid for three years from March 21st, 2017. For advanced exploration including underground development and bulk sampling, claims must be brought to lease and an advanced exploration permit will be required. Negotiations with First Nations on an agreement may be expected. No environmental liabilities are known to exist on the property.

Access etc: *The property lies 600 metres south of the Trans-Canada Highway (No. 17), and existing logging roads give access to the property, part of which has been logged, and part of that has been replanted. The Canadian Pacific Railway main transcontinental line crosses the property.*

Climate is typical of the region, with warm summers, cold winters and low to moderate precipitation.

Labour is available from the local towns of Marathon and Manitouwadge. Electric power and water are readily available in the area, but natural gas is not. Mining equipment and supplies are readily available.

Terrain is typical of glaciated hard-rock areas with smooth to locally rugged ridges and ice-gouged depressions occupied by lakes or swamps. Local relief is about 120 metres. Forest cover is typical boreal forest, dominated by evergreens, birch and poplar.

History: *The history of the Hemlo South property is tied to the history of the discovery and development of three major gold mines on the 3.5-kilometre long Hemlo gold deposit, which is 1500 metres north of the Hemlo South property at its closest point. The report gives a summarized version of events from the original gold discovery in 1944 to the*

Corona Resources diamond drill hole 76 in 1981, which intersected the main Hemlo gold zone. This sparked a great deal of development drilling, leading to the opening of the Golden Giant and Williams mines in 1985, and the David Bell mine in 1986. The Golden Giant mine closed in 2006 and the David Bell mine closed in 2014, while the Williams mine continues. Total production from the three mines to the end of 2016 was 21.86 million ounces of gold.

The Hemlo South property, and every other part of the Hemlo greenstone belt, was first staked in 1982, in a widespread and long-lived staking rush fueled by the Hemlo gold discovery. Parts of the present property were held by Bel-Air Resources Ltd., Pryme Energy, Harlin Resources Ltd., Pricemore Resources Ltd., and senior partners Noranda Exploration Co., Westfield Minerals and Esso Minerals at various times between 1982 and 1988. Exploration by these companies included geological mapping, soil geochemical surveys and VLF-EM surveys. Diamond drilling was performed outside the area of the present property by Pricemore Resources, Harlin Resources and Bel-Air Resources/Westfield Minerals. After 1988, the Hemlo South area became idle, with the following exceptions:

Hemlo Gold Mines drilled two holes in 1996 in the same area that Harlin Resources had drilled four holes, east of the northeast corner of the Hemlo South property. In 2006, Golden Meadow Explorations carried out geological mapping and MMI geochemical soil sampling on the northwest corner of the present property.

An airborne magnetic-electromagnetic survey of the entire Hemlo greenstone belt was carried out by Aerodat Ltd in 1983. Windowed sections of data were sold to many companies with claims in the area. The data was purchased by the Ontario government and after re-processing, was released to the public in digital form in 2002. The Ontario Geological Survey (OGS) mapped the Hemlo area in 1980. After the discovery of the Hemlo gold deposit, the OGS and the Geological Survey of Canada (GSC) both mapped the area in greater detail. The GSC published a paper that showed a strong potassium channel anomaly over the Hemlo gold deposit in an airborne gamma-ray spectrometer survey, as well as noting its lack of response to airborne EM systems of the day. The Hemlo gold deposit did, however, give an anomalous response on a ground VLF-EM survey.

Regional Geology: *The Hemlo greenstone belt lies within the Wawa-Abitibi Terrane, a structural subdivision of the Archean-age Superior Province of the Canadian Shield. The Abitibi-Wawa terrane is exceptionally well endowed with gold mineralization. The Hemlo belt, like most greenstone belts, comprises a complex synclinorium. There is a relatively thin sequence of mafic metavolcanic flows at the base, overlain by a thicker sequence of intermediate to felsic metavolcanics and pyroclastics which apparently grade into and interfinger with clastic metasediments. There are older migmatite-granodiorite complexes that probably represent partially remobilized basement on which the greenstone belt rocks were deposited and younger felsic intrusions at all scales from small dykes and plugs of (quartz-) feldspar porphyry up to 10×20 km granodiorite plutons.*

Conglomerates have been mapped immediately adjacent to the Hemlo gold deposit, and on the northwestern flank of the Hemlo greenstone belt, where intermediate to felsic metavolcanics transition laterally into clastic metasediments.

The Hemlo greenstone belt is slightly unusual in the Superior Province in that the proportion of mafic volcanics is low, and the metamorphic grade is higher than normal - mostly amphibolite facies, which has made identification of primary lithologies difficult on occasion.

Property Geology: *The Hemlo South property lies at the southern margin of the Hemlo greenstone belt. The Pukaskwa Gneissic Complex or Pukaskwa Batholith occupies the southern part of the property. Around its margin are wrapped the thin mafic metavolcanic unit, and then clastic metasediments. A lobe of the Heron Bay batholith intrudes the western part of the property. Mapping by the OGS and GSC indicates a number of strike-parallel faults or shear zones, at the base of the mafic metavolcanic sequence and at the contact(s) between mafic metavolcanics and the overlying clastic metasediments.*

Mineralization: *The report describes a number of minor mineral occurrences of gold, molybdenum and uranium that have been recorded on an OGS compilation map, close to the Hemlo South property, although all are outside the property.*

Deposit Types: *The Hemlo gold deposit (outside the Hemlo South property) is unique in the Canadian Shield. It consists of intensely sheared metasediments and pyroclastics. The ore zone is sericite-rich and carries pyrite, gold and molybdenite. It is geochemically anomalous in silver, arsenic, barium, antimony, vanadium and mercury. There is an inner, intense potassic alteration with widespread development of microcline, affecting the ore zone and wall rocks, and an outer zone of aluminous alteration. The mineralized zones are closely associated with a sheared quartz-eye porphyry. The apparent stratiform shape of the deposit led to early interpretations of a syngenetic origin. The form of the deposit is a result of intense deformation, and current thinking assumes that the gold mineralization is epigenetic.*

Because of its proximity of the Hemlo South property, the Hemlo gold deposit represents a potential deposit type that should be sought on the Hemlo South property. There is also potential for conventional orogenic (or “greenstone type”) gold mineralization. The main characteristics of greenstone-type gold deposits are: host rocks are usually submarine mafic metavolcanics, minor felsic (porphyry) intrusions, clastic metasediments, iron formations, larger felsic intrusions, ultramafic volcanics, or gabbro; mineralization occurs as veins, vein clusters or wallrock disseminations; 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.

Exploration: *Exploration carried out by previous claim holders has partially outlined a number of soil geochemical anomalies in gold on the Hemlo South property. The report discusses at length the possibility that these anomalies are in soil developed on till whose gold content is displaced down ice from the Hemlo gold deposit. It is concluded that there is a reasonable prospect that these anomalies may in part reflect local sources of gold, possibly on the Hemlo South property.*

Other features resulting from previous work on the Hemlo South property that suggest a favourable environment for gold include: intense schistosity or shearing, especially in metasediments in the Cache Lake area (western part of the Hemlo South property); numerous smaller bodies of (quartz-) feldspar porphyry, and VLF conductors that apparently reflect the strike-parallel shears noted above. The 1983 airborne EM survey also responds to the same interpreted shear structures.

A recent (2014) helicopter-borne magnetic-TDEM-spectrometric survey of the Hemlo South property, carried out for Tashota Resources Inc. has outlined a number of potassium anomalies which are interpreted to reflect either (quartz-) feldspar porphyry intrusions or potassic alteration. It also outlined a number of magnetic anomalies that are presently unexplained.

Drilling: *In May, 2017, Tashota Resources Inc. and Trojan Gold Inc. drilled a 422.5 metre diamond drill hole on the Hemlo South property to acquire geological information about strike-parallel shear zones and/or faults. A late, brittle fault was encountered under the creek draining Cigar Lake. Numerous feldspar porphyry intrusions were intersected in mafic 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 Pukaskwa Granodiorite/Gneissic Complex, where a possible major shear structure or dislocation had been anticipated, was not tested by the 2017 drill hole.*

Drilling on adjacent properties by previous exploration companies in the early 1980s has concentrated on three areas of interest: [1] a VLF conductor extending east-southeast from the northeast corner of the Hemlo South property. That conductor (V-1) extends across much of the Hemlo South property. The drill logs noted silica and green carbonate veining and alteration and pyrite and pyrrhotite mineralization. The conductor was explained as a graphitic schist. A second drill program was carried out in the same area in 1996; [2] an area about 1400 metres east of the southeast corner of the Hemlo South property, where a low gold value of 1.29 g/t Au was reported over a core length of 1 metre; and [3] an area between 100 and 600 metres north of the Hemlo South property, where samples from trenches on a pyritic tuff unit gave sporadic gold values, which drilling could not repeat.

Interpretation and Conclusions: *It is concluded that the Hemlo South property has significant untested potential for gold mineralization, based on the following geological features: stratigraphy (basement-cover contact, volcanic-sedimentary transition); structure - i.e. mapped intense schistosity and interpreted shear zones; VLF and airborne conductors outlining possible shears; gold-in-soil geochemical anomalies; unexplained potassium and magnetic anomalies from the 2014 helicopter-borne survey.*

Recommendations: *A two-stage exploration program is recommended. Phase 1 should include orientation soil geochemical survey using MMI and B-horizon soils; test pitting to assess the stratigraphy of till in areas of anomalous gold, followed by a production-scale 900-sample soil geochemical survey; relocation of VLF anomaly V-1 to assess if it is actually within the Hemlo South property, and prospecting and geological mapping.*

Phase 2, dependent on favourable results from Phase 1, would comprise 5,000 metres of diamond drilling.

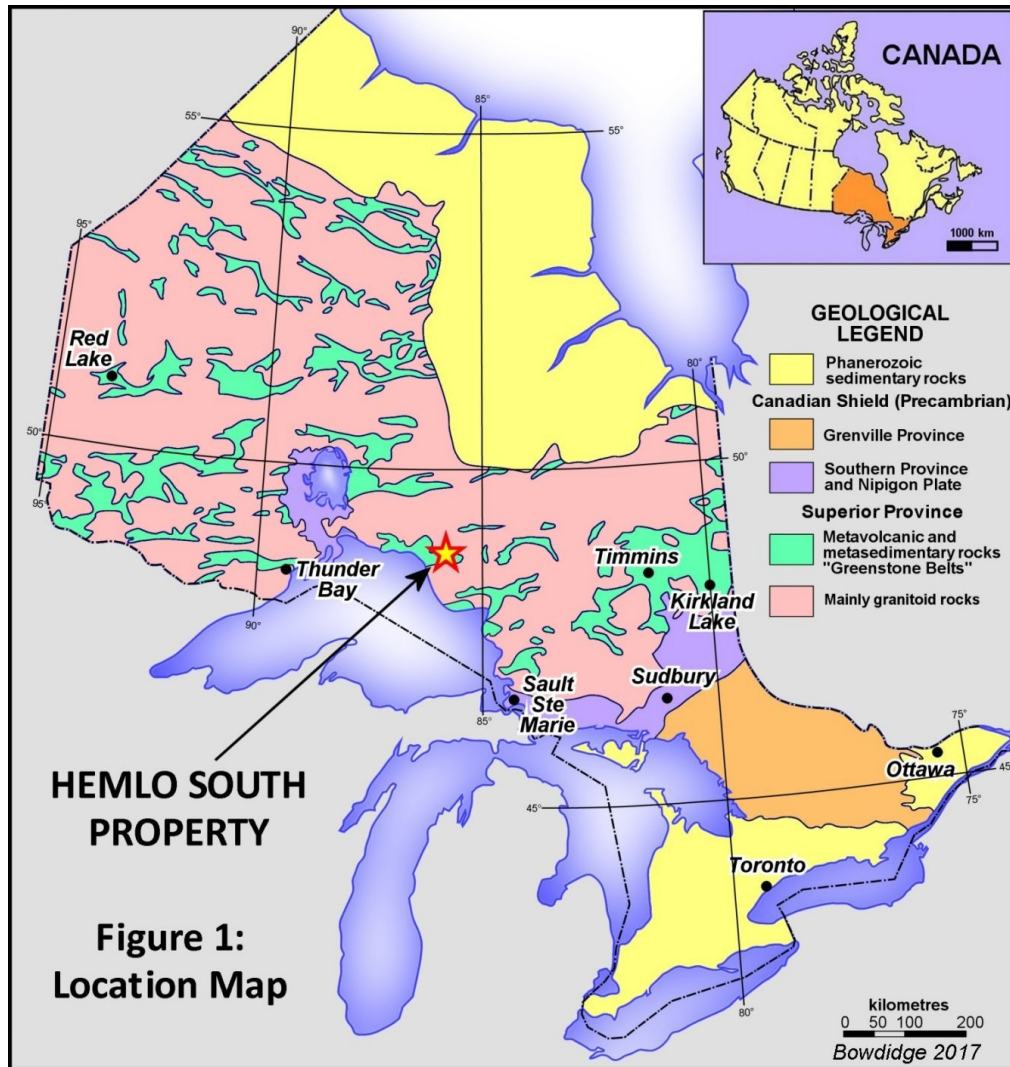
The estimated cost of Phase 1, including 10% contingency, is \$278,857, and the estimated cost of the Phase 2 drilling program is \$772,882, for a total budget of \$1,051,739.

LIST OF ABBREVIATIONS

Ag	Silver
As	Arsenic
Au	Gold
Ba	Barium
DDH	Diamond Drill Hole
DEM	Digital Elevation Model
eK	Equivalent Potassium
EM	Electromagnetic
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
MNDM	Ministry of Northern Development and Mines
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
U ₃ O ₈	Uranium oxide (or “yellow cake”; the unit of uranium trading)
UTM	Universal Transverse Mercator (map projection)
V	Vanadium
VLF	Very Low Frequency
W	Tungsten
WI	Working Interest
Zn	Zinc

INTRODUCTION

This report on the Hemlo South property has been written for Tashota Resources Inc and Trojan Gold Inc. The author was requested to prepare this report to accompany a prospectus or similar document for Trojan Gold Inc., which is proposing to have its securities qualified for public distribution.



The author is familiar with the property, and was responsible for planning and supervising a helicopter-borne electromagnetic, magnetic and radiometric survey of the property that was carried out for Tashota Resources Inc in 2014. The author also made an inspection of the terrain in the northern part of the property for two days in July, 2015, while assessing the possible utility of soil geochemical surveys that had been carried out in the 1980s. The last visit made to the property by the author was on May 15th, 2017, during the one-hole diamond drilling program described in this report. No technical observations were possible at the time because of snow cover.

This report is based on publicly available information including federal and provincial reports, maps, papers and digital data, reports submitted for assessment work by individuals and companies, and company information and press releases posted on the SEDAR website. All sources of information used are cited in the list of references at the end of the report. The author has been engaged in the practice of mineral exploration since 1969, most of which has been in the Canadian Shield, with exposure to exploration for gold, base metals, ferrous metals, industrial minerals and uranium. Comments of an interpretive nature that do not cite a specific reference are based on the author's experience and background knowledge.

The author (Colin Bowdidge) is responsible for all sections of this report.

The Hemlo South property is an early-stage exploration prospect. It contains no known mineral occurrences or deposits. To a certain extent, its exploration potential for gold is predicated on its proximity to, and contiguity with the three gold mines (one current and two former producers) of the Hemlo mining camp. The history of the discovery of a major gold deposit at Hemlo is summarized in the report; this information will help the reader to appreciate how the history of exploration on the Hemlo South property has been influenced by discovery and subsequent developments at the Hemlo gold mines.

RELIANCE ON OTHER EXPERTS

No other experts have been relied upon in preparing this report.

PROPERTY DESCRIPTION AND LOCATION

Property Description:

The property consists of 8 mining claims totaling 89 claim units (the number of units in a claim is the integer resulting from dividing the area of a claim in hectares by 16, with the fractional remainder counted as 1 unit if it exceeds 2.4 hectares and 0 if less than 2.4 hectares). The nominal area of the property, based on the number of claim units is 1,424 hectares (approximately 3,518 acres); the area measured on the MNDM claim map is 1,408 hectares (approximately 3,478 acres). The following table lists the claims and their respective status. **Note:** *the expiry dates shown are subject to approval of assessment work submitted by the author on July 11th, 2017. The author makes regular submissions of assessment work in Ontario and has not had an expense questioned since 1995.*

HEMLO SOUTH CLAIMS AT JULY 12th 2017							
Claim Number	Township or Area	No. of Units	Date Recorded	Due Date	Assessment Work		
					Required	Applied	Reserve
4261105	Bomby	7	2013-03-08	2020-03-08	\$2,800	\$14,000	\$0
4263538	Bomby	16	2012-07-03	2018-07-03	\$6,400	\$25,600	\$2,024
4263539	Bomby	16	2012-07-03	2018-07-03	\$6,400	\$25,600	\$0
4279390	Bomby	5	2016-07-28	2022-07-28	\$2,000	\$8,000	\$18,454
4246263	Lecours	16	2013-03-20	2018-03-20	\$6,400	\$19,200	\$0
4261196	Lecours	1	2016-07-28	2021-07-28	\$400	\$1,200	\$0
4263534	Lecours	16	2013-03-20	2018-03-20	\$6,400	\$19,200	\$0
4263535	Lecours	12	2012-07-09	2018-07-09	\$4,800	\$19,200	\$0

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 4th, 2014 and a 4 year term. On March 7th, 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 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 and 200,000 shares of TRI on or before March 4th, 2018;

2. Exploration Expenditures on the Property:
 - (i) \$50,000 on or before November 25th, 2014 [done];
 - (ii) \$100,000 on or before March 4th, 2016 [due date extended by Mr. Wahl to May 4th, 2017 by the March 7th, 2017 amendment - expenditures to date, including the 2017 diamond drilling are approximately sufficient to fulfil this requirement];

- (iii) \$150,000 on or before March 4th, 2017 [not yet done, due date extended by Mr. Wahl to November 1st, 2017 by the March 7th, 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 $\frac{2}{3}$ of the royalty (2% of NSR) for \$2,000,000 at any time.

Trojan Gold Inc. Buy-In and Joint Venture: 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:

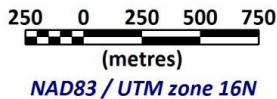
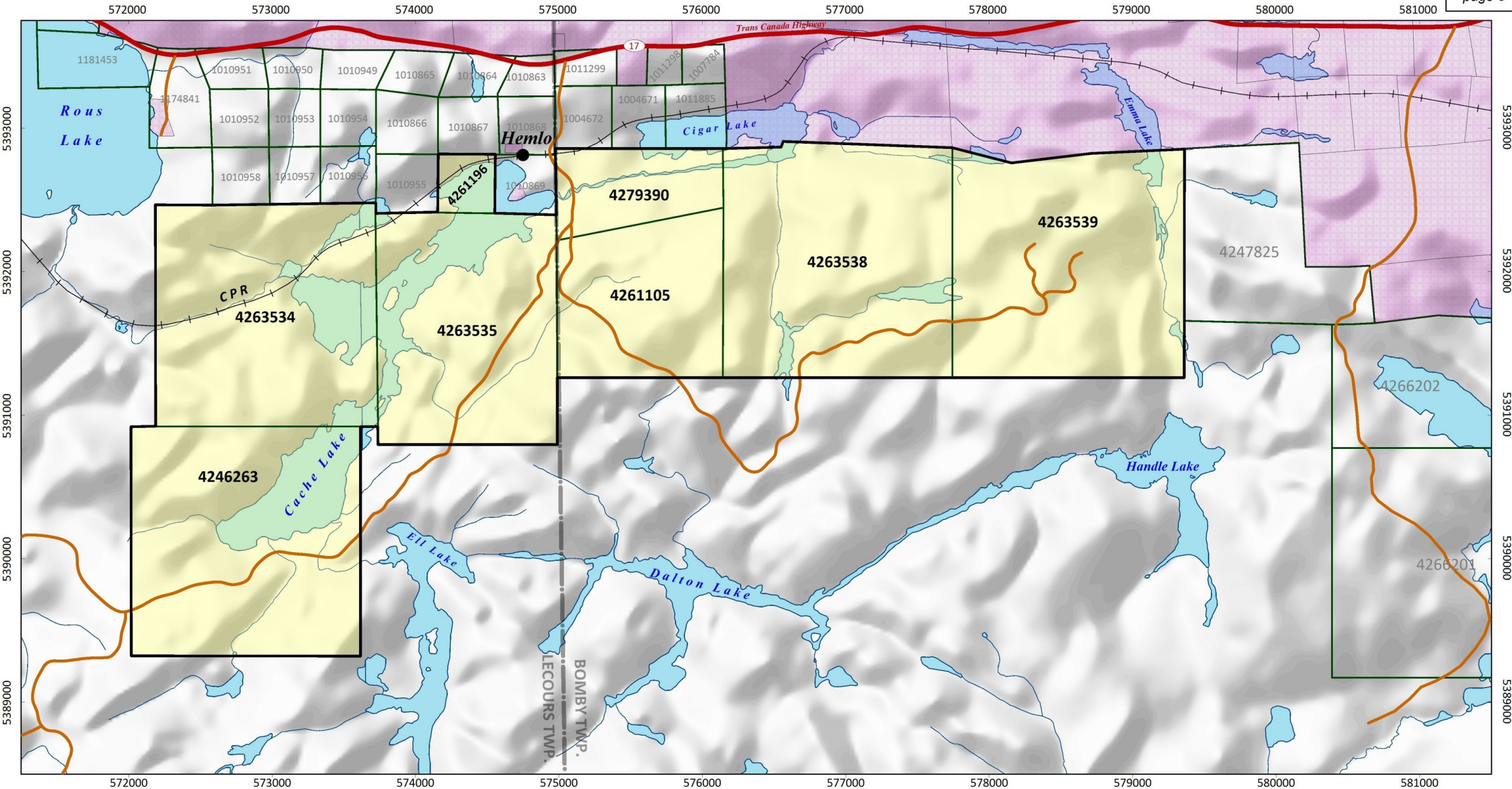
- A. Issuing to TRI 1,250,000 common shares of TGI with a deemed value of \$0.10, effective immediately;
- B. Making, or reimbursing TRI for making, the cash payments in items 1(v) and 1(vi) above, for a total of \$50,000; if, by mutual agreement, TRI makes one or both payments in cash, TGI shall have 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 are 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 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.

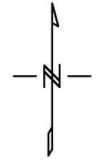
Location:

The Hemlo South property is located in Bomby and Lecours Townships, approximately 33 kilometres east of the town of Marathon, Ontario, on the north shore of Lake Superior. The property extends from 85°55'18" to 86°01'21" West and from 48°39'08" to 48°41'03" North. Figure 1 shows the location. Figure 2 shows the claims on a topographic base.



-  Unpatented Mining Claims
-  Patented Claims, Mining Leases
-  Paved Roads
-  Gravel Roads

Figure 2: Claims Location Map



Mining Titles Information: Ontario Ministry of Northern Development & Mines
 Topographic Information: Natural Resources Canada
 Digital Elevation Model: Ontario Ministry of Natural Resources

Hemlo Area Property Compilation:

Following recent announcements by Barrick Gold of increased reserves and mineral resources at its Williams gold mine, interest in the Hemlo area, formerly regarded as an exhausted mining camp, has increased dramatically. All ground underlain by metavolcanic or metasedimentary rocks in the Hemlo greenstone belt has been staked. Figure 3 shows the claim ownership distribution (based on public records and not including unpublished assignments) at the end of February, 2017. This information will assist the reader in appreciating press releases of other companies active in the area, and how their contents relate to the Hemlo South property.

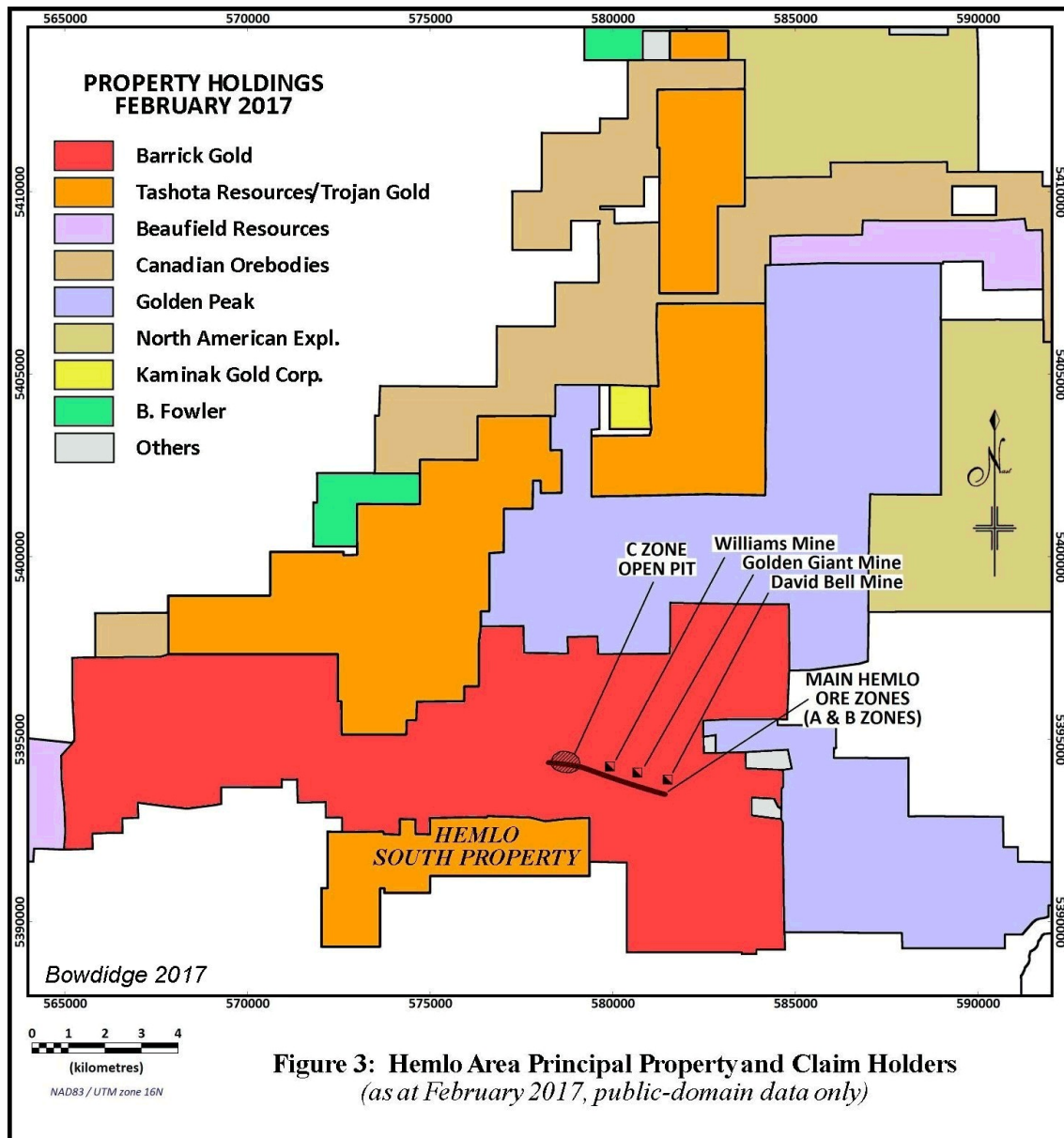


Figure 3: Hemlo Area Principal Property and Claim Holders
(as at February 2017, public-domain data only)

Mining Rights Tenure and Work Permits

In Ontario, staked “unpatented” mining claims can be held indefinitely by performing and reporting assessment work to the value of \$400 per claim unit per year.

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

- stripping more than 100 m²
- 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 21st, 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 MNDM 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 in excess of 10,000 m², 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. In those cases, negotiations are necessary.

Environmental Liabilities

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

ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

Accessibility:

Figure 2 shows the Hemlo South property and transportation routes. The southern branch of the Trans-Canada Highway (Ontario Highway 17) passes approximately 600 metres north of the property. 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. Two all-weather gravel forestry access roads traverse 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.

Climate:

Climate is typical of north-central North America, 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 following data are averages for the 1981-2010 period from Environment Canada (temperatures in degrees Celsius):

Average January Temperatures (daily min, daily average, daily max):	-21° -14° -8°
Average August Temperatures (daily min, daily average, daily max):	+10° +15° +21°
Average yearly precipitation (rain plus snow equivalent):	970 mm
Lowest monthly average precipitation: February	47 mm
Highest monthly average precipitation: September	122 mm

Local Resources and Infrastructure:

The adjacent operating Williams Mine (Barrick Gold) illustrates that local and regional resources are adequate to supply a large combined open pit and underground gold mine, as well as the Golden Giant and David Bell mines when they were operating. The nearby population centres of Marathon (2011 pop. 3,353) and Manitouwadge (2011 pop. 2,105) supply labour. They are 33 and 54 kilometres respectively from Hemlo by road.

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. Natural gas is not available at Hemlo or anywhere along the north shore of Lake Superior between Sault Ste Marie and Nipigon. 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.

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. 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. Higher ground tends to have abundant outcrops separated by areas of thin glacial till. Lower ground tends to be covered in thicker till, often with a surface layer of organic overburden.

Primary forest is again typical of boreal forest on the Canadian Shield at moderate latitudes. The dominant trees are white spruce, black spruce, jackpine, balsam fir, aspen (poplar), birch, eastern white cedar and tamarack (not in order of abundance). Tag alders and willows tend to grow thickly along creeks and in swamps. White and red pine, although common in the region, were 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 a future timber harvest is anticipated.

HISTORY

History of the Hemlo Area:

The history of the Hemlo South property is intimately connected with the history of the three Hemlo gold mines (see figures 3 and 4). The Hemlo mines have exploited a single series of gold-bearing zones with a total length of 3.5 kilometres, that lie about 1500 metres north of the Hemlo South property boundary. To place the Hemlo South history in context, the history of the Hemlo gold mines will first be briefly summarized, even though the Hemlo gold mines are outside the Hemlo South property. The following is condensed from Muir et al. (1995).

In 1944, Peter Moses, an Ojibway prospector from Marathon, discovered gold at the site of the present Williams mine. Harry Ollmann and Dr. J.K. Williams staked the 11 claims that make up the core of the present Williams mine property. Stripping, trenching and shallow X-ray drill holes outlined a pyritic shear with gold assays up to 4.11 g/t.

In 1946, Trevor Page, Williams, Moses and Mel Bartley staked 33 claims adjoining the Ollmann-Williams property on what is now part of the Golden Giant and David Bell mine properties. Lake Superior Mining Corporation was formed and acquired the 33 claims. After stripping, trenching and 16 to 20 diamond drill holes, Page calculated a “reserve” of 28,675 short tons (st) grading 8.57 g/t Au in what was called the “Lake Superior Shear Zone” [Note: *this “reserve” and other subsequently published “reserves” are historical mineral resources that do not comply with current practice. They are, however validated by the subsequent production of over 20 million ounces of gold from these and other adjacent zones*].

Subsequently, the Lake Superior Mining Corporation property was optioned to Teck-Hughes Gold Mines Ltd., which carried out additional drilling and increased the “reserve” to 81,000 st of 6.86 g/t Au. The option was dropped and the property again optioned to Cusco Mines Ltd., which did not raise any capital and returned the claims.

In the early 1970s John Hellenon had staked part of the former Lake Superior Mining Corporation ground, and optioned his claims to Ardel Explorations Ltd. Ardel drilled three holes and increased the “reserve” on the Lake Superior Shear Zone to 135,000 st at 7.20 g/t Au. The option was subsequently dropped.

In the late 1970s, Copper Lake Explorations carried out a ground VLF survey and soil sampling on claims optioned from Roy Newman that covered part of the former Lake Superior-Ardel property.

In December 1979, Don McKinnon staked 12 claims covering the former Newman-Copper Lake property west of the Ollmann-Williams ground, and John Larche staked 14 claims on the former Lake Superior-Ardel ground east of the Ollmann-Williams. They pooled their claims and received grubstake financing from Claude Bonhomme and Rocco Schiralli. This allowed them to stake another 156 claims, which were optioned to Golden Sceptre Resources Ltd. and Goliath Gold Mines Ltd. Corona Resources optioned the original 14 Larche claims. Surface work comprising line cutting and magnetic and VLF surveys was initiated by David Bell, consulting geologist.

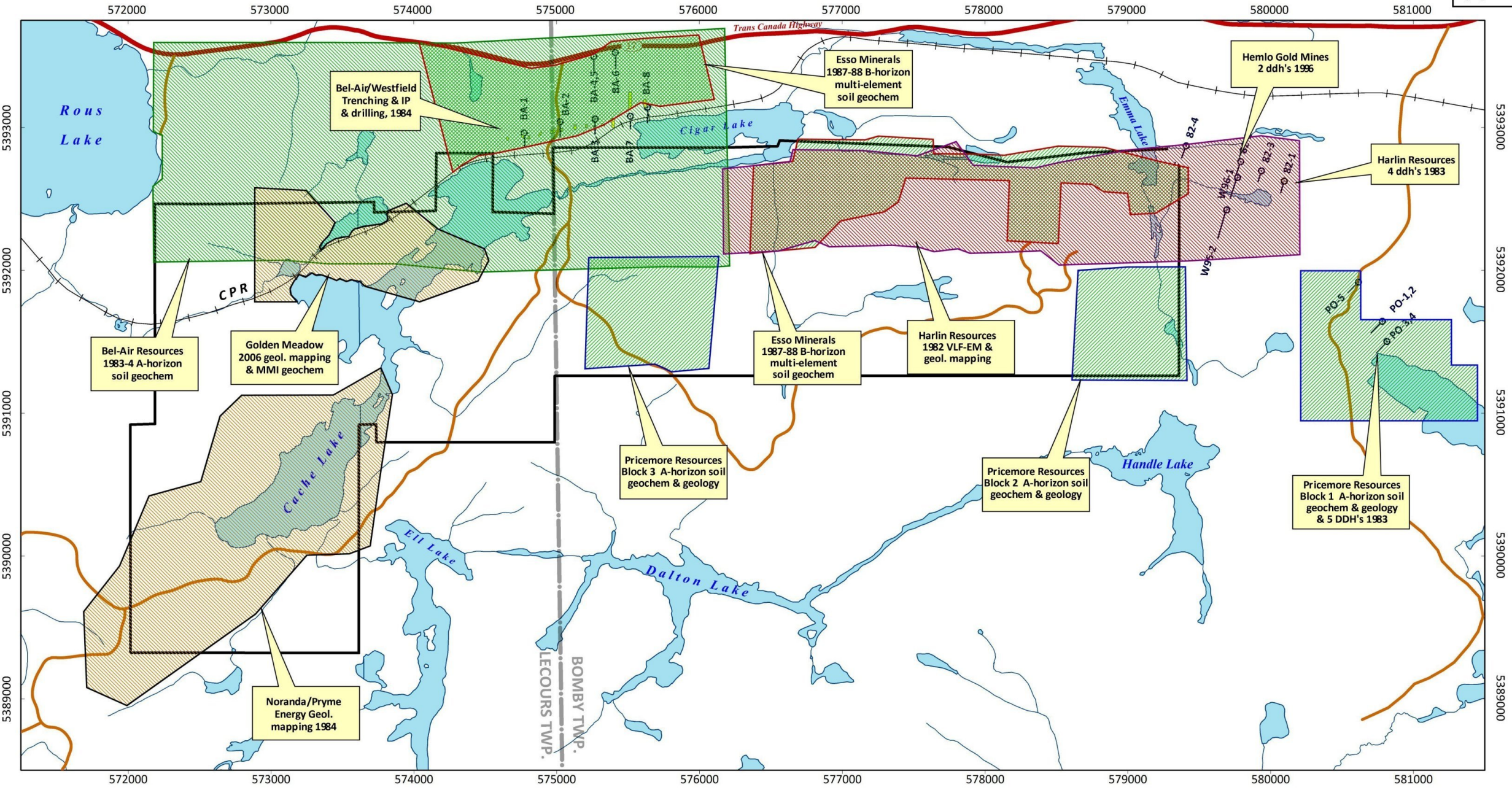
In 1981 Corona commenced the first major drilling program in the Hemlo area. Seventy holes on the original Lake Superior-Ardel ground increased the “reserve” to 681,000 st @ 3.43 g/t Au before stepout drilling started. Corona’s hole 76 intersected what is now the main ore zone with 7.16 g/t Au over 3.2 metres. Lac Minerals, which had conducted a property examination of Corona’s property, and Corona itself both made attempts to acquire the Ollmann-Williams property from Lola Williams, the widow of Dr. Williams. Lac’s offer was successful. Meanwhile, Lac had positioned itself by staking a large block of claims east of the Goliath-Golden Sceptre property. Lac’s acquisition of the Williams claims prompted a lawsuit from Corona. Also in 1981, Teck Corporation formed a joint venture with Corona on the former Lake Superior-Ardel property.

In 1982, Lac Minerals’ drilling program intersected the main ore zone on the Williams property with 6.17 g/t Au over 24.4 metres. The Goliath-Golden Sceptre joint venture was also drilling, and prompted by the Lac discovery, drilled the main ore zone on the former Lake Superior-Ardel claims east of the Williams property, returning 8.78 g/t Au over 29.9 metres. Noranda Mining and Exploration Limited entered the Hemlo area by optioning the Goliath-Golden Sceptre claims. A staking rush was well under way by 1982, with 20,000 claims recorded by McKinnon alone [Note: *at that time, mining claims in Ontario were all nominally 40 acres or 16 hectares in size; the multi-unit claim was not introduced until 1991*]

Noranda commenced production at the Golden Giant Mine (Goliath-Golden Sceptre property) in 1985. Also in 1985, Lac Minerals commenced production at the Williams Mine. In 1986 Teck-Corona began production at the David Bell Mine. Also in 1986, Corona’s suit against Lac Minerals was settled in Corona’s favour and Lac Minerals had to transfer the now fully operational Williams mine to Teck-Corona. This was a historic moment in Canadian mining law; it established “fiduciary responsibility” as a recognized legal concept. From that point on, confidentiality agreements that limit the ability of the major company to use information from a property visit to its own benefit, have become standard whenever a major company examines the property of a junior exploration company.

Production from the Hemlo gold mines:

Production from the Golden Giant mine ceased in 2006, and the David Bell mine closed in 2014. Barrick Gold, which had acquired all three mines, continues producing from the Williams mine. To the end of 2016, the combined production from all three Hemlo mines was 21.86 million ounces. At year-end 2016, Barrick reported proven plus probable reserves at the Williams mine of 1,588,000 ounces of gold at 1.92 g/t, in addition to measured plus indicated resources of 1,720,000 ounces at 0.90 g/t and inferred resources of 477,000 ounces at 1.93 g/t [Note: *the low grade ore is being mined by open pit, while additional higher grade ore is being mined underground*]. Adding these reserves and measured plus indicated resources to past production gives a total gold endowment for the Hemlo gold deposit (to date, exclusive of inferred resources) of 25.17 million ounces (Puumala et al, 2014; Barrick Gold Corp. Annual Reports 2014 to 2016, Barrick Gold Corp. NI43-101 report April 25th, 2017, all filed on www.SEDAR.com)



NAD83 / UTM zone 16N

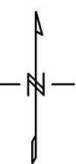


Figure 4: Hemlo South Property showing approximate areas covered by previous exploration programs

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. The northern half of the eastern half (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 east boundary. The northernmost tier of claims covering the western half of the present property were 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 apparently continued through most of the 1980s.

Bel-Air Resources 1981-1983: Figure 4 shows the areas covered by the various surveys and drill holes in the immediate area during the 1980s. 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. The results of work that lay wholly or in part outside the present property are discussed in the subsequent section under "Exploration". They are relevant to this report because they either overlap or are on strike with the Hemlo South property.

Bel-Air Resources Ltd. carried out an exploration program in 1981 that included 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. Refs: Carlson (1982), Deevy (1984a, b).

Pryme Energy 1984: The Pryme Energy claims surrounding Cache Lake were 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).

Harlin Resources 1982-1987: The Harlin Resources property was geologically mapped, and a VLF-EM survey was carried out 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 Hemlo South claims (Bradshaw, 1982). In 1987-88, the Harlin property was under option to Esso Resources Canada, which carried out a B-horizon soil geochemical survey (Hall, 1988; Grant, 1989).

Walton 1987-1988: The Harlin claims reportedly lapsed in 1987 and were restaked by R. Walton. Esso Minerals apparently optioned the Walton claims and extended the area of the soil geochemical survey. Esso Minerals is also reported (Tims, 1996) to have carried out an IP survey over the area of the Harlin drill holes (i.e. outside the Hemlo South property area).

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).

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).

1988-2006: MNM assessment work records include 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 MNM 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 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 level 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 was 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).

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 (see next section) as OGS (2002).

Government Mapping and Other Activities:

In 1933 and 1931, J.E. Thomson mapped the Hemlo area for the Ontario Department of Mines (Thomson, 1932). In 1978, Tom Muir carried out detailed (1:15,840) mapping of the area for the Ontario Geological Survey (Muir, 1980, 1982). Following the discovery of the main Hemlo gold deposit in 1981-82, Muir returned to Hemlo between 1985 and 1990, carrying out detailed lithological and structural mapping at scales from 1:2,500 to 1:250, of the area 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).

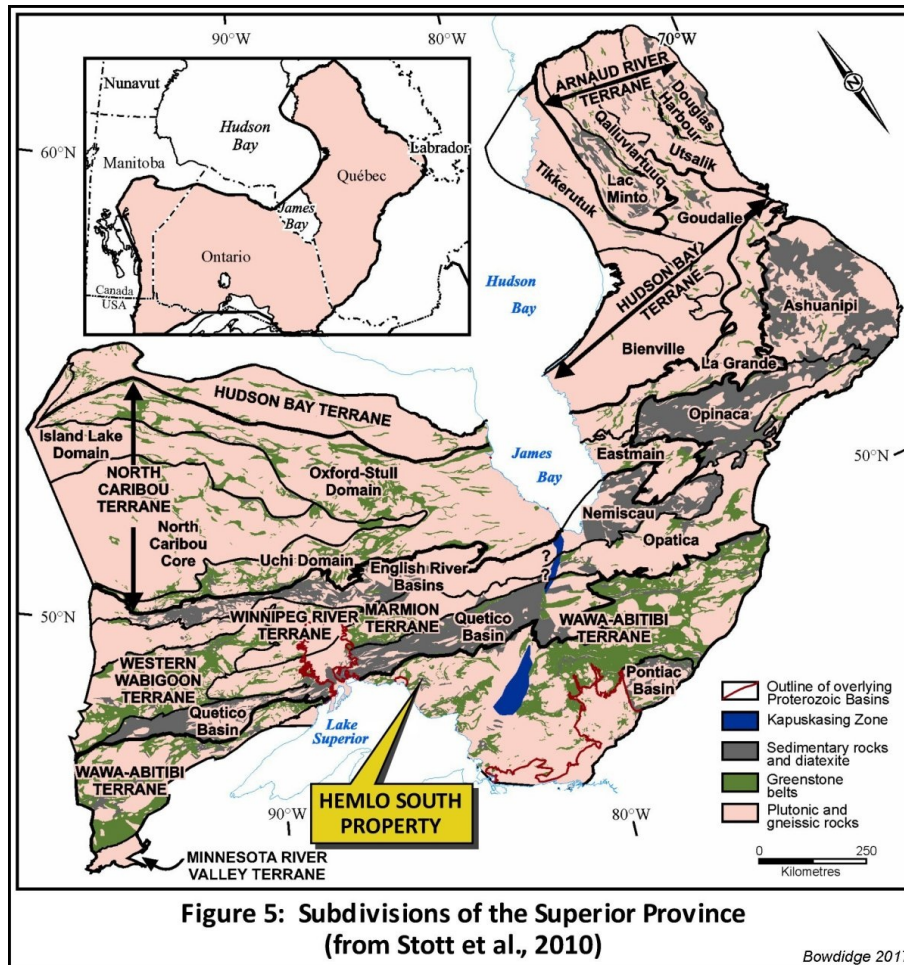
The Geological Survey of Canada also produced a map of the Hemlo area, based partly on its own independent mapping, accompanied by a series of mine cross sections provided by the mining companies (Lin, 2001). The GSC also published a detailed mineralogical study of the ore zones (Harris, 1989). Another 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 Ontario Geological Survey purchased the results of the Aerodat airborne magnetic and electromagnetic survey of the entire Hemlo greenstone belt that was flown in 1983. 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).

GEOLOGICAL SETTING AND MINERALIZATION

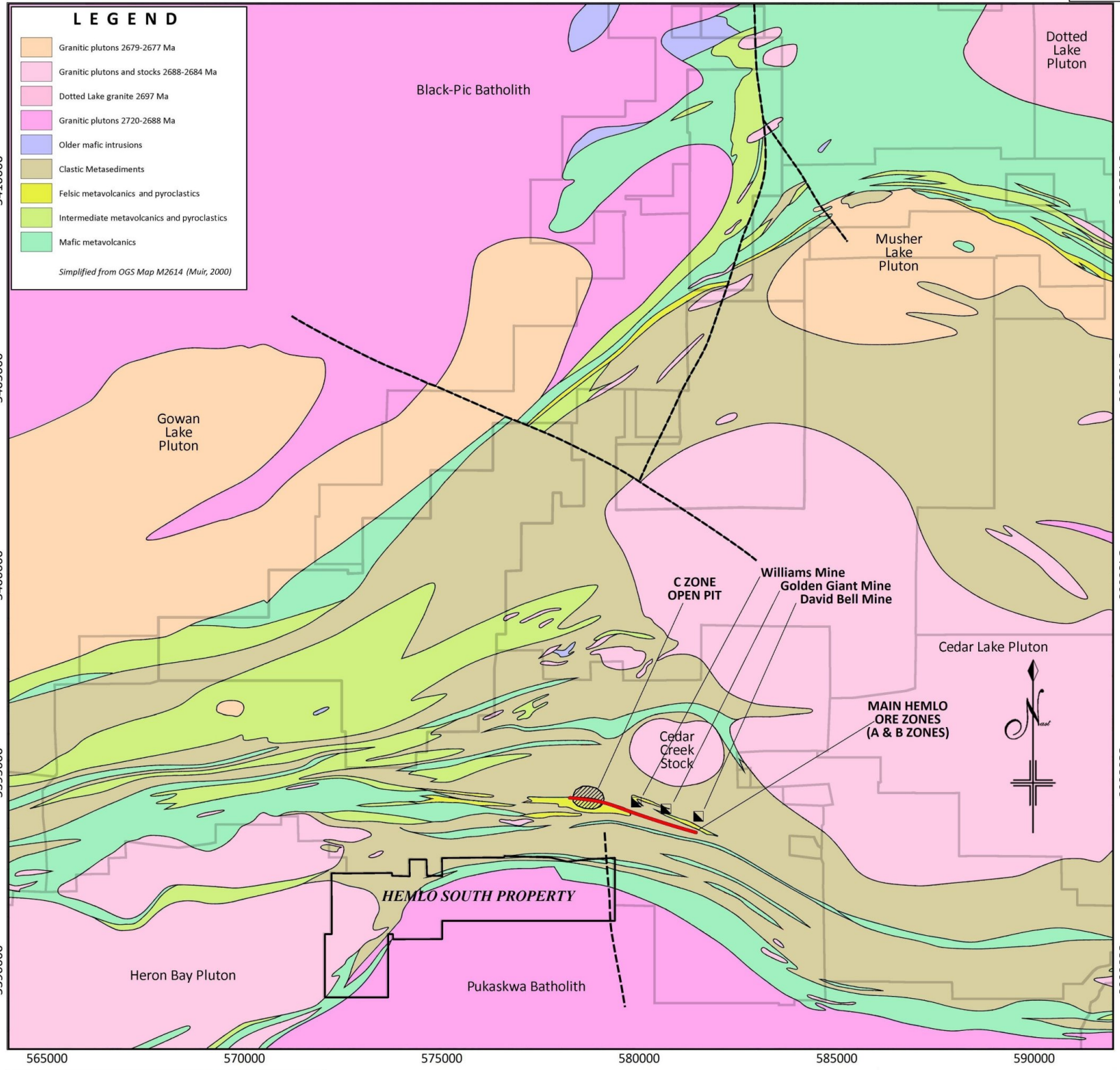
Regional Geology

The Hemlo South property is within the Archean age Superior Province of the Canadian Shield. The Superior province has been subdivided into subprovinces and “terrane” according to structural styles and perceived age differences. The currently favoured subdivision is that of Stott et al. (2010), reproduced here as figure 5.



The most economically important parts of the Shield are the greenstone belts, which can be defined as: “remnants of once larger tracts of metavolcanic, meta-plutonic and metasedimentary rocks now surrounded and/or intruded by granitoid rocks of similar absolute age. They comprise mainly subaqueous pillowed volcanic flows, interflow chert, black argillite and turbiditic wacke-mudstone and local iron formation and conglomerate, metamorphosed from sub-greenschist to amphibolite facies. The rocks contain plenty of green minerals - chlorite, epidote, actinolite” (slightly modified from Poulsen, 2013).

The Hemlo greenstone belt lies within the Abitibi-Wawa Terrane, which is well known for its prolific gold endowment. It has produced well over 200 million ounces of gold from over a hundred individual mines, and new resources and reserves continue to develop.



Tashota
RESOURCES INC.

TROJAN
GOLD INC.

**Geological Map of the
HEMLO GOLD AREA**
Northern Ontario

Figure 6: Geological Map of the Central Part of the Hemlo Greenstone Belt

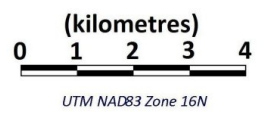


Figure 6 shows the geology of the central part of the Hemlo greenstone belt. Like most greenstone belts in the Canadian Shield, it is surrounded by granitoid rocks including later intrusives and earlier, generally migmatitic bodies that represent the basement, often partly remobilized, on which the surficial rocks of the belt were deposited.

The Hemlo belt is bounded on the south by the Pukaskwa Batholith (or Pukaskwa Gneissic Complex), and on the northwest by the Black-Pic Batholith. Both are “early” and probably represent remobilized basement rocks to the greenstone belt. The belt is intruded by later felsic intrusives which 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 smaller intrusive bodies. The smallest felsic intrusives tend to be quartz- and/or feldspar-porphyrries, which typically do not show on smaller-scale maps like that in figure 6, but are identified on property-scale maps filed for assessment work by companies.

In terms of its volcanic-sedimentary stratigraphy, the Hemlo greenstone belt is unusual in having a relatively small proportion of mafic volcanic flows, which form a roughly estimated 10 percent of the total volume of surficial rocks. Mafic volcanic flows form the apparent base of the stratigraphic sequence, around the margins of the belt, which is a typical feature of the greenstone belts of the Canadian Shield. The core of the belt is made up of felsic to intermediate flows and pyroclastics, and clastic metasediments. The field identification of many of these rocks is difficult; the early mapping by Muir (1980, 1982) showed them as mainly pyroclastic, while his later map (Muir, 2000) shows the majority to be metasediments. The relatively high grade of metamorphism, greenschist transitional to lower amphibolite facies in the core of the belt, grading to mid- to upper-amphibolite near the margins, has made rock identification difficult, even for experienced mappers.

An important sedimentary rock type in the Hemlo belt is conglomerate. A conglomerate unit is present beside the main gold zone at the Hemlo mines. Conglomerate has also been mapped in the big “V” of the interfingering contact between intermediate volcanics/pyroclastics and metasediments, 6 kilometres northwest of the gold mines (Coster et al., 1984). Poulsen (2013) has articulated a (sometimes loose) spatial association between gold “camps” and conglomerates that is perhaps not as widely recognized as it should be. Possible underlying genetic reasons for the association are based on geological inferences and are discussed in detail by Poulsen (2013).

Property Geology

The following description of the geology of the Hemlo South property is based on reports and maps by Muir (1980, 1982, 1993, 1997, 2000) and Lin (2001). Figure 7 shows the geology of the Hemlo South property, with an extract from the OGS Map M2614 (Muir, 2000). The property is dominated by the Pukaskwa Batholith (also referred to as the Pukaskwa Gneissic Complex), which occupies the southern 40 percent of the property area. It is an “older” granodiorite and gneissic granodiorite complex with pegmatitic, aplitic and porphyritic phases. It probably represents partially remobilized basement on which the supracrustal rocks (volcanics and sediments) were originally deposited.

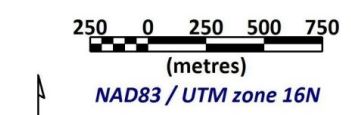
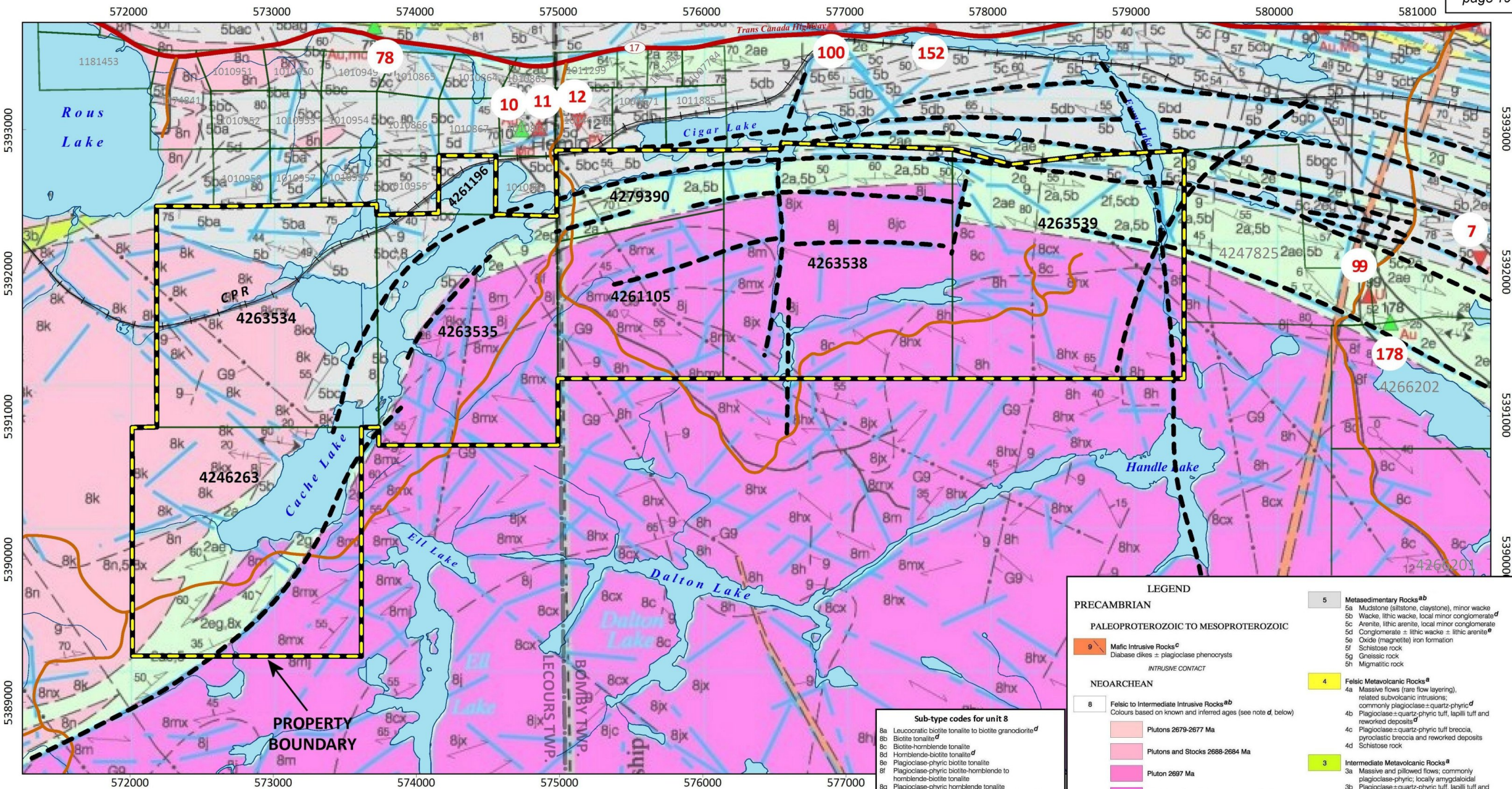


Figure 7: Local Geology of the Hemlo South Property Area

100 Mineral occurrence and number (see text)

Bowdidge 2017

Geology is an extract from OGS Map 2614 (Muir, 2000)

- Sub-type codes for unit 8**
- 8a Leucocratic biotite tonalite to biotite granodiorite^d
 - 8b Biotite tonalite^d
 - 8c Biotite-hornblende tonalite
 - 8d Hornblende-biotite tonalite^d
 - 8e Plagioclase-phryic biotite tonalite
 - 8f Plagioclase-phryic biotite-hornblende to hornblende-biotite tonalite
 - 8g Plagioclase-phryic hornblende tonalite
 - 8h Plagioclase-phryic biotite-hornblende tonalite gneiss
 - 8i Biotite granodiorite
 - 8j Biotite-hornblende granodiorite^d
 - 8k Hornblende-biotite granodiorite^d
 - 8l Plagioclase-phryic to -subphyric biotite granodiorite^d
 - 8m Plagioclase-phryic biotite-hornblende granodiorite gneiss^d
 - 8n Plagioclase-subphyric biotite-hornblende to hornblende-biotite granodiorite^d
 - 8p Variably microcline-megacrystic hornblende-biotite granodiorite^d
 - 8q Biotite-hornblende quartz monzonite
 - 8r Hornblende-biotite quartz monzonite^d
 - 8s Hornblende monzoniorite to hornblende quartz monzoniorite
 - 8t Equigranular to plagioclase-subphyric hornblende diorite to quartz monzoniorite to granodiorite
 - 8u Microcline-megacrystic hornblende-biotite diorite to quartz monzoniorite to granodiorite^d
 - 8v Mainly foliated to gneissic tonalite to granodiorite; local massive to foliated phases; diverse minor phases^d
 - 8w Plagioclase±quartz porphyry^d
 - 8x Apatite, pegmatite
 - 8y Unsubdivided massive to weakly foliated granitoid rocks

LEGEND

PRECAMBRIAN

PALEOPROTEROZOIC TO MESOPROTEROZOIC

- 9 Mafic Intrusive Rocks^c
- Diabase dikes ± plagioclase phenocrysts

INTRUSIVE CONTACT

NEOARCHAIC

- 8 Felsic to Intermediate Intrusive Rocks^{ab}
- Colours based on known and inferred ages (see note d, below)
- Plutons 2679-2677 Ma
- Plutons and Stocks 2688-2684 Ma
- Pluton 2697 Ma
- Batholiths - Mixed Terranes 2720-2688 Ma

INTRUSIVE CONTACT?

- 7 Metamorphosed Ultramafic Intrusive Rocks^a
- 7a Peridotite
- 7b Pyroxenite
- 7c Serpentinite
- 7d Hornblende

- 6 Metamorphosed Mafic Intrusive Rocks^a
- 6a Gabbro
- 6b Diorite^d
- 6c Unsubdivided, massive to gneissic, mafic to intermediate, intrusive and/or volcanic rocks
- 6d Schistose to gneissic rocks

INTRUSIVE CONTACT

- 5 Metasedimentary Rocks^{ab}
- 5a Mudstone (siltstone, claystone), minor wacke
- 5b Wacke, lithic wacke, local minor conglomerate^d
- 5c Arenite, lithic arenite, local minor conglomerate
- 5d Conglomerate ± lithic wacke ± lithic arenite^e
- 5e Oxide (magnetite) iron formation
- 5f Schistose rock
- 5g Gneissic rock
- 5h Migmatitic rock

- 4 Felsic Metavolcanic Rocks^a
- 4a Massive flows (rare flow layering), related subvolcanic intrusions; commonly plagioclase±quartz-phryic^d
- 4b Plagioclase±quartz-phryic tuff, lapilli tuff and reworked deposits^d
- 4c Plagioclase±quartz-phryic tuff breccia, pyroclastic breccia and reworked deposits
- 4d Schistose rock

- 3 Intermediate Metavolcanic Rocks^a
- 3a Massive and pillowed flows; commonly plagioclase-phryic; locally amygdaloidal
- 3b Plagioclase±quartz-phryic tuff, lapilli tuff and reworked deposits^d
- 3c Plagioclase±quartz-phryic tuff breccia, pyroclastic breccia and reworked deposits
- 3d Schistose rock
- 3e Migmatitic rock

- 2 Mafic Metavolcanic Rocks^a
- 2a Massive to pillowed flows
- 2b Massive to pillowed flows with amygdules and/or varioles
- 2c Massive to pillowed flows with plagioclase phenocrysts
- 2d Tuff, lapilli tuff
- 2e Amphibolite
- 2f Schistose rock
- 2g Gneissic rock
- 2h Migmatitic rock
- 2i Pyroxene-spinifex-textured flows

- 1 Ultramafic Metavolcanic Rocks^a
- 1a Massive to pillowed peridotitic flows
- 1b Olivine-spinifex-textured flows
- 1c Polystyrene flows
- 1d Schistose rock

Faults and shears

The northern part of the property is underlain mostly by mafic volcanics, which form a band up to 600 metres thick that wraps around the northern margin of the Pukaskwa Batholith. This unit appears to pinch out completely as it approaches Cache Lake, but reappears further to the southwest. The mafic volcanic unit is overlain by, and partially interfingers with, the next overlying unit, which comprises clastic metasediments. These include a typical greenstone belt assemblage of greywacke and argillite, with the rather less typical lithologies of arenite and conglomerate.

At 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.

Map M2614 shows faults and shear structures as pale blue lines. It is in the nature of geological mapping in the Canadian Shield that faults are almost never exposed. They are typically inferred from offsets of identifiable rock units, or their topographic expression as linear valleys that have been gouged out by ice action, or a combination of both. When inferred faults are parallel to the strike of the host rocks, there is no offset, and topographic expression is the main indicator of a fault, although if the structure is inferred to be a shear zone, increase in the intensity of schistosity or shearing may be observed as the inferred fault is approached. Muir (2000) does not indicate the basis on which he identified the faults and/or shears on the map. Those structures that might be relevant to an assessment of the mineral potential of the property have been traced over with heavy broken lines to make them more visible. There are several strike-parallel fault/shear structures at the contact between the Pukaskwa Batholith/ Gneissic Complex and the overlying mafic volcanics, as well as within the Pukaskwa Complex and within the volcanic-sedimentary sequence. The possible economic implications of these structures is discussed below under “Interpretation and Conclusions”.

In addition to the predominantly strike-parallel fault/shear structures shown on map M2614, there are a number of high-angle cross-faults. The north-south fault passing through Handle Lake, whose existence is clearly 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.

Metamorphism of the central part of the Hemlo greenstone belt is of greenschist transitional to amphibolite facies, and as the margins of the greenstone belt are approached, the grade of metamorphism increases to middle amphibolite facies. This is also true on the Hemlo South property, where mafic volcanic rocks adjacent to the Pukaskwa Batholith/Gneissic Complex are described as coarse-grained amphibolites.

Mineral Occurrences

There are no known mineral occurrences on the Hemlo South property. In the area of figure 7, outside the Hemlo South property, there are a number of mineral “occurrences” (with over 1 g/t gold and rough equivalents for other metals) and “showings” - with less than the minimum assay for an occurrence. Upright triangles indicate occurrences 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. All of these are outside the Hemlo South property, but are worth a brief mention as they illustrate that mineralization is present in the general area. They are listed below under their original numbers. For the sake of brevity, all are referred to in these paragraphs as “occurrences” even if Muir (2000) calls them “showings”.

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 metres 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. It was noted above in the section on “History” that 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 QFP and mafic volcanic, 1.417 to 6.636 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 with 2.09 g/t Au” (in a 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. It was a common sight for a few years after the Hemlo discovery to see prospectors picking at highway rock cuts in the hope of making a new find. The author is aware of at least one gold discovery that was made by this “novel” approach. Muir (2000) summarizes it as “up to 2 m wide volcaniclastic 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_3O_8 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 metre in a biotite schist (Abolins, 1983) - see below under “Drilling”.

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 kilometres that continues outside the area of figure 6 (and, of course, outside the area of the Hemlo South property. 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.

DEPOSIT TYPES

This section makes reference to the types of mineral deposit that are being sought on the Hemlo South property. It is a truism that one never really knows what exact type or configuration one is looking for until it is found. Nevertheless the use of “models” is an important part of mineral exploration, in that (as one simple example) a deposit model can guide the choice of geophysical or geochemical methods that are likely to respond to the characteristics of the deposit type being sought. When it comes to geology, where outcrop and drill hole information are often sparsely distributed, and interpolation and inference are needed, there can be a temptation to try and force the available data into a model. A grasp of the basic principles of epistemology is a useful asset in exploration; to be able to separate what one knows from what one thinks is likely, from what one would like to believe, etc.

Two gold deposit types are being sought in the Hemlo area (not just on the present property); they can be referred to as (1) Hemlo Type Gold Deposit and (2) “normal” greenstone type (also known as the orogenic type) of gold deposit.

Hemlo Type Gold Deposit

The 25-million ounce (plus) Hemlo gold deposit is geologically unique. The following is an excellent and concise summary by Brown et al. (1991) of the ore geology at the Golden Giant Mine (but applies equally to the other two mines) and is reproduced verbatim:

To date, the following observations have been made concerning the principal features of the Golden Giant deposit:

1. *The Main Ore Zone is neither exactly stratiform nor stratabound. Non-economic mineralization generally follows the same form. Intense deformation gave the impression of a stratiform zone to early investigators.*
2. *Ore is hosted within a variety of lithological units. Protoliths are very difficult to determine as a result of the high degree of metamorphism and deformation, but are thought to be represented by mud and siltstones, felsic and mafic volcanic and volcanoclastic rocks. There is a lack of any recognizable iron formation.*
3. *The dominant style of mineralization in the Golden Giant deposit is disseminated gold and molybdenite within rocks containing microcline-quartz, muscovite-quartz, biotite-microcline-quartz, and rarely calc-silicates. A secondary and minor style of mineralization is as deformed quartz pods and veinlets.*
4. *Gold grades within the Main Ore Zone are associated with molybdenum content and generally have lower values in the presence of coarse pyrite and/or an increase in barite content.*
5. *Ore-related elements found in association with the Au and Mo mineralization include Hg, Ag, Ba, As, Sb, V, Zn and locally minor W, Te and Tl. Studies indicate strong spatial correlation between Au, Ag and Mo as the principal disseminated ore type, and Au, Hg and Sb as a minor, quartz pod (remobilized) ore type.*
6. *Ore is hosted within amphibolite facies metamorphic rocks, and mineralization preceded peak metamorphism. This is indicated by the presence of kyanite and sillimanite in the hangingwall metasediments adjacent to the ore zone and gold grains in contact with prograde kyanite.*
7. *Alteration consists of an interior potassic (microcline/biotite) zone with localized silicification and pyritization, a surrounding sericite/phyllite (muscovite ± pyrite) zone, and an outer, discontinuous aluminosilicate (kyanite) “halo”. Secondary alteration consists of calc-silicate (actinolite/tremolite) zones in and around the mineralized rocks; a weak, widely distributed, fracture-controlled sericitic alteration (bleaching); a secondary aluminosilicate (fibrolite sillimanite) zone coincident with the kyanite zone; and local carbonate alteration associated with parts of the barren hangingwall rocks.*

8. *Mineralized zones in the Golden Giant deposit are spatially associated with a highly deformed and mineralized quartz-eye porphyry (footwall schist), and numerous post-mineralization feldspar porphyry sills and dykes related to the Cedar Creek stock and the Cedar Lake pluton.*
9. *At least three deformational events have been recognized in the Hemlo area:*
- i) Pre-peak metamorphic isoclinal folding and faulting. This first event is recognized by the presence of isoclinal folds through which a penetrative metamorphic fabric has developed.*
- ii) Syn-peak metamorphic isoclinal folding and post-peak metamorphic ductile-brittle shearing and associated drag folding. The second folding event is indicated by the presence of isoclinal folding of the metamorphic fabric and refolding of F1 generation structures. The ore zones and non-mineralized country rocks are strongly foliated and exhibit dextral mylonitic and cataclastic textures attributed to post-peak metamorphic ductile-brittle shearing.*
- iii) Late brittle faulting. Brittle deformation is indicated by multiple well developed angular fault breccias and clayey to rock flour-rich gouge zones which are developed sub-parallel to the regional metamorphic fabric.*
10. *The presence of a major fault structure (Lake Superior Shear Zone) containing mylonitic and cataclastic textures, and which is also the focus of early porphyry (footwall schist) and later feldspar porphyry dykes, suggests that this structure has been reactivated many times.*

Reading the above summary, it is clear that earlier interpretations of the Hemlo gold deposit as syngenetic (i.e. formed at the same time as the host rocks) had, by 1991, been superseded by an epigenetic (i.e. introduced into pre-existing rocks) model. Clearly, this change was based on years of detailed examinations of the ore zone during mining. An epigenetic origin brings the Hemlo gold deposit into the same general class as the “normal” greenstone-type gold deposits. However, the chemistry of the ore zone, with anomalous enrichment in a wide variety of elements that are never seen in “normal” greenstone gold deposits, means that the Hemlo deposits are enigmatic. The chemistry suggests a possible affiliation with epithermal gold deposits (i.e. formed at relatively shallow depths in subaerial volcanic complexes), but the morphology is more akin to volcanogenic gold deposits like those of the Bousquet-Cadillac area of Québec. That said, the stratiform shape of the deposit could be a function of extreme strain in the Lake Superior Shear Zone. Figure 8, copied from Lin (2001) shows the generalized structure of the deposit area.

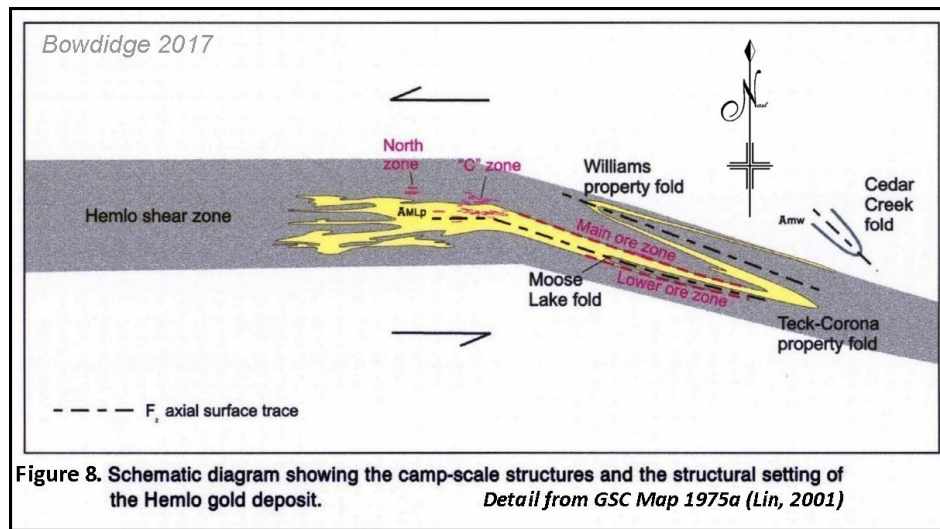


Figure 8. Schematic diagram showing the camp-scale structures and the structural setting of the Hemlo gold deposit. Detail from GSC Map 1975a (Lin, 2001)

There is no doubt: the Hemlo gold deposit is unique, and its origin is somewhat mysterious. That said, it has enough distinguishing characteristics that give a chance of finding similar deposits in the same, or similar, greenstone belt.

Geophysically, the Hemlo deposit did not respond to any of the airborne electromagnetic systems available at the time. This is puzzling because with a strong schistosity and a fairly high pyrite content, there should have been detectable conductivity. It did respond to a ground VLF survey however, so there is some weak conductivity. Incidentally, the Hemlo discovery, coupled with the discovery of the Ferderber and Dumont gold deposits near Val d’Or, Québec, in the late 1970s, changed the EM-16 VLF receiver from what had been referred to as a “toy” to a useful tool in gold exploration, where weakly conductive shear zones are one of the main targets in exploring for greenstone-type gold. The most significant geophysical feature is the strong potassium enrichment, which is readily detectable by airborne gamma-ray spectrometry. This is illustrated in figure 9, copied from Shives et al. (1995).

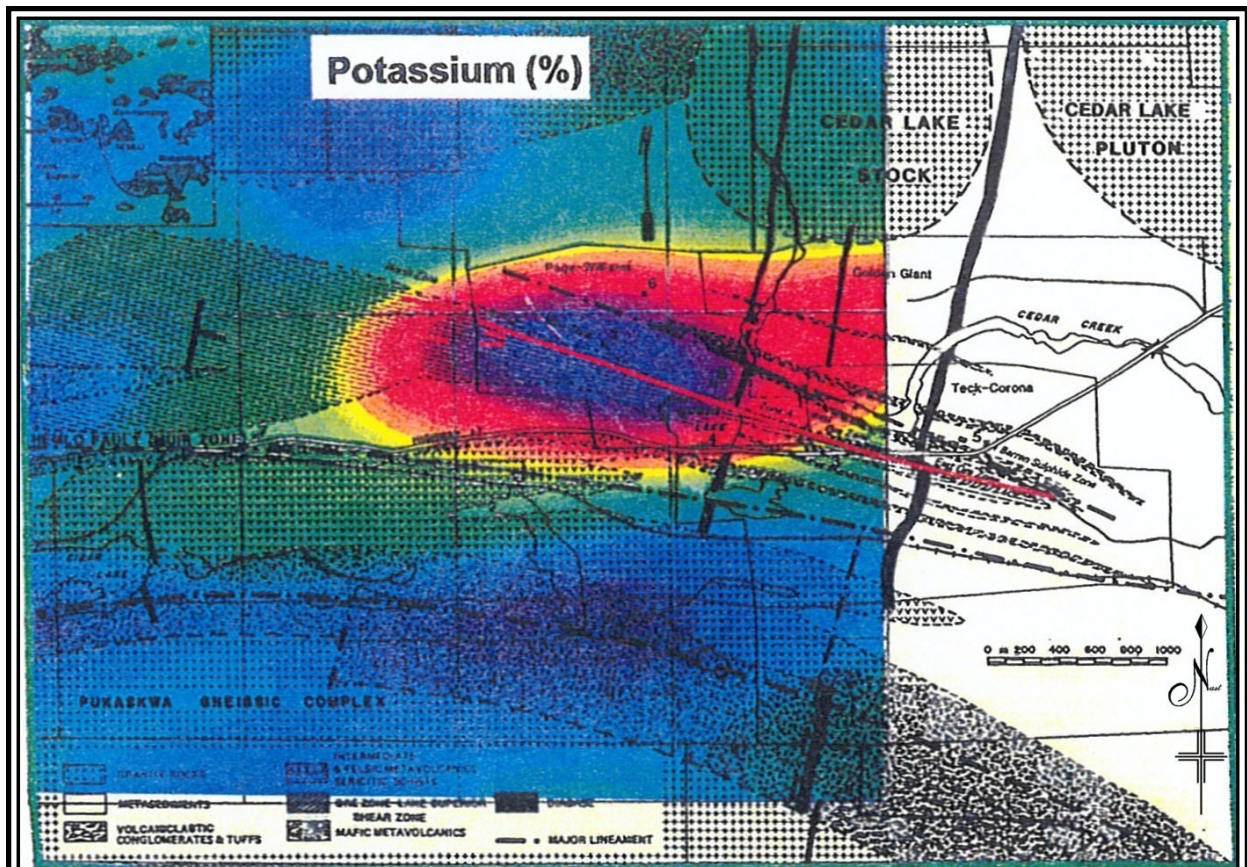


Figure 9: Equivalent potassium map for airborne gamma-ray spectrometer survey of the Hemlo gold deposit (from Shives et al., 1995).
The red line indicates the main Hemlo gold zone.

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Greenstone (Orogenic) Gold Deposits

This class of gold deposit includes the great majority of gold occurrences, deposits and orebodies in the Canadian Shield. They occur in greenstone belts, hence the name. Following are a few points that characterize greenstone gold deposits:

- Greenstone belts **tend** to have a stratigraphy with older volcanic rocks at the base, overlain by younger sedimentary rocks (although some belts have two or more volcanic-to-sedimentary cycles) and gold deposits **tend** to occur close to the volcanic-sedimentary transition.
- Gold mineralization can occur as veins or clusters of veins, or as wallrock disseminations.
- Mineralogy is usually simple, with native (“free”) gold, and auriferous pyrite or other sulphide. 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.
- Associated alteration is commonly dominated by silica (as veins or pervasive silicification), and carbonate (sometimes zoned in the sequence calcite > dolomite > ferroan dolomite > ankerite). Potassic alteration is also common, usually represented by abundant sericite. Potassic alteration to the levels seen at the Hemlo gold deposit is rare.
- Host rocks are (in approximate order of decreasing frequency): mafic volcanics, minor felsic intrusives (i.e. quartz and/or feldspar porphyry, usually within mafic volcanics), clastic metasediments, iron formation, larger felsic intrusives (i.e. granites), ultramafic volcanics (komatiites), mafic intrusives (gabbro).
- There is a close relationship between gold mineralization and deformation zones. Gold seldom occurs in large-scale, deep crustal structures that extend for hundreds of kilometres like the Destor-Porcupine “Fault” or the Kirkland Lake -Cadillac “Break” but proximity to such major structures is an important pointer to areas of higher gold potential. Gold deposits tend to occur more commonly in second- or third-order “splays”. Deformation zones are shear zones rather than simple faults, and gold deposition in shear zones occurs in veins and vein complexes that form as deformation changes from brittle to ductile and back again, often repeated many times.
- Gold mineralization in simple fracture veins is less common than in shear-hosted veins, and usually restricted to massive intrusive host rocks.
- The Canadian Shield (and other shields) includes, in addition to greenstone belts, belts of metasedimentary rocks that were derived from erosion of pre-existing granites, gneisses, migmatites etc. These metasediments are not greenish-grey like those within greenstone belts; they are more siliceous and often contain alumina-rich minerals like garnet, sillimanite, white mica, etc. Well known examples in the Superior Province are the

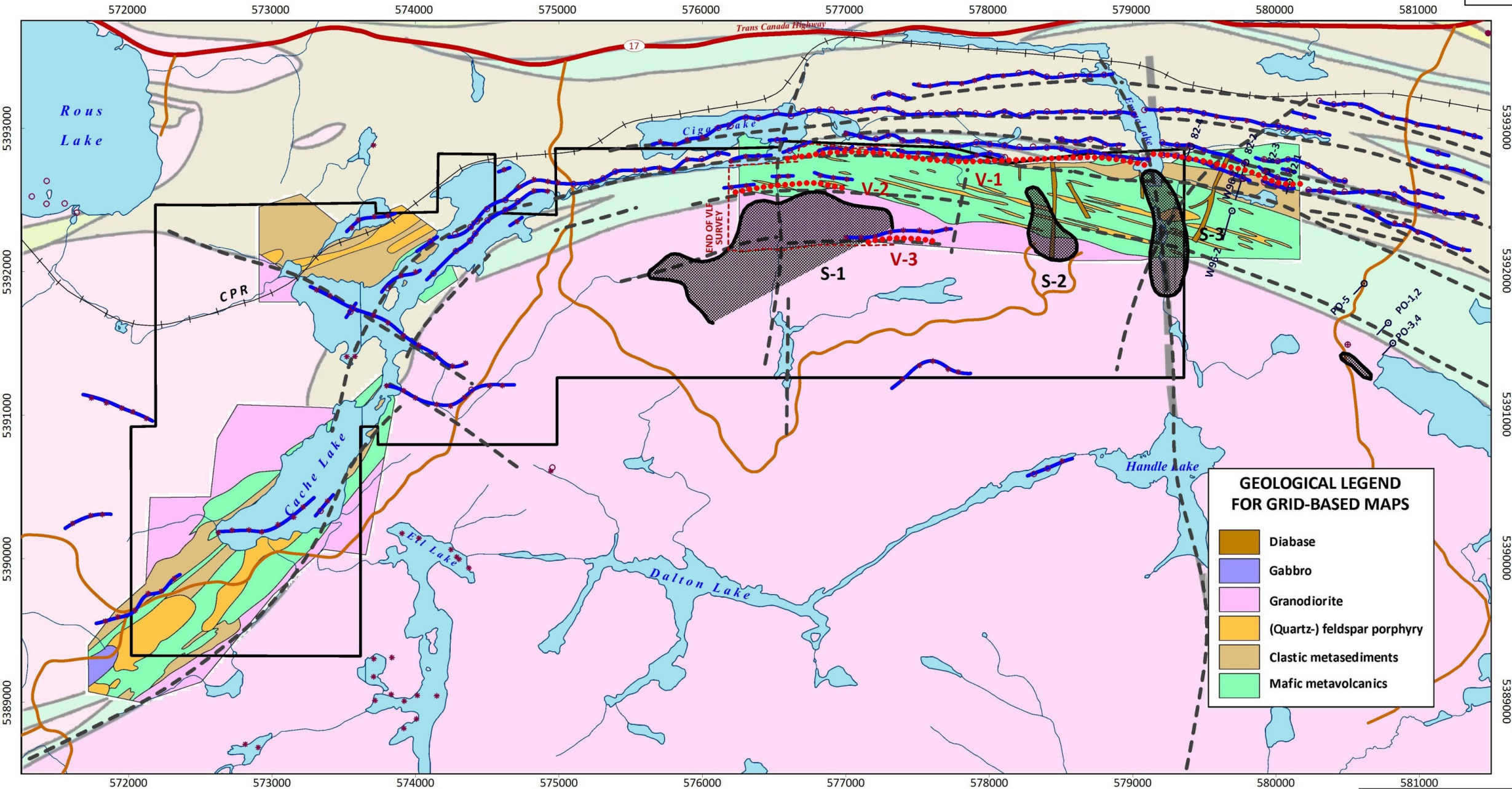
Pontiac and Quetico “Basins” shown in figure 5. The last two major gold mines to open in Canada are in metasedimentary rocks that appear to grade out from a greenstone belt (Éléonore mine, Québec) or are juxtaposed against a greenstone belt by a major deformation zone (Osisko-Malartic mine, Québec). The inference is clear that areas of sedimentary rocks external (but close) to greenstone belts have been overlooked in the past.

To summarize geological features that can help to localize gold mineralization in greenstone belts:

1. Proximity to major structures (more relevant to defining areas of interest than localizing a deposit)
2. Shear zones of any size, shape or orientation.
3. Minor intrusions (porphyries).
4. Carbonate alteration (tends to be more widespread than other alteration phenomena)
5. Volcanic-sedimentary contacts and lateral transitions
6. Presence of conglomerate.

And geophysical features that can be useful in exploring for greenstone gold:

1. Weak conductors in electromagnetic surveys. Modern, time-domain EM surveys are less responsive to the kind of weak conductivity that characterizes most shear zones, than the frequency-domain surveys like the Aerodat system used for the large-scale Hemlo area survey. However, ground VLF and horizontal loop (MaxMin) surveys are still readily available.
2. Magnetic surveys, both ground-based and airborne, are invaluable in mapping lithology and structure. And if iron formations are present, magnetic surveys will delineate them.
3. Potassium alteration is hard to spot on the ground, but is readily detectable by airborne gamma-ray spectrometry. In addition, it can help with discriminating between different lithologies, using variations in ratios between uranium, thorium and potassium.



**1983 AERODAT AIRBORNE EM SURVEY
REVISED AS GDS 1207 (OGS, 2002)
ANOMALY SYMBOLS BY CONDUCTANCE**

- >32 siemens
 - 16.0-31.9 siemens
 - 8.0-15.9 siemens
 - 4.0-7.9 siemens
 - 2.0-3.9 siemens
 - 1.0-1.9 siemens
 - 0.0-0.9 siemens
 - * very weak conductor
- Anomaly axis

- V-3 VLF CONDUCTOR AXIS
- S-2 GOLD GEOCHEMICAL ANOMALIES IN SOIL

250 0 250 500 750
(metres)
NAD83 / UTM zone 16N

— Faults and Shears (interpreted)

Figure 10: Compilation of features from earlier exploration programs. Geology copied from OGS Map M2614 (also shown on fig. 6) is faded to enhance the visibility of grid-based mapping.

LEGEND

- Granitic plutons 2679-2677 Ma
- Granitic plutons and stocks 2688-2684 Ma
- Dotted Lake granite 2697 Ma
- Granitic plutons 2720-2688 Ma
- Older mafic intrusions
- Clastic Metasediments
- Felsic metavolcanics
- Intermediate metavolcanics
- Mafic metavolcanics

Simplified from OGS Map M2614

EXPLORATION

This section describes the results of exploration conducted on the Hemlo South property, and makes observations about their relevance and/or utility in exploring for gold. The geological, geophysical and geochemical features referred to in this section, that result from previous exploration, are shown synoptically in figure 10.

Exploration by Previous Claim Holders

In the section on “History” above, the exploration activities of previous claim holders were summarized. In the section on “Geological Setting and Mineralization”, a number of mineral occurrences lying outside the Hemlo South property were briefly described. In this section, results of exploration that bear on the mineral potential of the Hemlo South property are outlined, and this may involve concatenation of results from different programs.

Soil Geochemical Anomalies: Figure 10 shows three gold-in-soil geochemical anomalies labelled S-1 to S-3, and a fourth (unlabelled) outside the property boundary. These have been compiled from: [a] A-horizon soil surveys by Pricemore Resources, analysed for gold only, [b] B-horizon soil surveys by Esso Minerals on the Harlin Resources claims and part of the Bel-Air claims, analysing for gold, silver, copper, zinc, lead, arsenic, molybdenum, antimony and mercury, and [c] an A-horizon soil survey by Bel-Air Resources, analysed for gold only¹. To eliminate possible confusion, it should be pointed out that Bel-Air Resources carried out its own A-horizon survey over its entire claim group (see figure 4), and subsequently, Esso Minerals optioned the property and carried out a B-horizon survey in the area outlined by a dotted line in figure 11, i.e. over the area of the pyritic tuff “sucker zone”. The presence of these anomalies close to and “down ice” from the giant Hemlo gold deposit leads to questions. Do these anomalies reflect gold-enriched bedrock in the same general area as (or a short distance up-ice from) the anomalies, or were the anomalous soils developed on glacial till that contained material eroded from the Hemlo gold zone and transported to its present location by the Laurentide Ice Sheet? The next paragraphs attempt to assign probabilities to the two alternatives.

The use of geochemical surveys in glaciated terrain requires that the survey area is covered in glacial till, more precisely known as “ground moraine”. The till, which usually forms a discontinuous sheet of variable thickness, consists of an unsorted mix of rock fragments from boulder size to clay size, which have been plucked from the rock surface that the ice sheet has moved over and eroded, and are carried in the basal layer of the ice as it moves away from the ice centre (in northwest Ontario, the ice sheet came from a centre in the mountains of Labrador and northern Québec). Any mineralized zone, or other rock type of distinctive composition, that is being actively eroded by the ice will contribute

1

Historical note: Prior to about 1980, soil and sediment geochemical analysis for gold was not considered to be technically possible. In 1980, Activation Laboratories developed a protocol for analysing gold down to the parts-per-billion level by neutron activation analysis, using the McMaster University nuclear reactor. The problem with this method was that interference from elements present in “mineral soils” made determination of gold impossible. The compromise was to use only organic soils (A horizon), and hence A-horizon geochemistry became very popular in gold exploration programs. By about 1983, improvements in atomic absorption spectrometry had developed to the point that it could be used to measure gold contents in the gold “beads” resulting from fire assay preparation with great precision. This made it possible to determine gold down to a few parts per billion in rocks and any kind of soil, and “FA-AA” analysis of B-horizon or C-horizon soils essentially made the A-horizon soil surveys obsolete. Also the demand for neutron activation analyses had overwhelmed the capacity of the reactor, leading to long wait times. The history of the Hemlo South property spans the change from the short-lived A-horizon survey to the B-horizon surveys still used today. Blending the results of the two types of survey is not suitable for rigorous survey work; it is used here to approximately delineate areas of anomalous gold in soils. Another drawback of the A-horizon surveys was that it could not be used for elements other than gold.

material to the till, which is ultimately deposited when the ice sheet stops moving and starts to melt. A dispersion “fan” forms, spreading out from the source, and also up through the till sheet until it reaches the top of the till sheet (which then becomes the post-glacial land surface). As the mineralized material moves away from its source in a down-ice direction, it becomes diluted by mixing with ground-up rock from elsewhere, and its geochemical signature weakens until it cannot be detected.

Figure 11 shows the Hemlo South property and the Hemlo gold deposit on a topographic base. Ice directions can be inferred from the shapes of ice-sculpted bedrock knobs and/or drumlinoid ridges made of glacial till. Inferred ice movement directions vary from about 215° to 235°, and average close to 225°, i.e. southwest. This direction is consistent with ice directions given by Zoltai (1965). Figure 11 shows a stylized dispersion fan that would be expected to develop from the Hemlo gold deposit. It does not indicate the likely distance down-ice from the source that measurable anomalies could be expected to be found.

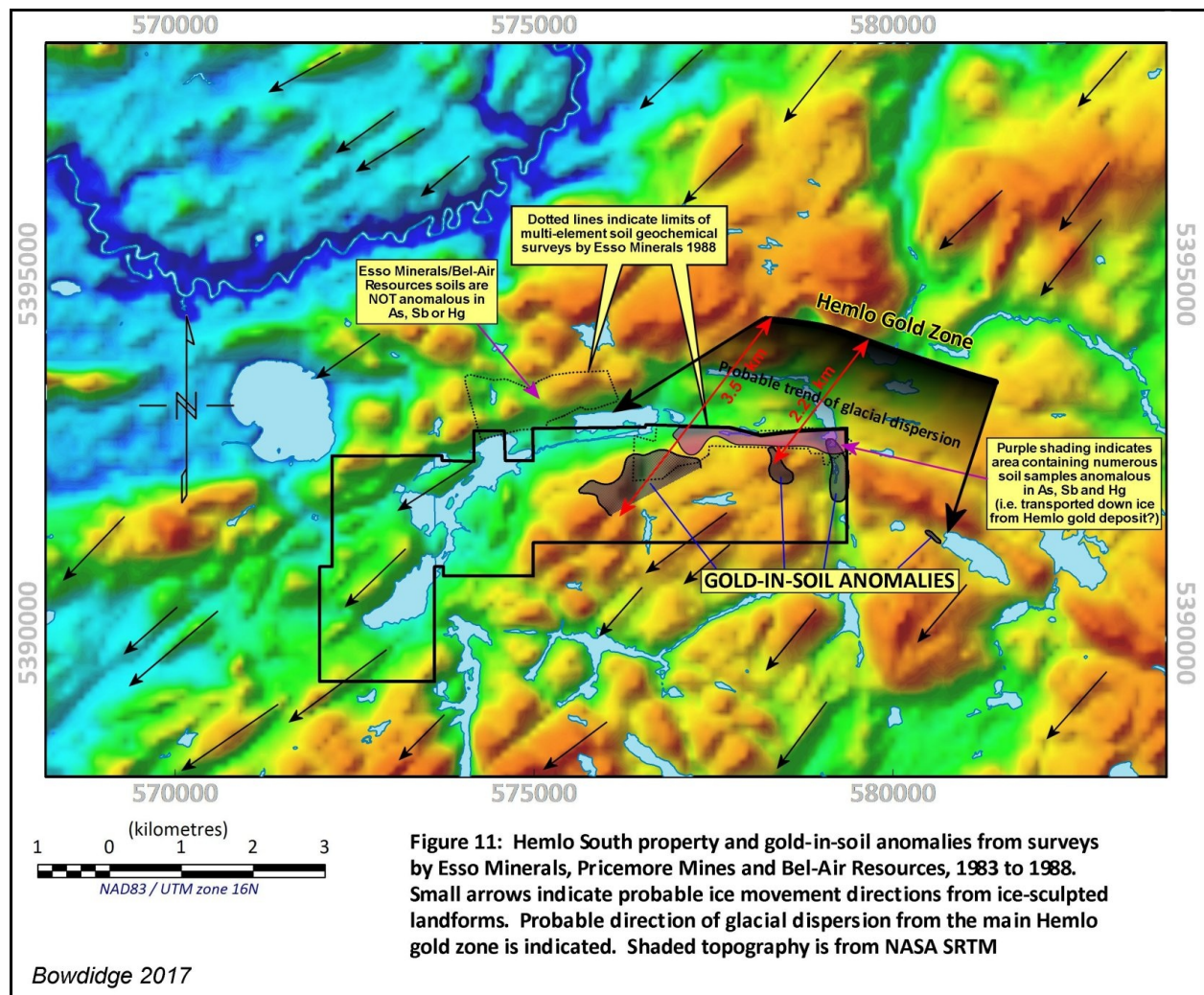
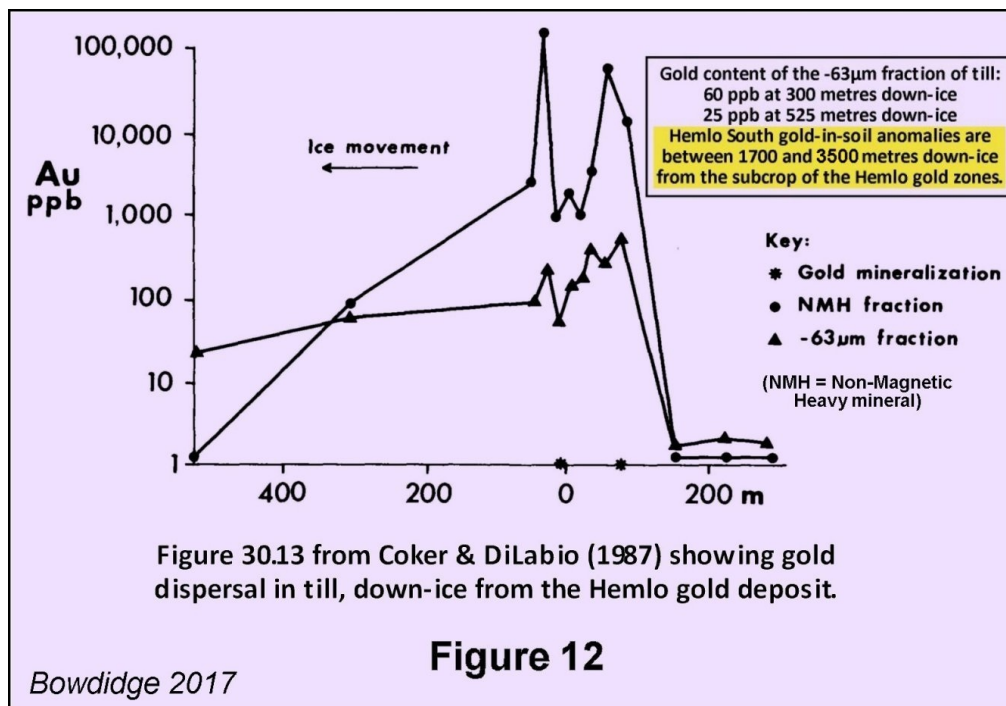


Figure 12 gives some evidence on the “distance of transport” question. It shows analyses of the $-63\mu\text{m}$ (clay) fraction of till, and non-magnetic heavy mineral concentrates from the same tills, along a line across the Hemlo gold deposit from Coker and DiLabio (1987). Dr. DiLabio is one of the Geological Survey of Canada’s experts in using geochemical analysis of till (and, indirectly, soils developed on tills) in practical mineral exploration. Figure 12 shows that the gold content of the clay fraction has fallen from over 500 ppb over the source (the Hemlo gold deposit) to 25 ppb at 525 metres down-ice. If the trend is extrapolated, the gold content would fall to background levels (5 ppb) between 800 and 900 metres down-ice from the source. The gold-in-soil anomalies shown in figure 11 were chosen with a threshold of 20 ppb gold, and include values of over 100 ppb gold (in soil presumed to have developed on till). They lie between 1700 and 3500 metres down-ice from the Hemlo deposit.



The dotted lines on figure 11 show the approximate limits of the Esso Minerals multi-element B-horizon soil surveys. The purple shading indicates an area that encloses numerous samples anomalous in arsenic, antimony and mercury. These elements (As, Sb and Hg) are anomalous in the Hemlo gold deposit and uncommon (especially the antimony and mercury) elsewhere. The parameter that defines the anomalies was generated by “normalizing” the value of each element in samples as a multiple of the median value, and adding the multiples for each of the three elements in each sample; this was a simple way of illustrating the “fingerprint” of Hemlo gold. The area of the As-Sb-Hg anomaly is constrained by the narrow swath of the survey, except at the west end where the survey area broadens out, and the anomaly apparently tapers out at a distance of about 2.2 km down-ice from the Hemlo gold deposit. By contrast, the As-Sb-Hg values in the Bel-Air survey show no anomalies; this area is not down-ice from the Hemlo gold deposit.

On the basis of these observations, it appears probable that the gold-in-soil anomalies that have been very roughly outlined by geochemical surveys in the 1980s, are further down-ice from the Hemlo gold deposit than would be expected if that had been the source of the anomalies. From this, it can be concluded that there is a reasonable prospect that the anomalies reflect a local source or sources of gold-enriched rock, possibly within the limits of the Hemlo South property. Recommendations made in this report will propose ways of verifying and following up the soil anomalies.

The small grid of 40 MMI soil samples taken by Golden Meadow Explorations in 2006 to the northwest of Cache Lake did not yield any anomalous gold results. Two samples gave weakly anomalous copper results; both were taken immediately adjacent to the CPR track and might have been contaminated (Komarechka, 2006).

Geological Observations: Figure 10 shows simplified geology in three areas where companies (Harlin Resources and Pryme Energy/Noranda Exploration) carried out grid-scale mapping (Kuhns, 1984; Yeomans & Bradshaw, 1983; Komarechka, 2006). There is more detail than in the government maps, which is normal for this type of work. Two features stand out from the maps, and from the accompanying reports:

- In the Cache Lake area, there is a great deal of sheared or highly schistose rock, especially the quartzofeldspathic metasediments. Also there is more alternation between mafic volcanics and metasediments at the southwest end of Cache Lake than shown by Muir (2000), hinting at structural repetition by strike-parallel faults that may not be exposed. The Noranda report (Kuhns, 1984) states that a sample of metasediment collected at Cache Lake was analysed and contained 430 ppb gold (or 0.43 g/t). A search of the report and its appendices did not find the sample number, assay certificate or exact location. Komarechka (2006), describing reconnaissance-level mapping by Golden Meadow Explorations, refers to a shear zone in metasedimentary rocks on the northwest side of Cache Lake, parallel to the shoreline.
- In both the Cache Lake area and east of Cigar Lake, bodies of (quartz-) feldspar porphyry have been mapped. Small porphyry intrusions are commonly associated with greenstone type gold mineralization and this is an encouraging feature for the gold potential of the property.

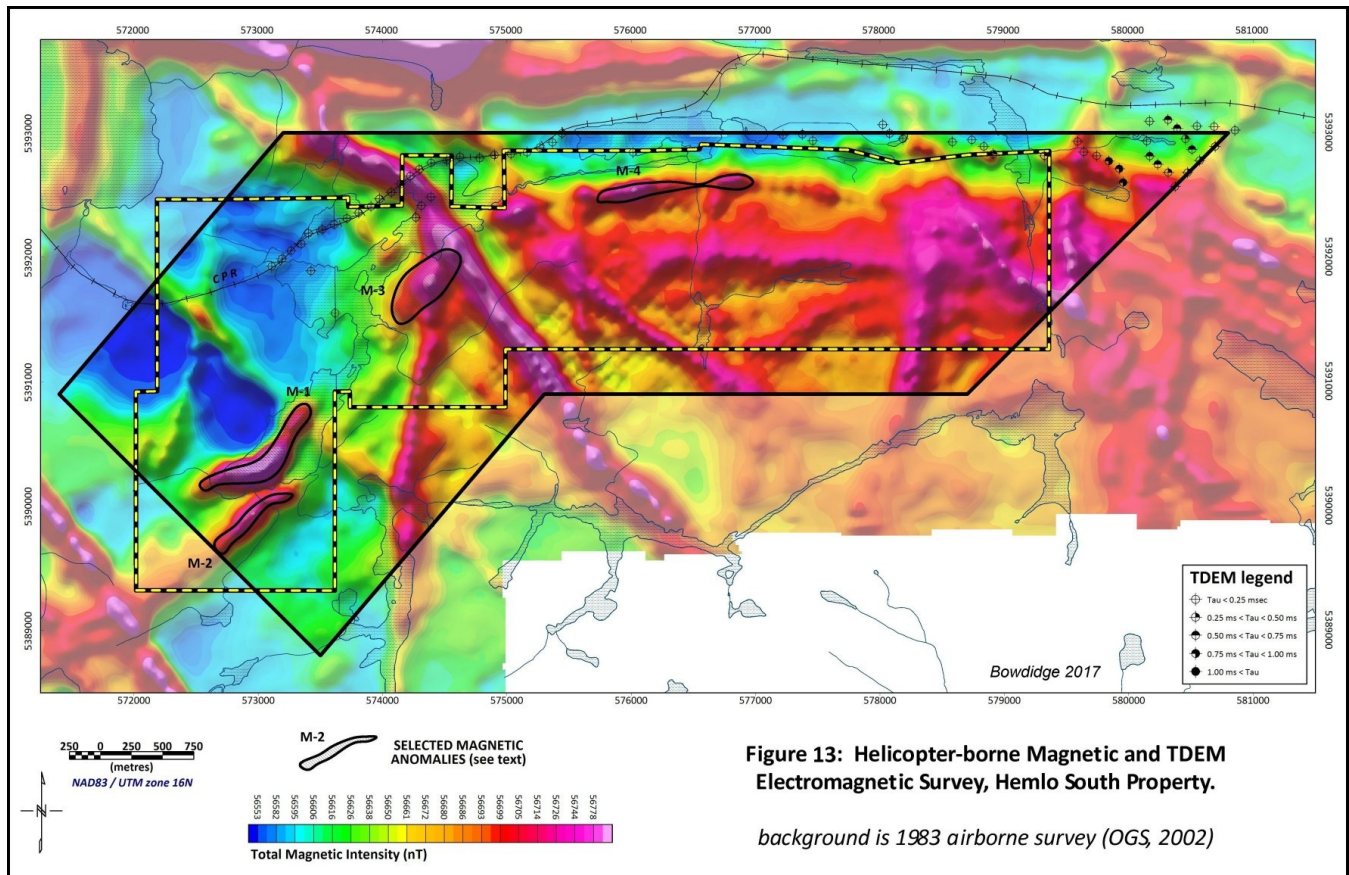
Geophysical Features: Figure 10 shows the faults or shear zones taken from the map of Muir (2000). It also shows VLF conductors from the 1982 ground VLF survey by Harlin Resources (Ross, 1982), and EM anomalies from the 1983 Aerodat airborne magnetic-EM survey (OGS, 2002). The correlation between VLF and airborne EM conductors is good, and well within the uncertainties as to exact locations of either survey.

The airborne EM anomalies are all weak; they have interpreted conductances of 1 siemen or less, with the exception of a cluster of stronger conductors east of and outside the Hemlo South property, in the area where Harlin Resources drilled four holes and Hemlo Gold Mines drilled another two holes. Those drill results and their possible implications are discussed in the next section on “Drilling”.

The airborne and VLF conductors not only correlate well with each other, but they also correlate well with the mapped or interpreted faults and shears. With weak anomalies like this, it is never certain whether the immediate cause of the anomalies is conductivity within the (interpreted) shear or fault, or conductivity in wet, sometimes clayey overburden in a narrow, linear bedrock depression. Of course, the assumed cause of such a bedrock depression is differential erosion of a softer or less competent rock, i.e. a fault, shear or similar feature, so that the anomaly is still a valid target for exploration, especially when accompanied by other features, like a soil geochemical anomaly.

Recent Exploration by Tashota Resources Inc.

In 2014, Tashota Resources Inc carried out a helicopter-borne time-domain electromagnetic, magnetic and gamma-ray spectrometric survey of the Hemlo South property. The survey was performed by Prospectair Geosurveys of Gatineau, Québec. Flight line spacing was 100 metres. The western part of the property was flown on northwest to southeast lines, and the eastern part on northeast to southwest lines, with an area of overlap in the centre. Figure 13 shows the magnetic survey and EM anomalies (from Dubé, 2014).



The only EM anomalies on the property are a string of weak conductors along the CPR track, obviously 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 (see next section). It is clear from this that the TDEM survey does not respond as well to weakly conductive shears, as the older, frequency-domain survey, as was noted above under “Deposit Types”.

The magnetic survey shows some features of interest. There are at least two sets of diabase dykes, which are of no economic interest. The volcanic and sedimentary stratigraphy can be seen wrapping around the Pukaskwa batholith/gneissic complex. Four discrete magnetic anomalies have been identified and labeled; they are presumed to be caused by magnetite-bearing rocks, and should be briefly examined to determine their petrology.

Figures 14 and 15 show the gamma-ray spectrometer results. The purpose of the survey was to identify areas of alteration involving potassium enrichment, and these two maps show “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.

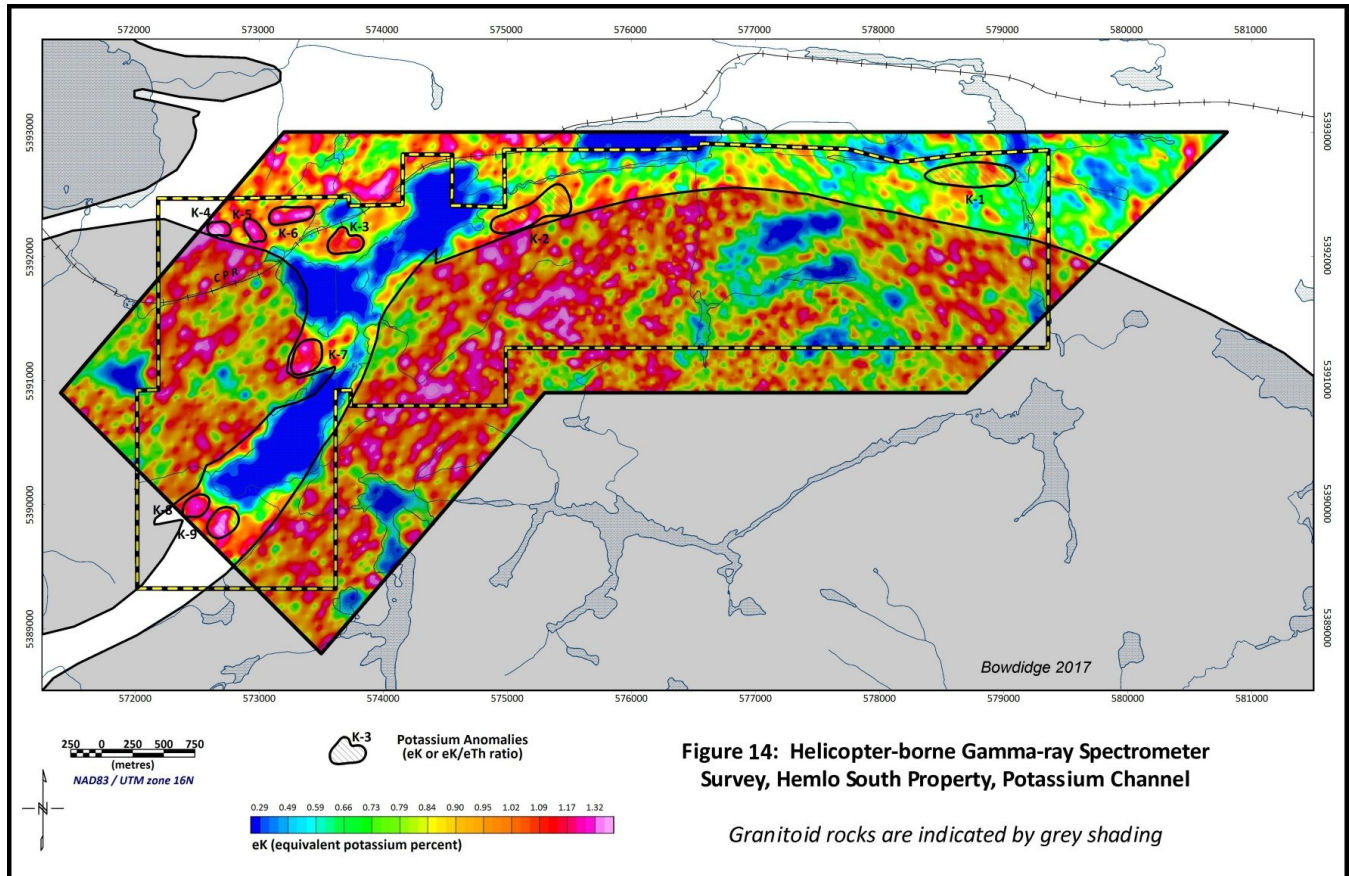
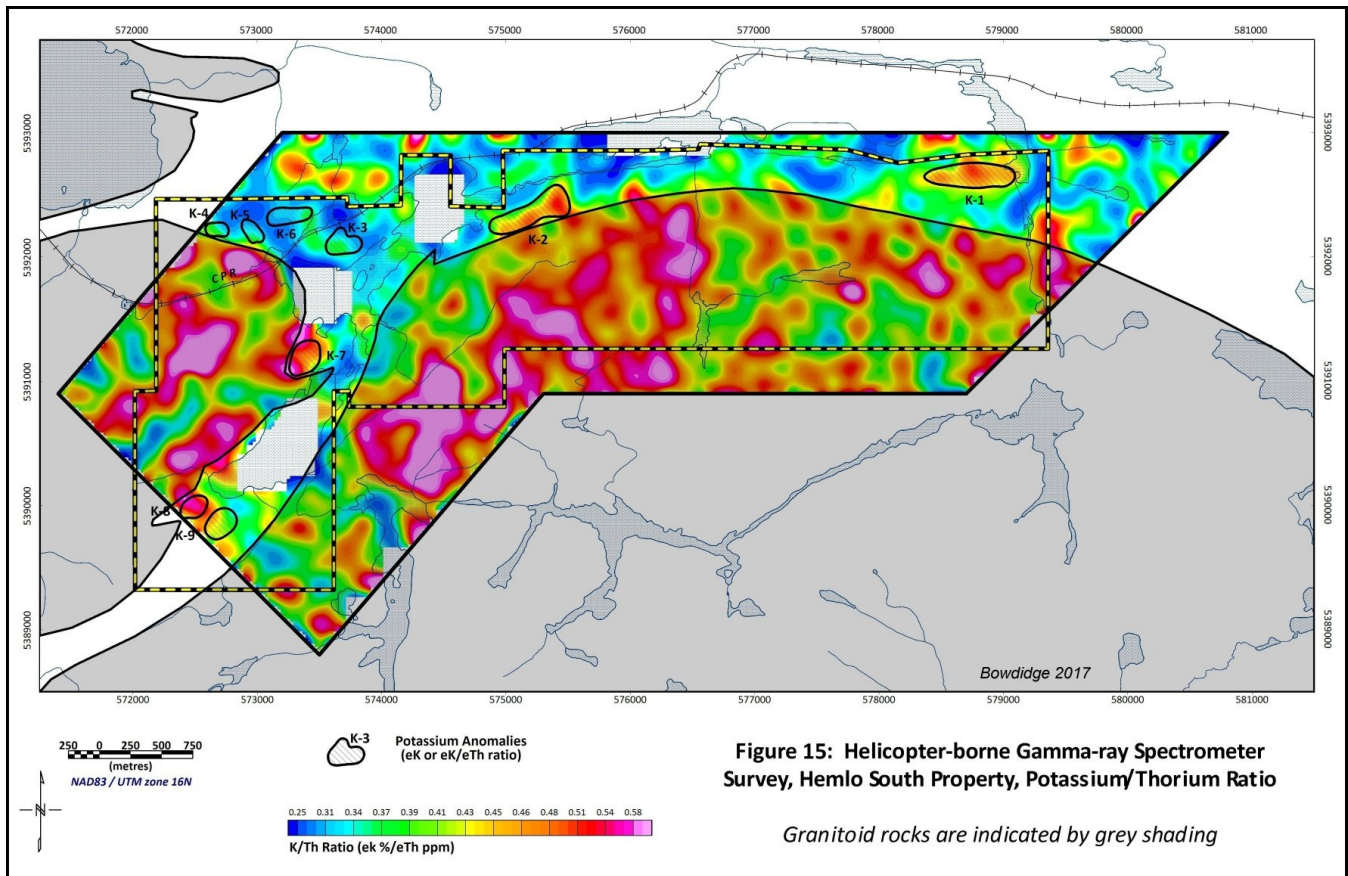


Figure 14 shows very low potassium content over lakes and swamps, where water has absorbed any gamma rays emitted by bedrock or soil. On figure 15, the K/Th grid is dummed out over the bigger lakes, where radioactivity is so attenuated that ratios become meaningless.

Nine separate potassium anomalies have been identified within the volcanic and sedimentary rocks. They are labelled 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 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 15 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 14. 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, based on reconnaissance mapping by Golden Meadow Explorations (Komarechka, 2006). As noted above, MMI soil samples taken in the area did not yield anomalous gold values. By contrast, anomalies K-1 and K-2 are more prominent on the K/Th ratio map, and are therefore more likely to reflect potassic alteration.

DRILLING

Recent Drilling by Tashota Resources Inc and Trojan Gold Inc.

In May, 2017, Tashota Resources Inc and Trojan Gold Inc drilled a single stratigraphic diamond drill hole on the Hemlo South Property. The term “stratigraphic (drill) hole” is borrowed from the oil and gas industry; it signifies a hole drilled for geological information, without anticipating intersecting any mineralization. The basic statistics for the hole are as follows:

Hole Number: HS17-01

Collar coordinates (UTM, NAD83, Zone 16 north): 575002 East, 5392625 North

Inclination -55°; Azimuth 170°; Depth 422.5 metres; Core size BTW

The drill hole was put down for the purpose of assessing the nature of the strike-parallel shear zones or faults that are interpreted to occur between the supracrustal rocks of the Hemlo greenstone belt and the Pukaskwa batholith of gneissic complex. It was collared in the northwest corner of the property, beside the access road that runs south from Highway 17. It was planned to reach a depth of 700 metres. Drilling was carried out by Eva Lake Mining and Edcor Drilling Services, recovering BTW core. Unfortunately, the drill could not reach beyond 422 metres, and the hole was terminated at that depth. Figure 16 is a cross section of the hole. The location of the drill hole and its track projected to surface are shown on figure 17. The drill hole was surveyed for deviation with a Reflex digital survey instrument.

Only two lithologies are present in the drill core. There is a mafic unit, logged as mafic tuff, which is a schistose amphibolite. The relatively high grade of metamorphism and deformation have obscured primary textures to the point that identification as a pyroclastic is not certain. The other rock unit is feldspar porphyry. The number and thickness of the porphyry intersections increase down hole. The feldspar porphyry is often schistose, and it is concluded that these small intrusions are sub-volcanic and penecontemporaneous with the host mafic rocks. It is also possible that the two long intersections of feldspar porphyry towards the end of the hole, may be offshoots of the Pukaskwa batholith/gneissic complex.

Minor amounts of very fine, disseminated pyrite occur at intervals throughout the hole, in both mafic tuff and feldspar porphyry. There are also occasional quartz veins with crack-seal textures. Alteration observed is of two types: silicification and hematization. The cross section in figure 16 shows the silicified intervals. Silicification is loosely associated with shearing, and both become more abundant towards the end of the hole. Hematization also tends to increase with depth.

At 69.1 to 69.5, and 76.9 to 77.0 metres, there are narrow zones of fault gouge. These are presumed to be the fault that runs along the creek draining from Cigar Lake into Cache Lake.

5392200N

5392300N

5392400N

5392500N

5392600N





North (ast)

Creek

HS-17-01

Fault planes with gouge

LEGEND

-  Feldspar porphyry
-  Mafic tuff
-  Silicified and sheared zones
-  Shearing, faults

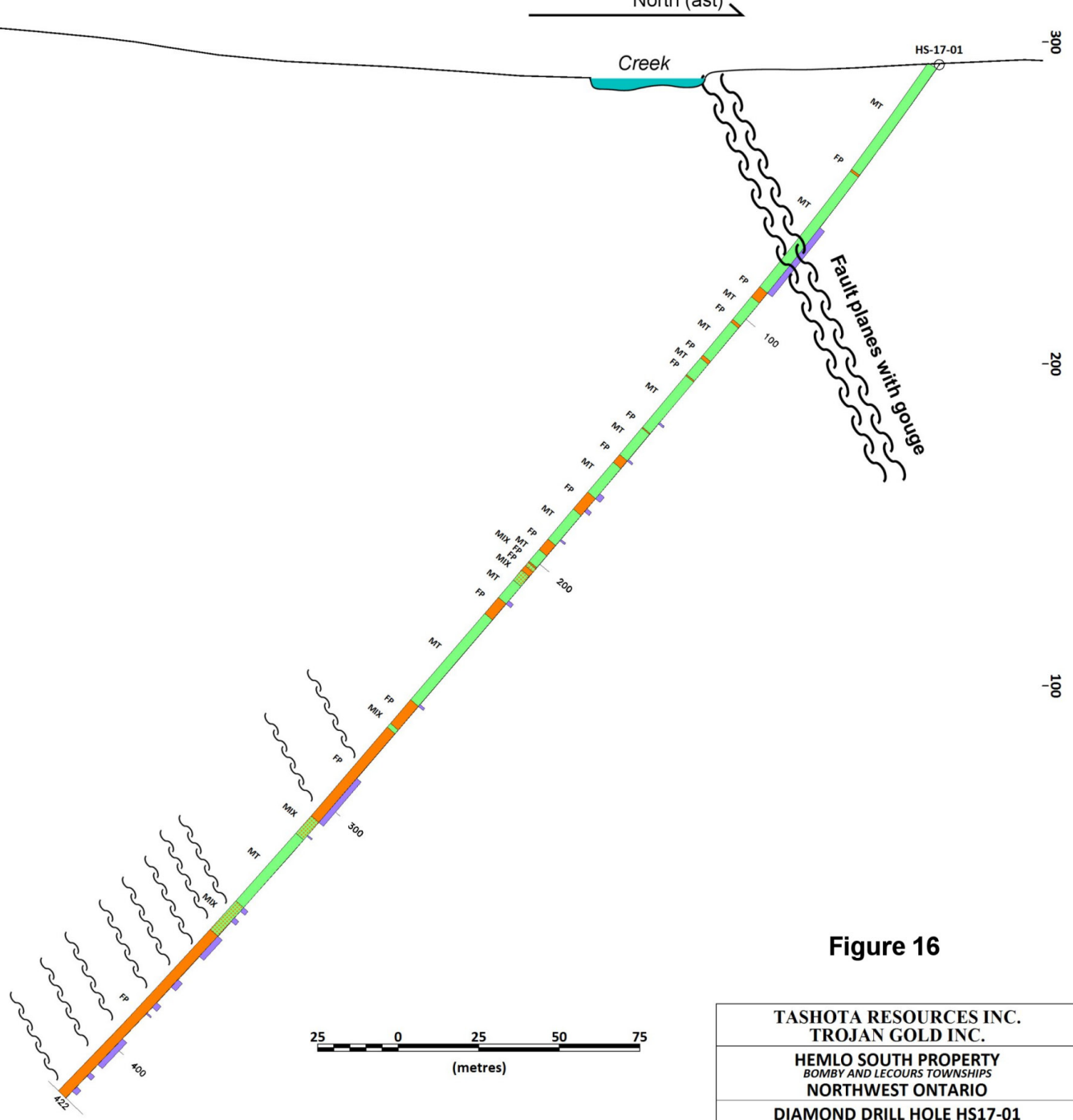


Figure 16

TASHOTA RESOURCES INC. TROJAN GOLD INC.
HEMLO SOUTH PROPERTY BOMBY AND LECOURS TOWNSHIPS NORTHWEST ONTARIO
DIAMOND DRILL HOLE HS17-01 CROSS SECTION GEOLOGY ALTERATION
Bowdidge 2017

It is unfortunate that the hole was not able to penetrate deeper, because the increasing amount and intensity of shearing and alteration with depth implies that there might be a major shear zone at the actual contact of the Pukaskwa batholith/gneissic complex. Assuming that the Pukaskwa complex was basement to the volcanic and sedimentary rocks of the Hemlo greenstone belt, a basement/cover *décollement* would be a favourable location for shear-hosted gold mineralization (Robert et al., 1994).

The entire length of core from hole HS17-01 was split using a diamond saw, with sample intervals of 1.5 metres except where there was a lithological change requiring sampling of a specific interval. Samples were analysed for gold using a fire assay preparation on 30-gram splits, with analysis by ICP-emission spectroscopy. The detection limit of this sensitive technique is 1 ppb or 0.001 g/t. Of the 319 samples analysed, 304 reported less than 1 ppb of gold, 11 reported 1 ppb, 3 reported 2 ppb and one reported 12 ppb. Six consecutive samples from 224.3 to 231.8 metres gave 1 or 2 ppb, in a sheared mafic tuff with carbonate alteration, silicification and traces of very fine pyrrhotite, indicating a very slight gold enrichment possibly related to shearing. The one weakly anomalous sample with 12 ppb gold is in a feldspar porphyry with hematite alteration and a trace of very fine-grained pyrite.

Drilling by Previous Operators

No drilling has been performed on the Hemlo South property by previous operators. This section of the report briefly examines drilling by previous exploration companies, in three areas close to the Hemlo South property but outside its present limits. Each of these three areas contains geological units that trend towards the Hemlo South property, and thus provide indirect geological information to the Hemlo South property. The following table summarizes the basic statistics for the holes. Locations for all drill holes except the W96 series are approximate, based on fitting maps accompanying the drill logs to known topography. It is possible that the location of hole 82-4 is on the Hemlo South property, in the extreme northeast corner. The occurrence of a low gold value in hole PO-2 should not be taken to imply that similar mineralization extends onto the Hemlo South property.

BASIC STATISTICS FOR HISTORIC DRILL HOLES CLOSE TO HEMLO SOUTH							
Hole Number	Company and Year	Core size	Location (NAD83 Zone 16N)		Collar Dip	Collar Azimuth	Depth (metres)
			UTM Easting	UTM Northing			
82-1	Harlin Resources 1982	not reported	580094	5392625	-60°	200°	152.4
82-2			579791	5392763	-60°	200°	152.4
82-3			579935	5392696	-60°	200°	152.4
82-4			579409	5392873	-50°	200°	152.4
W96-1	Hemlo Gold 1996	NQ	579746	5392347	-45°	201°	185.0
W96-2			579693	5392199	-45°	201°	214.1
PO-1	Pricemore Mines 1983	BQ	580781	5391644	-45°	215°	63.1
PO-2			580781	5391644	-60°	215°	86.0
PO-3			580814	5391504	-45°	225°	63.1
PO-4			580814	5391504	-60°	225°	117.9
PO-5			580613	5391920	-45°	225°	68.6
BA1	Westfield Minerals Bel-Air Resources Option 1983	AQ	574773	5392961	-50°	180°	136.9
BA2			575024	5393039	-45°	180°	136.2
BA3			575268	5393059	-45°	180°	137.5
BA4			575260	5393497	-45°	180°	187.5
BA5			575260	5393497	-75°	180°	107.0
BA6			575411	5393524	-50°	180°	105.8
BA7			575515	5393078	-45°	180°	73.8
BA8			575636	5393141	-50°	180°	137.3

Other than location information, lithological logs and analytical results, no information is available on the procedures used in these historic drill programs.

The four holes drilled by Harlin Resources were each 500 feet (152.4 metres) deep, and they tested a VLF conductor (the eastern extension of conductor V-1 on figure 10) that followed a contact between mafic to intermediate volcanics and tuffs to the north and clastic metasediments (possibly including some tuff) to the south. The conductor was explained as a band of graphitic argillite that occurred at the volcanic-sedimentary contact in all four holes. The volcanic/tuff unit included sections of disseminated pyrite and pyrrhotite. Alteration features noted in the logs include silicification and quartz veining, garnet development, and carbonatization and carbonate veining. Carbonate veins were described as “white to green carbonate”. Drill logs indicate that 23 samples were taken, but assay results are not recorded.

The two holes drilled by Hemlo Gold Mines (Tims, 1996) constitute a stratigraphic “fence” that was drilled south of the Harlin Resources holes. The holes, drilled from north to south, traversed the sedimentary unit and passed into a southern mafic volcanic belt with multiple dykes or sills of feldspar porphyry. A thin ultramafic flow was also present. Similar alteration and mineralization patterns to those noted by Harlin Resources were reported: silicification, carbonatization and disseminated to streaky pyrite-pyrrhotite. Garnet was not reported. A total of 113 samples were taken and assayed for gold; the best result was 86 ppb (0.086 g/t) Au from 46.5 to 47.5 metres in W96-2, in a mafic volcanic unit.

The five “PO” holes drilled by Pricemore Mines were apparently targeted at soil geochemical anomalies and/or an airborne conductor. They did not explain the geochemical anomaly and apparently missed the conductor by being wrongly located (Abolins, 1983). The first two holes were a pair from a single setup; they intersected a variety of lithologies: mafic volcanics, biotite schist, intermediate ash tuff, granite and pegmatite. Holes PO-3 and -4 were another pair; they intersected mainly granite and a diabase dyke. Hole PO-5 intersected mafic volcanics, tuff and feldspar porphyry. A total of 31 samples of core from holes PO-1, -2 and -5 were reportedly analysed, mostly from sections with disseminated pyrite. The only significant analytical results were in hole PO-2: 1.29 g/t Au over 1.00 metre from 34.44 to 35.44 metres in a biotite schist with 2-3% disseminated pyrite; and 0.518 g/t Au over 0.50 metre from 74.78 to 75.28 metres, in a mafic volcanic.

The eight “BA” holes drilled by Westfield Minerals on the Bel-Air Resources property were targeted at the pyritic tuff zone near Cigar Lake, and a similar zone 350 metres to the north. The holes reported intersecting a variety of tuffs and clastic sediments. The pyritic tuffs were distinctive units. A total of 423 samples were taken, and analytical results are shown on the logs and also discussed in the report (Deevy, 1984). The only significant gold value was in hole BA-1, over 0.61 metres from 37.73 to 38.34 metres, which returned 2.40 g/t Au. Re-assaying gave 0.83 g/t Au for the same sample.

SAMPLE PREPARATION, ANALYSES AND SECURITY

No records exist of procedures for sample preparation, analytical methods or security for samples that may were taken by companies working in the area in the 1980s or 1990s.

Golden Meadow Explorations in its 2006 program collected 40 soil samples and 6 rock samples from the area of the Hemlo South property. Sample collection, preparation and analytical methods, results and quality control protocols as well as security and chain-of-custody are detailed in the report by Komarechka (2006), and appear to have been appropriate for the level of exploration undertaken.

The following relates to sampling of the 2017 diamond drill hole described above.

Drill core was delivered by drill crews coming off shift, to the building rented by Tashota Resources Inc 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 G.D. White, P.Geol. The core was cut using a diamond-bladed 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 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 analysed using a standard fire assay procedure on 30-gram splits, with the gold-silver bead dissolved in aqua regia. Final analysis of the solution was by ICP-AES (Inductively coupled plasma atomic emission spectroscopy). ALS Global has ISO 17025-2005 certification.

In view of 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

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	High/Low 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	
OxJ120	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

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.

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 mis-representation. No procedures have been taken to verify any of the data.

Additionally, published reports from the Ontario Geological Survey (and its predecessor agencies) and the Geological Survey of Canada have been used as a source of information. The author has not attempted to verify any data from these sources.

Current information cited in this report includes the information on production, reserves and resources at the Williams gold mine, owned and operated by Barrick Gold. This information is all in the public domain, and available on the SEDAR website. No attempt was made to verify such data.

As noted above, the only exploration activities carried out on the Hemlo South property by Tashota Resources Inc. or Trojan Gold Inc. were the 2014 airborne electromagnetic, magnetic and spectrometric survey described above under the heading “Exploration” and the diamond drill hole described above under “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 author considers that those procedures were adequate for the purpose of the survey to which they were applied. Similarly, the author considers that the results of the drilling carried out in 2017 do not need further verification, based on the internal quality control procedures practised by the assay laboratory, as described above.

MINERAL PROCESSING AND METALLURGICAL TESTING

The Hemlo South property is an early stage exploration prospect. No mineralized zones are known 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.

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.

ADJACENT PROPERTIES

The following adjacent properties have been referred to in this report:

- The former Harlin Minerals claim group, which covered part of the Hemlo South property and extended further to the east. That eastern portion was drilled by Harlin Minerals and again by Hemlo Gold Mines; these drill holes have been referred to in this report under “Drilling” because the lithologies they encountered may extend westwards onto the Hemlo South property.
- The former Pricemore Resources property, which comprised three claim groups of which blocks 2 and 3 were on the area of the present Hemlo South property while block 1 was somewhat to the east on ground now held by Barrick Gold. Drilling carried out by Pricemore Resources on its block 1 has been referred to in this report under “History”, “Geological Setting and Mineralization” and “Drilling”.

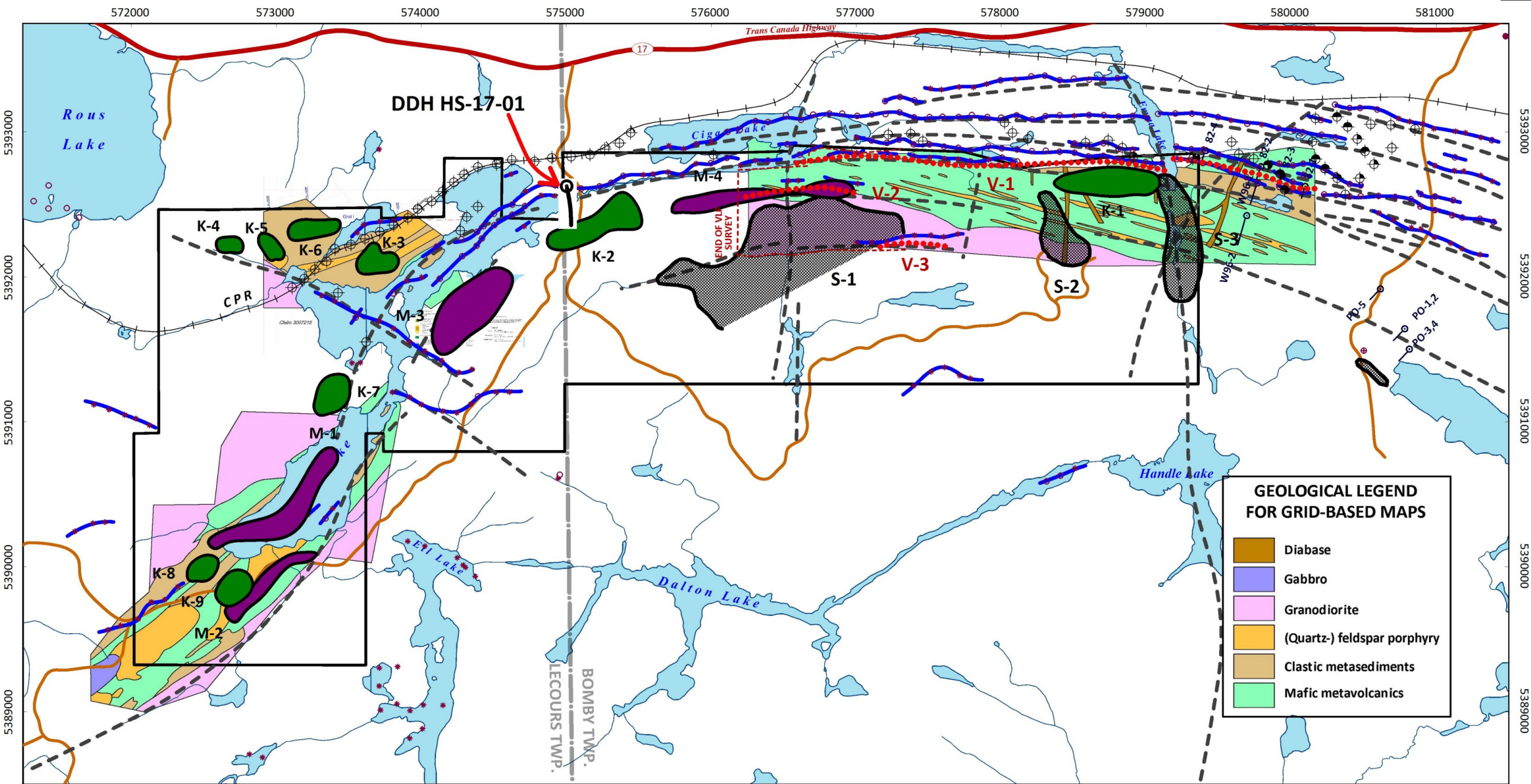
- The former Bel-Air Resources property has been mentioned because it covered part of the area of the present Hemlo South property. The results of trenching and drilling of the “Sucker Zone” which lies outside and just north of the Hemlo South property were briefly referred to in this report under “History” and “Geological Setting and Mineralization”.
- The Hemlo gold deposit and its geological and mineralogical characteristics has 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. The discovery of the 20-plus million ounce Hemlo gold deposit dominated the history of the area, and an understanding of the nature of the Hemlo gold deposit and its geological environment are important to an appreciation of the geology of the Hemlo greenstone belt in general.

When reference has been made to adjacent properties or other areas or properties outside the Hemlo South property, the author has attempted 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.

No effort has been made to verify any of the information on adjacent properties.

OTHER RELEVANT DATA AND INFORMATION

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

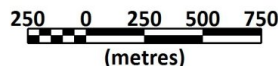


GEOLOGICAL LEGEND FOR GRID-BASED MAPS

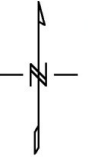
	Diabase
	Gabbro
	Granodiorite
	(Quartz-) feldspar porphyry
	Clastic metasediments
	Mafic metavolcanics

**1983 AERODAT AIRBORNE EM SURVEY
REVISED AS GDS 1207 (OGS, 2002)
ANOMALY SYMBOLS BY CONDUCTANCE**

- >32 siemens
- 16.0-31.9 siemens
- 8.0-15.9 siemens
- 4.0-7.9 siemens
- 2.0-3.9 siemens
- 1.0-1.9 siemens
- 0.0-0.9 siemens
- very weak conductor
- Anomaly axis
- VLF CONDUCTOR AXIS



NAD83 / UTM zone 16N



Faults and Shears (interpreted)

- K-3 Potassium Anomalies (eK or eK/eTh ratio)
- M-2 SELECTED MAGNETIC ANOMALIES (see text)
- S-2 GOLD GEOCHEMICAL ANOMALIES IN SOIL

Figure 17: Hemlo South Property Compilation Map

Conductors from airborne and ground EM surveys
Magnetic Anomalies from airborne surveys
Potassium anomalies from TDEM survey
Gold-in-soil anomalies from assessment files
Geological mapping from assessment files

TDEM legend

- Tau < 0.25 msec
- 0.25 ms < Tau < 0.50 ms
- 0.50 ms < Tau < 0.75 ms
- 0.75 ms < Tau < 1.00 ms
- 1.00 ms < Tau

INTERPRETATION AND CONCLUSIONS

Figure 16 is a compilation map showing the features that have been discussed in previous sections of the report. Following is a summary of those features and their possible implications for the mineral potential of the Hemlo South property.

Stratigraphy: The property covers the contact between the Pukaskwa Batholith/Gneissic Complex, presumed to be partially remobilized basement, and the volcanic and sedimentary rocks of the Hemlo greenstone belt. The basement-cover contact is a potential location for development of large-scale shear zones (Robert et al., 1994). Mapping of the area of the Hemlo South property (Lin, 2001; Muir, 2000) has identified strike-parallel shear zones within the cover rocks at or close to their contact with the inferred basement.

The Hemlo South property also covers the transitional and/or interfingering contact between the mafic metavolcanics that are the (relatively thin) basal unit of the greenstone belt stratigraphy and the overlying metasedimentary rocks. The volcanic-sedimentary contact or transition zone is a favoured location for gold mineralization in many greenstone belts (Poulsen, 2013).

The presence of local conglomerate in the metasedimentary rocks of the Hemlo greenstone belt is possibly indicative of structural activity during sedimentation; the implication for mineral potential is that hydrothermal activity might be channelled in fault structures causing local uplift and the development of coarse sedimentary rocks such as conglomerate.

Structure: In addition to the shear zones mentioned above and indicated on figure 16, reports on mapping by two companies in the Cache Lake area (Kuhns, 1984; Komarechka, 2006) make reference to intensely developed schistosity and/or shearing in metasedimentary rocks of that area. Shearing in combination with volcanic-sedimentary interlayering indicates a potentially favourable environment for greenstone-type gold deposition. Furthermore, the 2017 diamond drill hole put down by Tashota Resources Inc and Trojan Gold Inc demonstrated shearing whose intensity increased towards the Pukaskwa Batholith/Gneissic Complex (which was not intersected).

Felsic Intrusive Rocks (Porphyries): Mapping in the eastern part of what is now the Hemlo South property (Yeomans & Bradshaw, 1982), has delineated numerous small intrusions of feldspar porphyry, as shown on figure 17. Also, the 2017 diamond drill hole (figure 16) intersected 15 separate feldspar porphyry zones, from less than 1 metre to more than 70 metres in thickness. Porphyries mapped in the Cache Lake area, the western part of the property by Kuhns (1984) and Komarechka (2006) are probably compositionally different, being mostly mapped as quartz-feldspar porphyry (in some cases, porphyritic granodiorite), and form larger bodies. Greenstone type gold deposits are very often associated with porphyritic minor felsic intrusions.

Conductivity Anomalies: Ground VLF-EM surveying (Ross, 1982) and frequency-domain airborne EM surveying (OGS, 2002) responded to what are probably strike-parallel shear zones, as discussed above under "Stratigraphy". VLF anomaly V-1 lies close to the volcanic-sedimentary transition, and V-2 lies close to the contact between mafic

metavolcanic rocks and the Pukaskwa Granodiorite/Gneissic Complex. Both of these anomalies are terminated at their west ends by the limits of the survey.

Magnetic Anomalies: Figure 16 shows magnetic anomalies M-1 to M-4, as shown above under “Exploration”. They are unexplained and so cannot be assessed as to their implications with regard to potential for gold mineralization.

Radiometric Anomalies: Figure 16 also shows potassium anomalies K-1 to K-9. These anomalies, also discussed above under “Exploration” were picked from the equivalent potassium (eK) or potassium/thorium ratio (eK/eTh) maps. They may be caused by felsic intrusions, as may be the case with anomalies K-3 and K-9 (based on company mapping by Kuhns (1984) and Komarechka (2006), as shown on figure 16, or they might be related to potassium alteration of a type that might be related to gold mineralization, or they may simply be a function of outcrop and overburden patterns. They should be prospected with extra care for signs of mineralization.

Geochemical Anomalies: Gold-in-soil geochemical anomalies from historical soil geochemical surveys extend over an area. The possibility that these anomalies were developed on transported till, and that the gold originated at the Hemlo gold deposit, i.e. outside the Hemlo South property, was discussed at length under the heading “Exploration”. It was concluded that there is a reasonable prospect that part or all of these gold-in-soil anomalies are caused by a local source or sources that may be on the Hemlo South property.

Conclusions: It is the conclusion of this report that the Hemlo South property has significant, untested potential to host greenstone-type gold mineralization.

RECOMMENDATIONS

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

Phase 1

Field work on the ground should include the following:

- [a] Soil geochemical orientation survey, testing both B-horizon soils and MMI (mobile metal ion) type samples, over selected areas of gold anomalies in soil from the 1987-1988 work by Esso Minerals. It is recommended to collect 120 samples of each type, at the same sample sites. Samples should be analysed for gold, arsenic, antimony, molybdenum and mercury (at a minimum) to isolate the “fingerprint” of the Hemlo gold deposit and separate it from potential local sources of “gold-only” mineralization.
- [b] Once the preferred choice of sampling and analysis method has been made, a larger survey comprising approximately 900 samples should be carried out over the area indicated on figure 16. The budget assumes that this sampling and analysis program will use the more expensive MMI protocol.
- [c] At a few chosen sites where anomalous gold in soil is defined, pits should be dug with a backhoe, and the till profile should be studied. At each chosen point on a till profile, a 10 kg sample should be collected for analysis if the non-magnetic heavy mineral and $-63\mu\text{m}$ fractions. This part of the proposed program should be supervised, and the sample processing and analysis carried out, by Overburden Drilling Management of Ottawa, whose personnel are experienced in this sort of work. The work will yield useful information about glacial transport of tills and geochemical anomalies in or on the till.
- [d] In the 1980s, when most of the exploration in the Hemlo area was being carried out, conventional prospecting tended to be regarded as a thing of the past. Now, after 30 more years of (usually) gold-targeted exploration, the value of prospecting is better appreciated. The property should be covered by a “prospepecting and mapping” crew; a team comprising one geologist and two prospectors is recommended. This will generate higher quality geological mapping than exists to date, and multiple samples of bedrock and float for analysis.
- [e] The exact location of VLF anomaly V-1 should be determined using a hand-held EM-16 VLF receiver. Pace-and-compass lines with GPS locations of stations will be sufficient for this work. The same surveyor should measure the positions of corner posts for claims included in the mining lease that borders the Hemlo South property to the north, so that it can be determined how the VLF anomaly is positioned relative to the property boundary. Anomalies V-1 and V-2 should also be followed to the west using short pace-and-compass lines, and an operator capable of picking a conductor axis from raw data. This work will be best done by a 2-person crew, one to take the VLF readings and the other to take GPS readings, flag the stations, look for claim posts, etc.
- [f] The results of all of the above should be compiled into a comprehensive report and database, to assist in determining the scope of a Phase 2 diamond drilling program.

Phase 2:

A second phase of exploration, involving 5,000 metres of diamond drilling, will be, to a certain extent, dependent on receiving positive results from the Phase 1 work.

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

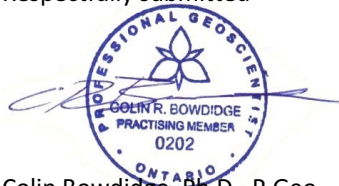
PHASE 1 EXPLORATION	
Testing of MMI & conventional geochem	
120 sample sites with MMI and B-horizon soils, Au & ICP-multi	\$34,428
Production geochemistry	
900 MMI samples and analyses for Au & ICP-multi	\$68,555
Pit digging and till sampling	
5 pits, 20 till samples, full analysis	\$26,095
Prospecting and Mapping	
1 Geologist, 2 prospectors for 40 days	\$88,868
VLF Conductor Tracing 2 Technicians/operators and EM-16	\$11,410
Final Report on Phase 1	\$24,150
SUB-TOTAL	\$253,506
Contingencies, 10 percent	\$25,351
PHASE 1 TOTAL	\$278,857
PHASE 2 - DIAMOND DRILLING	
5,000 metres of diamond drilling @ \$140.52/metre	\$702,620
Contingencies, 10 percent	\$70,262
PHASE 2 TOTAL	\$772,882
TOTAL PHASES 1 AND 2	\$1,051,739

All monetary amounts are designated in Canadian funds. A more detailed breakdown of costs, including numbers of personnel, is given in Appendix 1.

It is anticipated that the Phase 1 program could be completed in the summer of 2017. The Phase 2 diamond drilling program, if approved on the basis of positive results from Phase 1, and adequately funded, can be done at any time of year.

Any activity beyond the projected Phase 2, will be contingent on the results of the Phase 2 drilling program.

Respectfully submitted



Colin Bowdidge, Ph.D., P. Geo.

Beardmore, Ontario

July 15th, 2017

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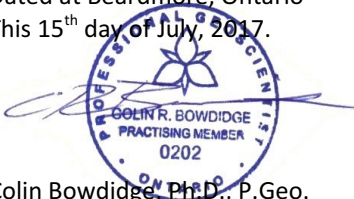
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AUTHOR'S CERTIFICATE

I, Colin Richard Bowdidge, do hereby certify as follows:

1. I am an independent consulting geologist, and I reside and carry on business at 118 Amelia Street, Toronto, Ontario, M4X 1E4;
2. That I have the degree of Master of Arts in Geology and Mineralogy, 1965, from the University of Cambridge, and the degree of Doctor of Philosophy in Geology, 1969 from the University of Edinburgh;
3. That I am a member in good standing of the Association of Professional Geoscientists of Ontario (Member No. 0202, effective July 4th 2001), and a Licensee in good standing of the Northwest Territories Association of Professional Engineers and Geoscientists (License No. L2970, effective August 8th, 2014);
4. That I am a Qualified Person as the term is defined in National Instrument 43-101.
5. That I have been practicing my profession in Canada and overseas continuously since 1969;
6. That I am the author of a report entitled "Technical Report on the Hemlo South Property, Bomby and Lecours Townships, Thunder Bay Mining Division, Northwest Ontario, Canada" addressed to Tashota Resources Inc. and Trojan Gold Inc., with an effective date of July 14th, 2017 (the "Report"), and that I am responsible for all sections of the Report;
7. That the Report is based on my personal knowledge of the Hemlo South Property (the "Property"), and the sources of information cited in the Report, that I organized and interpreted the airborne geophysical survey that was carried out over the Property in 2014; that I spent two days examining the Property during July, 2015, and that I last visited the Property on May 15th, 2017 in the course of supervising the diamond drilling program described in the Report;
8. That I have been engaged in mineral exploration since 1969, primarily in Canada and primarily in the Canadian Shield, and that I have practical experience exploring for and evaluating deposit types that include (but are not limited to): Orogenic (greenstone) gold, magmatic uranium, unconformity-type uranium, volcanogenic massive sulphides, magmatic sulphides (nickel-copper and/or platinum-group elements), iron oxide-copper-gold (IOCG), iron ore and industrial minerals. My experience qualifies me to evaluate the potential of the Hemlo South Property for greenstone-type gold mineralization;
9. That I have read National Instrument 43-101 and that the Report has been prepared in compliance therewith;
10. That I am independent of Tashota Resources Inc. and Trojan Gold Inc., as independence is defined in section 1.5 of National Instrument 43-101.
11. That, as at the effective date of the Report, to the best of my knowledge, information and belief, the Report contains all scientific and technical information that is required to be disclosed to make the Report not misleading.

Dated at Beardmore, Ontario
This 15th day of July, 2017.



Colin Bowdidge, Ph.D., P. Geo.

APPENDIX 1

THIS TABLE GIVES A MORE DETAILED BREAKDOWN OF THE BUDGET GIVEN IN REPORT

RECOMMENDED BUDGET FOR HEMLO SOUTH PROJECT					
	Number	Units	@ Unit cost	Item cost	B/F
PHASE 1 EXPLORATION					
Testing of MMI & conventional geochem					
MMI trainer	5	days	@ \$800.00	\$4,000	
Technician 1	18	days	@ \$400.00	\$5,400	
Technician 1	18	days	@ \$300.00	\$5,400	
MMI analyses	120	samples	@ \$36.95	\$4,434	
Conventional analysis	120	samples	@ \$38.45	\$4,614	
Room & board	36	days	@ \$130.00	\$4,680	
Truck mileage	1,800	kilometres	@ \$0.50	\$900	
Interpretation & report	1	report	@ \$5,000.00	\$5,000	
Total for Testing geochem				<u>\$34,428</u>	\$34,428
Production geochemistry					
Technician 1	30	days	@ \$400.00	\$12,000	
Technician 2	30	days	@ \$300.00	\$9,000	
MMI analyses	900	samples	@ \$36.95	\$33,255	
Room & board	60	days	@ \$130.00	\$7,800	
Truck mileage	3,000	kilometres	@ \$0.50	\$1,500	
Interpretation & report	1	report	@ \$5,000.00	\$5,000	
Total for Production Geochemistry				<u>\$68,555</u>	\$68,555
Pit digging and till sampling					
Backhoe, mobilization & demob	1	mob/demob	@ \$1,400.00	\$1,400	
Backhoe pitting	8	hours	@ \$140.00	\$1,120	
ODM consultant	5	days	@ \$1,000.00	\$5,000	
Company geologist	5	days	@ \$600.00	\$3,000	
Analyses of NMH & -63µm fractions	20	samples	@ \$220.00	\$4,400	
ODM report	1	report	@ \$8,000.00	\$8,000	
Room & board	10	days	@ \$130.00	\$1,300	
Travel	1	trip	@ \$1,200.00	\$1,200	
Truck mileage	1,350	kilometres	@ \$0.50	\$675	
Total Till sampling				<u>\$26,095</u>	\$26,095
Prospecting and Mapping					
Geologist	40	days	@ \$600.00	\$24,000	
Prospectors (2)	80	days	@ \$400.00	\$32,000	
Rock sample analyses	150	samples	@ \$38.45	\$5,768	
Room & board	120	days	@ \$130.00	\$15,600	
Truck mileage	9,000	kilometres	@ \$0.50	\$4,500	
Interpretation & report	1	report	@ \$7,000.00	\$7,000	
Total Prospecting and Mapping				<u>\$88,868</u>	\$88,868
VLF Conductor Tracing					
Technicians/operators (2)	12	days	@ \$400.00	\$4,800	
Room & board	12	days	@ \$130.00	\$1,560	
Truck mileage	1,100	kilometres	@ \$0.50	\$550	
Interpretation & report	1	report	@ \$4,500.00	\$4,500	
VLF Conductor Tracing total				\$11,410	\$11,410

Final Report on Phase 1			
Consulting geologist	15	days @ \$750.00	\$11,250
Project geologist	15	days @ \$600.00	\$9,000
Room & board	30	days @ \$130.00	\$3,900
Final Report Total			<u>\$24,150</u> \$24,150
SUB-TOTAL			\$253,506
Contingencies, 10 percent			\$25,351
PHASE 1 TOTAL			<u>\$278,856</u>
PHASE 2 - DIAMOND DRILLING			
Mobilization	1	mob/demo @ \$15,000.00	\$15,000
Drilling direct	4,000	metres @ \$85.00	\$340,000
Drilling direct	1,000	metres @ \$90.00	\$90,000
Rental of core shack	6	month @ \$1,000.00	\$6,000
Core boxes	1,500	boxes @ \$6.00	\$9,000
Supervising geologist	150	days @ \$500.00	\$75,000
Core cutting tech	120	days @ \$300.00	\$36,000
Saw blades	15	blades @ \$300.00	\$4,500
Assays	1,600	assays @ \$38.45	\$61,520
Room & board	270	days @ \$130.00	\$35,100
Transport, truck mileage	8,500	kilometres @ \$0.50	\$4,250
Consulting geologist	35	days @ \$750.00	\$26,250
SUB-TOTAL	5,000	metres @ \$140.52	\$702,620
Contingencies, 10 percent			\$70,262
PHASE 2 TOTAL			<u>\$772,882</u>
TOTAL PHASES 1 AND 2			<u>\$1,051,738</u>