

**NI 43-101 Technical Report on the
Burchell Lake Property, Northwestern Ontario
Thunder Bay Mining District
NTS Sheet 52B/10SE**

**Prepared For
TANAGER ENERGY INC.
Calgary, Alberta**



**Prepared By
Ike A. Osmani, *M.Sc., P.Geo.*
Faarnad Geological Consulting Inc.
Burnaby, B.C. V5B 0A3**



October 12, 2017

Date and Signature Page

This report titled “*NI 43-101 Technical Report on the Burchell Lake Property, Northwestern Ontario, Thunder Bay Mining District*”, dated October 12, 2017 was prepared by, and signed by the following author:

/s/ “I.A. Osmani”

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

Principal Geologist

Faarnad Geological Consulting (FGC) Inc.

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1 Summary

Faarnad Geological Consulting Inc. (“FGC”) has been contracted by Mr. Thomas Crain, the President and CEO of Tanager Energy Inc. (“Tanager”), to prepare a Technical Report as part of an independent technical review of the company’s 100%-owned Burchell Lake Property (“Property”). This technical report for the Property is written in compliance with Regulation 43-101 and Form 43-101F1. Tanager is a small-cap Canadian oil and gas company headquartered in Calgary, Alberta, with executive offices in Houston, Texas. The company is mostly active in oil and gas exploration and development in western Canada and Texas, but also has a mineral claim holding in northwestern Ontario, Canada. Tanager is publicly traded and listed on the TSX Venture Exchange under the symbol "TAN" and on the OTCQB® Venture Market under the symbol “TANEF”. FGC is an independent exploration/mining consulting company based in Burnaby, BC (Canada).

FGC has reviewed the data provided by the issuer and/or by its agents. FGC has also consulted other information sources, such as government databases that handle assessment work and mining title status. The author is a Qualified and Independent Person as defined by Regulation 43-101.

The Property is located approximately 115 km west of the city of Thunder Bay, in the province of Ontario, Canada. The nearest settlement is Kashabowie village, located ~15 km to the northeast on provincial Highway 11 (part of the TransCanada highway system). The property lies within NTS map sheet 52B/10SE in the Burchell Lake area. The Property consists of 32 unpatented mining claims of irregular shapes and sizes aggregating a total of 4,512 hectares. All claims are registered 100% in the name of Tanager Energy Inc.

The Property is located near the west end of the Archean Shebandowan Greenstone Belt (“SGB”) of the Wawa Subprovince in northwestern Ontario. The Wawa Subprovince is an aggregation of Archean greenstone belts and granitoid plutons, which hosts some of the largest shear-hosted/lode gold (e.g., Hemlo’s Williams and David Bell gold mines), volcanogenic massive sulphide (e.g., former Geco and Winston Lake zinc mines) and Magmatic Ni-Cu-PGM (e.g., former Shebandowan Mine) deposits in Canada. The Property lies about 4 to 5 km southeast of the boundary between the Quetico metasedimentary and granite-greenstone Wawa Subprovinces in the western-most Ontario part of the Wawa Subprovince. The Property is underlain by a volcano-sedimentary rock package consisting of mafic, intermediate and felsic metavolcanic and minor chemical metasedimentary units (chert and iron formation). These rocks have been intruded by numerous concordant to sub-concordant mafic to ultramafic and intermediate to felsic hypabyssal dikes and sill-like bodies. Complex inter-layering of various rock types suggests complex folding and/or refolding. The folding/refolding of all major rock units may be related to emplacement of plutons located northwest (Hermia Lake pluton), southwest (Hood Lake pluton) and southeast (Greenwater Lake pluton) of the property.

From an economic point of view, the three most significant structural features on the Property are: **1)** the Upper Shebandowan Lake Deformation Zone (“USDZ”) North (N) and South (S) branches, **2)** Firefly Lake Deformation Zone (“FLDZ”), and **3)** the Moss Lake-Coldstream Deformation Zone (“MCDZ”). These deformation zones are generally characterized by a series

of subparallel to parallel, east-northeast-striking, steeply dipping, ductile- to brittle shear/fault zones and penetrative schistosity in rocks. Host rocks within these deformation zones are affected by moderate to intense silicification, carbonatization, chloritization, sericitization, hematization, and locally containing hydrothermal magnetite and intense iron-carbonate alteration. Shears and faults within these deformation zones display both, a sinistral and dextral sense of horizontal movements. In terms of gold-mineralization, the MCDZ, also known as the Coldstream Gold Trend (“CGT”), is the most significant of all structures on the Property. It originates from the Osmani Gold Deposit area north-northeast of the Property and extends west-southwest through the northwestern claims of the Property and the Moss Lake Gold Deposit. The country rocks along this structural corridor (intermediate to felsic and mafic metavolcanics, quartz-feldspar porphyries), which are host to gold occurrences/deposits, are variably schistose to sheared, and commonly display silica, sericite, albite, iron-carbonate, magnetite, potassium and hematite alteration. Historical drilling along the MCDZ in the northwest corner of the Property intersect a series of parallel to subparallel, narrow zones of anomalous gold mineralization within variably altered (silica, carbonate, hematite and chlorite) and sheared intermediate to felsic host rocks. The most recent drilling results, when combined with IP signatures reported on the adjacent Moss Lake Property of Wesdome Gold Mines Ltd., extends the gold mineralization in a northeast direction to within a few hundred metres southwest of Tanager’s Burchell Lake claim boundary. ***The author has not verified the data along this recently announced northeast-trending gold extension, and mineralization contained within it, therefore, it is not necessarily an indication that gold mineralization will also extend from Moss Lake Property onto the northwest claim of the Burchell Lake Property.***

The base metal mineralization, particularly copper or copper-dominated mineralization, is stratigraphically controlled. It occurs generally along or adjacent to sheared mafic-felsic to intermediate metavolcanic contacts. These contacts are often intruded by mafic and felsic sill-like bodies which are also deformed and altered along with their host rocks. The best example of this style and setting of copper-dominated mineralization is represented by the Hermia Lake Prospect (Cu-Au-Mo) situated east of Hermia Lake in the most west-central part of the Property. At the Cu-Au-Mo Prospect, protoliths of the host rocks, as well as their contact boundaries, are seldom discernible due to the high degree of shearing and alteration. Within the high-strain zones, the mafic rocks of both extrusive and intrusive protoliths are generally characterized by dark green chlorite and chlorite-amphibole±magnetite schists, whereas the intermediate and felsic metavolcanic rocks are mostly converted to sericite-quartz-chlorite and sericite-quartz schists, respectively. The dominant schistosity exposed in the trenches at the Cu-Au-Mo Prospect trends east-northeast to northeast (dips 60°-90°) and is subparallel to major lithologic contacts.

Pervasive silica replacement is the dominant alteration style and strongly developed in felsic to intermediate metavolcanic rocks. Chlorite and magnetite are dominant alteration in mafic schists. Carbonate alteration is concentrated in sheared porphyritic rocks along foliation planes and may be pervasive. Sulphide minerals occur in all rock types in the Cu-Au-Mo Prospect’s trenches where up to 3% pyrite and 3% chalcopyrite occurs as disseminations, stringers and elongated blebs in mafic schists (chlorite-amphibole-magnetite). Grab samples from mafic schists have been reported from trenches yielding up to 6210 ppm Cu, 765 ppm Ni, 902 ppm Cr and 510 ppm Mo. However, the most intense sulphide mineralization (up to 7% pyrite and 3% chalcopyrite) occurs in a zone of silicification that yielded up to 1.05% Cu, 0.05% Mo, 0.2 g/t Au. Some very

significant base and precious metal values reported in historical drill core logs contain up to 0.8% Cu over 4.3 m and 1% Cu over 5.6 m in cherty/rhyolite breccias and 0.6% Cu over 2.4 m in sheared diorite/gabbro from drill hole M-7 of Great Lakes Copper Mines. Another example of significant assays is reported from historical drill hole M-9, which intersected stringers and disseminations of chalcopyrite and pyrite within the favourable brecciated felsic metavolcanic rocks (also in intensely silicified and chloritized mafic rocks) hosting copper mineralization at the Cu-Au-Mo Prospect. Copper values of 0.31% to 1.1% over 1.30 m to 6.7 m core lengths are reported from brecciated and hematized felsic metavolcanic rocks in the above noted drill hole. Up to 0.03 oz Au/ton is also associated with copper mineralization. Drilling carried out by Gulf Minerals Canada in 1980-1981 reported assay values up to 1.1% Cu, 0.07% Mo, 0.6 oz Ag/ton and 0.08 oz Au/ton. Anomalous Pb, Zn and Ni are also reportedly associated with copper mineralization.

A two-phase exploration program is recommended on the Property. Phase-I is budgeted at \$191,180 to include a 3D IP/resistivity test survey and a limited geological mapping/prospecting program for Block H and parts of Block E, F and G within the western part of the Property. Phase-II is budgeted at \$1.94 million for a more comprehensive exploration program, consisting of geological and geophysical surveys and a 7,450m diamond drilling program. However, an additional 3D IP/resistivity survey slated for expansion to cover other blocks in the Phase-II program is not recommended until the results of Phase-I test survey are fully evaluated. Also the drilling slated in Phase-II should not be contemplated until the results from the geological and geophysical surveys conducted in both phases are fully evaluated and drill targets are successfully identified.

2 Introduction

2.1 General

Mr. Thomas Crain, the President and Chief Executive Officer of Tanager Energy Inc. (“Tanager” or the “Company”), commissioned Faarnad Geological Consulting Inc. (“FGC”) to prepare a technical report as part of an independent technical review of the company’s 100%-owned Burchell Lake Property (“Property”). The Property, located approximately 115 km west of the City of Thunder Bay, occurs within the Thunder Bay Mining District in northwestern Ontario. This report describes the geology, mineralization, exploration history and exploration potential of the Property. This report also provides conclusions and interpretations based on all available data to date, as well as recommendations for future exploration work on the Property.

2.2 Terms of Reference

This technical report on the Burchell Lake Property was prepared by Ikram (Ike) A. Osmani, M.Sc., P.Geo., the qualified person as defined under NI 43-101 regulations. This technical report has been prepared in accordance with the guidelines set under the “Form 43-101F1 Technical Report” of National Instrument 43-101 – Standards and Disclosure for Mineral Projects. The

certificate of qualification for the Qualified Person responsible for this technical report can be located in the Section 28 – “Statement of Qualifications.”

Mr. Osmani visited the Property on August 20, 2017, for a day and reviewed several key outcrops to refresh observations that he made during 1991 to 1996 while conducting a multiyear geological mapping and mineral-potential study of the western Shebandowan greenstone belt on behalf of the Ontario Geological Survey. The results of these works are documented in several published maps and reports that are easily available through the MNDM website. Paper copies of these reports and maps can be purchased directly from the MNDM publication outlet based in Sudbury, Ontario. Between 2009 and 2013, Mr. Osmani revisited the Property and adjacent areas multiple times while conducting mineral exploration programs and developing the gold resource on the adjacent Coldstream Property for Foundation Resources Inc. (“Foundation”). The Coldstream Property is currently owned by Wesdome Gold Mines Ltd. Mr. Osmani is credited with developing a NI 43-101-compliant gold resource of almost one million ounces (*Indicated* and *Inferred* categories) for Foundation on the Coldstream Property.

2.3 Source of Information

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

A technical report previously prepared on the Burchell Lake Property by Hem Exploration Ltd. and Mengold Resources Inc.:

Wetherup, S., Beauregard, A.J. and Gaudreault, D. (2006): Independent 43-101 Technical Report of the Burchell Lake Property, Shebandowan Area, Province of Ontario, Canada (NTS 52B/10E); Helm Exploration Ltd. & Mengold Resources Inc., 35p.

A drilling report previously prepared for government work credit on the Burchell Lake Property by David Hunt for Mengold Resources Inc.:

Hunt, D.S. (2010): Report on the drilling program, Burchell Lake project, Shebandowan area, Province of Ontario; Mengold Resources Inc., Assessment Report, 17p.

A compilation report of historical technical data previously prepared on the Burchell Lake Property by Faarnad Geological Consulting (FGC) Inc. for Tanager Energy Inc.:

Osmani, I.A. and Zulinski, N. (2014): Compilation of historical technical data: target generation and recommendations on the Burchell Lake property, northwest Ontario; Thunder Bay Mining District, unpublished internal report, 71p. Accompanied with 10 maps in Appendices.

Although portion of the background information and technical data for this report was quoted from all of the above reports, the main source of technical information in preparing this report was taken from Osmani and Zulinski (2014). Additional information was requested from, and provided by Tanager Energy Inc.

2.4 Qualifications, Experience, and Independence

Founded in 2011, FGC is a mineral-exploration and mining-consultancy group based in Burnaby, BC, Canada. The company is managed and led by Ike A. Osmani, the principal consultant and founder of the company, who has over 30 years of experience in Greenfield, near mine exploration, and resource geology. He is an accredited professional geologist (P. Geo.) and a practicing member of two provincial jurisdictions of Canada (i.e., Association of Professional Engineers and Geoscientists of British Columbia and Association of Professional Geoscientists of Ontario).

Mr. Osmani's work experience includes both exploration and resource development of commodities in diverse geological settings. Throughout his career, Mr. Osmani has held various positions, ranging from Project Geologist to President, with publicly traded junior and major companies, and acted as an Independent Consultant in the exploration and mining industry. His experience in exploration and resource development includes gold, base metals, platinum-palladium, SEDEX-style zinc-lead-silver, iron, rare earths, and rare metals. He has been credited with developing an NI 43-101 compliant gold resource of almost one million ounces within the Archean greenstone belt setting in the Precambrian Shield of Canada. Osmani has also worked in younger terrains in Canada (British Columbia), Argentina, Indonesia and India.

The author is not an insider or an affiliate of Tanager, and nor he has acted as advisor to Tanager, in connection with this project. The results of this technical review by the author is not dependent on any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings.

2.5 Disclaimer

This technical report represents the professional opinion of Ike A. Osmani, M.Sc., P.Geo. The interpretations he made and conclusions he drew in light of information made available to, inspections performed by and assumptions made by him were done using professional judgment and reasonable care. This document has been prepared based on a scope of work agreement with Tanager Energy Inc. and is subject to inherent limitations in light of the scope of work and information provided by Tanager. This document is meant to be read as a whole, and portions thereof should not be read or relied upon unless in the context of the whole.

The opinions expressed herein are based on data and information supplied by Tanager Energy Inc. or has been gathered from regulatory and public filings of other companies. This document is written for the sole and exclusive benefit of Tanager Energy Inc. Any other person choosing to rely on this document does so at his/her own risk and the author disclaims all liability to any such person.

3 Reliance on Other Experts

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

Additionally, FGC Inc. largely relied upon historical exploration data available in government files and from a compilation report prepared in 2014 for Tanager on the Property by FGC Inc. The author has not validated the data to confirm the results of such work and report other than making visual observations of key outcrops during his most recent visit to the Property. The author has no reason to doubt the correctness of such work and reports; however, any doubt of inaccuracies or discrepancies is clearly indicated in this report.

The author did not independently verify the legal title to the Property, nor has he verified or is qualified to comment on legal issues related to Tanager’s Property agreement, royalties, permitting and environmental matters. The author relied on public documents and information provided by Tanager for the descriptions of title and status of the Property agreements, and he has no reason to doubt that the status of the legal title is anything other than what is reported by Tanager.

4 Property Description and Location

4.1 Property Location

The Property is situated approximately 115 km west of Thunder Bay, Ontario. It occurs within the Burchell-Greenwater Lakes area on NTS Map sheet 52B/10SE. It is located approximately 15 km southwest of the village of Kashabowie, which sits at the junction of Trans-Canada Highway 11 and secondary Highway 802 (**Figure 1 and Figure 2**). The centre of the Property is located at approximately 6777500mE and 5380000mN (UTM NAD83, Zone 15N).

4.2 Property Description

The Property is comprised of 32 contiguous unpatented mining claims totaling 282 units (**Figure 3**). **Table 1** is a list of the claims and summary of the claims data that are included in the Property. The area of the Property is approximately 4,512 hectares. The Property’s western and northern boundaries straddle the Wesdome’s Moss Lake Mines and Coldstream claims, respectively. Claims making up the Property are held by John E. Ternowesky, Helm Exploration Ltd., Dan Patrie Exploration Ltd. and Mengold Resources Inc. Claims held by other parties are subject to various option agreements with Mengold (Mgold) Resources Inc. (**see Appendix-5**). Mgold changed its name to Tanager Energy Inc. (TSXV: TAN) on September 23, 2013 (**see Appendix-6**). Mr. Tom Crain is currently the interim President and CEO of the company.

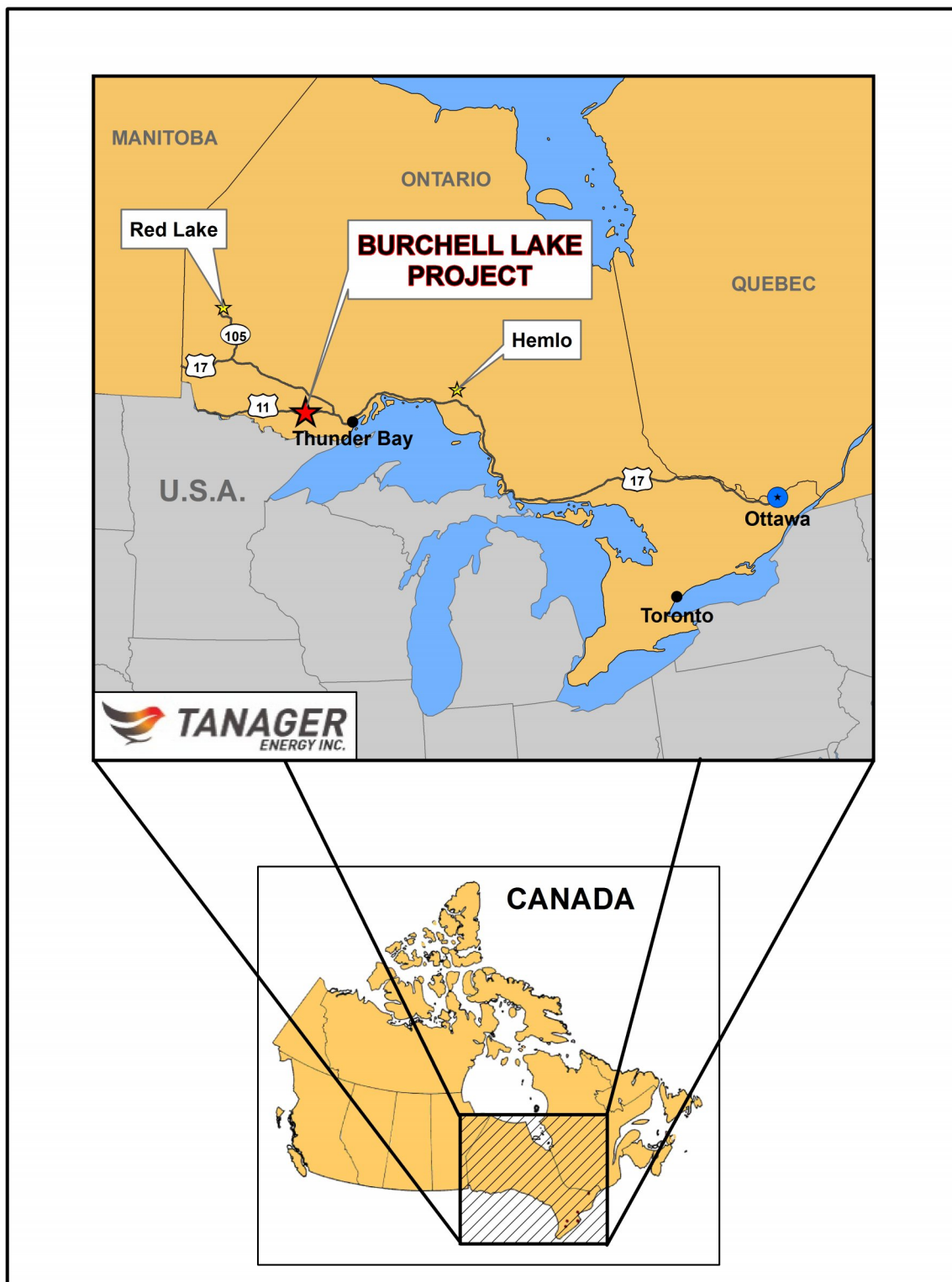


Figure 1. Location of the Burchell Lake Project.

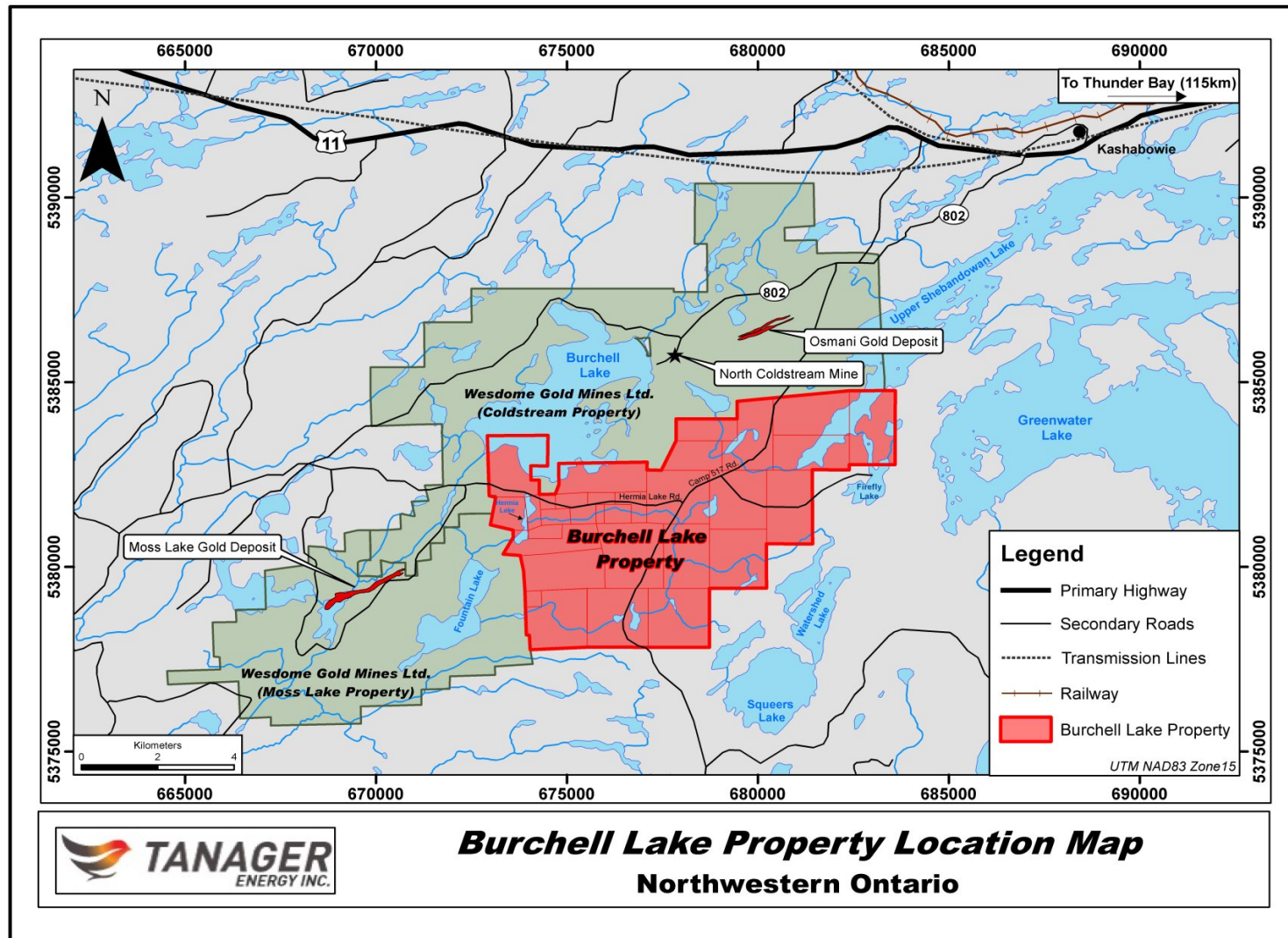


Figure 2. Burchell Lake Property and Infrastructure – Northwestern Ontario.

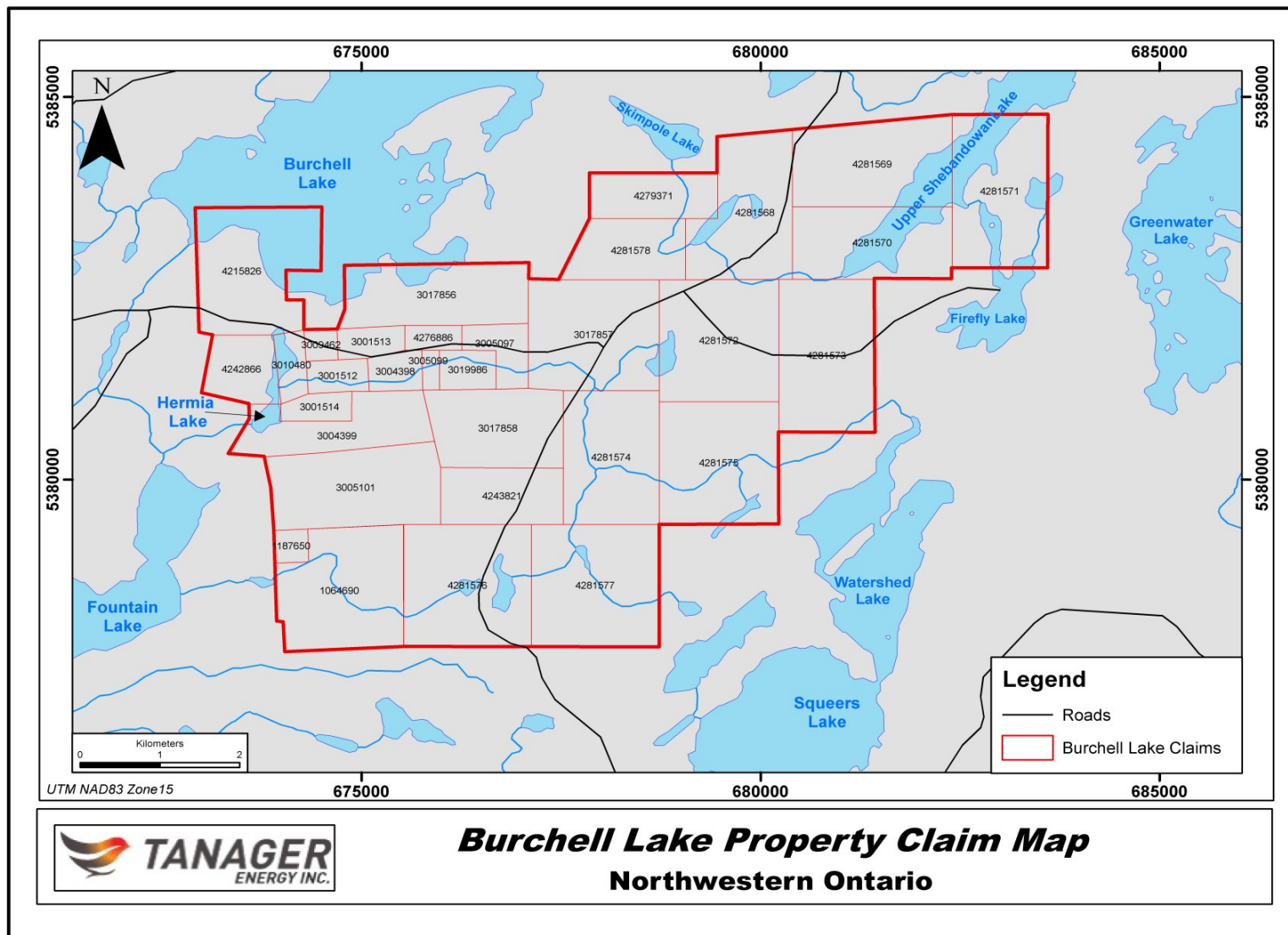


Figure 3. Claim Map – Burchell Lake Property.

Table 1. List of Claims and Related Summary – Burchell Lake Property.

Claim Number	Township/Area	Units	Date Recorded	Claim Due Date	Work Required	Total Applied	Total Reserve
1064690	BURCHELL LAKE AREA	15	2002-Jul-15	2018-Jul-15	\$6,000	\$84,000	\$0
1187650	BURCHELL LAKE AREA	1	2001-Aug-29	2018-Aug-29	\$400	\$6,000	\$31,743
3001512	BURCHELL LAKE AREA	2	2002-Jul-15	2018-Jul-15	\$800	\$11,200	\$0
3001513	BURCHELL LAKE AREA	2	2002-Jul-15	2018-Jul-15	\$800	\$11,200	\$0
3001514	BURCHELL LAKE AREA	2	2002-Jul-15	2018-Jul-15	\$800	\$11,200	\$67
3004398	BURCHELL LAKE AREA	2	2004-Feb-16	2018-Feb-16	\$800	\$9,600	\$0
3004399	BURCHELL LAKE AREA	11	2004-Feb-16	2018-Feb-16	\$4,400	\$52,800	\$0
3005097	BURCHELL LAKE AREA	3	2003-Feb-05	2018-Feb-05	\$1,200	\$15,600	\$0
3005099	BURCHELL LAKE AREA	1	2003-Feb-05	2018-Feb-05	\$400	\$5,200	\$0
3005101	BURCHELL LAKE AREA	12	2003-Feb-05	2018-Feb-05	\$4,800	\$62,400	\$0
3009462	BURCHELL LAKE AREA	1	2004-Feb-16	2018-Feb-16	\$400	\$4,800	\$0
3010480	BURCHELL LAKE AREA	2	2003-Jul-07	2018-Jul-07	\$800	\$10,400	\$13
3017856	BURCHELL LAKE AREA	12	2005-Feb-16	2018-Feb-16	\$4,800	\$52,800	\$0
3017857	BURCHELL LAKE AREA	12	2005-Feb-16	2017-Dec-28	\$4,800	\$48,000	\$0
3017858	BURCHELL LAKE AREA	12	2005-Feb-16	2017-Dec-28	\$4,800	\$48,000	\$0
3019986	BURCHELL LAKE AREA	2	2006-Feb-15	2018-Feb-15	\$800	\$8,000	\$0
4215826	BURCHELL LAKE AREA	16	2007-Sep-06	2018-Jul-06	\$6,400	\$51,200	\$0
4242866	BURCHELL LAKE AREA	6	2015-Oct-21	2017-Oct-21	\$2,400	\$0	\$0
4243821	BURCHELL LAKE AREA	8	2008-Feb-19	2017-Dec-28	\$3,200	\$22,400	\$0
4276886	BURCHELL LAKE AREA	2	2017-Jan-24	2019-Jan-24	\$800	\$0	\$0
4279371	BURCHELL LAKE AREA	6	2016-Apr-05	2018-Apr-05	\$2,400	\$0	\$0

4281568	BURCHELL LAKE AREA	11	2017-Jan-11	2019-Jan-11	\$4,400	\$0	\$0
4281569	BURCHELL LAKE AREA	15	2017-Jan-11	2019-Jan-11	\$6,000	\$0	\$0
4281570	BURCHELL LAKE AREA	10	2017-Jan-11	2019-Jan-11	\$4,000	\$0	\$0
4281571	BURCHELL LAKE AREA	15	2017-Jan-11	2019-Jan-11	\$6,000	\$0	\$0
4281572	BURCHELL LAKE AREA	16	2017-Jan-11	2019-Jan-11	\$6,400	\$0	\$0
4281573	BURCHELL LAKE AREA	15	2017-Jan-11	2019-Jan-11	\$6,000	\$0	\$0
4281574	BURCHELL LAKE AREA	14	2017-Jan-11	2019-Jan-11	\$5,600	\$0	\$0
4281575	BURCHELL LAKE AREA	16	2017-Jan-11	2019-Jan-11	\$6,400	\$0	\$0
4281576	BURCHELL LAKE AREA	16	2017-Jan-11	2019-Jan-11	\$6,400	\$0	\$0
4281577	BURCHELL LAKE AREA	16	2017-Jan-11	2019-Jan-11	\$6,400	\$0	\$0
4281578	BURCHELL LAKE AREA	8	2017-Jan-11	2019-Jan-11	\$3,200	\$0	\$0
Total Claims 32		Total Units 282					

5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

5.1 Access

Access to the Property is via Trans-Canada Highway 11/17 and Highway 11 from Thunder Bay to Kashabowie and from there it can be reached by a secondary Highway 802 and a major logging road (Camp 517) (**Figure 2**). Several logging roads/trails provide easy access on foot and by ATV within the claim area.

5.2 Infrastructure

The CN rail line and a major power line pass within 15 km of the northeast corner of the Property, with minor power lines passing approximately 3.0 km north from the northern claim boundary (**Figure 2**). The nearby city of Thunder Bay, Ontario is an important shipping and transportation hub. Both the Canadian National and Canadian Pacific Railways service the Thunder Bay area. The Port of Thunder Bay is the largest outbound port on the St. Lawrence Seaway System, and the sixth largest port in Canada.

Skilled labour, mining and specialized exploration services and equipment are readily available from the City of Thunder Bay. General labour, prospectors and heavy machinery contractors are available from the nearby villages of Kashabowie, Shebandowan, Shabaqua Corner, as well as the town of Atikokan. Accommodations are available from several fishing and hunting lodges in and around the Kashabowie area.

Opposition to exploration or development permitting in the Burchell Lake Area is likely to be minimal for the following reasons: (1) there are no ecologically sensitive zones in the area, (2) there is a history of mining in and around the area (e.g., past producers Huronian/Ardeen Mine from 1882 to 1937 and North Coldstream Mine from 1906 to 1967), and (3) most of the Property has been logged and new logging roads have been built in 2003/2004, suggesting further logging activity is imminent. In addition to the relative ease of permitting work on the Property, the infrastructure in the area includes maintained paved and gravel roads onto the Property and within 15 km of the Property are power transmission lines and a rail line, which connects to the Thunder Bay deep water port.

5.3 Physiography

Topography in the area is subdued with gently rolling hills covered by mixed pine, spruce and poplar boreal forest and shallow lakes and swamps, with elevations ranging from ~ 485 m to ~ 435 m above sea level. Bedrock exposure is limited in the area to approximately 1-5% except near Hermia Lake where uncharacteristically thick glacial sediments (up to 60 m) cover the area and reduces bedrock exposure to less than 1%. Most of the Property area has been recently logged and vegetation in the elevated terrains now consists of a thick re-growth of spruce, fir,

and pine, interrupted by local stands of mature white pines. Muskeg, alder swamps, and thick growths of cedar locally cover the low-lying areas.

5.4 Climate

Precipitation in the area averages 74 cm a year with average snowfall of 220 cm per year and average snow accumulation of 13 cm a year. Temperatures range from -30°C to +30°C with approximately 153 frost free days a year providing 6 to 8 month field seasons, commonly May to November without snow. Lakes and swamps freeze over from December to February allowing easy access to and for drill set up.

6 Exploration History

The area covered by the current Property has changed ownership, names and has been re-staked several times since the first recorded work in 1948. Descriptions of previous work in the area are presented below with references from Scodnick (2008) and Hunt (2010). The information used to construct this work history has been from Ontario Ministry of Northern Development, Mines and Forests Assessment Reports and Ontario Geological Survey (“OGS”) geological and mineral assessment reports; hence work that was not submitted for assessment credits may not be included below.

1948 – Ivar Wadson

Mr. Wadson carried out a brief drilling campaign on the Burchell Lake Property in 1948 consisting of four drill holes (W-1 to W-4) east of Hermia Lake, totaling 109 metres. No assessment reports were found for this work, with the exception of partial data for drill hole W-2 associated with the 1956-1957 Great Lakes Copper Mines Ltd. assessment filing. However, all holes have been listed in the MNDM drill hole database containing UTM coordinates.

1953 – Great Lakes Copper Mines Ltd.

No assessment reports were found for this work, but it is mentioned in several assessment reports and in the 1964 OGS Burchell Lake Geology report and appears to be the first exploration activity of merit in the area. This program consisted of geological mapping, prospecting and ten short drill holes Giblin (1964).

1954 – Newkirk Mining Corp.

Newkirk apparently optioned the ground from Great Lakes Copper Mines and completed a resistivity survey before returning the property back to Great Lakes Copper.

1956 to 1957 – Great Lakes Copper Mines Ltd.

Some of this work appears to be recorded in the assessment files for the area, but the record is somewhat incomplete. Giblin (1964) reported that Great Lakes Copper Mines drilled 5477 feet or 1669 m in fifteen holes, including an electro-magnetic geophysical survey. Also, at this time 12 different copper showings were apparently identified of which drill testing of occurrences #3

and # 12 yielded encouraging results and are listed in **Table 2**. Most of the showings and drilling occur near Hermia Lake.

Copper mineralization at occurrence #3 (southeast of Fountain Lake) is hosted by “chert, which locally grades to cherty rhyolite” that is within a mafic metavolcanic assemblage (Giblin 1964). Another drilled occurrence, #12 (east of Hermia Lake) is described as striking easterly and was traced for at least 1300 feet (~400m) along strike. At occurrence #12, copper mineralization is disseminated and occurs as stringers within felsic metavolcanic rocks, which are locally brecciated. Glacial cover in the occurrence #12 area is reported to be as much as 150 feet (~45 m) thick.

Table 2. Highlights of Drill Results from the Burchell Lake Property - Great Lakes Copper Mines.
Source: Giblin (1964).

Hole #	From (m)	To (m)	Length (m)	Description	Cu %	Au opt
M6	-	-	-	Depth of sample 20.7 m; occurrence #3	1.98	
M5	-	-	-	Depth of sample 5.8 m; occurrence #3	0.46	
M5	-	-	-	Depth of sample 27.4 m; occurrence #3	5.08	
M7	70.1	74.4	4.3	Chert/rhyolite bx; siliceous matrix; occ. #12	0.80	
M7	84.4	87.0	5.6	Chert/rhyolite bx; siliceous matrix: occ. #12	1.00	
M7	99.7	102.1	2.4	Sheared diorite; occ #12	0.60	
M9	153.6	155.8	2.2	Syenite; occ. #12	0.35	0.02
M9	180.7	183.2	2.5	Felsic meta-volcanic rocks; occ. #12	0.31	0.02
M9	199.6	200.9	1.3	Felsic meta-volcanic rocks; bx; occ. #12	1.10	0.03
M9	203.3	207.0	6.7	Felsic meta-volcanic rocks; bx; occ. #12	0.61	0.02
M9	209.7	214.3	4.6	Felsic meta-volcanic rocks; bx occ. #12	0.43	0.02

1956 to 1957 – Kinasco Exploration and Mining Ltd.

Kinasco Exploration and Mining Ltd. conducted two brief drilling campaigns northwest of Squeers Lake. The initial drill program commenced in November of 1956 consisting of 112 metres in five holes (E1 through E5), while the second program was carried out in February of 1957 totaling 699 metres in five holes (A2 through A6). No assay values or intended targets were provided in the assessment report.

1957 – The Mining Corporation of Canada Ltd.

The Mining Corporation of Canada Ltd. (Trudey Option) carried out a drill program consisting of eight drill holes located west of Hermia Lake, totaling 624 metres. With the exception of T2-8 yielding 1.4% Cu over 0.67m and 1.22% Cu over 0.30m, the remaining holes contained no significant values or were not included in the assessment report.

1962 – International Nickel Company of Canada Ltd.

International Nickel Company of Canada Ltd. drilled three holes (15762 through 15764) in 1962 located on Upper Shebandowan Lake totaling 210 metres. Holes intersected trace values of Copper and Nickel throughout yielding results no greater than 0.08% Cu and 0.18% Ni.

1964 – Noranda Exploration Company Ltd.

Noranda carried out a brief drill program in 1964 consisting of three holes (N-1, 2, 3) located southwest of Upper Shebandowan Lake, totaling 317 metres. Drill holes yielded nil to trace Au values.

1964 to 1965 Mining Corporation of Canada

This work was comprised of 16-line km of ground magnetic and electro-magnetic (“Mag-EM”) geophysical survey, over an area approximately 1 km east of Hermia Lake. A few conductive zones were delineated by the survey, which coincide with the Hermia Lake stock contact with the surrounding meta-volcanic assemblages. In addition, the Mining Corporation of Canada drilled three holes (B4-65-1, 2, 3) targeting EM conductor axis. Assay values were not included in the assessment report.

1965 – Consolidated Mining and Smelting

Consolidated Mining and Smelting conducted a large airborne Mag-EM geophysical survey over much of the Moss Township and part of the Burchell Lake area. Most of this work occurred southwest of the current property, but it extends onto it and is a very good regional guide to structures that may continue from the old Ardeen/Huronian mine or Snodgrass/Moss Lake advanced prospect, to the southwest.

1965 – Noranda Exploration

The only evidence for this work program is from a 1983 compilation map by Belore Mines Ltd and Falconbridge Copper.

1966 to 1967 – Cominco

Cominco implemented a drill campaign from 1966 to 1967 consisting of three holes targeting EM conductors located east of Fountain Lake, totaling 328 metres. Drill holes yielded nil to trace Au values; however it did intersect intermittent sulphide mineralization up to 50% (Po, Py) in FO-2 and FO-3.

1969 to 1970 International Nickel Company of Canada Ltd.

Following the 1962 drill campaign, International Nickel Company of Canada Ltd. (now Vale) carried out a second drill program comprised of four holes (41069, 41070, 41071, and 41073-0) located east of Fountain Lake. Total drilling consisted of 325 metres. No assays or intended targets provided in the assessment reports.

1970 – Canadian Nickel Company Ltd.

The Canadian Nickel Company Ltd. (now Vale) drilled a total of three holes on the Burchell Lake Property consisting of 481 metres. Drill holes 41074-0 and 41076 are located east of Fountain Lake while drill hole 41079-0 is located west of Upper Shebandowan Lake. Assessment reports do not indicate assay values or intended drilling targets.

1971 and 1972 – Freeport Sulphur

No assessment report for this work was found during the author’s search but a 1982 Gulf Minerals assessment report (Solonyka 1982) on the property notes that Freeport Sulphur drilled 9545.5 feet (~2909 m) in 16 holes on the property between 1971 and 1972. Positive results from

the holes, reported in the Gulf Minerals assessment report, are listed in **Table 3**. Apparently, these holes were drilled in the same area as Gulf's holes in 1982, and a compilation map produced by Belore Mining in 1983 also shows this.

Table 3. *Highlights of 1971 Drill Hole Results - Freeport Sulphur. Source: Solonyka (1982).*

Hole #	Length (m)	Cu %
13	48.8	0.28
13	15.2	0.26
16	22.9	0.30
16	6.1	0.36
17	6.1	0.36
17	4.6	0.21

1975 – McIntyre Mines Ltd.

According to the Belore Mines assessment report (1976), McIntyre Mines completed an induce-polarization (“IP”) survey over the area east of Hermia Lake where Belore Mines conducted their 1976 drilling program. No report for the McIntyre Mines work has been located.

1976 - Belore Mines

Belore Mines drilled three holes east of Hermia Lake, totaling 1543 feet (~470m). These holes were a few hundred metres east of previous drilling in the area to follow-up on the IP survey by McIntyre Mines the previous year. One of the three holes was sampled extensively with the other two holes intersecting several disseminated and semi-massive pyrite zones without visible chalcopryite. Most of the second hole was assayed as it intersected two zones of wide low-grade visible copper mineralization, which returned 96 m of 0.232% Cu and 9.1 m of 0.292% Cu. Drill logs also reported several zones of pyrite, chalcopryite, molybdenite, hematite, and/or magnetite, which were not analyzed.

1977 – Rio Tinto Canadian Exploration

Rio Tinto conducted a total of 585 line miles (~941.5 m) of airborne magnetic geophysical survey over three areas in the Shebandowan belt including the area covering the current property. Conclusions reached from this survey were limited except that the Hermia Lake stock is unusually magnetic and the data appears to delineate gabbro bodies south of the property.

1980 to 1982 – Gulf Minerals

Gulf Minerals completed approximately 26 line miles (~41.8 km) of ground EM and magnetic geophysical surveying at 400-foot (~121.9 m) line spacing and stations spaced at 100-foot (~30.5 m) intervals. They also drilled six holes totaling 6028 feet (~1837 m) on the property. Most of the holes were not assayed but some of the better drill intercepts are presented in **Table 4**. Furthermore, large zones (10's to >100 m) of low-grade copper (0.1 to 0.2%) were encountered within the first three holes with only sparse copper mineralization within the rest of the holes.

Table 4. Highlights from 1980-1981 drilling by Gulf Minerals.

Hole #	From (m)	To (m)	Length (m)	Rock Type	Cu %	Au opt	Ag opt
BU-1	104.2	146.8	42.5	Cherty rhyolite and magnetite bx	0.29	-	-
incl			8.4		0.41		0.05
BU-2	211.9	213.4	1.5	Dacitic tuff (pyritic)	1.09		0.11
BU-2			114.4	* compiled from Noranda 1990 report	0.13	Tr	
BU-3	122.4	124.4	2.0	Massive sulphide zone	0.68	0.02	0.18
BU-3			40.5	* compiled from Noranda 1990 report	0.22	Tr	

1982 – Canadian Nickel Co.

At this time the Canadian Nickel Company (now Vale) held a property at the southwest end of Burchell Lake and west of Hermia Lake, which encompassed the northwestern portion of Helm's current claim holdings. The company conducted a 22,52 line km airborne electro-magnetic and radiometric survey over their claims and most of the surrounding area including the entire current property. The survey was flown N-S at a line spacing of ~200 m. Data presented in the 1982 assessment report is minimal including only a few maps.

1983 to 1984 – Tenajon Silver Corp.

The area that Tenajon worked on is to the northeast and a small portion covered the northeast claim, on the current property. They conducted a ground very low frequency electro-magnetic (VLF-EM) geophysical survey and multi-element geochemical soil survey over their claims, followed up by one drill hole collared on the eastern portion of the Burchell Lake Property, totaling 221.9 m. Several EM anomalies were delineated in which one was the target of the two drill holes just south of Burchell Lake and off the current claim block. Neither the drilling nor the geochemical survey proved to be successful. A conclusion by the author of the Tenajon reports (J. McLeod) was that the EM anomalies on the south portion of their claims and on Helm's Burchell Lake Property was still prospective targets since they are in a different rock assemblage.

1986 – Noranda Exploration Company Ltd.

Following the 1964 drill campaign, Noranda Exploration Company Ltd. carried out a second drill program in 1986 comprised of two holes (H-86-2 and H-86-3) located southeast of Skimpole Lake. Although no assay values or intended targets have been included in the assessment report, both holes intersected several narrow zones with elevated sulphide mineralization (py) greater than 50% in concentration.

1987 to 1988 – Newmont Exploration

Newmont held claims that covered the entire southwest end of Burchell Lake and a small portion of the south and west shore. Their ground encompassed the northwest claim block of the current property and skirted the northern property boundary. During 1987 and 1988 Newmont conducted 76.4 line km of VLF-EM geophysical surveying followed by drilling of 8 drill holes totaling 1850 m to test geophysical anomalies. The drilling reports also reference an IP survey but this does not appear to have been submitted for assessment. Gold was the focus of this drilling and except for a few copper assays the only element analyzed for was gold. Many narrow gold mineralized zones (~1-4 g/t Au over 0.1 to 0.7 m) were encountered by the drilling including

some broader anomalous gold zones (~100-200 ppb over several meters). Two of the better intersections are 1.05 g/t Au over 3.36 m from hole 88-07, hosted in a sericite-pyrite felsic crystal tuff, and 0.8 g/t Au over 6.8 m (including 1.8 g/t Au over 1.65 m) from hole 88-04 within a sheared sericitic and pyritic rhyodacite.

1988 – JET Mining Exploration

Terraquest performed an airborne magnetic VLF-EM geophysical survey for JET Mining Exploration over the east side of the current property and continuing east and southeast of the property. A total of 155-line km were flown and surveyed at 100 m line spacing in a NW-SE orientation. Several northeast trending VLF-EM and magnetic linear features were identified by this survey many of which are on or continue onto the current property.

1989 to 1991– Noranda Exploration Ltd.

In 1989 Noranda Exploration flew a DigHem III survey over the entire western end of the Shebandowan Greenstone Belt. It comprised 2622 line km of surveying at a 200 m line separation. This data has not all been included in assessment reports. Noranda held three separate claim blocs (East, Central and West) during 1989 to 1991 of which the East claim block covers an area nearly identical to claims that comprise the current property. On the East block, Noranda completed geological mapping, geochemical rock sampling, re-analysis of two 1981 Gulf Minerals drill holes (103 samples analyzed for gold from BU-1 and 2) and 22 line km's of IP-resistivity geophysical surveying. Results from the geochemical rock sampling found “magnetite rich volcanic rocks” that returned assays of 0.27% and 0.65% Cu and trace Au, carbonatized boulders with 10% pyrite and 0.038 opt Au and several other areas of anomalous gold and/or copper. Notably the sampling and mapping program did not find any significant mineralized zones on the two Noranda claim blocks west of the Burchell Lake Property. The IP-resistivity survey delineated many NE trending anomalies that were not drill tested.

1991 – Central Crude Ltd.

Central Crude Ltd. carried out a brief drill program comprised of a single 360 metre drill hole (BH-91-01) on the Burchell Lake Property, located east of Hermia Lake. Although the assessment report does not include assay results or intended drill targets, BH-91-01 intersected a number narrow zones with elevated sulphide mineralization towards the bottom half of the hole.

1992 – Art Wallace (OPAP)

The claims held by Art Wallace at this time occur over Helm's southern claim block TB 1064690 as well as to the east of the current property. Work performed during the 1992 field season included geological mapping, geochemical rock and chip sampling, trenching and the re-analysis of part of a 1991 drill hole, which was collared east of helm's claims. However, most of the mapping and sampling took place on the Burchell Lake Property and produced numerous anomalous multi-element assays (Cu, Zn, Au, Ag,). The most significant results obtained are from chip sampling across a vein structure, include 2.9 g/t Au over 0.30 m, 0.97 g/t Au over 0.91 m, 3.4 g/t Au over 0.30 m, 19.3 g/t Au over 0.61 m, and 42.2 g/t Au over 0.61m. These chip samples are from the same vein at different points for about 34 m along strike.

2003 to 2004 – Maple Minerals Corp.

Maple Minerals Corp. drilled a total of two holes (B-03-01 and B-04-02) from 2003 to 2004, totaling 234 metres. B-03-01 is located southwest of Upper Shebandowan Lake while B-04-02 is located southeast of Skimpole Lake. Although both holes yielded nil to trace Au values; B-03-01 intersected two narrow graphitic pyrite zones while B-04-02 intersected a mafic volcanic varying from 2-20% disseminated sulphides with concentrations up to 50% over approximately 3 metres and potential alteration zone towards the bottom of the hole.

2004 to 2010 - Mengold Resources Inc.

Mengold carried out prospecting and sampling programs on the property in 2004. A 43-101 technical report was prepared in 2006 (Wetherup et al., 2006). Also, in 2006, additional prospecting, sampling and ground-truthing were carried out, and five diamond drill holes, totaling 669m, were drilled to test several V-TEM conductor axes. Results were reported by Allard (2007).

In 2007 – 2008 a basal till geochemical survey was carried out over portions of the property (Scodnick, 2008). Several areas containing gold, silver, copper, lead, zinc, molybdenum and arsenic anomalies, many of which were coincident with previous induced polarization chargeability and/or resistivity anomalies, and horizontal loop electromagnetic anomalies. Additional line cutting, a reconnaissance soil geochemistry survey were recommended to follow up these results. Some of the targets identified in 2007 were drill tested in 2008 (3199 m in 20 holes). An assessment work report describing the results of this drilling program was submitted in 2010 with the Ministry of Northern Development, Mines and Forestry (MNDM). In this report, Hunt (2010) describes the results of 2008 drilling program as following.

“Two broad areas of significant but low grade gold values were returned from the drilling. The first area is immediately east of Hermia Lake (holes BU08-7, -9, -10, -11, -12 and -15) in an area where previous widespread mineralization has been noted. Most of the significant gold values are associated with intermediate to felsic fine grained tuffaceous rocks with associated pyrite mineralization. Intersections of low grade copper mineralization (below 5000 ppm) were returned from holes BU08-12 and -15, suggesting that a copper-rich horizon (or horizons) may occur along this stratigraphic horizon. The highest gold value, 7.188 g/t over 0.40m, in hole BU08-7, is associated with mafic ash tuff mineralized with fine pyrite. This intersection is broadly coincident with IP chargeability anomalies and an HLEM conductor axis, however continuity was not demonstrated by holes BU8-6 or BU08-14, drilled 225m to the west and 375m to the east, respectively, along the same stratigraphic horizon”.

“A second cluster of gold intersections is concentrated in the southwest corner of the property (claims 1187650 and 3005101). Low grade gold values were intersected in holes BU08-16, 17, -18, -20 and -21. In this area low grade gold mineralization is associated predominantly with basaltic rocks containing quartz veins and variable amounts of pyrite. Three intersections of low grade zinc (in the 5000 ppm range) were also noted in this area (holes BU08-18, 21 and 22)”.

7 Geological Setting And Mineralization

7.1 Regional Geology

The Property is located near the west end of the Archean Shebandowan Greenstone Belt (“SGB”) of the Wawa Subprovince (**Figure 4**) in northwestern Ontario. The Subprovince is an aggregation of Archean greenstone belts and granitoid plutons, which hosts some of the largest shear-hosted lode gold (e.g., Hemlo’s Williams and David Bell gold mines), volcanogenic massive sulphide (e.g., former Geco and Winston Lake zinc mines) and mafic-ultramafic intrusion hosted Ni-Cu-PGM (e.g., former Shebandowan Mine) deposits in Canada (**Figure 5**). The Wawa Subprovince extends west-southwest for approximately 850 km from the Kapuskasing Structural Zone in northeastern Ontario to the Minnesota River Valley area in North Dakota. The Subprovince is truncated by the Proterozoic Trans-Hudson Orogen buried under the Phanerozoic cover.

The SGB is bounded to the north and west by the metasedimentary rocks of the Quetico Subprovince, and to the south by a granitoid batholithic complex (Osmani 1997) (**Figure 5**). Proterozoic rocks unconformably overlap the southern part of the SGB and the batholithic complex. The SGB is known to contain two contrasting suites of supracrustal rocks: 1) an older (>2733 Ma, Corfu and Stott 1986) suite of mafic to felsic, tholeiitic to calc-alkalic volcanic rocks with minor komatiites; and 2) an unconformably overlying younger (2689 Ma, Corfu and Stott 1986) suite of metasedimentary and metavolcanic rocks, including units of alkalic affinity, that overlie the older unit (Shegelski 1980). These younger rocks closely resemble the “Timiskaming-type” rocks of the Kirkland Lake area in the Abitibi Subprovince (Cook and Moorhouse 1969). The Timiskaming-type volcano-sedimentary rocks, which occur along fault-bounded regional structures, were deposited in localized linear pull-apart basins. These fault-bounded basins are home to some of the world’s largest gold deposits (e.g., Kirkland Lake, Timmins, Noranda, and Val d’Or gold camps).

The geological setting of the western part of the SGB, host to numerous base and precious metal deposits and occurrences, is characterized by the presence of predominantly older (2720 to 2715 Ma, Osmani 1997), tholeiitic to calc-alkalic mafic and felsic to intermediate metavolcanic rocks and their associated intrusive equivalents (**Figure 5**). Clastic and chemical (chert and chert-magnetite banded iron formation) metasedimentary rocks, although rare on the Property, they occur in relative abundance within the extreme western part of the SGB near the Quetico Subprovince boundary. Komatiitic mafic and ultramafic metavolcanics and associated intrusive rocks are rare, but widely distributed in the Greenwater Lake area, located approximately 10 kilometres east of the Property. The past producing Shebandowan Mine, hosted within komatiitic rocks occurs approximately 20 km east-northeast of the Property, is situated on the south shore of Shebandowan Lake. An intensely silicified and deformed gabbroic sill-like body hosting Cu-Au-Ag mineralization at the past producing North Coldstream Mine is located approximately 1.5 km north from the northern Property boundary. The setting of the deposit at the North Coldstream Mine is similar to the Cu-Au Prospect located east of Hermia Lake on the Property.

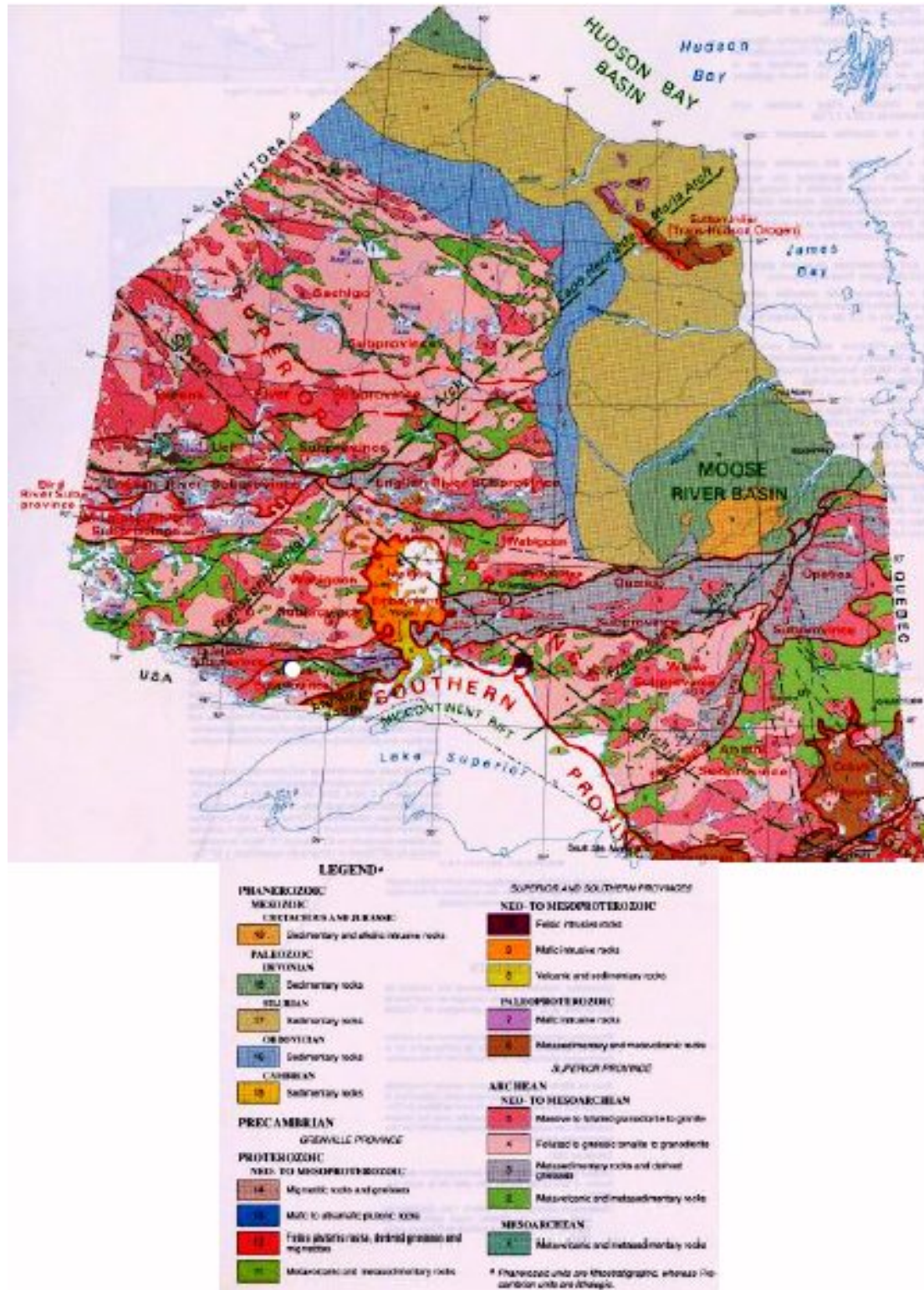


Figure 4. Wawa Subprovince within the Superior Province in Ontario. The white dot indicates the location of Burchell Lake Project. Source: OGS Map 2545 (1991a).

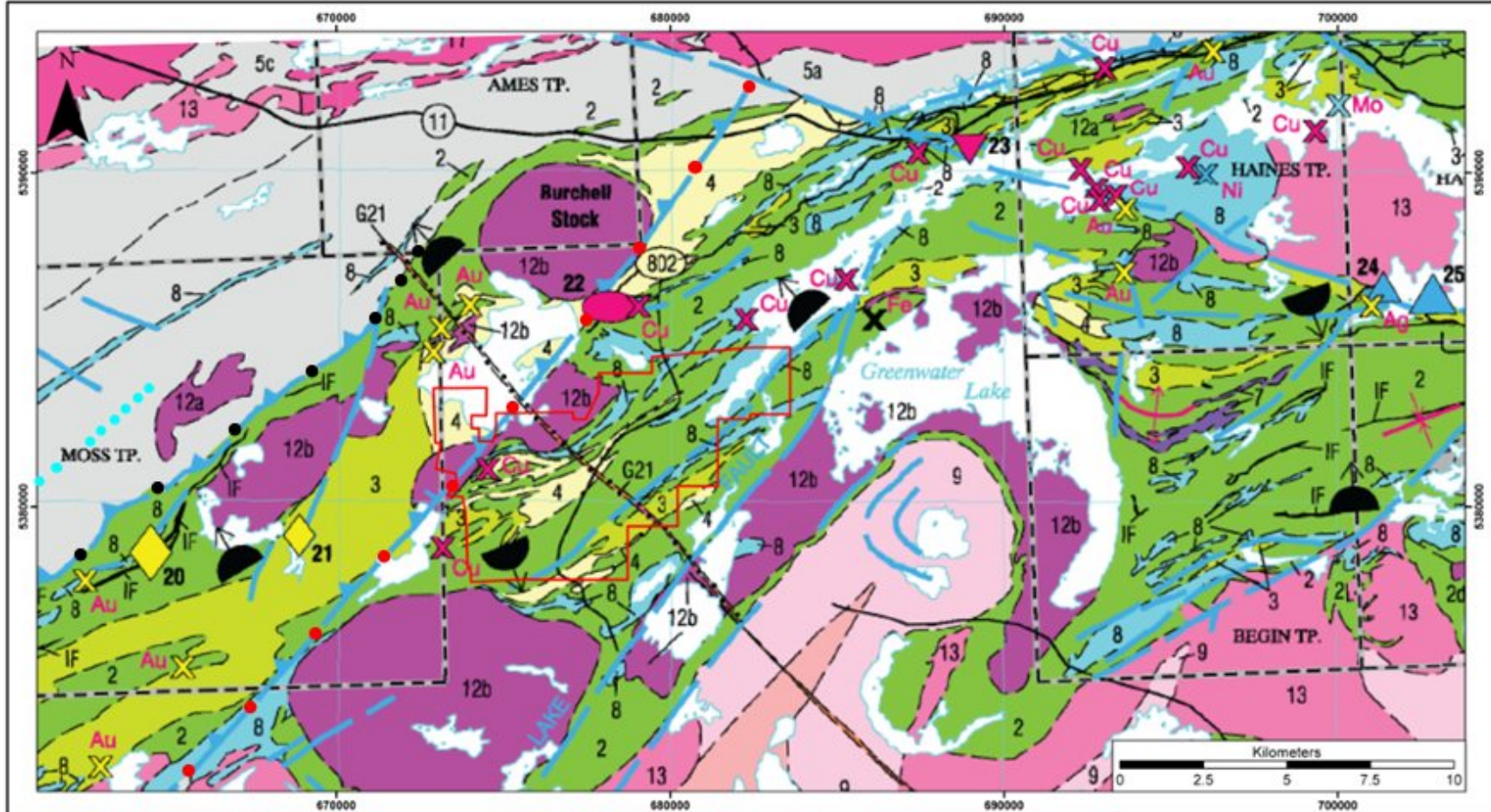


Figure 5. General geology and setting of the Burchell Lake Property within the western Shebandowan Greenstone Belt (SGB). Sources: Santaguida (2001) and Osmani (1996, 1997). Blue linear dots in the extreme west-central part of the map are representing approximate location of Larose Deformation Zone (LDZ). The black and red linear dots alternating with blue dented lines are representing Boundary Fault Zone (BFZ) and Burchell Lake Fault (BLF), respectively.

Legend^a

13	Granite-Granodiorite: massive to foliated texture
12	Diorite-Monzonite-Granodiorite: unsubdivided Sanukitoid Intrusive Suite
10	Foliated Tonalite Suite
9	Gneissic Tonalite Suite
8	Gabbro: dikes
7	Ultramafic Plutonic Rocks: dikes
6	Coarse Clastic Sedimentary Rocks: volcanic rocks (Timiskaming-type supracrustal rocks) 8a Conglomerate 8b Alkaline volcanic rocks
5	Mixed Clastic Sedimentary Rocks: predominantly wacke
4	Felsic Volcanic Rocks: predominantly rhyolitic massive flows
3	Felsic and Intermediate Volcanic Rocks: unsubdivided rhyolite, dacite and andesite
2	Mafic Volcanic Rocks: subaqueous basaltic flows, minor andesite
1	Ultramafic and Mafic Volcanic Rocks: komatiitic flows
IF	Iron Formation

Deposits

20. Kerry – <i>Huronian</i> – <i>Ardeen</i>	PP	Au, Ag
21. Snodgrass – <i>Moss Lake</i>	DP	Au
22. North Coldstream – <i>Tip Top</i>	PP	Cu, Au
23. Vanguard	PR	Cu
24. Discovery Point	PP	Ni, Cu
25. Shebandowan	PP	Ni, Cu
26. Band-Ore	PR	Au

SYMBOLS

	Geological boundary		Major highway
	Geological boundary, interpreted from geophysical data		Secondary road
	Fault and deformation zone (where present, arrows indicate sense of movement)		Railway
	Major fold (syncline)		Township boundary
	Major fold (anticline)		Provincial park
	Thrust fault		Indian Reserve
	Unconformity		International border
	Iron formation		
	Regional stratigraphic younging direction (indicated by volcanic lava flow; by sedimentary feature)		

At both locations, mineralization occurs within cherty to intensely silicified and deformed mafic to felsic metavolcanic rocks. Also at both locations, a gabbroic sill-like body has been emplaced along the mafic-felsic metavolcanic contacts.

The supracrustal rocks within the western SGB are intruded by syn- to post tectonic composite plutons (e.g., Moss Lake, Burchell Lake, Hermia Lake and Hood Lake), and intermediate to felsic hypabyssal intrusive rocks (feldspar and quartz-feldspar porphyry dykes and sills). Some of these porphyries are spatially associated with significant gold mineralization to west and north of Wesdome's Moss Lake and Coldstream properties, respectively.

There are three major regional trends of shearing/faulting within the western SGB: **1)** The east-northeast, **2)** The northwest and **3)** The north- to northeast (**Figure 5**). The east-northeast trending shear/fault zones, generally displaying sinistral sense of strike-slip movement, have been linked to the gold mineralization event (s) within the western SGB (Stott and Schneiders 1983). These shear zones are characterized by strongly developed D2 schistosity and gently to moderately east-plunging lineations superimposed upon rarely preserved D1 tectonic fabrics (Stott 1985).

Some of the most significant D2 structures hosting gold and copper-gold deposits in the western SGB are: **a)** Boundary Fault Zone ("BLFZ") and its splays hosting the past producer Huronian or Ardeen Gold Mine and other prospects/occurrences nearby, **b)** the Moss Lake-Coldstream Deformation Zone ("MCDZ") is hosting Moss Lake and Osmani Gold Deposit, and North Coldstream Cu-Au Mine (past producer, and **c)** the Upper Shebandowan Lake Shear Zone – North Branch ("USDZ-N") and its splays are directly or indirectly control copper-gold mineralization at Hermia Lake Prospect on the Property. The country rocks (felsic to mafic metavolcanics, gabbros and porphyries) hosting these deposits are variably deformed by these regional structures and commonly display silica, sericite, albite, iron-carbonate, magnetite, potassium and hematite alteration. A detailed description of these structures and associated mineral deposits are described later in this report.

The northwest-striking set of structures are best represented by the approximately 35 km long Crayfish Creek Fault ("CCF"), of which the most northwesterly segment is located about 7.5 km from the most northeastern corner of the Property (**Figure 5**). The fault is a dextral strike-slip structure cutting obliquely across east-northeast striking supracrustal sequences and also the earlier tectonic fabrics. The apparent strike-slip movement on the CCF is estimated to be approximately 300 m in a dextral sense in the Shebandowan Mine area (Osmani 1997). Few relatively small, northwest-trending fault structures are interpreted by magnetic data about 750 m east of Hermia Lake on the Property. On the VTEM map (Geotech 2006) of the Property, these faults can be seen displacing east-northeast trending magnetic anomalies horizontally in a dextral sense of movement. Both mapped and geophysically interpreted mafic/diabase dikes occur parallel to these structures.

The north- to northeast-trending regional structures are best represented by two brittle to ductile sinistral faults within the western SGB: **a)** The Snodgrass Lake Fault ("SLF"), and **b)** The Burchell Lake Fault ("BLF"). The BLF apparently cuts the CCF just north of SGB-Quetico Subprovince boundary with no apparent horizontal displacement. However, it displaces the Hermia Lake pluton in the Burchell Lake area within northwestern part of the Property (**Figure**

5). The strike-slip movement of a sinistral sense that is most likely accompanied by some dip-slip component is estimated to be up to 1.5 km in length based on apparent displacements of structures and lithologies in the Burchell Lake area. The SLF, which extends from Snodgrass Lake for approximately 16 km in the north- to northeasterly direction, transects and displaces the Moss Lake pluton and Boundary Fault (“BF”) in a sinistral sense for up to 1.7 km.

7.2 Property Geology

Bedrock exposure is limited in the area to approximately 1-5% except near Hermia Lake where uncharacteristically thick glacial sediments (up to 60 m) cover the area and reduces bedrock exposure to less than 1%. Bedrock geology in the Hermia Lake area is largely based on geophysical and diamond drilling information. The only surface information obtained to date from is from a few outcrops exposed in three trenches representing the Hermia Lake Cu-Au Prospect. The Hermia Lake Cu-Au Prospect is located approximately 400 m southeast of Hermia Lake (Osmani 1993b, Farrow 1994).

The 4,512-hectare Property is underlain by a volcano-sedimentary rock package consisting of mafic, intermediate and felsic metavolcanic and minor chemical sedimentary units (chert and iron formation) (**Appendix-1**). These rocks have been intruded by numerous concordant to sub-concordant mafic to ultramafic and intermediate to felsic hypabyssal dikes and sill-like bodies. Complex inter-layering of various rock types suggests complex folding and/or refolding. The folding/refolding of all major rock units may be related to emplacement of plutons located northwest (Hermia Lake), south-southwest (Hood Lake), and a few hundred metres southeast (Greenwater Lake) of the Property.

7.2.1 Mafic to Ultramafic Metavolcanic Rocks

The mafic to ultramafic metavolcanic rocks comprised of mainly aphyric to plagioclase-phyric, massive to pillowed flows, fragmental rocks (tuffs, lapilli tuffs and breccias), mafic tuffaceous sediments and their derived schists and gneisses. Mafic tuffs/sediments, which in some instances are garnet-bearing, mostly occur proximal to the Hood Lake and Greenwater Lake plutons in the south and south-southeastern parts of the property. The garnet-bearing volcano-sedimentary rocks and their derived schists/gneisses occurring proximal to the granitic plutons indicating superimposition of amphibolite grade contact metamorphic aureole upon these rocks. Minor chert, chert-magnetite and silicate layers are generally associated with tuffaceous units in these areas.

Geochemically, the mafic metavolcanic rocks are high iron to high magnesium tholeiitic basalts but a sample taken and analyzed from Hermia Lake showing by Farrow (1994) also indicated the presence of basaltic komatiite (12% MgO) on the Property. According to Osmani (1997), the mafic metavolcanic rocks in the Burchell Lake area, including on the Burchell Lake Property,

display flat chondrite-normalized rare earth elements (REEs) signatures are indicating that they are mostly unfractionated and were probably produced from the partial melting of mantle in which neither garnet nor amphibole remained in the residue (Condie 1980).

7.2.2 Intermediate Metavolcanic Rocks

Thick deposits of intermediate metavolcanic rocks predominantly occur north and northwest of Waverly and Watershed Lakes in the southwest and southeast parts of the Property, respectively. Elsewhere on the Property, they occur as narrow bands commonly inter-layered with, or compositionally gradational into, mafic or felsic metavolcanic units. The intermediate metavolcanic rocks mainly consist of tuff, lapilli tuff and tuff breccias, and minor massive, feldspar-phyric and amygdaloidal or vesicular lava flows. Sericite±chlorite schists occur in high strain zones (shear/fault zones). Geochemically, the intermediate metavolcanic rocks are calc-alkalic dacites. Chondrite normalized REE patterns of these rocks, on and adjacent properties, display strong fractionation trends (Osmani 1997).

7.2.3 Felsic Metavolcanic Rocks

Thick deposits of felsic metavolcanic rocks occur east and southeast of Hermia Lake within the west-central part of the Property. The felsic metavolcanic rocks mainly consist of massive aphyric to porphyritic (quartz and feldspar phenocrysts) flows, tuff, lapilli tuff, tuff breccias and minor autoclastic and pyroclastic breccias. Outcrops of coarse pyroclastic units (lapilli tuff and breccias) with sulphide burns occur 2.5 to 3.0 km southeast of Hermia Lake (Osmani 1993b, 1997). At this location, the pyroclastic deposit, which measures approximately 1.0 km x 3.0 km, is comprised of tuff, lapilli tuff and pyroclastic breccias and minor massive to porphyritic flows. The coarse pyroclastics dominate and consist of flattened lapilli to block-size rhyolite fragments set within a sericitized, quartz-phyric tuffaceous matrix of rhyolitic composition. The fragments, which make up more than 70% of the rock volume, also contain quartz phenocrysts. This felsic metavolcanic deposit is bounded on the northwest and southeast by the North and South branches of Upper Shebandowan Lake Shear Zone (USDZ-N and S), respectively. Quartz-sericite schists of felsic volcanic protolith commonly occur along these shear zones.

Geochemically, the felsic metavolcanic rocks are generally calc-alkalic rhyolite both on and adjacent areas of the Property (Osmani 1997). However, the whole rock analysis (major oxides and REEs) of two samples of quartz-sericite schist of probably felsic metavolcanic protolith taken from northeastern margin of the above described pyroclastic deposit analyzed by Osmani (1993b, 1997) indicated tholeiitic rhyolite composition for the two samples (**Figure 6**, samples 38 and 39). On the basis of chondrite normalized signatures and SiO₂ content in these samples, Osmani (1997) suggested some felsic metavolcanic rocks within this thick felsic metavolcanic package are probably high silica F-III rhyolites, and were possibly derived from fractionation of a mafic magma. The F-III rhyolites on the chondrite plots are characterized by their relatively flat REE patterns with prominent negative Eu anomalies (Leshner 1986). The two samples analyzed by Osmani (1997) from the Burchell Property have shown geochemical characteristics of F-III rhyolites which are known for their association with many base metal deposits in Canada and elsewhere (e.g., Kid Creek and South Bay mines in the Abitibi and in Red Lake greenstone

belts, respectively). In addition to having favourable REE chondrite signatures, these felsic metavolcanic samples are characterized by silica enrichment (76-78% SiO₂), higher K₂O (3.85%) and depletion in Na₂O (0.98%) that may have some implications for a hydrothermal system related to gold and base metal mineralization in the Hermia Lake area. However, since both samples are quartz-sericite schist occurring within a high strain zone (USSZ-North branch), mobilization of alkalis in highly deformed/altered rocks such as these is not unusual. Despite the mobilization of alkalis, most of the major and trace elements for these two samples appear to remain in the system, reflecting the composition of the felsic metavolcanic protolith.

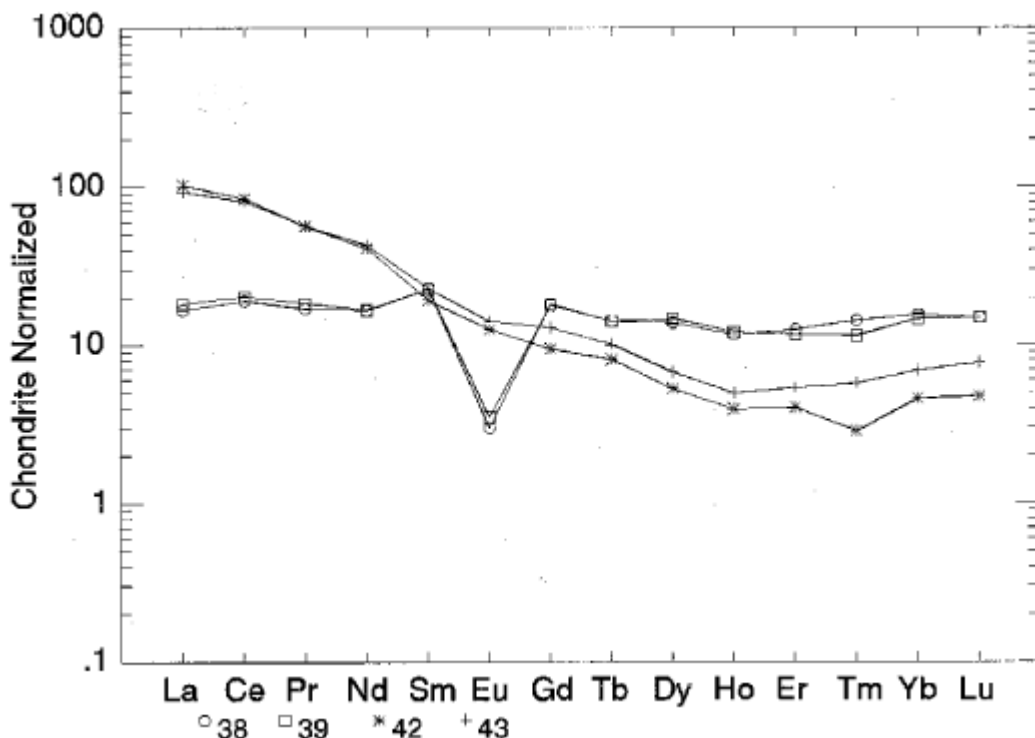


Figure 6. Chondrite-normalized plots of REEs for felsic metavolcanic rocks from the Burchell Property. Please note prominent negative Eu anomaly and nearly flat chondrite patterns shown by FIII rhyolite (samples 38 and 39) and relatively strong fractionated trends by calc-alkalic rhyolite samples (samples 42 and 43). Source: Osmani (1997).

7.2.4 Metasedimentary Rocks

Metasedimentary rocks, including clastic and chemical sedimentary units, form a very minor component of the supracrustal rocks on the Property. The clastic rocks comprising of wacke and siltstone generally occur in association with fragmental mafic to intermediate metavolcanic (tuffs, lapilli tuff and breccias - debris flow deposits) and chemical metasedimentary rocks. The contacts between the clastic and fragmental metavolcanic rocks are generally gradational and both commonly occur within the same outcrop. These rocks are relatively abundant in the southern and southeastern portions of the property.

The chemical metasedimentary rocks, including chert and chert-magnetite banded ironstone units occur as minor constituent throughout the property. Also silicate-facies ironstone and occasional fine-grained mafic layers (chlorite or actinolite) are locally interbedded with the chert or magnetite beds (e.g., Hermia Lake Prospect area). A sulphide-bearing (pyrite±chalcopyrite±bornite±pyrrhotite) chert unit occurring ~1.5 km north of Waverly Lake, is interbedded with mafic to intermediate tuffaceous rock. It contains anomalous arsenic, antimony, bismuth and weakly anomalous gold. The chert and chert-magnetite banded ironstone unit at the Hermia Lake showing host, in part, copper-gold mineralization. These chemical metasedimentary rocks occur both within the mafic metavolcanic rocks and at the interface between the mafic and intermediate metavolcanic sequences.

7.2.5 Mafic and Ultramafic Intrusive Rocks

Mafic to ultramafic intrusive rocks, which include aphyric and plagioclase-phyric gabbro, diorite, gabbroic anorthosite to anorthosite, amphibolite/hornblendite, pyroxenite, peridotite and their derived schists, occur as small and large sill-like bodies throughout the Property. These intrusions are most abundant in the southwestern and southeastern areas than elsewhere on the Property. Some larger sill-like bodies represent differentiated gabbro-pyroxenite-peridotite assemblage (e.g., 3 km southeast of Hermia Lake) and gabbro-anorthosite assemblage (e.g., south shore of Upper Shebandown Lake).

These intrusions have been emplaced as concordant to sub-concordant bodies and occur most commonly within mafic to ultramafic metavolcanics and to lesser extent in intermediate or felsic metavolcanic sequences. Often these intrusions have been emplaced along or near the contacts between the mafic and felsic to intermediate metavolcanic rocks and show close spatial relationship with copper-gold mineralization in the Burchell Lake and Upper Shebandown Lakes areas (e.g., North Coldstream Mine, Copper Island occurrence, Hermia Lake Prospect). This field relationship plus the geochemical characterization (major oxides and REEs) of the mafic to ultramafic intrusive rocks indicating the intrusions are probably subvolcanic hence genetically related to their extrusive counterparts. Geochemically, both are having similar concentrations of major oxides and trace elements and on chondrite-normalized diagram display flat REE signatures (Osmani 1997).

7.2.6 Intermediate to Felsic Hypabyssal Rocks

The intermediate to felsic hypabyssal rocks, mostly including feldspar and quartz-feldspar porphyries and their altered equivalents, occur as steeply-dipping dikes and sill-like bodies on the Property. These intrusions are relatively abundant in the northeastern and southeastern claim areas than elsewhere on the Property, which is probably due to better bedrock exposures in these than other areas. In the western claim area, especially the west-central (e.g., Hermia Lake) and northwestern parts are underlain by a thick glacial cover and as a result the rock exposure amount to less than 1% to virtually no outcrops.

These porphyries, like their host rocks, are invariably deformed and affected by alteration (e.g., silicification, hematite, sericite, calcite and iron-carbonate). Some quartz-feldspar porphyries at

the Hermia Lake Prospect and on adjacent properties (e.g., gold deposit on Wesdome's Moss Lake and Coldstream properties) host gold mineralization.

7.2.7 Granitoid Rocks

The Burchell Lake Property is surrounded by three relatively large composite granitoid plutons: the Hermia Lake Pluton (HRP) in the northwest, the Hood Lake Pluton (HLP) to the south-southwest, and the Greenwater Lake Pluton (GLP) to the southeast of the Property. All these plutons partially occupy these areas of the Property.

The HRP is situated between Hermia Lake and south-southeast of Burchell Lake. It is predominantly a feldspar porphyritic hornblende syenite to monzonite with minor granite phases associated with these units. The phenocrysts of alkaline feldspar comprise, on average, 10% of the rock volume. The pluton southeast of Burchell Lake (near northern property boundary) is host to a large gabbroic xenolith which has been trenched in the past by some unknown individuals or companies. A grab sample taken from the trench by Osmani (1993b) returned anomalous copper and gold values.

The heart-shaped HLP, straddling the south-southwest corner of the Property, is mainly composed of hornblende±pyroxene monzonite and syenite and is characteristically porphyritic. It contains up to 5 cm long feldspar phenocrysts comprising 10% to 15% of the rock volume.

The crescent-shaped GLP, located few hundred metres outside the southeastern Burchell Lake Property boundary, is partially exposed along the shores of Squeers-Watershed lakes. It is predominantly feldspar porphyritic (3 cm long) composite pluton, ranging in composition from hornblende granite through quartz syenite to quartz monzonite.

The HRP and HLP in places contain significant amounts of pyrite, chalcopyrite and bornite. For example, a few weak airborne electromagnetic conductors in the HRP west of Hermia Lake in the northwestern part of the property suggest possible sulphide mineralization in that area. The area has seen some trenching and historical drilling in the past but no results from these works are in public domain or available to the author.

7.2.8 Diabase/Mafic Dikes

Northwest-trending, Paleoproterozoic diabase and mafic dikes are the youngest intrusions on the property (Osmani 1991). These dikes are usually of short strike length and occur adjacent and subparallel to northwest-striking faults/fracture zones. Widths of dikes range from 1 to 10 m. Two varieties of these intrusions occur on and/or adjacent to the Property: 1) fine-grained to aphanitic and 2) plagioclase porphyritic (Osmani 1993b). In the porphyritic variety, the plagioclase phenocryst is up to 0.5 cm in size.

A northwest-striking gabbroic/amphibolite dike outcropping southeast of Squeers Lake, extends, albeit discontinuously, in a northwest-southeast direction across the property boundary (Osmani

1993b). The dike in the Squeers Lake area is coincident with a long (~4.5 km), linear anomaly of relatively higher magnetic susceptibility (Map 81574, Ontario Geological Survey 1991).

7.3 Structural Geology

From an economic point of view, the three most significant structural features on the Property are: **1)** the Upper Shebandowan Lake Deformation Zone (“USDZ”) North (N) and South (S) branches, **2)** Firefly Lake Deformation Zone (“FLDZ”), and **3)** the Moss Lake-Coldstream Deformation Zone (“MCDZ”) (see **Appendix-2 and Appendix-3**). These deformation zones are generally characterized by a series of subparallel to parallel, east-northeast-striking, steeply dipping, and ductile to brittle shear/fault zones and having a penetrative schistosity in the rocks. Host rocks within these deformation zones are affected by moderate to intense silicification, carbonatization, chloritization, sericitization, hematization, and locally containing hydrothermal magnetite and intense iron-carbonate alteration (Osmani 1993b, 1997). Shears and faults within these deformation zones display both sinistral and dextral sense of horizontal movements.

The USDZ, including both North (N) and South (S) branches are regional structures, which originate northeast of the Property in the Upper Shebandowan Lake. The North and South branches and their associated splay structures underlie and passes through the islands and along their respective north and south shores of Upper Shebandowan Lake, and extend southwest to the east of Fountain Lake where they are deflected, in a sinistral sense, into the north-northeast-striking Burchell Lake Fault (BLF).

The North Branch of the USDZ hosts significant copper mineralization on the Copper Island showing, and gold-copper-molybdenite at the Shebandowan West occurrence, located 5.4 km and 2.0 km northeast of the Property, respectively (Osmani 1997) (**Figure 5, Appendix 1 and Appendix 2**). Mineralization at both locations are associated with quartz and quartz-carbonate veins within sheared and altered (silicified, carbonatized, chloritized and sericitized) mafic host rocks. Mineralization at the Shebandowan West occurrence is associated with intense iron carbonate alteration. The USDZ-N and its splays may also, directly or indirectly, control copper-gold±molybdenite mineralization at Hermia Lake Prospect located approximately 400 m southeast of Hermia Lake on the Property.

The USDZ-S for the most part is either underlain by the water of the Upper Shebandowan Lake or covered by thick overburden southwest of the lake. The structure is host to a copper-gold mineralization near the southwest end of the Upper Shebandowan Lake and is also host to numerous minor metal sulphide occurrences (py, cp, bn, As, Bi, Cu, Au and Zn) in variably altered and deformed host rocks. These mineral occurrences, although minor in terms of both size and concentrations, coincide with trains of geophysical conductors (electromagnetic) and are suggestive of potentially significant base and precious metal mineralization along this structure. The FLDZ, a large splay coming off the South branch of the USDZ, hosts several minor sulphide occurrences hence also indicating that it may possibly host potentially significant base and/or precious metal mineralization. Another large, subparallel structure (fault/shear), interpreted by Osmani and Zulinski (2014) from regional magnetic data (Ontario Geological Survey 1991), occurs southeast of the FLDZ. This new structure extends southwest from

northeast of Firefly Lake to the extreme southwest corner of the Property. There are few minor sulphide occurrences between the FLDZ and this structure; however no significant metal sulphide mineralization is known to occur along this structure.

The MCDZ, a regional mineralized structural corridor originating as the North Coldstream Mine Shear Zone (NCMZ, Zulinski and Osmani 2011; Osmani and Zulinski 2013) from the Osmani Gold Deposit area north-northeast of the Property and extends west-southwest through the northwestern claims of the Property and the Moss Lake Gold Deposit (Osmani and Zulinski 2014). The MCDZ is offset by the BLF in a sinistral-sense (left-handed) along the eastern shores of Burchell Lake. The country rocks along this structural corridor (intermediate to felsic and mafic metavolcanics, quartz-feldspar porphyries), which are host to gold occurrences/deposits, are variably schistose to sheared, and commonly display silica, sericite, albite, iron-carbonate, magnetite, potassium and hematite alteration. Historical drilling along the MCDZ in the northwest corner of the Property intersected anomalous gold mineralization within variably altered (silica, carbonate, hematite and chlorite) and sheared intermediate to felsic host rocks (Klatt 1988a and 1988b).

The north- to northeast-trending regional structures are best represented by a brittle to ductile Burchell Lake Fault (BLF) along the western property boundary. The BLF, which comprised of a series of subparallel faults east of Hermia Lake, cuts and displaces both mineralized corridor (i.e., MCDZ) and Hermia Lake pluton in a sinistral sense (left-handed) of the horizontal movement. This left-handed strike-slip movement on the pluton and mineralized corridor is most likely accompanied by some dip-slip component. The horizontal strike-slip movement of up to 1.5 km is estimated to occur based upon apparent displacements of major lithologies and earlier tectonic fabrics in the Burchell-Hermia Lakes area.

Northwest-trending faults and fracture zones, mostly have been interpreted from airborne magnetic/electromagnetic data (Geotech Limited 2006; Ontario Geological Survey 1991, Map 81573), are concentrated in the western-half of the Property (Osmani and Zulinski (2014). Northwest-striking Paleoproterozoic diabase/mafic dikes occurring in the same general area are preferentially emplaced adjacent to these structures (Osmani 1997; Cf. Osmani 1991). The amount and sense of horizontal displacement along some of these faults are interpreted on the basis of apparent displacements of magnetic and electromagnetic anomalies. A detailed map, comprising three trenches at the Hermia Lake Prospect, displays dominant northeast to east-northeast-trending schistosity (Farrow 1994b). However, the same map also shows planar fabrics locally rotated into northwest direction are broadly coincident with the directions of some geophysically interpreted faults in the area.

Since these northwest-striking structures cross-cut and displace east-northeast-trending shear/fault zones, they are considered younger than their east-northeastern counterparts but predate the diabase dikes. However, the possibility of northwest-striking faults to have formed contemporaneously with their northeast-trending counterparts in response to north-northwest-directed transpressional event in the late Archean cannot be completely ruled out. According to Stott (1985), the north-northwest-directed transgression event causing Canadian shield-wide conjugate structures (northwest and northeast striking) has also affected the SGB. Therefore, it is likely that this same event is also responsible for cross-cutting northwest and northeast striking

conjugate structures in the SGB. Whether or not these northwest-striking faults directly controlled the emplacement of precious and base metal mineralization is uncertain but it seems as though they might have facilitated remobilization and eventually precipitation of metal-rich fluids along conjugate structures. The northwest-striking Crayfish Creek Fault (“CCF”), located 10 km northeast of the Property (**Figure 5**), is an example of the northwest-striking structure and is host to both base and precious metal mineralization within the western SGB (Farrow 1993a, 1993b). A rare example of northwest-trending shear zone hosting gold mineralization has also been observed in a trench located approximately 1.3 km east of Fountain Lake near the southwestern Property boundary (Larouch 1993). The shear zone with narrow quartz veining is hosted within felsic tuff to lapilli tuff, which yielded highly anomalous gold mineralization (970 ppb to 42,218 ppb) in five grab samples (Larouch 1993). Highly anomalous gold and base metal mineralization has also been reported by Osmani (1997) and Wetherup et al. (2006) from this area.

7.4 Mineralization

Gold and copper was discovered in the early 1870s in the Burchell Lake area. There are two past producing mines: **1)** the North Coldstream Mine (102 million pounds Cu, 22 000 oz Au and 440 000 oz Ag) situated approximately 1.5 km north of the Property, and **2)** the Huronian or Ardeen Mine (30 000 oz Au and 172 376 oz Ag) located 10 km west of the Property (**Figure 5**). Two advanced gold deposits, the Moss Lake (1.4 million ounces in *Indicated* and 1.75 million ounces in *Inferred* categories, Richards et al. 2013), and Osmani (96,400 ounces Au in *Indicated* and 763,276 ounces Au in *Inferred* categories, McCracken 2011; Osmani and Zulinski 2013) gold deposits occur approximately 3.75 km west and 2.0 km north-northeast of the Property, respectively.

On the Property, two main types of mineralization are observed; copper-dominated and gold-only mineralization. However, minor amounts of base and precious metals are generally associated in either type within a single occurrence.

7.4.1 Copper-Dominated Mineralization

The most significant base metal-dominated mineralization occurs on the Hermia Lake Prospect, situated approximately 400 m southeast of Hermia Lake in the most western part of the Property (**Appendix 1 and Appendix 2**). Due to thick overburden (up to 60 m), outcrops in the Hermia Lake area are limited to a few northwest-trending trenches; therefore, geology and mineralization are known from only three exposed trenches and historical drill logs. Although copper is the most dominant mineralization at the Prospect, gold, silver, molybdenum, zinc and nickel are also associated in small amounts, which makes the Prospect a polymetallic deposit.

Pervasive silica replacement is the dominant alteration style in mineralized host rocks (mafic and felsic schists of extrusive protoliths). It is most commonly developed in felsic to intermediate metavolcanic rocks. Chlorite and magnetite are dominant alteration in mafic schists. Carbonate alteration is concentrated in sheared porphyritic rocks along foliation planes and may be pervasive. Sulphide minerals occur as dissemination, stringers and blebs in all rock types

exposed in three trenches at the Hermia Lake Prospect. Up to 3% pyrite and 3% chalcopyrite occurs as disseminations and elongated blebs in mafic schist (chlorite-amphibole-magnetite). Samples taken by Osmani (1993b) returned anomalous values of 6210 ppm Cu, 765 ppm Ni, 902 ppm Cr and 510 ppm Mo in mafic schist. The most intense sulphide mineralization (up to 7% pyrite and 3% chalcopyrite) occurred in a zone of silicification that yielded up to 1.05% Cu, 0.05% Mo, 0.2 g/t Au (Osmani 1993b). Other alteration minerals within this zone also include epidote, magnetite and carbonate.

Details on geology and mineralization intersected in historical drill holes, both on and adjacent areas of the Prospect, are described in Section 6 (Exploration History) of this report, and also shown in **Appendix 4**. Up to 0.80% Cu over 4.3 m and 1.0% Cu over 5.6 m in cherty/rhyolite breccias and 0.60% Cu over 2.4 m in sheared diorite/gabbro are reported from drill hole M-7 of Great Lakes Copper Mines (Giblin 1964). Drill hole M-9 intersected felsic and mafic metavolcanics, and diorite/gabbro. Chalcopyrite and pyrite occur as stringers and disseminations in all these rocks but brecciated felsic metavolcanics are most favourable host for significant sulphide mineralization. Copper values of 0.31% to 1.1% over 1.30 m to 6.7 m core lengths are reported from brecciated and hematized felsic metavolcanic rocks in the abovenoted drill hole. Up to 0.03 oz Au/ton is also associated with copper mineralization. Drilling carried out by Gulf Minerals Canada in 1980-1981 reported assay values up to 1.1% Cu, 0.07% Mo, 0.6 oz Ag/ton and 0.08 oz Au/ton. Anomalous Pb, Zn and Ni are also associated with copper mineralization.

7.4.2 Gold-Only Mineralization

Gold-only and gold-dominated mineralization occurs, respectively, in the northwestern and southwestern parts of the Property (**Figure 7**). Geology and mineralization in the southwestern claims are exposed in two northwest-trending trenches (“Trench Showing” – Osmani and Zulinski 2014), located approximately 1.3 km east of Fountain Lake near the southwestern Property boundary. The Trench showing (“TS”) is tentatively assigned as a gold-dominated base metal occurrence containing some copper and zinc mineralization.

The extreme northwestern part of the Property (claim# 4215826) hosting gold-only mineralization was discovered in drill holes during the 1987–1988 drilling campaign by Newmont Exploration Inc. Osmani and Zulinski (2014) informally named this gold discovery as NW Drillhole occurrences (“NWD”) in a compilation report prepared for Tanager Energy Inc. Gold mineralization on the NWD and adjacent Wesdome properties (Moss Lake and Coldstream) occurs within a 25 km long northeast-trending regional structure, the Moss Lake-Coldstream Deformation Zone (“MCDZ”). This structure is also known as the Coldstream Gold Trend (“CGT”) (**Figure 8, and Appendix 2**). Drill holes on the NWD intersected a series of strongly anomalous, narrow gold zones (~1.0 – 4.0 g/t Au over 0.1 to 0.7 m), including a few broader intersections of weakly anomalous zones (~100-200 ppb Au over several meters; Klatt 1988a, 1988b). The favorable gold intersections reported in drill logs are 1.05 g/t Au over 3.36 m (DDH 88-07) hosted in a sericite-pyrite felsic crystal tuff and the other intersection assaying 0.8 g/t Au over 6.8 m (including 1.8 g/t Au over 1.65 m) in a sheared sericitic and pyritic rhyodacite (DDH 88-04). Gold is associated mainly with fine-grained disseminated pyrite along schistosity planes.

The TS showing area is mostly underlain by mafic flows and intermediate to felsic tuffs which are intruded by dikes and sill-like bodies of gabbro, feldspar and quartz-feldspar porphyries. All these rocks are variably deformed and altered, and isoclinally folded into Z and S symmetries.

The TS area is cut by a series of northeast and northwest trending shears/faults and thus forming a broad deformation zone connecting with the North and South branches of the Upper Shebandowan Deformation Zone (USDZ) (Osmani 1997, Osmani and Zulinski 2014). Ubiquitous pyrite with minor chalcopyrite and pyrrhotite occurs within this “connector” deformation zone. Chip samples of variable lengths from the TS showing reportedly yielded highly anomalous gold values over narrow channel widths (1.0 g/t Au over 0.91 m to 42.2 g/t Au over 0.61m) (Hunt 2010, Larouch 1993). Anomalous copper (up to 0.19%), lead (up to 0.75%) and zinc (up to 0.97%) are also reported from grab samples at the showing (Osmani 1997, Wetherup 2006). Historical drilling (e.g., WL-91-1) adjacent to the TS showing also intersected anomalous gold and minor base metal mineralization (Larouch 1992, 1993).

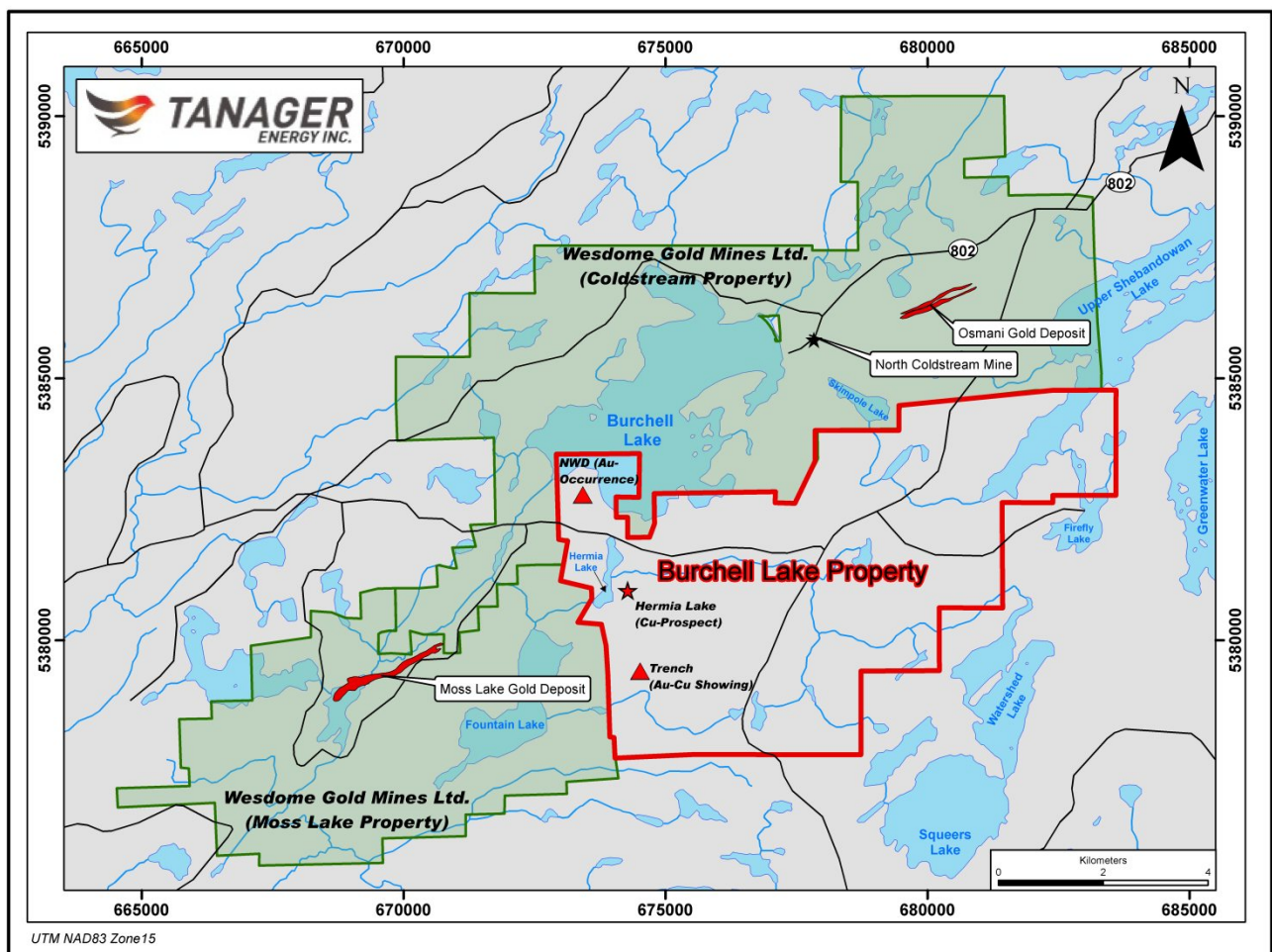


Figure 7. Gold and copper mineralization on the Burchell Lake Property are shown within the context of two significant gold deposits on adjacent Moss Lake and Coldstream Properties.

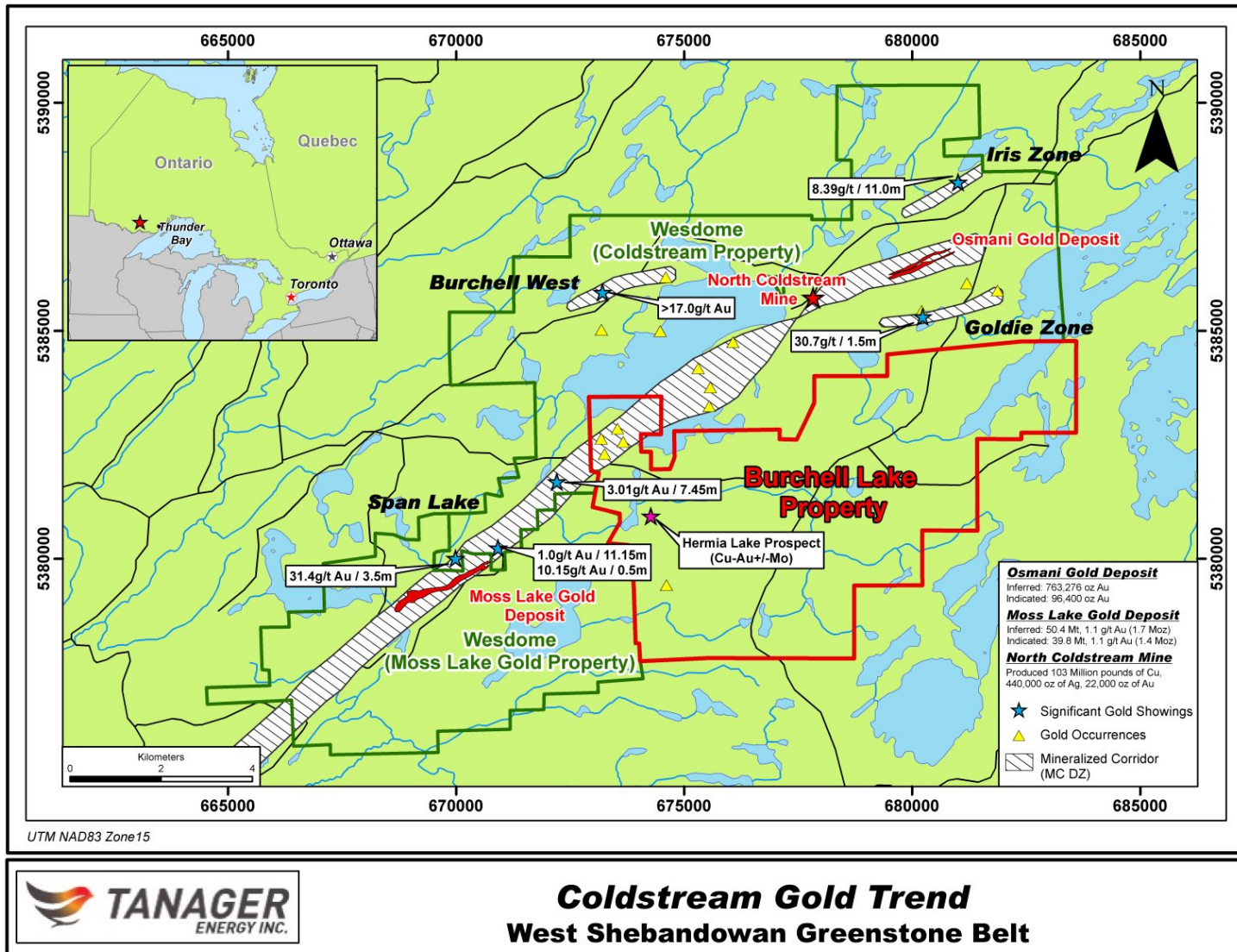


Figure 8. Schematic diagram showing gold deposits and occurrences dotted along the Coldstream Gold Trend (CGT) as defined by Moss Lake-Coldstream Deformation Zone (MCDZ).

8 Deposit Types

As mentioned above, the western SGB is host to two past-producing mines, the North Coldstream copper-gold and Huronian (a.k.a. Ardeen) gold mines (**Figure 5**), and two developed prospects, Moss Lake and Osmani gold deposits of Wesdome Gold Mines Limited (**Figure 7 and Figure 8**). The Huronian Au-Ag Mine represents the most common type of load gold or shear-hosted mineralization found in most Archean greenstone belts. The shear-hosted Moss Lake and Osmani gold prospects are less traditional disseminated low-grade bulk-tonnage deposits hosted within a long and broad deformation zone, the MCDZ (a.k.a. CGT).

The North Coldstream Copper-gold-Ag Mine, a controversial deposit in terms of its origin, has fostered debate over whether it is a volcanogenic massive sulphide (VMS) (Stott and Schneiders 1983) or a magmatic (mafic intrusion-hosted) (Osmani 1993b, Lavigne and Scott 1992, Farrow 1994) to a hydrothermal style replacement mineralization (Giblin 1964, Aubut et al. 1990, Osmani 1997). Most recently a new IOCG model has also been proposed by some explorationists for some mineral occurrences/deposits, including the North Coldstream Mine deposit, within the Burchell Lake area (Koziol 2005, 2008, Tremblay and Koziol 2007, Osmani 2009). The IOCG model is discussed later in section 8.1.4. However, one thing that seems to be clear to most people is that the ore body at the mine is hosted within intensely silicified/cherty mafic rock (intrusive or extrusive), where style and setting of mineralization defies any single model has been suggested so far.

At the North Coldstream Mine, massive to disseminated metal sulphides hosted within a cherty horizon at the contact of the chlorite-epidote-actinolite-hornblende schists of gabbroic and mafic metavolcanic protoliths. Quartz-sericite schist (extrusive/intrusive) and quartz-feldspar porphyry, as minor components, occur adjacent to the cherty zone. In addition to Cu, Au and Ag mineralization, Ni (up to 5790 ppm), Co (0.4%), Mo (50 ppm), Bi (73 ppm) and Pt-Pd have also been reported from the deposit (Osmani et al. 1992; Lavigne and Scott 1992). The North Coldstream Shear Zone (NCMS), which is part of a 25 km long auriferous regional deformation zone (MCDZ), has transected and deformed the host rocks adjacent to the ore body beyond recognition of their protoliths. The NCMS and ore body are truncated to the west by the northeast-trending Burchell Lake Fault (BLF). The Cu-Au mineralization at the Hermia Lake Prospect on the Property, which shares some aspects of its geological setting and mineralization style similar to that of the mine, is described later in more detail.

8.1 Regional Overview

A detailed review of gold and base metal mineralization styles and settings relating to within a broader regional context with the types and styles of mineralization on the Property is discussed below.

8.1.1 Gold Mineralization

Virtually all “gold-only” mineralization associated with or without substantial quartz veining in the western SGB occurs along or adjacent to shear zones in a variety of rock types. This is one prominent characteristic feature to all shear-hosted gold deposits in the Superior Province of Canada. That is a marked contrast to the economically significant, volcanogenic massive sulphide deposits, which show a strong correlation with felsic pyroclastic rocks that are geochemically distinct. A second, equally prominent, characteristic of the gold deposits is their occurrence within major tectonic zones that comprise a linear composite shear system. These shear system or deformation zones are commonly of regional extent, exhibiting systematic orientations and a sense of shear, and may truncate all lithologies. Also these regional-scale deformation or shear zones transect the boundaries of individual greenstone belts or form the boundary between granite-greenstone- and metasedimentary-dominated geological entities or Subprovinces. Within these deformation zones, smaller or splay shears off the main structures generally play a direct role in localizing gold deposits. Gold mineralization in such settings occurs in all of the major gold camps in the Superior Province of Canada, including Rice Lake, Red Lake, Hemlo, Wawa, Timmins, Kirkland, Valdor-Malartic, Casa Berardi and Duparquet.

Examples of load gold associated with regional shear/fault zones are occur west of the current study area along or near the boundary between the western SGB of the Wawa Subprovince and Quetico metasedimentary Subprovince (“QSB”) (**Figure 5**). The contact between the QSB and SGB is strongly deformed (sheared/faulted) and marked by a major regional structure, the Boundary Fault Zone (“BFZ”) (Osmani 1997). The faulted boundary zone varies up to several hundred meters wide and consists of numerous northeast-striking (30°–50°) discrete shear zones. The BFZ and related splay shears, occurring both along and adjacent to the areas, are hosting gold mineralization in a variety of rock types. The past gold producer, Huronian Mine, was hosted in one of these splay structures and occurs east of the BFZ within the SGB. Gold at the Huronian Mine occurs in en echelon quartz-carbonate veins, hosted in chlorite-sericite-carbonate schist of a mafic metavolcanic protolith. There are several other important gold occurrences in the mine area that are also hosted in splay structures related to BFZ (e.g., McKellar, Minoletti, Beaver and Fisher Lake occurrences; Osmani 1993a, 1997). To the west of the faulted Subprovincial boundaries, several significant shear-zone-hosted gold mineralizations have also been discovered in recent years within the Quetico metasedimentary rocks. These gold discoveries occur both adjacent to and as far as 2.0 km away from the QSB-Wawa boundary. The most significant of these discoveries to date is the “Larose Prospect” hosted in an up to 90 m wide and 4.6 km long northeast-trending Larose Deformation Zone (“LDZ”) (**Figure 5**). The LDZ comprises numerous subparallel, narrow (cm to metre scale) and northeast-trending discrete shears. Gold occurs in cm-scale quartz-carbonate veins hosted within sheared and altered (oxidized, sericitized and silicified) turbiditic rocks. Strongly sheared and altered (silicified and oxidized) turbiditic rocks are also auriferous but usually contain lower gold grades than veins that they host. However, whether gold mineralization in LDZ is related to a boundary zone or represents an entirely different system has yet to be established.

The two most significant gold deposits, the Moss Lake and Osmani gold deposits of Wesdome Gold Mines Ltd. are located approximately 5.0 km and 10.0 km away, respectively, from the QSB-Wawa Subprovincial boundary within the western SGB. The Moss Lake and Osmani gold

deposits, which are hosted in highly strained and altered felsic and mafic metavolcanic rocks, respectively, occur adjacent to Tanager's Burchell Lake Property. The auriferous MCDZ (a.k.a. Coldstream Gold Trend – CGT) hosting these two gold deposits passes through Tanager's most northwestern claim and host to several drill-intersected gold occurrences (**Figure 7 and Figure 8**).

The setting and style of mineralization at the Moss Lake and Osmani gold deposits are different from the Huronian Mine area in that these two deposits contain virtually no quartz veins associated with gold mineralization. This difference could be a function of tectono-thermal dynamics that perhaps operated differently during the emplacement of auriferous fluids along the Quetico-Wawa Subprovincial boundary from that operated within the interior of the belt.

8.1.2 Base Metal Mineralization

Base metal or base metal-dominated mineralization with varying rock associations is represented by two geologic settings in the western SGB:

1. Stratigraphically controlled base metal-dominated mineralization - examples: Hermia Lake Prospect (Cu-Au±Mo), Vanguard East and West deposits (Cu-Zn-Au-Ag), East Coldstream Base Metal Extension (py±sp±cp), Track and Whalen showings (Farrow 1993a, 1994; Osmani 1993b, 1996, 1997).
2. Intrusion-hosted base metal mineralization – examples: North Coldstream Mine (Cu-Au-Ag) (past producer), Copper Island Cu showing, Haines Gabbro-Anorthosite Complex (Cu-Ni-PGM), and Shebandowan Mine (Ni-Cu-PGM) (past producer) (Farrow 1993a, 1994, 1995, Osmani 1996, 1997).

All but the Hermia Lake Prospect occur outside the Property (**Figure 5**). Within the category of stratigraphically controlled setting, the Vanguard East and West deposits and Coldstream Base Metal Extension are clearly volcanogenic massive sulphide (VMS) deposits (Farrow 1993, 1994), but others are not equivocally convincing of their origin. The Hermia Lake Prospect on Tanager's Burchell Lake Property, for example, is a stratigraphically controlled copper-dominated mineralization, situated at the contact between mafic and felsic to intermediate volcanic rocks which can be traced in a large S-like pattern to the North Coldstream Mine on the northeast shore of Burchell Lake (Osmani 1993b, 1997) (**Appendix-3**). However, at the Hermia Lake Prospect, any field evidence of original volcanic-associated sulphide mineralization, if it ever existed, has been obliterated by shearing and deformation associated with a regional-scale shear zone (i.e., USDZ and associated splays) that cuts the area. A similar setting of base-metal-dominated mineralization occurring at the North Coldstream Mine is considered by some a VMS-type deposit and others have argued in favour of a mafic (gabbros) intrusion-hosted or a hydrothermal replacement style deposit. Intense deformation associated with the NCMS has obliterated all lithologies beyond recognition at the deposit.

All intrusion-hosted known base metal mineralization occur outside Property boundaries (**Figure 5**). The base metal mineralization within the main mass of the Haines Gabbro-Anorthosite complex, the NW Peninsula and Copper Island showings is most commonly related to post-emplacement shearing within the intrusions. The shear and fracture zones formed the loci for the

hydrothermally scavenged metals, sulphur, iron and silica. The Shebandowan Mine is a magmatic Ni-Cu-PGM deposit hosted in highly deformed ultramafic sill-like body.

8.1.3 Other Regional Considerations

According to Osmani (1993b) and Osmani and Zulinski (2014), base- and precious-metal-dominated mineralization, in general, occurs in two distinct geographical areas in the western SGB. The northeast-trending Burchell Lake Fault (BLF), chosen by Osmani (1993b) as the demarcation line between the gold-dominated western region (e.g., Ardeen Au-Ag Mine and Moss Lake gold deposit) and the base-metal-dominated eastern region (e.g., North Coldstream Cu-Au Mine, Hermia Lake Cu-Au Prospect, Shebandowan West copper-gold occurrence, Copper Island Cu showing, Vanguard Cu-Zn East and West deposits) (**Figure 5**). The exception to this rule is the Osmani Gold Deposit and a few other minor occurrences of mixed copper-gold in proximity to both sides of the BLF. Despite these exceptions, the view of Osmani (1993b) is broadly supported on the basis of the known distribution pattern of base and precious metals within the western SGB (**Figure 5**).

A recently compiled map by Osmani and Zulinski (2014), incorporating the bedrock geology, structures and mineral occurrences/prospects, between the Burchell and Upper Shebandowan lakes area, has shown that the vast majority of mineral occurrences are predominantly polymetallic, where copper and, in some instances, gold are usually the leading metals within a single occurrence or deposit. Other metals, such as Zn, Ag, Mo, Bi and Ni, are minor but common accessories to copper- or gold-copper mineralization.

Stott (1985) in his structural study subdivided the western SGB into two strain domains (**Figure 9**). One domain (D1) is characterized by well-developed, moderately west- to southwest-plunging lineations, bedding parallel foliations and local isoclinal folds with steep axial planes. Domain two (D2) is characterized by strongly developed foliations and weakly developed, gently to moderately east-plunging lineations that often steepen close to the strain domain boundaries. The Firefly Lake Deformation Zone (FLDZ) roughly separates the D1 domain to southeast from D2 domain in the northwest (Osmani and Zulinski 2014) (**Figure 9**). According to Stott (1985), structures related to D1 were superimposed by the subsequent D2 deformational event, and both the D1 and D2 episodes were locally overprinted by asymmetric folds and kink bands related to relatively minor D3 event. Stott and Schneiders (1983) inferred pre-D2 North Coldstream copper-gold deposit to lie within D2 domain, suggesting deformation of ore body by the D2 deformational event. The D2 event is thought to be responsible for introducing auriferous fluids in D2 structures such as the USDZ (North and South branches) and MCDZ. Osmani (1996, 1997) also suggested the D2 shears and faults are probably responsible, in part, for superimposition of gold mineralization on pre-D2 base metal sulphide deposits (e.g., North Coldstream Cu-Au-Ag Mine) in the Burchell-Shebandowan lakes area. By extension of this analogy, it is thought by the earlier workers and also in this study that copper-dominated mineralization in the Hermia Lake area (e.g., Hermia Lake Cu-Au prospect) was probably subjected to the auriferous D2 event which is not only responsible for “gold-only” mineralization such as the Moss Lake and Osmani gold deposits but may have also been responsible for superimposing gold on existing base metal deposits (volcanogenic/magmatic).

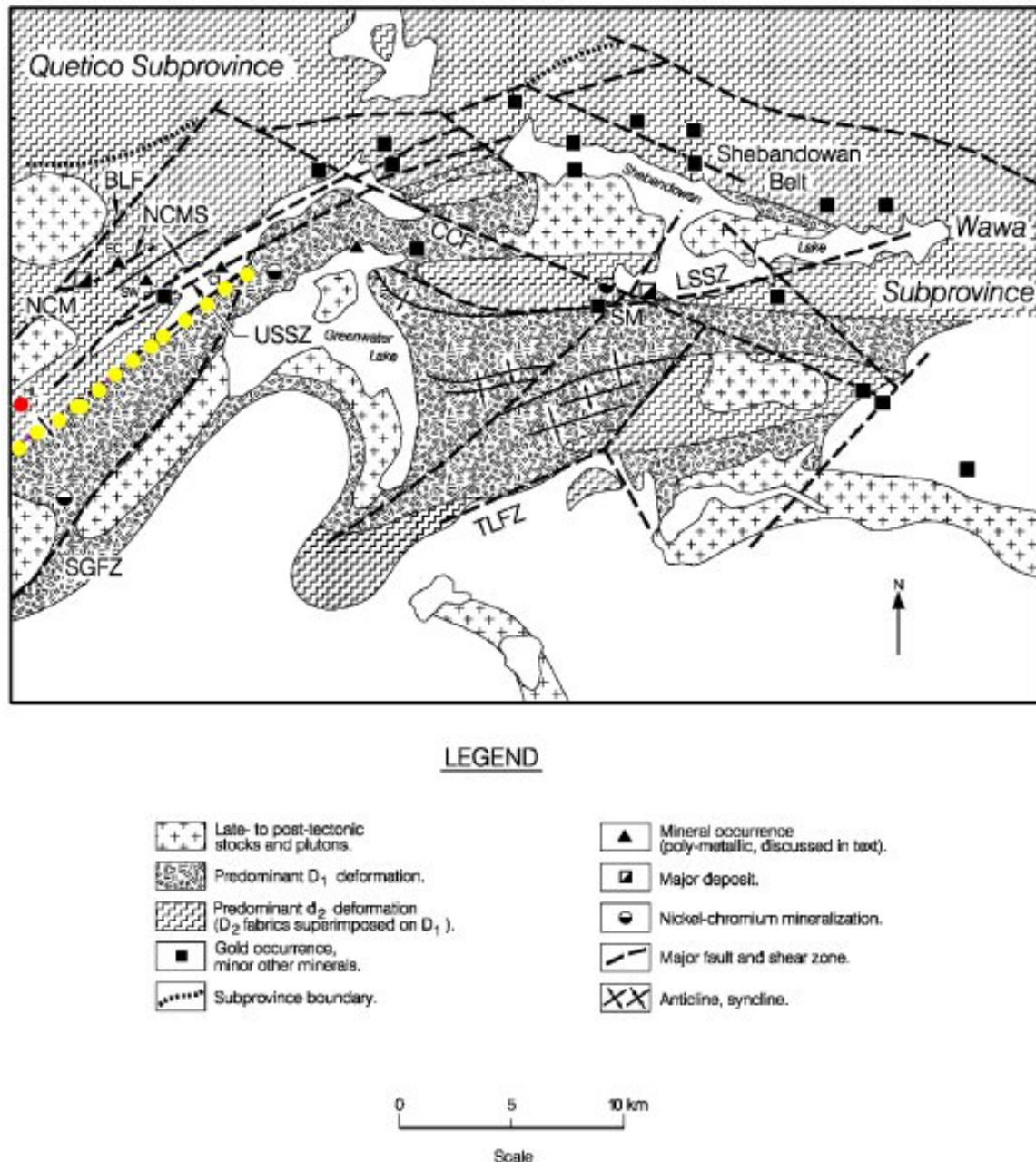


Figure 9. Distribution of D₁ and D₂ strain domains within the west-central Shebandowan Greenstone Belt. Red dot shows the Hermia Lake showing and train of yellow dots marks the D₁ and D₂ strain domain contact zone which broadly coincides with Firefly Lake Deformation Zone (FLDZ). Abbreviations: CCF-Crayfish Creek Fault, NCMS-North Coldstream Mine Shear, BLF-Burchell Lake Fault, USSZ-Upper Shebandowan Shear Zone, LSSZ-Lower Shebandowan Lake Shear Zone, SGFZ-Squeer-Grouse Lakes Fault Zone, TLFZ-Totogan Lake Fault Zone. Source: Stott (1985) and Osmani (1997).

However, since all major lithologies were subjected during the belt-wide strong deformation and alteration episodes, it is often difficult to recognize either protoliths of the host rocks or to reconstruct the architectural framework of their original volcanic stratigraphy. Greater complications arise when base metal mineralization is accompanied with significant anomalous gold in highly-strained and altered host rocks which is the case in almost all base metal deposits in the western SGB. Osmani (1993b, 1997) envisaged one of the two or both scenarios explaining the complex litho-structural setting of mineralization in the western SGB:

- 1) Gold was introduced during the D2 event that superimposed upon the existing pre-D2 base metal sulphide deposits (volcanogenic or magmatic-mafic intrusion-hosted or hydrothermal replacement type).
- 2) Gold, along with base metals, was introduced during the D2 event and have these metals enriched the existing pre-D2 sulphide deposits (VMS or magmatic-mafic intrusion-hosted or hydrothermal replacement type).

Both of these scenarios appear as a reasonable model due to the lack of clear evidence to otherwise support the style and setting of base metal mineralization with anomalous gold in the Burchell -Shebandowan lakes area. The northeast-southwest-trending USDZ (North and South branches) is considered a potential host for significant copper or gold-copper mineralization, both on and off the Property (e.g., Hermia Lake Cu-Au-Mo prospect, Shebandowan West Cu-Au±Mo occurrence and Copper Island Cu showing; Osmani and Zulinski 2014) (**Figure 5, Appendix 1 and Appendix 2**). The Shebandowan West occurrence and Copper Island showing are located, respectively, approximately 2.0 km and 5.4 km northeast of the Property. The Shebandowan West Occurrence is underlain by mafic to intermediate fragmental volcanic rocks, which are in sheared contact with gabbro to anorthosite sill-like bodies. A felsic dike intrudes the fragmental rocks at the Occurrence. The shearing and strong schistosity developed within the metavolcanic rocks and felsic dike is associated with the northern branch of USDZ. Massive and disseminated chalcopyrite, pyrite and minor bornite associated with Cu-Au±Mo mineralization occur within the metavolcanic rocks and felsic dike.

Copper mineralization on the Copper Island is an important occurrence in terms of both setting and style of mineralization, which is not known to occur on the Property. Copper mineralization at the Copper Island occurs within a sheared gabbroic sill (differentiated gabbro-leucogabbro-anorthositic-gabbro-anorthosite complex) and in quartz veins. This gabbroic sill is part of a much larger differentiated gabbro-anorthosite sill complex that underlies much of Upper Shebandowan Lake and is exposed on islands, the north shore and west of the lake. The gabbroic complex is intruded into metavolcanic rocks and both are deformed by east- to northeast-striking sets of subparallel shear zones, which are part of the regional structure (i.e., USDZ). Both rock types within and adjacent to these shear zones are variably chloritized, sericitized, carbonatized, oxidized, epidotized and silicified and, due to the intense silicification, are locally altered to a cherty rock. The cherty rock, which may have also formed as a result of intense silicification of mafic rocks, is host to copper mineralization at the North Coldstream Mine. On the Copper Island, chalcopyrite, pyrite and minor pyrrhotite and malachite occur in sheared gabbroic rocks and in quartz veins. Up to 5.1% Cu and 3.9% Cu over 0.92 m and 3.8 m, respectively, are reported from the showing (Cf. Osmani 1997). Some drill holes reportedly intersected up to 40%

chalcopyrite, 30% pyrite and minor pyrrhotite from highly silicified/cherty (gabbroic rocks) and chloritized portion of the rocks. Copper with weakly anomalous Au, Ag, As, Sb and Bi is also reported from the surface showing (Osmani 1997).

There are several other minor base and precious metal sulphide occurrences on the Property but most of them have insufficient information about their metal contents or metal associations or their style and setting of mineralization. Therefore, it is recommended that these occurrences be re-examined and explored by appropriate geological and geophysical methods, particularly in light of the results from the compilation study of Osmani and Zulinski (2014), showing their potential of hosting significant mineralization.

8.1.4 Iron Oxide Copper Gold (IOCG)

Although shear-hosted mineralization, particularly for gold deposits, is the most favoured model by exploration geologist to date, a new model, the Iron Oxide Copper Gold (IOCG), which incorporates many aspects of the shear zone model, has also been suggested for some gold±copper and copper-gold deposits in the western SGB (Tremblay and Koziol 2007, Osmani 2009). Deposits displaying the three main diagnostic features of IOCG-type deposits, such as sodic-calcic, iron (hematite-magnetite) and potassic metasomatism have been identified in the Burchell-Upper Shebandowan lakes area (e.g., Osmani gold deposit, Koziol 2005, 2008, Osmani 2009). On the Property, for example, several drill logs note that copper and gold mineralization occurs often with significant magnetite (5-10%) and red-stained (hematized) rhyolites east of Hermia Lake (e.g., 80-BU-1, 80-BU-2B, 81-BU-4 and 81-BU-5, Gulf Minerals 1981) and also within most northwestern claims south of Burchell Lake (e.g., Newmont's drill holes 88-1 through 88-9). Also, there is mention of local brecciation of host rocks in the historical logs, particularly within rhyolite and cherty/silicified mafic schists east of Hermia Lake. The brecciation is an important aspect in the formation of most IOCG-type deposits; for example, the Olympic Dam Cu-Au-Ag-U-REE deposit. The brecciation is usually accompanied by hematite alteration in the deposit. Whether or not rare earth elements (REEs) minerals occur or were they even investigated in Hermia Lake drill cores is not known but they are reported on the adjacent Wesdome's Coldstream Property. Very fine-grained REE-minerals, hydrothermal monazite and xenotime are reported in some drill cores at the Osmani Gold Deposit located 2.0 km north of the Property (Tremblay and Koziol 2007). All or some of these characteristics are typical of IOCG deposits and although there is no definitive proof of IOCG mineralization, it is certainly a plausible exploration model for the polymetallic Hermia Lake Prospect and adjacent areas.

The polymetallic nature of the mineralization style seen on the Burchell Lake and adjacent properties is also common feature in many IOCG deposits, suggesting the introduction of a wide variety of elements to the rocks during multiple stages of hydrothermal alteration and mineralization, including elements such as Fe, Au, Cu, Zn, Pb, Ni, Bi, Li and Mo. Other features that are equally supportive of an IOCG model on the Property include tectonic setting and areas of regional thermal events such as emplacements of syn- to post-tectonic quartz-feldspar porphyries and large granitoid plutons (e.g., Hermia Lake and Hood Lake plutons) emplaced in the country rocks. These intrusive bodies were the heat source for hydrothermal fluids. The structural controls, such as the MCDZ, USDZ and associated splays and folds, are very significant features on the Property as they are the likely conduits for oxide-rich and saline

hydrothermal fluids. These deformation/shear zones are hosted within regionally extensive sodic-calcic alteration zone where observed intense and pervasive albitization (plus amphibole-sericite-chlorite) is indicative of a major regional feature seen in other IOCG-type deposits of the world e.g., Salobo deposit, Brazil; Cloncurry district, Australia).

8.2 Burchell Lake Property

The geological setting and style of mineralization discussed in the preceding section (8.1 *Regional Overview*) are represented by the Hermia Lake Cu-Au±Mo Prospect, NWD gold occurrences and Trench Au-Cu-Zn showing on the Burchell Lake Property. There are numerous other sulphide occurrences, some of which contain minor gold and/or copper but have apparently never been explored properly to assess their economic potential. The most common single feature in all mineral occurrences/prospects on the Property, particularly for base-metal-dominated mineralization, is that they occur along or adjacent to sheared lithological contacts. The rocks hosting the mineralization could be either extrusive or intrusive or a combination of both. The best example of this setting and style is represented by the Hermia Lake Cu-Au-Mo Prospect in the western part of the Property. Another style/setting not known to occur on the Property is the intrusion-hosted base metal mineralization (the Copper Island Cu showing) discussed above.

8.2.1 Hermia Lake Cu-Au-Mo Prospect and Adjacent Areas

The Hermia Lake Prospect and adjacent areas are mostly covered by thick overburden (up to 60 m thick) therefore geology and mineralization is only revealed either in three exposed trenches or in historic drill logs (**Appendix 1, Appendix 2 and Appendix 4**). Exposed trenches and drill logs revealing the prospect area is underlain by intensely deformed (strongly foliated to sheared, locally brecciated) and altered mafic, intermediate and felsic metavolcanic rocks. Strong deformation affecting these rocks is caused by a major northeast-southwest-trending structure, the USDZ and related splay structures in the Prospect area. The metavolcanic rocks have been intruded by dikes and sill-like bodies of both mafic (equigranular to plagioclase-phyric gabbro to diorite) and felsic (quartz-feldspar and feldspar porphyries) composition. Because of intense shearing and alteration affecting these rocks, protolith of rock types is generally difficult to determine. The contacts among various rock types are often not discernible because intense deformation and alteration obscuring lithologic boundaries. Within high-strain zones, mafic rocks of both extrusive and intrusive protoliths are generally characterized by dark green chlorite and chlorite-amphibole±magnetite schists, whereas intermediate and felsic metavolcanic rocks are mostly converted to sericite-quartz-chlorite and sericite-quartz schists, respectively (Osmani 1993, 1997; Farrow 1993b). The contacts between the mafic and felsic units are often sheared and intruded by QFPs and gabbros. The dominant schistosity exposed in the trenches trends east-northeast (dips 60°-90°) and is subparallel to major lithologic contacts.

Copper is the dominant mineralization at the Prospect but Au, Ag, Mo, Zn and Ni are also associated in small amounts. Pervasive silica replacement is the dominant alteration style and strongly developed in felsic to intermediate metavolcanic rocks. Chlorite and magnetite are

dominant alteration in mafic schists. Carbonate alteration is concentrated in sheared porphyritic rocks along foliation planes and may be pervasive. Sulphide minerals occur in all rock types in Prospect's trenches. Up to 3% pyrite and 3% chalcopyrite occur as disseminations, stringers and elongated blebs in mafic schists (chlorite-amphibole-magnetite). Grab samples taken by Osmani (1993) from trenches returned anomalous values of Cu (6210 ppm), Ni (765 ppm), Cr (902 ppm) and Mo (510 ppm) in mafic schist. The most intense sulphide mineralization (up to 7% pyrite and 3% chalcopyrite) occurs in a zone of silicification that yielded up to 1.05% Cu, 0.05% Mo, 0.2 g/t Au) (Osmani 1993b). Some very significant base and precious metal values are also reported in historical drill core logs. Up to 0.8% Cu over 4.3 m and 1% Cu over 5.6 m in cherty/rhyolite breccias and 0.6% Cu over 2.4 m in sheared diorite/gabbro are reported from drill hole M-7 of Great Lakes Copper Mines (Giblin 1964) (**Appendix 4**). Drill hole M-9 intersected both felsic and mafic metavolcanics and diorite/gabbro. Chalcopyrite and pyrite occur as stringers and disseminations in these rocks but brecciated felsic metavolcanic rocks are most favourable host rock. Copper values of 0.31% to 1.1% over 1.30 m to 6.7 m core lengths are reported from brecciated and hematized felsic metavolcanic rocks in drill hole M-9. Up to 0.03 oz Au/ton is also associated with copper mineralization. Drilling carried out by Gulf Minerals Canada in 1980-1981 reported assay values up to 1.1% Cu, 0.07% Mo, 0.6 oz Ag/ton and 0.08 oz Au/ton. Anomalous Pb, Zn and Ni are also associated with copper mineralization.

Historically, the attitude and extent of the mineralized zone at the Prospect was thought to have an easterly strike over a length of 400 m (Giblin 1964). However, recent interpretation based on the compilation of technical historical data by Osmani and Zulinski (2014) indicate a northeast and east-northeast trend of mineralization on and around the Prospect area (**Appendix 2 and Appendix 4**). Similar interpretations of mineralization trends are also suggested by other recent studies (Osmani 1997; Farrow 1993a, 1993b; Wetherup et al. 2006; Hunt 2010). Osmani and Zulinski (2014) interpreted two general trends of Cu-Au mineralization in the Hermia Lake area: **a)** a northeast-southwest trend and **b)** an east- to northeast trend. These two trends appear to coalesce south-southeast of Hermia Lake to form a potential nose of a regional fold structure (possibly isoclinal). Whether these two trends represent two separate limbs of a single fold coalescing to form a fold nose or are part of a series of large-scale isoclinal folds is currently not known. One of the main reasons for this uncertainty is the scarcity of both surface and subsurface data in the area hindering explanation in support of the existence of a fold structure. Additional uncertainty is caused by cross-cutting fault/shear structures (east-northeast and northwest striking) disrupting the original stratigraphy. The architecture of the volcanic stratigraphy within the Burchell-Shebandowan lake area, including the Burchell Lake Property, is characterized by multiple alternating bands of felsic and mafic strata possibly caused by tight isoclinal folding in the area. Alternatively, the alternating felsic and mafic volcanic strata could also represent a series of fault-bounded thrust panels.

***NOTE:** The term mineralized copper trend ("MCT") or mineralized gold trend ("MGT") used by Osmani and Zulinski (2014) in their compilation report as opposed to mineralized copper or gold zone ("MCZ or MGZ") is because true dimensions of mineralized zones cannot be reliably defined due to some inherent errors in MNDM's drillhole database. For example, the location of some drill holes, including collar elevations, are questionable since they do not correlate precisely with the locations provided for the same holes in company's final reports and maps. Also, in some instances, down hole surveys are missing or partially reported thus hindering the*

estimation of widths and weighted grade averages of mineralized drill intercepts. Therefore, reader is advised to exercise caution in considering the information with respect to dimension of the mineralized area in the report, particularly in light of inherent drawbacks noted above in the MNMD database which can have adverse affect on how mineral zones are defined in terms of depth, width and length”.

The northeast-southwest copper-gold trend extends approximately 2.8 km from the southeast of Hermia Lake to the southeast of Burchell Lake (**Appendix 4**). Geology and metal sulphides defining this northeasterly trend are mostly based on information from historical drill logs and exploration trenches in conjunction with geophysical data (Osmani and Zulinski 2014). On a regional scale, this trend appears to be part of a regional S-like pattern, which is interpreted on the basis of geology (Map 2622, Osmani 1997) and corresponding aeromagnetic signature (Ontario Geological Survey 1991, Geotech Ltd. 2006) (**Appendix 3**), can be traced from Hermia Lake to the North Coldstream Mine on the northeast shore of Burchell Lake. According to this interpretation, the supracrustal rocks (predominantly metavolcanics) and related subvolcanic intrusions extend northeast from the Hermia Lake Prospect to the Hermia Lake pluton southeast of Burchell Lake, and from there wraps around the eastern margin of the pluton to their final destination, the North Coldstream Mine. The S-shaped aeromagnetic anomaly corresponding with lithological package is characterized by strong to moderate susceptibility (**Appendix 1 and Appendix 3**). Strong magnetic susceptibility correlates in places with observed magnetite±pyrrhotite-bearing gabbros and minor iron formation units. The copper-gold mineralization, hosted within strongly deformed and altered host rocks, particularly the cherty/silicified unit at both locations (i.e., the North Coldstream Mine and Hermia Lake Prospect), are truncated to the west by the BLF. The geological and geophysical data appear to be suggesting that metal sulphide mineralization at both locations may be lying somewhat at the same litho-structural level.

The east- to northeast-trending southern limb of the fold, interpreted on the basis of limited surface and drilling data in conjunction with regional geophysical data, extends initially in an east-northeasterly direction for a short distance from southeast of Hermia Lake and then swings northeasterly towards Upper Shebandowan Lake. The west-southwest part of this fold structure, immediately southeast of Hermia Lake, is characterized by moderate magnetic susceptibility compared with its relatively weaker northeastern counterpart. Base and precious metal mineralization along this trend have been tested in the past by a limited number of drill holes that intersected a few narrow zones with weakly anomalous to anomalous copper-gold mineralization (**Appendix 1 through Appendix 4**). The northeastern-half of this fold limb is characterized by ubiquitous sulphide (pyrite, chalcopyrite) occurrences dotted along and adjacent to Upper Shebandowan Lake Deformation Zone (USDZ – North branch). These sulphide occurrences, hosted within variably strained and altered host rocks (felsic-mafic metavolcanic contacts and related intrusions), are coincident with mostly untested electromagnetic (EM) conductors. However, some of these conductors tested by few short drill holes in the past had limited success in terms of finding significant base or precious metal mineralization. Few important Cu-Au occurrences situated at short distance from northeastern claim boundary of the Property have been identified as the Shebandowan West Au-Cu±Mo occurrence and Copper Island Cu showing already discussed in the preceding sections. These mineral occurrences have geological setting

similar to that underlying eastern Burchell Lake claims hence, potential for similar mineralization may also exist here.

8.2.2 NW Drillhole Au Occurrences

Most precious metal (gold±silver) mineralization on the Burchell Lake and adjacent properties are associated with northeast-striking D2 shear zones (Stott and Schneiders 1983; Osmani 1997) hosted within a variety of rock types. “Gold-only” mineralization on the NWD occurrence and adjacent Moss Lake and Coldstream properties of Wesdome Gold Mines Ltd. occurs in a broad, variably deformed and altered, northeast-trending regional deformation zone (i.e., MCDZ/CGT). This deformation zone originates as NCMZ (North Coldstream Mine Shear Zone in the Osmani Gold Deposit area (Zulinski and Osmani 2011), extending west-southwestward via the southeast shores of Burchell Lake and through northwestern claims of Tanager’s Burchell Lake Property to the southwest of the Moss Lake Gold Deposit (**Figure 8**). The deformation zone is offset by the BLF in a sinistral-sense (left handed) along the eastern shores of Burchell Lake.

Newmont Exploration of Canada Limited in 1987–1988 drilled nine holes, totaling 1850 m, to test geophysical anomalies (Klatt 1988a, 1988b) on a claim currently held by Tanager (**Appendix 1 and Appendix 2**). Of these nine drill holes, one hole lies on Wesdome’s Moss Lake Property adjacent to the northwestern claim boundary. Of the remaining eight holes drilled on the Property, one was abandoned and seven were completed as planned. Drilling intersected strongly anomalous gold mineralization in a series of narrow zones (~1.0 – 4.0 g/t Au over 0.1 to 0.7 m), including few broader but weakly anomalous zones (~100-200 ppb Au over several meters) (Klatt 1988a, 1988b). The favorable gold intersections reported in the drill logs are 1.05 g/t Au over 3.36 m (Drill hole 88-07) and hosted in a sericite-pyrite felsic crystal tuff. The other intersection assaying 0.8 g/t Au over 6.8 m (including 1.8 g/t Au over 1.65 m) occurs in a sheared sericitic and pyritic rhyodacite (Drill hole 88-04). Gold mineralization in these shears is associated with fine-grained disseminated pyrite along schistosity planes. Supplemental investigations were not completed by Newmont following these results, which, in the author’s opinion, are significant values that warrant re-evaluation, particularly in light of recently announced 2017 drilling results from 14 holes on the adjacent Moss Lake Property of Wesdome Gold Mines Ltd. (Press Release, September 13, 2017). According to Wesdome’s press release, these drill hole results significantly extend mineralization towards the northeast and southwest beyond the 2.5 km known strike length of a conceptual open pit determined in 2013 (Richards et al. 2013). These drilling results extended the known mineralization over a combined strike length (northeast and southwest extensions combined) of 4.5 kilometres. The geophysical anomalies (IP) underlying at both ends of the conceptual pit is reported in the same press release to extend the mineralization for additional 8.0 km strike length. Drilling was carried out on 200 metre spacing to rapidly delineate the potential scale of the Moss Lake Gold Deposit. Based on the northeastern extension combined with Wesdome’s recent drilling and IP results, as well adding historically defined gold zones in the Span Lake area, mineralization can be extended further northeastwards from the Moss Lake conceptual pit to approximately 500 m southwest of Tanager’s northwest claim boundary. The northwest claim of Property is host to several drill intersected significant gold mineralization (i.e., NWD occurrences) (**Figure 7, Figure 8, Figure 10**).

However, the author has not verified the data along Wesdome's recently announced northeast extension, and mineralization contained within it, therefore, it is not necessarily an indication that mineralization will extend from the Moss Lake conceptual pit onto the northwest claim of the Burchell Lake Property.

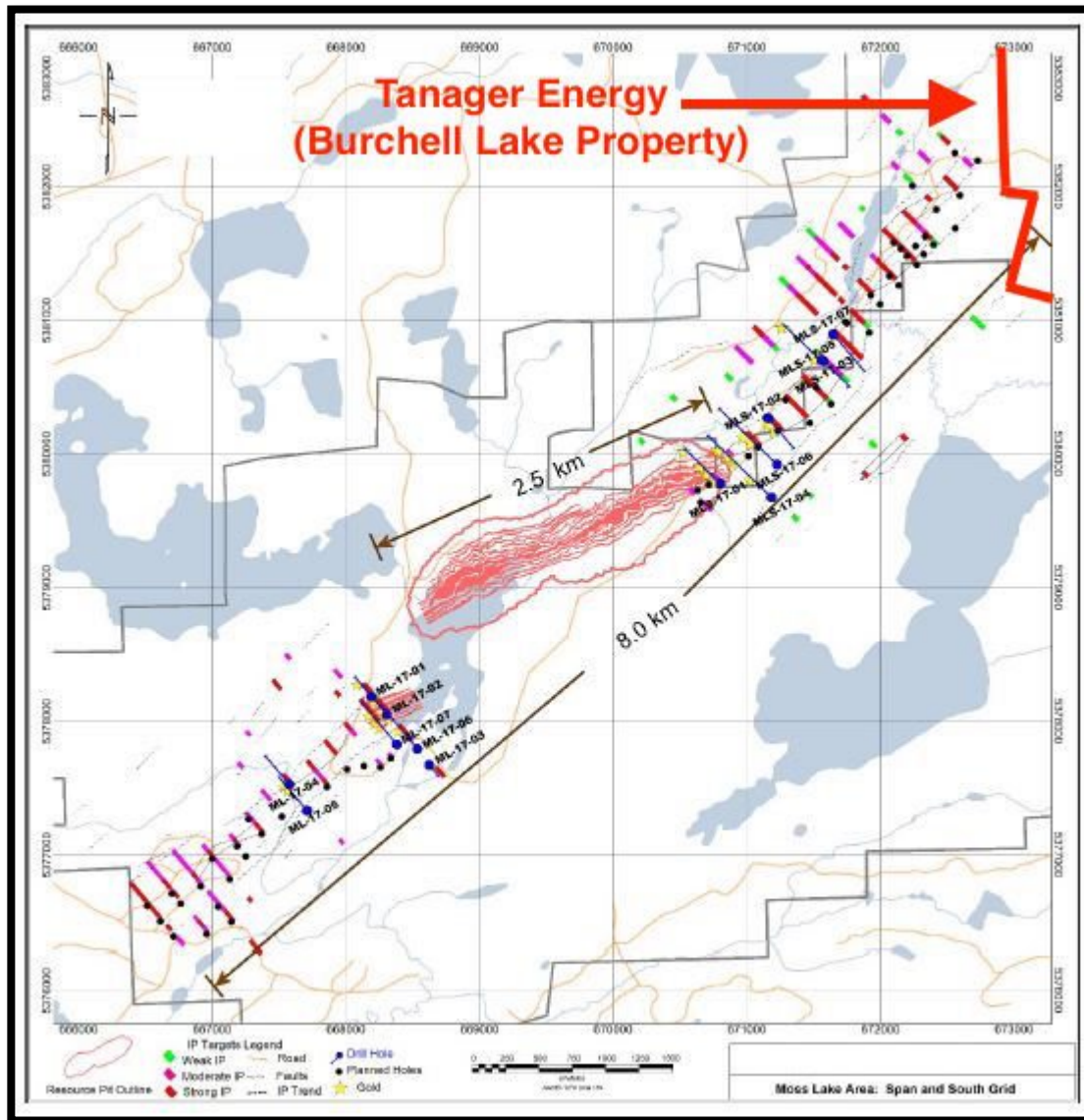


Figure 10. Wesdome's 2017 drilling and IP programs and results. Source: Press Release, September 13, 2017.

9 Exploration

Tanager did not conduct any exploration work on the Property. The last comprehensive exploration work program, consisting of geological, geochemical and geophysical surveys and diamond drilling, was conducted from 2004 to 2008 by Mengold Resources Inc. (“Mengold”). A brief account of these works and other past operators is given in Section 6 (Exploration History) of this report.

On January 16, 2014, Tanager commissioned Faarnad Geological Consulting (FGC) Inc. to conduct a detailed compilation of all historical data to date on the Burchell Lake Property in order to identify exploration targets that are highly prospective for Gold and Copper mineralization in the area. This compilation work consisted of historical workings dating back to 1948 by Ivar Wadson to the most recent 2008 drilling campaign by Mengold Resources Inc. All information for this compilation work was acquired from Mengold Resources Inc. staff, the Ontario Ministry of Northern Development and Mines (MNDM), and the Ontario Geological Survey (OGS). All databases, which have been created by the above noted parties, have been used to generate various GIS compilation maps (Osmani and Zulinski 2014). The results of this compilation study have been presented in a very comprehensive report with accompanying map products (**Table 5**) and are largely the basis of the current study.

Details regarding the data source and methodology used in 2014 compilation study by Osmani and Zulinski (2014) in preparing maps are directly quoted below from that study report.

9.1 Diamond Drilling Database

UTM locations for 113 drill holes on the Burchell Lake Property were compiled as a best effort in support of this review. The diamond drilling database is comprised of 25 drill holes carried out by Mengold Resources Inc. between 2006 and 2008, while the remaining 88 drill holes were completed by historical property owners and operators in the area from 1948 to 2004. Four (4) unique “CSV” files have been created by FGC staff to make up the Burchell Lake Property compiled diamond drilling database and have been used to plot the drill holes in ArcGIS. These files have been identified for the purpose of this review as “**Compiled_Collars**”, “**Compiled_Survey**”, “**Compiled_Litho**”, and “**Compiled_Assay**”.

The master file “**Compiled_Collars**” includes an index column “Hole_ID”, in addition to “Co_Name”, “Easting”, “Northing”, “Elevation”, “Azimuth”, “Dip”, “Depth”, and “Year” columns. The file “**Compiled_Survey**” consists of an index column “Hole_ID”, as well as “Depth”, “Azimuth”, and “Dip” columns. The file “**Compiled_Litho**” consists of an index column “Hole_ID”, in addition to “Depth_From”, “Depth_To”, “Litho_Code”, “Rk_Code”, “FGC_Geo_Units”, and “Mineralization” columns. The “FGC_Geo_Units” was created by FGC staff in order to generalize lithological units over the course of several drilling campaigns and maintain consistency throughout the database, while the “Mineralization” column is comprised of intervals which have been documented in historical drill logs with significant sulphide mineralization (> 10%). Lastly, the file “**Compiled_Assay**” includes an index column “Hole_ID”, as well as “Depth_From”, “Depth_To”, “Sample_No”, “Au_g/t”, and “Cu_ppm”

columns. All lengths are in metric, while the Easting and Northing coordinates in NAD 83, Zone15.

Mengold Drilling Data:

A complete drill hole database was provided by Mengold Resources Inc. covering both the 2006 and 2008 drilling campaigns on the Burchell Lake Property. Mengold drill hole data was reviewed by FGC staff and imported only relevant information into the compiled diamond drilling “CSV” files (Compiled_Collars, Compiled_Survey, Compiled_Litho, and Compiled_Assay) for use in ArcGIS. For the purpose and relevance of this compilation work, only *Gold (g/t)* and *Copper (ppm)* values from assay certificates were imported into the “Compiled Assay” file. Mengold drill hole data presented in this compilation has not been verified in the field by FGC staff as it was not included in the scope of this review. FGC did however identify inconsistency between drill logs and digital drilling summary spreadsheets for 2008. Inconsistencies include; contradicting depths for BU08-26 as well as no drill log record for alleged drill hole BU08-23. As a result, drill hole data for this 2008 drilling campaign was transcribed from drill log records rather than an unknown spreadsheet, as FGC believes the prior it is a more reliable source.

Historic Drilling Data:

UTM coordinates were compiled for 88 historic drill holes drilled by various companies conducting work on the Burchell Lake Property prior to Mengold Resources Inc. All drill hole locations and collar information (excluding elevation) was obtained from the Ontario Ministry of Northern Developments and Mines (MNDM) Drill Hole Database. Additional information such as; downhole surveys, lithological intervals, and assay values were compiled from Government Assessment Files (AFRI) and internal company reports, and imported into their respective “CSV” drilling database files or digitized for ArcGIS use. Similar to Mengold drilling data, only *Gold (g/t)* and *Copper (ppm)* values from the historical assessment files were imported into the “Compiled Assay” file. Upon completing the compilation exercise, it is evident the historical drill hole data is relatively incomplete for the Burchell Lake Property. **Table 6** lists all historical drill holes located within the Burchell Lake Property, documenting an inventory of drill hole data (complete or partial) used for this compilation and its respective sources. A best effort was made by FGC to compile drill hole locations accurately. However, it should be noted that some discrepancies in drill hole locations between the MNDM Drill Hole Database and Government Assessment Files were observed (such as hole WL-91-1 and WL-91-2). Due to the lack of precision and dependability of the historical assessment reports and accompanying maps, FGC staff has decided to use the UTM coordinates provided in the MNDM Drill Hole Database exclusively. It is recommended that all historical drill holes be located and recorded by Tanager staff with hand held GPS instrumentation if casings can be found. Initial efforts and resources should be focused on locating historical drill holes containing significant mineralization and assay values in order to better define the interpreted Gold and Copper mineralization trends within the Burchell Lake Property.

Table 5. List of Compiled Maps of the Burchell Lake Property and Associated Databases. (VTEM: Versatile Time Domain Electromagnetic Survey, IP: Induced Polarization, 2VD: Second Vertical Derivative of aeromagnetic Survey Data, Mag: Aeromagnetic Survey). Source: Osmani and Zulinski 2014.

Maps in Appendices	Diamond Drilling	Geophysical Survey	Geochemical Survey	Surface Work
Appendix 1 <i>Property Geology and Deformation Zones</i>	X			X
Appendix 2 <i>Property Geology and Geophysics (VTEM/IP) - Insert C</i>	X	X		X
Appendix 3 <i>Major Deformation Zones on Property –Gold</i>	X			X
Appendix 4 <i>Major Deformation Zones on Property –Copper</i>	X			X
Appendix 5 <i>Compiled Geophysics (VTEM/2VD/IP with Deformation Zones</i>	X	X		X
Appendix 6 <i>Compiled Geophysics (Mag/VTEM)</i>	X	X		X
Appendix 7 <i>Interpreted Copper Mineralization Trend - Insert B</i>	X	X		X
Appendix 8 <i>Interpreted Gold Mineralization Trend - Insert A</i>	X	X		X
Appendix 9 <i>Compiled Geochemical Soil Survey (Gold), Geophysical Survey (VTEM/2VD/IP) and Deformation Zones</i>	X	X	X	X
Appendix 10 <i>Compiled Geochemical Soil Survey (Copper), Geophysical Survey (VTEM/2VD/IP) and Deformation Zones</i>	X	X	X	X

Table 6. Inventory of Historical Drill Hole Data for the Burchell Lake Property.

Hole ID	Company Name	Collar	Survey	Litho	Assay	Data Source
76-1	BELORE MINES LTD	X	X	X	X	MNDM DDH Database; AFRI_52B10SE0121
76-2	BELORE MINES LTD	X	X	X	X	MNDM DDH Database; AFRI_52B10SE0121; Wetherup et al. 2006
76-3	BELORE MINES LTD	X		X	X	MNDM DDH Database; AFRI_52B10SE0121
41074-0	CAN NICKEL CO LTD	X	X	X		MNDM DDH Database; AFRI_52B10SE0123
41076-0	CAN NICKEL CO LTD	X	X	X		MNDM DDH Database; AFRI_52B10SE0123
41079-0	CAN NICKEL CO LTD	X	X	X		MNDM DDH Database; AFRI_52B10SE0122
BH-91-01	CENTRAL CRUDE LTD	X	X	X		MNDM DDH Database; AFRI_52B10SE0031
FO-1	COMINCO LTD	X	X	X		MNDM DDH Database; AFRI_52B10SE0133
FO-2	COMINCO LTD	X		X		MNDM DDH Database; AFRI_52B10SE0133
FO-3	COMINCO LTD	X		X		MNDM DDH Database; AFRI_52B10SE0135
FS-1	FREEPORT SULPHUR	X				MNDM DDH Database
FS-10	FREEPORT SULPHUR	X				MNDM DDH Database
FS-11	FREEPORT SULPHUR	X				MNDM DDH Database
FS-12	FREEPORT SULPHUR	X	X			MNDM DDH Database; Bayne 1983
FS-15	FREEPORT SULPHUR	X	X			MNDM DDH Database; Bayne 1983
FS-16	FREEPORT SULPHUR	X	X		X	MNDM DDH Database; Wetherup et al. 2006; Bayne 1983
FS-17	FREEPORT SULPHUR	X	X	X	X	MNDM DDH Database; Wetherup et al. 2006; Bayne 1983
FS-3	FREEPORT SULPHUR	X				MNDM DDH Database
FS-5	FREEPORT SULPHUR	X				MNDM DDH Database
FS-6	FREEPORT SULPHUR	X				MNDM DDH Database
FS-7	FREEPORT SULPHUR	X				MNDM DDH Database
FS-9	FREEPORT SULPHUR	X				MNDM DDH Database
M-3	GREAT LAKES COPPER MINES LTD	X		X		MNDM DDH Database; AFRI_52B10SE0134
M-5	GREAT LAKES COPPER MINES LTD	X		X	X	MNDM DDH Database; AFRI_52B10SE0134; Wetherup et al. 2006
M-6	GREAT LAKES COPPER MINES LTD	X		X	X	MNDM DDH Database; AFRI_52B10SE0134; Wetherup et al. 2006
M-7	GREAT LAKES COPPER MINES LTD	X		X	X	MNDM DDH Database; AFRI_52B10SE0134; Wetherup et al. 2006; Bayne 1983
M-8	GREAT LAKES COPPER MINES LTD	X	X		X	MNDM DDH Database; Bayne 1983
M-9	GREAT LAKES COPPER MINES LTD	X	X		X	MNDM DDH Database; Wetherup et al. 2006; Boyne 1983
80-BU-1A	GULF MINERALS CANADA LTD	X	X	X	X	MNDM DDH Database; AFRI_52B10SE0120
80-BU-2B	GULF MINERALS CANADA LTD	X	X	X		MNDM DDH Database; AFRI_52B10SE0120
81-BU-1	GULF MINERALS CANADA LTD	X	X	X	X	MNDM DDH Database; AFRI_52B10SE0119; Wetherup et al. 2006; Bayne 1983
81-BU-2	GULF MINERALS CANADA LTD	X	X	X	X	MNDM DDH Database; AFRI_52B10SE0119; Wetherup et al. 2006; Bayne 1983
81-BU-3	GULF MINERALS CANADA LTD	X	X	X	X	MNDM DDH Database; AFRI_52B10SE0119; Wetherup et al. 2006; Bayne 1983
81-BU-4	GULF MINERALS CANADA LTD	X	X	X	X	MNDM DDH Database; AFRI_52B10SE0119
81-BU-5	GULF MINERALS CANADA LTD	X	X	X	X	MNDM DDH Database; AFRI_52B10SE0119
W-1	I WADSON	X				MNDM DDH Database
W-2	I WADSON	X		X		MNDM DDH Database; AFRI_52B10SE0134
W-3	I WADSON	X				MNDM DDH Database
W-4	I WADSON	X				MNDM DDH Database

Hole ID	Company Name	Collar	Survey	Litho	Assay	Data Source
15762	INCO	X				MNDM DDH Database
15763	INCO	X	X	X	X	MNDM DDH Database; AFRI_52B10SE0138
15764	INCO	X	X	X	X	MNDM DDH Database; AFRI_52B10SE0138
41069	INCO	X		X		MNDM DDH Database; AFRI_52B10SE0132
41070	INCO	X		X		MNDM DDH Database; AFRI_52B10SE0132
41071	INCO	X		X		MNDM DDH Database; AFRI_52B10SE0132
41073-0	INCO	X	X	X		MNDM DDH Database; AFRI_52B10SE0136
A2	KINASCO EXPL & MINING LTD	X		X		MNDM DDH Database; AFRI_52B10SE0131
A3	KINASCO EXPL & MINING LTD	X		X		MNDM DDH Database; AFRI_52B10SE0131
A4	KINASCO EXPL & MINING LTD	X		X		MNDM DDH Database; AFRI_52B10SE0131
A5	KINASCO EXPL & MINING LTD	X		X		MNDM DDH Database; AFRI_52B10SE0131
A6	KINASCO EXPL & MINING LTD	X		X		MNDM DDH Database; AFRI_52B10SE0131
E1	KINASCO EXPL & MINING LTD	X		X		MNDM DDH Database; AFRI_52B10SE0131
E2	KINASCO EXPL & MINING LTD	X		X		MNDM DDH Database; AFRI_52B10SE0131
E3	KINASCO EXPL & MINING LTD	X		X		MNDM DDH Database; AFRI_52B10SE0131
E4	KINASCO EXPL & MINING LTD	X		X		MNDM DDH Database; AFRI_52B10SE0131
E5	KINASCO EXPL & MINING LTD	X		X		MNDM DDH Database; AFRI_52B10SE0131
B-03-01	MAPLE MINERALS CORP	X		X	X	MNDM DDH Database; AFRI_52B10SE0208
B-04-02	MAPLE MINERALS CORP	X		X		MNDM DDH Database; AFRI_52B10SE0208
88-01	NEWMONT EXPL OF CAN LTD	X	X	X	X	MNDM DDH Database; AFRI_52B10SE0060
88-02	NEWMONT EXPL OF CAN LTD	X	X	X	X	MNDM DDH Database; AFRI_52B10SE0060
88-03	NEWMONT EXPL OF CAN LTD	X	X	X	X	MNDM DDH Database; AFRI_52B10SE0060
88-04	NEWMONT EXPL OF CAN LTD	X	X	X	X	MNDM DDH Database; AFRI_52B10SE0057
88-05	NEWMONT EXPL OF CAN LTD	X	X	X	X	MNDM DDH Database; AFRI_52B10SE0057
88-06	NEWMONT EXPL OF CAN LTD	X	X	X	X	MNDM DDH Database; AFRI_52B10SE0057
88-07	NEWMONT EXPL OF CAN LTD	X	X	X	X	MNDM DDH Database; AFRI_52B10SE0060
88-08	NEWMONT EXPL OF CAN LTD	X	X	X	X	MNDM DDH Database; AFRI_52B10SE0060
88-09	NEWMONT EXPL OF CAN LTD	X	X	X	X	MNDM DDH Database; AFRI_52B10SE0057
H-86-2	NORANDA EXPL CO LTD	X	X	X		MNDM DDH Database; AFRI_52B10SE0105
H-86-3	NORANDA EXPL CO LTD	X	X	X		MNDM DDH Database; AFRI_52B10SE0105
N-1	NORANDA EXPL CO LTD	X	X	X	X	MNDM DDH Database; AFRI_52B10SE0137
N-2	NORANDA EXPL CO LTD	X	X	X		MNDM DDH Database; AFRI_52B10SE0137
N-3	NORANDA EXPL CO LTD	X	X	X		MNDM DDH Database; AFRI_52B10SE0137
TSC-1	TENAJON SILVER CORP	X	X	X	X	MNDM DDH Database; AFRI_52B10SE0116
B4-65-1	THE MINING CORP. OF CANADA LTD	X	X	X		MNDM DDH Database; AFRI_52B10SE0124
B4-65-2	THE MINING CORP. OF CANADA LTD	X		X		MNDM DDH Database; AFRI_52B10SE0124
B4-65-3	THE MINING CORP. OF CANADA LTD	X	X	X	X	MNDM DDH Database; AFRI_52B10SE0127; Bayne 1983
T2-1	THE MINING CORP. OF CANADA LTD	X		X		MNDM DDH Database; AFRI_52B10SE0126
T2-2	THE MINING CORP. OF CANADA LTD	X		X		MNDM DDH Database; AFRI_52B10SE0126
T2-3	THE MINING CORP. OF CANADA LTD	X	X	X		MNDM DDH Database; AFRI_52B10SE0126

Hole ID	Company Name	Collar	Survey	Litho	Assay	Data Source
T2-4	THE MINING CORP. OF CANADA LTD	X	X	X		MNDM DDH Database; AFRI_52B10SE0126
T2-6	THE MINING CORP. OF CANADA LTD	X	X	X		MNDM DDH Database; AFRI_52B10SE0126
T2-7	THE MINING CORP. OF CANADA LTD	X		X		MNDM DDH Database; AFRI_52B10SE0258
T2-8	THE MINING CORP. OF CANADA LTD	X	X	X	X	MNDM DDH Database; AFRI_52B10SE0126; Bayne 1983
FL-90-01	WING-WALLACE-CALVERT	X		X		MNDM DDH Database; AFRI_52B10SE0032
FL-90-02	WING-WALLACE-CALVERT	X		X		MNDM DDH Database; AFRI_52B10SE0032
WL-91-1	WING-WALLACE-CALVERT	X		X	X	MNDM DDH Database; AFRI_52B10SE0108
WL-91-2	WING-WALLACE-CALVERT	X		X	X	MNDM DDH Database; AFRI_52B10SE0108
WL-91-3	WING-WALLACE-CALVERT	X		X	X	MNDM DDH Database; AFRI_52B10SE0108

9.2 Geophysical Survey Database

Abitibi Geophysics Inc:

During the period of January 2007, Abitibi Geophysics Inc. carried out a ground magnetic survey, frequency-domain electromagnetic survey (HLEM,) and time-domain resistivity/induced polarization survey consisting of 27.0 km, 23.8 km, and 24.7 km, respectively, on the Burchell Lake Property (Abitibi Geophysics 2007). Digital data for these geophysical surveys were provided by Mengold staff in Geosoft (Oasis Montaj) and Mapinfo file formats and later imported to ArcGIS by FGC. For the purpose of this compilation and the redundancy of magnetic and electromagnetic surveys (Geotech and Ontario Geological Survey), only the induced polarization data has been illustrated from this geophysical survey. However, all geophysical survey data carried out by Abitibi Geophysics Inc. has been filed within the geophysical database and is easily accessible for later use. All geophysical surveys are presented as UTM coordinates for Zone 15, NAD 83.

Geotech Ltd:

A helicopter-borne geophysical survey was conducted in February 2006 for Helm Exploration Ltd. on the Burchell Lake Property (Geotech Ltd. 2006). Geophysical work included a time-domain electromagnetic survey (VTEM) and an airborne magnetic survey consisting of 167 line-km flown. Data compilation and processing were carried out using Geosoft (Oasis Montaj) provided by Mengold staff and later imported to ArcGIS by FGC. Geophysical data was also used for structural and EM axis interpretation by FGC staff. Geophysical surveys are presented as UTM coordinates for Zone 15, NAD 83.

Ontario Geological Survey:

High resolution airborne magnetic and electromagnetic surveys were conducted in 1991 by the Ontario Department of Mines (Ontario Geological Survey 1991). The OGS 1991 Aerodat Airborne Survey was carried out over the Shebandowan Greenstone belt area consisting of 22,000 line km with localized map sheets covering the Burchell Lake Property (Ontario Geological Survey Map M81573 and M81574). The Airborne Survey was re-mastered into

digital format in 2003 (GDS1021 2003). The electromagnetic anomaly trends were interpreted and compiled by FGC using geophysical maps M81573 and M81574 and later imported into ArcGIS file format. The aeromagnetic data was imported into ArcGIS as a “GRD” file from the re-mastered digital geophysical version and used for structural interpretations by FGC staff. Geophysical data was acquired from the Ontario Ministry of Northern Development and Mines and have been presented as UTM coordinates for Zone 15, NAD 83.

9.3 Geochemical Survey Database

A soil geochemistry survey was carried out on a targeted area of the Burchell Lake Property in June of 2008 by IOS Services Geoscientifique Inc., consisting of 772 samples (IOS Services Geoscientifique 2010). Digital data containing analytical results for all 60 elements was provided by Mengold staff in Microsoft Excel format and was later imported by FGC into ArcGIS. However, for the purpose of this study and relevance, only gold and copper values have been illustrated in their respective maps. Location for all soil samples are presented as UTM coordinates for Zone 15, NAD 83.

9.4 Surface Work Database

Compiled surface work on the Burchell Lake Property was based primarily on the OGS geoscience report by Osmani (1997) and accompanying geology maps – Burchell-Greenwater Lakes Area (M2622) and Moss Township (M2624). Data such as geology, structures, mineral occurrences, showings and trenches were acquired from digital maps M2622 and M2624 by Osmani (1997) and imported into ArcGIS. Minor data modifications (trench locations, geological contacts, and geological units) were made following the review of this compilation exercise. Structural features and deformation zones of the Burchell Lake Property were interpreted by FGC staff based on geological maps M2622 and M2624 by Osmani (1997), and compiled geophysical surveys (OGS, Geotech Ltd., and Abitibi Geophysics Inc.). Furthermore, mineralized trends (Au and Cu) have been interpreted by FGC staff based on the compiled drill hole database, structural interpretations, and geophysical surveys. As previously discussed in “Historical Drilling Data”, historical drill hole locations requires field verification in order to better define and verify the gold and copper mineralization trends interpreted by FGC staff. Geological data was acquired from the Ontario Ministry of Northern Development and Mines and have been presented as UTM coordinates for Zone 15, NAD 83.

9.5 Base Map Topography Data

The Ontario Ministry of Northern Development and Mines base map topographic data (Map Sheet 52B/10SE) is the best publicly available data in the region for the Burchell Lake Property. All topographic data has been presented as UTM coordinates for Zone 15, NAD83.

10 Diamond Drilling

No diamond drilling was completed by Tanager on the Burchell Lake Property. Several historical drilling programs have been conducted on the property and are summarized in Section 6 (Exploration History) and Section 9 (Exploration) and shown in **Appendix 1 through Appendix 4**.

11 Sample Preparation, Analysis and Security

Since Tanager did not conduct any exploration work on the Burchell Lake Property, no sample was collected or analyzed by the company. On a recent visit on August 20, 2017, the author examined several outcrops on the Property but took no samples for geochemical analysis. The author for this study mostly relied upon exploration results provided by Mengold from its exploration programs during 2004 to 2008. Sample results from historical exploration programs conducted by individuals and companies prior to Mengold's 2004 to 2008 exploration programs are also used in the current study. However, the details of previous sampling procedures, sample handling, assaying methods and quality control measures for all historical programs are sparse to non-existent and therefore cannot be commented upon in this report.

The samples collected during Mengold's exploration program were carried out and/or supervised by professional geologists (P.Geo.) S. Wetherup, J. Scodnick and D.S. Hunt. Samples taken by these geologists were sent to Accurassay Laboratories in Thunder Bay, Ontario, for analysis (Wetherup et al. 2006, Hunt 2010). The current author has reviewed the protocols with regard to sampling procedures, sample preparation and analytical methods described in Mengold's reports. The author is satisfied with the steps taken by Mengold geologists with respect to QA/QC procedures, which conform to minimum requirements of best standards and practices of industry. During the course of core logging, Mengold's geologists marked the samples of altered or mineralized drill cores ranging from 10cm to 2.00m in length to reflect significant portions of drill core. These samples were split using an electric rock saw, with one-half of the core being placed in plastic sample bags and the other half being returned to the core box as a permanent record. A duplicate sample tag was placed in each sample bag and with each sampled section of drill core returned to the core box. Sample bags were placed in rice bags and delivered to Accurassay Laboratories in Thunder Bay by Mengold personnel. Samples were assayed for gold and 36 other elements using fire assay with ICP finish (multi-acid 36 element ICP), Accurassay Laboratories procedures AL4AU5 and AL4ICPMA. In addition to normal Accurassay Laboratory QA/QC procedures, standard, blank and duplicate samples were inserted in the sample stream during the Mengold core-sampling process. These check samples are noted in the drill logs and reported on the assay certificates presented in Appendix 4 of the drill report by Hunt (2010).

12 Data Verification

This report is based on the results of mostly historical data compiled by Osmani and Zulinski (2014). The historical data used in the compilation study dates back to 1948 by Ivar Wadson to the most recent 2008 drilling campaign by Mengold Resources Inc. All information for this compilation work was acquired from two main sources: 1) the exploration database of Mengold Resources Inc. provided by its staff to Tanager and 2) the website of the MNDM and its affiliate website, “Geology Ontario,” which provides digital publications on both crown and private sector activities in the province.

The author visited the Property on August 20, 2017, and re-examined several key outcrops that he previously visited numerous times while conducting a regional bedrock mapping and mineral deposit study in the western SGB between 1991 and 1994 for the Ontario Geological Survey (OGS). During this time, the author collected and analyzed several samples from the historic trenches at the Hermia Lake Prospect (Cu-Au-Mo) and Trench showing (Au-Cu), located in the western and southwestern parts of the Property, respectively. These samples returned significant base and precious metal values and are reported in OGS publications (Osmani 1993b, 1997). Results from these and other parts of the Property also reported in these publications are utilized in this study along with historical assay data to help evaluate exploration potential of the Burchell Lake Property. The author also visited the Property on numerous other occasions during 2009 to 2013 while exploring and developing a gold resource on the adjacent Coldstream and Span Lake properties of Foundation Resources Inc. (currently own by Wesdome Gold Mines Ltd.). The author did not collect samples during his August 20, 2017 Property visit as he is well familiar with the geological setting of base and precious metal mineralization on the Property and has had, in the past, taken and analyzed numerous samples from historical trenches and other locations that yielded assay values similar to those reported by exploration and mining companies.

The author has reviewed all exploration data provided by Mengold to Tanager and has found them to be satisfactory in terms of adequacy of sample preparation, security and analytical procedures. The historical exploration data collected prior to Mengold’s 2004 to 2008 exploration program was also reviewed by the author, and he cautiously considered whether the best industry standards and practices at the time were represented amid uncertainty with respect to details on sampling procedures, sample handling, assaying methods and quality control measures. Most of the historical data referenced in this report is at least thirty to seventy years old and thus cannot be reasonably verified with certainty without any original data. The most this author can verify with some confidence is that the historical information was documented by suitable and qualified personnel at the time.

One of the uncertainties noted by Osmani and Zulinski (2014) and in this study is the locations of some historical drill holes plotted in the compilation maps. Despite the best efforts made by FGC to compile all drill hole locations accurately; some discrepancy still remains with regard to the location of some holes. Two examples of such discrepancies include WL-91-1 and WL-91-2 because of differing locations indicated between the MNDM Drill Hole Database and Government Assessment Files. This is mainly a result of lack of precision and dependability of the historical assessment reports and accompanying maps. FGC, however, in this and other

similar situations, preferred to use the UTM coordinates provided in the MNDM Drill Hole Database exclusively over the Assessment Files. It is recommended that all historical drill holes be located and recorded by Tanager staff with handheld GPS instrumentation if casings can be found. Initial efforts and resources should be focused on locating historical drill holes containing significant mineralization and assay values in order to better define Gold and Copper mineralization trends/zones on the Burchell Lake Property.

13 Mineral Processing and Metallurgical Testing

There has been no mineral processing or metallurgical testing undertaken by Tanager on the Burchell Lake Property.

14 Mineral Resource Estimates

No historical or NI 43-101 compliant mineral resource estimates have been carried out on the Burchell Property.

15 Mineral Reserve Estimates

There are no mineral reserve estimations conducted on the Burchell Lake Property at this stage.

16 Mining Methods

There is no mining on the Burchell Lake Property at this stage.

17 Recovery Methods

Recovery methods are not applicable at this stage.

18 Project Infrastructure

There is no project infrastructure at Burchell Lake Property at this stage.

19 Market Studies and Contracts

Market Studies and Contracts are not applicable at this stage.

20 Environmental Studies, Permitting and Social or Community Impact

Not applicable at this stage.

21 Capital and Operating Costs

There are no capital and operation costs on the Burchell Lake Property at this stage.

22 Economic Analysis

There is no economic Analysis for the Burchell Lake Property at this stage.

23 Adjacent Properties

Four significant deposits (1) the North Coldstream Copper-Gold Mine, (2) the Osmani Gold Deposit, (3) the Moss Lake Gold Deposit, and (4) the Huronian Gold Mine are within 10 km of the Burchell Lake Property. With the exception of Huronian Mine, the boundaries of Moss Lake and Coldstream properties of Wesdome Gold Mines Ltd. straddle the western and northern claim boundaries of Tanager's Burchell Lake Property (**Figure 7, Figure 8 and Figure 11**). The eastern property boundary of Huronian Mine occurs within a kilometre of the western boundary of the Burchell Lake Property (**Figure 11**).

The Moss Lake and Osmani gold deposits on their respective Moss Lake and Coldstream properties are host to NI 43-101 compliant resource of 1.4 million ounces in *Indicated* and 1.75 million ounces in *Inferred* categories (Richards et al. 2013) and 96,400 ounces Au in *Indicated* and 763,276 ounces Au in *Inferred* categories (McCracken 2011). These two gold deposits, which are hosted at the extremities of a 25 km long auriferous deformation zone (MCDZ - a.k.a. Coldstream Gold Trend or CGT) intersect the northwest claim of the Burchell Lake Property (**Figure 8**). The northwest claim of the Burchell Lake Property is also host to several drill-intersected gold mineralization (a.k.a NWD occurrences) within the CGT. ***However, in the authors' opinion, despite the fact that gold mineralization on the northwest claim hosted by the same auriferous structural corridor as those on the adjacent properties, is not necessarily an indication that gold deposit of economic significance will also occur on the Burchell Lake Property.***

Wesdome recently announced drill results from its 2017 drilling program (14 holes) on the Moss Lake Property (Press Release, September 13, 2017) where in it reported extending mineralization towards the northeast and southwest beyond the 2.5 km known strike length of a conceptual open pit established in 2013 (Richards et al. 2013) (**Figure 10**). These drilling results according to the press release extended the known mineralization over a combined strike length (northeast and southwest extensions) of 4.5 kilometres. The northeastern extension when combined with Wesdome's recent drilling and IP results, as well historically defined existing gold zones at Span Lake, can easily push the Moss Lake mineralization further northeastwards to probably no more than 500 m southwest from Tanager's northwest claim that also hosts several drill intersected significant gold mineralization. ***However, the author has not verified the data along Wesdome's recently announced northeast extension, and mineralization contained within it, therefore, it is not necessarily an indication that mineralization will extend from Moss Lake conceptual pit onto the northwest claim of the Burchell Lake Property.***

The North Coldstream Mine, which is situated approximately 1.5 km north from northern boundary of Burchell Lake Property occurs on Wesdome's Coldstream Property. The mine was owned by Noranda, which from 1955 to 1967 produced ~ 102 million pounds of Cu, 22 000 oz Au and 440 000 oz Ag. It is a massive to semi-massive and disseminated sulphide deposit hosted predominantly by highly silicified/cherty mafic host rock (extrusive/intrusive).

Historically, the style and setting of mineralization at the mine has been controversial and remains contentious to this day. Opinion in this regard ranged over time, from the deposit being a typical volcanogenic massive sulphide (VMS) through magmatic (mafic intrusion-hosted), and to replacement style mineralization.

The Huronian Mine property of Kesselrun Resources Ltd. extends from west of the mine to western boundaries of Wesdome's Moss Lake and Coldstream Properties (**Figure 11**). The western Huronian Property boundary straddles the Larose Property of Tashota Resources Inc. The Huronian Mine is a quartz vein hosted lode-gold deposit, which began production in 1882 to 1935 and has had many episodes of exploration, since. Most of the production, approximately 29,678 ounces of gold and 143,724 ounces of silver came from two parallel vein systems, which occur along a splay fault/shear off the main structure (i.e., BFZ).

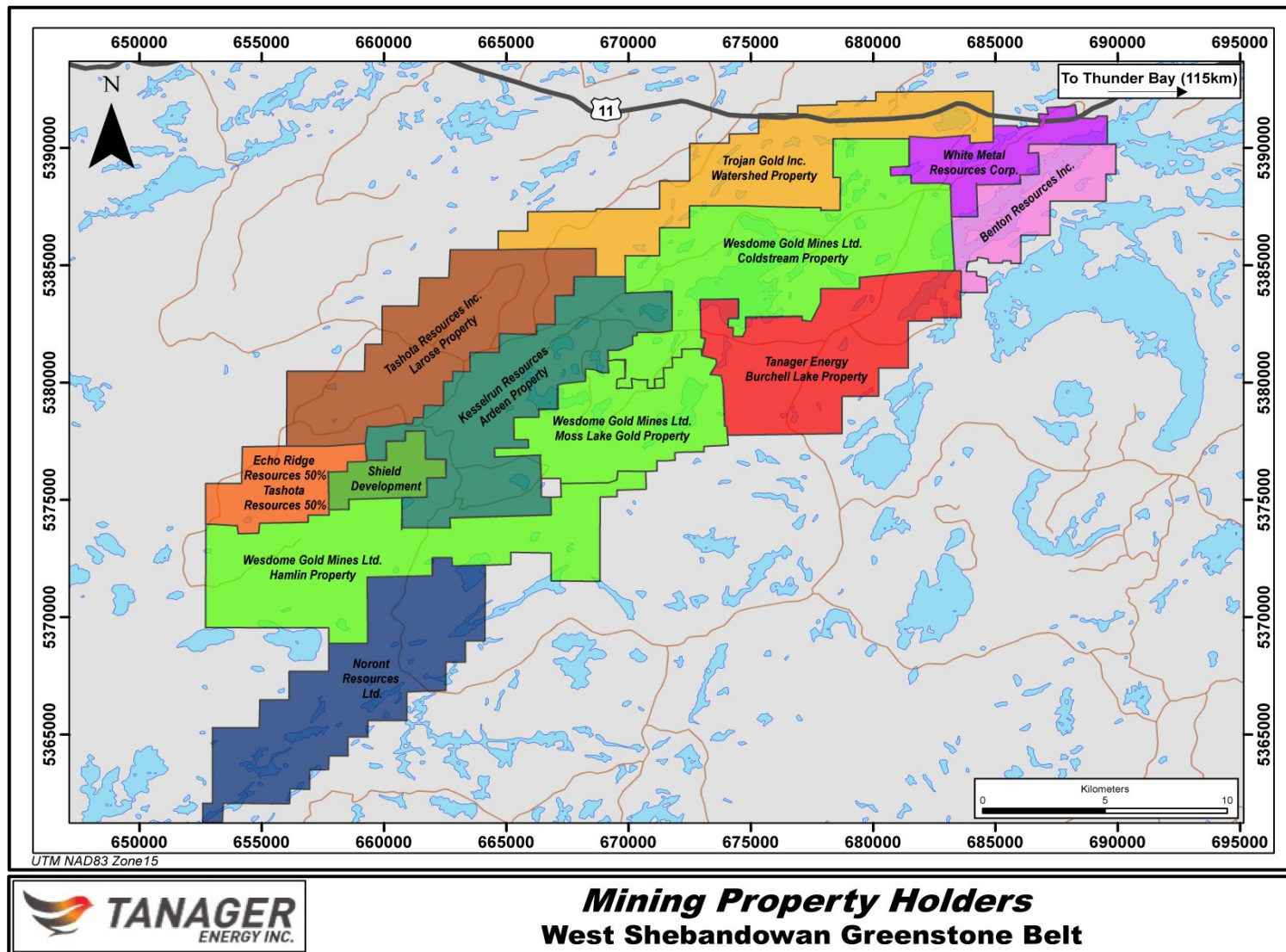


Figure 11. Mining property holders in the most western part of the Shebandowan greenstone belt (claim boundaries are as of August 30, 2017).

The following is a summary of significant base and precious deposits/occurrences on the adjacent and other properties in the western SGB (**Table 7**).

Table 7. Mineral deposits/occurrences on adjacent properties and within the western SGB.

Project/owner	Commodity/Resource	Comments
Huronian Mine Kesselerun Resources Ltd.	29,678 ounces Au and 143,724 ounces Ag 1.2 MT @ 14.5 g/t Au*	Past Production Shear-hosted/Load Gold Deposit Resource Estimate (Pele Mountain Resources – Previous Owner)
Moss Lake Gold Deposit* Moss Lake Gold Mines Ltd., wholly owned subsidiary of Wesdome Gold Mines Ltd.	1.4 million ounces in <i>Indicated</i> and 1.75 million ounces in <i>Inferred</i> categories (Richards et al. 2013)	Resource Estimate Shear Zone-hosted Gold Deposit
Osmani Gold Deposit* Moss Lake Gold Mines Ltd., wholly owned subsidiary of Wesdome Gold Mines Ltd.	96,400 ounces Au in <i>Indicated</i> and 763,276 ounces Au in <i>Inferred</i> categories (McCracken 2011)	Resource Estimate Shear Zone-hosted Gold Deposit
North Coldstream Mines Moss Lake Gold Mines Ltd., wholly owned subsidiary of Wesdome Gold Mines Ltd.	~ 102 million pounds of Cu, 22 000 oz Au and 440 000 oz Ag (Giblin 1964)	Past Production Uncertain Origin - VMS, Magmatic (Mafic Intrusion-hosted), Hydrothermal Replacement
Vanguard Deposit White Metal Resources Corp.	300,000 tons @ 1.20% Cu and 0.02 ounce/Au (Osmani 2009)	VMS-type
Copper Island Cu Showing Benton Resources Inc.	3.9% - 5.1% Cu over 3.8m – 0.92m (Osmani 1997, 2009) ~0.2% Cu over 6.08m, 1.86 g/t Au over 0.4m, 0.24 g/t Pt+Pd over 2.98m	Prospect with Drilling Shear Zone - Mafic (Gabbro-Anorthosite-hosted) Source: Website of Benton Resources Inc. – Sept. 27, 2017
Whalen Showing	1.07% Cu±Au (Osmani 1996)	VMS-type
Haines Gabbroic Complex A Zone Pegmatite Zone NW Peninsula Showing	2.1% Cu, 0.45% Ni, 0.041% Co, 0.5 g/t Au, 0.4 g/t Pd+Pt 0.49% Cu, 0.9% Ni, 0.07% Co, 0.6 g/t Pd+Pt 9.1% Cu, 0.3% Ni, 0.08% Co, 1.65 g/t Au, 0.5 g/t Pd+Pt, 1584 ppm Zn, Anomalous Arsenic (All Above Results are from Grab Samples Analyzed by Osmani (1996))	Gabbro-Anorthosite Complex Magmatic Magmatic Hybrid (Shear-hosted/remobilized/magmatic mineralization)
Shebandowan Mine Vale	2.0 MT @ 2.1% Ni, 0.95% Cu and unspecified PGM and Au	Past Production Magmatic - Peridotite

* NI 43-101 Compliant Resource. Historical Resources and some Assay Values shown above in Table 7 were calculated/determined prior to the implementation of the NI 43-101 compliance standards therefore, although they are significant but must be considered as historical records only and should not be relied upon.

The information in the **Table 7** is compiled from government publications (e.g. Osmani 1996, 1997), and from technical reports posted on company's (past and/or current owners) websites and Sedar.com. The significance of the compilation of these deposits/occurrences (excluding Burchell Lake Property) is to demonstrate that the Burchell Lake Property is located within a favourable belt of precious and base metal occurrences and past producers.

24 Other Relevant Data and Information

The author is not aware of any additional relevant data or information.

25 Interpretation and Conclusions

Historically, the Burchell Lake property has been the focus of copper mineralization, specifically in the Hermia Lake area. The majority of the previous work, particularly from 1948 to 1992, was mainly focused on defining the copper zone east of Hermia Lake. "Gold-only" or Gold-dominated mineralization was the focus of sporadic exploration until Newmont's gold discovery in 1988 on the northwest claim of the current Property. Newmont in 1987-1988 drilled 9 holes targeting geophysical anomalies (IP and EM). Some of these holes intersected significantly anomalous gold mineralization (e.g., 1.15 g/t Au over 3.36 m and 0.8 g/t Au over 6.8 m). However, no follow up work was carried out by the company beyond this initial program. There was renewed interest in gold exploration during 2004-2008 by Mengold, which carried out a comprehensive exploration program consisting of geological, soil geochemical and geophysical surveys as well diamond drilling in the western and southwestern parts of the Property. The Property has not seen any exploration work carried out either by Mengold or the current owner since 2008.

Similarly, drilling of geophysical anomalies east of Hermia Lake by individuals and companies successfully discovered either new mineralization areas and/or extended the known copper zones but rarely followed up by systematic drill programs. There are still geophysical anomalies throughout the Property that have not yet been tested or have seen limited work. The best examples of this are untested areas within "Northeast-Southwest copper-gold trend" east of Hermia Lake. There are two areas within this trend that warrant drill-testing: 1) the area with VTEM conductors situated between mineralized drill holes 81-BU-3 and 81-BU-5 and 81-BU-4 and 81-BU-5. The VTEM anomaly in the southwestern area of this copper-gold trend is largely under-explored. Similarly, there are many areas along the USDZ-N with abundant VTEM anomalies often coinciding with surface sulphide±precious-base metal occurrences that are extremely under explored. These areas should be evaluated by appropriate geological and geophysical methods, including diamond drilling in some areas.

Limited correlations between drill holes have been attempted due to the fact that the orientation and morphology of the mineralization is still not well understood amidst drilling 113 holes to date on the Property. Of these 113 holes, the majority were drilled to the east of Hermia Lake. With all this work, the Property remains an early exploration play, which, in the author's

opinion, is due to lack of systematic follow up of geophysical anomalies and positive drill results. Osmani and Zulinski (2014) in their compilation work successfully identified several potential targets of economic interest that need to be tested in future exploration and development work on the Property.

Additional interpretations and conclusions for this study are listed in the following:

1. The 4,512-hectare Burchell Lake Property is located approximately 115 km west of Thunder Bay. The centre of the Property is located at approximately 6777500mE and 5380000mN (UTM NAD83, Zone 15N). Property's western and northern boundaries straddle the Moss Lake and Coldstream properties of Wesdome Gold Mines Ltd., respectively.
2. Access to the Property is via Trans-Canada Highway 11 from Thunder Bay to Kashabowie and from there by a secondary Highway 802 and a major logging road (Camp 517). Several logging roads/trails provide easy access within the claim area. The CN rail line and a major power line pass within 15 km of the northeast corner of the Property. The city of Thunder Bay is an important shipping and transportation hub. Both Canadian National and Canadian Pacific Railways service the Thunder Bay area. The Port of Thunder Bay is the largest outbound port on the St. Lawrence Seaway System, and the sixth largest port in Canada.
3. Geologically, the Property occurs within the western Shebandowan Greenstone Belt (SGB) of the Wawa Subprovince, which is an aggregation of Archean greenstone belts and granitoid plutons. The greenstone belts of this Subprovince are host to some of the largest shear-hosted/lode gold (e.g., Hemlo's Williams and David Bell gold mines), volcanogenic massive sulphide (e.g., former Geco and Winston Lake zinc mines) and mafic-ultramafic intrusion-hosted Ni-Cu-PGM (e.g., former Shebandowan Mine) deposits in Canada.
4. The Property is underlain by volcano-sedimentary rocks consisting of mafic, intermediate and felsic metavolcanic rocks and minor clastic and chemical sedimentary units (chert and iron formation). These rocks have been intruded by numerous concordant to sub-concordant mafic to ultramafic, and intermediate to felsic hypabyssal (feldspar and quartz-feldspar porphyries) dikes and sill-like bodies. Complex inter-layering of various rock types suggests complex folding and/or refolding of strata. The folding/refolding of all major rock units may be related to emplacement of plutons located northwest (Hermia Lake), southwest (Hood Lake) and southeast (Greenwater Lake) of the Property.
5. Geochemically, the mafic metavolcanics are tholeiite (high magnesium to iron-enriched) to calc-alkaline basalts, and rarely basaltic komatiite (e.g., Hermia Lake Prospect); intermediate metavolcanics are calc-alkaline dacites to andasites; felsic metavolcanics being predominantly calc-alkaline rhyolite grading locally into high silica FIII-rhyolites of tholeiitic affinity (Osmani 1997). The high silica F-III rhyolites are thought to have derived from fractionation of a mafic magma. The F-III rhyolites on the chondrite plots are characterized by their relatively flat REE patterns with prominent negative Europium (Eu) anomalies.

6. The F-III rhyolites, which are best known for hosting some of the giant base metal deposits in the world (e.g., Kid Creek Cu Mine in the Abitibi greenstone belt) also occur within a thick felsic pyroclastic±flow deposit located south and southeast of the Hermia Lake pluton on the Property (Osmani 1997). The northern margin of this pyroclastic deposit is in contact with basaltic rocks. The contact zone is highly strained/sheared by the USDZ hence both rock types can only be characterized as felsic and mafic schists. In addition to having a favourable REE chondrite signatures, the rhyolites also contain relatively higher silica content (76-78% SiO₂), higher K₂O (3.85%) and depletion in Na₂O (0.98%) that may have some implications for a hydrothermal system related to gold and base metal mineralization in this area of the Property.
7. From an economic point of view, there are three significant structural features on the Property: 1) the Upper Shebandowan Lake Deformation Zone (“USDZ” - North and South branches), 2) Firefly Lake Deformation Zone (“FLDZ”), and 3) the Moss Lake-Coldstream Deformation Zone (“MCDZ”). These deformation zones are generally characterized by a series of subparallel to parallel, east-northeast-striking, steeply dipping, ductile-to-brittle shear/fault zones and penetrative schistosity in rocks. Host rocks within these deformation zones are affected by moderate to intense silicification, carbonatization, chloritization, sericitization, hematization, and locally containing hydrothermal magnetite and intense iron-carbonate alteration.
8. Shearing and faulting related to D2 deformational event, for e.g., the MCDZ and USDZ are responsible, directly or indirectly for gold and copper mineralization on and adjacent areas of the Property. Good examples of shear-hosted gold-only mineralization occurs on Wesdome’s Coldstream and Moss Lake properties, including anomalous gold mineralization on northwestern claim (“NWD occurrences”) of the Property. Gold mineralization at all three locations are hosted within a 25 km long, northeast-trending auriferous MCDZ which is also known as the Coldstream Gold Trend (CGT). The presence of anomalous gold mineralization along this structure on the northwest claim increases the odds of finding shear-hosted gold mineralization of economic interest on the Property. The northwest claim and adjacent area warrants detailed gridline mapping and geophysical (3D-IP/resistivity) survey to identify new drill targets.
9. The USDZ (N-branch) and its splay structures is likely host to copper-dominated mineralization east of Hermia Lake, and gold-dominated mineralization at the Trench showing in the southwestern part of the Property. The USDZ-N, approximately 2 km and 5 km northeast of the Property boundary, hosts two significant showings: 1) the West Shebandowan Copper-Gold-Molybdenum Occurrence, and 2) the Copper Island Copper Showing in the middle of Upper Shebandowan Lake. As a result, the 8.7 km long USDZ-N may also have potential of hosting both precious and base metal mineralization on the Property.
10. The USDZ (S-branch) hosts a copper-gold showing located approximately 250 m southwest from the southern tip of Upper Shebandowan Lake. Noranda Exploration in 1964 drilled three short holes (N-1, N-2 and N-3) adjacent to this showing, intersected

strongly sheared and altered (silicification, sericitization, chloritization, minor sulphides) tuffs and mafic metavolcanic rocks. The N-1 hole intersected 0.02 oz gold/ton over 1.85 m and a strongly silicified zone of 17m core length. The N-2 hole intersected 8.6% copper over 0.2 m core length. In light of Noranda's drill results and ubiquitous sulphide (pyrite, chalcopyrite, bornite) occurrences coincident with a train of VTEM conductors suggesting the USDZ-S probably a highly prospective structure along its entire strike length that needs to be re-evaluated by appropriate geological and geophysical methods, including drill-testing potential targets in some areas of this structure.

**Reader is cautioned with respect to the accuracy of locations and orientation of drill hole traces as shown on the compilation maps of Osmani and Zulinski (2014). Some drill holes in compilation maps may differ from drill hole plan map shown in company's drill logs and reports. Also, the Cu-Au showing nearby, compiled from MNM's Mineral Exploration Inventory Map 52B10SE, supposedly representing mineralization on surface is most likely the one intersected by Noranda's drill holes. According to a drill log report, all three holes should be shown drilling in southeast direction. Similar, discrepancies are also noted in few other areas.*

11. Although there is no known significant nickel-copper-PGE mineralization on the Property, potential for these metals exists in some gabbro-peridotite bodies occurring within the southwestern and southeastern parts of the Property. For example, a relatively long but narrow gabbroic-sill, approximately 1.1 km northwest of Waverly Lake within southwestern corner of the Property, yielded weakly anomalous platinum (23 ppb), palladium (<55 ppb) and trace levels of gold (9 ppb) (Osmani 1993b, 1997). A peridotite-gabbro intrusion, 2.8 km north-northeast of Waverly Lake, contains trace levels of platinum (4 ppb), palladium (<10 ppb) and weakly anomalous nickel (923 ppm) (Osmani 1997), which is thought to be associated with silicate minerals in the rock since no visible sulphides are reported in the rock. A copper-gold showing occurring within a relatively large gabbro body is located roughly 1.4 km northwest of Squeers Lake.
12. A northeast-trending, approximately 4.2 km long, linear train of weak to medium strength VTEM conductors (Map 81574, Ontario Geological Survey 1991), situated approximately 1.7 km northwest of Squeers Lake, occurs at or near the mafic-felsic volcanic contacts. The area adjacent to this anomaly is poorly exposed; however, the regional geology map shows the area underlain by felsic and mafic to intermediate tuffs (possibly reworked volcanic sediments), amphibolitized mafic flows and minor clastic to chemical metasedimentary rocks. The volcanic rocks, depending on their original protoliths, are variably sericitized, hematized, chloritized and silicified. The volcanic stratigraphy and associated hydrothermal alteration affecting these rocks appear similar to those occurring along the USDZ (N and S branches) within northwestern-half of the Property. Despite having a favourable geological setting and geophysical anomalies, the author believes this area is noticeably under explored. It should be noted that some very strong linear conductors could be formational/graphitic. A single drill hole (A6) drilled in 1957 by Kinasco Exploration and Mining Ltd appears to have tested this anomaly. The hole intersected mostly biotite schists and a 19 m wide impure quartzite unit. No assay results are reported from the hole.

26 Recommendations

On the Burchell Lake Property, base and precious metals are represented by two main styles of mineralization: 1) shear zone-hosted “gold-only” or “gold-dominated” mineralization (e.g., NWD occurrence within MCDZ), and 2) stratigraphically-controlled copper-dominated mineralization along or adjacent to sheared felsic-mafic metavolcanic contacts (e.g., Hermia Lake Prospect and adjacent areas). These two styles of mineralization are relatively well-documented in historical works for the western parts of the Property. However, much of the eastern half and southwestern portion of the Property has been extremely under explored, despite having geological (litho-structural) settings and geophysical anomalies similar to their western counter part. Additionally, the highly-strained and altered felsic-mafic volcanic contacts displaying trains of weak to moderate VTEM conductors within the north-central Property have also been scarcely tested as appose to those occurring to the east and south-southeast of Hermia Lake. Therefore, this and other similar under explored areas require much needed re-evaluation by modern geological, geophysical and geochemical techniques.

Since both precious and base metal mineralization on Burchell Lake claims and adjacent areas are associated with disseminated to semi-massive sulphides (pyrite, chalcopyrite and minor bornite and arsenopyrite), the two preferred geophysical surveys suitable for this style of mineralization consists of helicopter-borne, deep-penetrating electromagnetic (EM) survey and IP/resistivity geophysical survey. The airborne EM survey would be the most rapid, efficient way of collecting and interpreting the data at a large scale, and IP/resistivity survey would be useful in following up the regional targets identified by the EM survey and relatively local and known areas of subsurface mineralization (e.g., copper-gold east and south-southeast of Hermia Lake). However, a relatively deep penetrating, 3D-IP/resistivity survey is preferred over conventional dipole-dipole system. The conventional IP survey conducted by Mengold in 2008 in the Hermia Lake area is thought to be least reliable due to the thick overburden blanketing the area, particularly east of Hermia Lake where up to 60 m thick of glacial cover is reported in drill logs. It is in this area where a conventional IP survey may not have penetrated or barely reaching depth of mineralization, affecting the strength of resultant chargeability anomalies. Furthermore, IP anomaly trends in this area do not correlate well with the known trend of mineralization as indicated by historical drilling in the area. However, the IP anomalies southeast of Hermia Lake seem to show better correlation with VTEM anomalies and known areas of mineralization, thus indicating relatively shallower depths of overburden ranging from zero to only few metres in depth.

The author is making following recommendations after he made a detailed review and reassessment of recently compiled technical data by Osmani and Zulinski (2014) on the Burchell Lake Property. The following recommendations are systematic evaluation of the Property that requires appropriate geological and geophysical methods in order to generate potential targets of economic interest in future follow up exploration/development plans.

The following work program recommended on the Property is informally subdivided into several blocks (**Figure 12 and Figure 13**) in order to make pertinent target-specific recommendations for any individual block that can be described with ease and understanding rather than broad generalizations for a property as large as Burchell Lake.

1. A helicopter-borne, deep penetrating electromagnetic survey along with magnetic geophysical survey is strongly recommended in the northeast and southeast-half of the Property. The most western part, comprising roughly one-third of the Property, including Hermia Lake Prospect, has been covered by Geotech's VTEM survey in 2006 on behalf of Mengold. The remaining two-thirds have not seen any coverage by modern geophysical system since 1990 when an airborne magnetic/electromagnetic survey was flown, on average 200 m line spacing, over the entire Shebandowan Greenstone Belt by Ministry of Northern Development and Mines (MNDM). It should be noted that the proposed deep-penetrating EM survey be compatible with Geotech's VTEM survey in order to ensure the data for both surveys can be merged seamlessly for the entire Property.
2. A 3D-IP/resistivity survey, contemporaneously with detailed prospecting and litho-geochemical sampling program, is recommended for Block-A situated within northeastern part of the Property (**Figure 12**). The favourable USDZ-N passes through middle of the block which hosts, albeit minor, several surface sulphide and metallic occurrences. Since bedrock exposure is scarce within the block, it would be a difficult task of finding surface mineralization readily therefore, a 3D-IP/resistivity survey, in the authors' opinion, would be a better geophysical tool in revealing subsurface disseminated sulphides in a shear zone-hosted setting. The IP data could also be complimentary in revealing potential subsurface mineralization coinciding with any new surface mineralization discovered during the course of prospecting and sampling.
3. Vigorous prospecting and litho-geochemical sampling is recommended for the entire Block-B (**Figure 12**). The block is relatively well exposed compared to adjacent Block-A however, there is only one weakly anomalous gold is known to date on surface located approximately 750 m northwest of Firefly Lake (Osmani 1997). In the southern-half of the block, although there is no surface mineral showing, the limited historical drilling in the area has yielded few anomalous gold and copper mineralization. Since Block-B is underlain by potentially two prospective structures (USDZ-S and FLDZ), it is recommended that this whole block carefully prospected in detail first as an initial tool of evaluation followed by limited 3D IP/resistivity geophysical survey as this would be a better geophysical method in locating subsurface disseminated sulphides in a shear zone-hosted setting.
4. Block-C is recommended for detailed prospecting, mapping, lithogeochemical sampling and limited drill-testing of some VTEM targets C-EM-1, C-EM-2 and C-EM-3 (**Figure 12**). These VTEM anomaly targets occur within or near variably-strained/sheared felsic-mafic metavolcanic contact. One historical hole (FO-3) drilled by Cominco (now Teck) in 1967, appears to have tested some geophysical targets, and occurs in the area of Mengold's VTEM conductors (C-EM-2). The drill hole intersected semi-massive to disseminated sulphides but returned only traces of gold and weakly anomalous zinc (0.1% to 0.2% Zn). A few hundred metres northeast of FO-3, Canadian Nickel Company (now Vale) drilled two holes (41074 and 41076) in 1970, which intersected significant sulphides but no metal values were reported in logs from these holes. Maple Leaf

Minerals drilled one hole (B-03-01) at the northeast end of anomaly C-EM-1, intersecting mixed felsic, intermediate mafic metavolcanic rocks and massive to bedded pyrite zones. Only one sample reportedly yielded the weakly anomalous gold (0.083 ppm), zinc (852 ppm), nickel (782 ppm), and anomalous arsenic (204 ppm) over 1.75 m core length. Anomaly C-EM-3, to authors' knowledge has never been drill-tested. Despite finding no significant base or precious mineralization in historic holes, the re-evaluation of Block-C and adjacent areas is warranted because of favorable geological setting of the block, i.e., structures, lithologies and anomalous presence of some metals in the system, which bodes well for this area. All three VTEM anomalies and adjacent areas are recommended for re-evaluation by limited drilling and detailed prospecting, mapping and litho-geochemical sampling program. Six-holes, totaling 1,200 metres, are required to test all three VTEM anomalies.

5. Block-D is comprised of three clusters of east- and northeast-trending weak to strong VTEM anomalies (D-EM-1, D-EM-2 and D-EM-3) within the north-central part of the Property (**Figure 12**). The anomalies are separated by two northwest-striking faults and also coincident with a felsic-mafic metavolcanic contact. The felsic volcanic rocks in this area are represented by a thick deposit of lava flows and coarse pyroclastic rocks of probably proximal to vent facies. Geochemically, these rocks are predominantly calc-alkaline but may also in part contain discrete lenses of high silica F-III rhyolite of tholeiitic affinity known to host some of the largest VMS deposits in the world (e.g., Kid Creek Cu-Zn Mine within Abitibi Greenstone belt near Timmins, Ontario). Although testing the lithological contact by few historical short holes did not reveal any significant base or precious metal mineralization, the mere presence of F-III rhyolites in the felsic volcanic certainly have implications for a hydrothermal system related to copper-gold mineralization in this part of the Property. In light of this favorable information which may be indicative of potentially significant mineralization, it is recommended that the entire Block-D, as well as neighboring Block-E to the west be explored by carrying out detailed prospecting, mapping and litho-geochemical sampling programs (**Figure 12 and Figure 13**). Limited testing of VTEM anomalies within Block-D is also recommended. Five holes, totaling 1,250 metres, would be required to do the initial testing of these three anomalies.
6. The Block-F represents the northeast-southwest copper-dominated mineralization trend east of Hermia Lake in the western-most part of the Property (**Figure 13**). This block is relatively well-developed with regards to defining mineralization trends by historical exploration work plans in comparison to all other "Blocks" described in the preceding sections. In addition to limited 3D IP/resistivity geophysical survey to identify deeper mineralization recommended in *Phase I* (see below in Section 26.1), a diamond drilling program, for the most part, is recommended in three areas of the block, denoted as following: F-EM-1, F-EM-2 and F-EM-3. However, prior to commencing any drilling work within the block, a series of recommendations should be followed.
 - a. All historical drill holes and trenches be located and recorded with hand held GPS instrumentation if casings can be found. Initial efforts and resources should be focused on locating historical drill holes defining the *Northeast-Southwest Copper-*

Gold Trend (Block F) and the most western portion of ***East-northeast Copper-Gold Trend (Block-E)***.

- b. Due to limited outcrop exposure near the Hermia Lake area, historical trenches should be refurbished and revised as a structural study in order to obtain a better understanding of the structural complexity and controls related to the mineralization.
 - c. Upon verifying the location of historical drill hole collars and a completed structural study, interpreted mineralized trends (***Northeast-Southwest Copper-Gold Trend*** and ***East-northeast Copper-Gold Trend***.) should be re-interpreted and compilation maps updated accordingly.
 - d. A drilling campaign is required to both verify historical drill holes with significant mineralization as well as exploration drilling of three areas/targets (F-EM-1, F-EM-2 and F-EM-3), to test the strike lengths of the interpreted mineralized trends. Approximately 5,000 metres are required to drill these three targets plus verification drilling of historically-defined mineralization areas.
7. Block-G is recommended for mostly detailed prospecting, grid mapping and lithogeochemical sampling program (**Figure 13**). Paying close attention to detail is critical while prospecting and sampling areas drilled by Mengold in 2008 containing anomalous gold±copper mineralization. The objective of Block-G is to extend the known mineralization along strike by carefully mapping structures, alteration and mineralization. A 1 km long, east-west trending, strong chargeability anomaly occurring within the northern part of the block was tested by one drill hole (BU-06-05) at the west end of the anomaly. The hole intersected weakly anomalous gold mineralization. The rest of the anomaly remains untested which at some points in the future needs to be drilled.
8. If the recommended 3D-IP/resistivity survey for Block-H in *Phase I* (see below in Section 26.1) was successful in penetrating potentially deeper mineralization then a detailed follow up prospecting, mapping and litho-geochemical sampling program is recommended for this most northwestern claim of the Property, host to several drill-intersected anomalous gold mineralization (a.k.a. “NWD occurrences”) (**Figure 13**). The 25 km long “Coldstream Gold Trend (CGT)”, host to both Moss Lake and Osmani gold deposits on the adjacent properties intersect the entire area of the northwest claim block. The purpose of these works in Block-H is to extend and correlate the mineralized zones identified by Newmont’s drilling in 1987-88 to greater strike lengths by carefully mapping structures, alteration and mineralization. Furthermore, a 3D- IP/resistivity survey proposed in *Phase I* could be complimentary in revealing potentially subsurface mineralization coinciding with both historical drilling results and any surface mineralization found during the prospecting/mapping work.
9. Lastly, the author strongly recommends Tanager Energy Inc. file for assessment work on the Burchell Lake Property in order to keep some claims that are soon going to be expired (**Table 1**). Since all claims defining the Burchell Lake Property are contiguous, assessment credits can be applied to any claim on the Property regardless of location where the work is being carried out

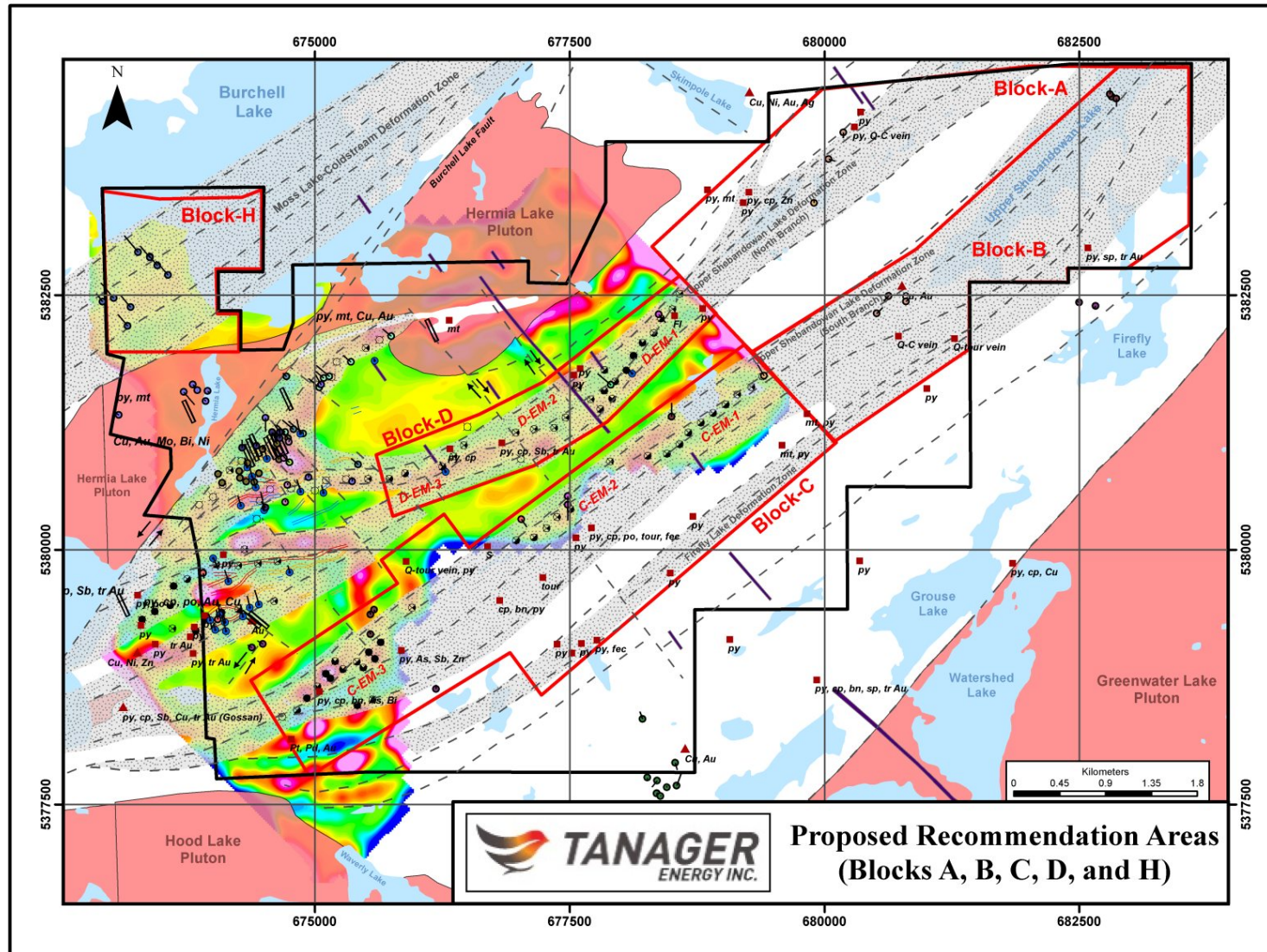


Figure 12. Areas of recommendations (Blocks A, B, C, D and H) proposed for the Burchell Lake Property. The magnetic (total field) base with EM conductors covering the west-central part of the Property is from Geotech Ltd. (2006).

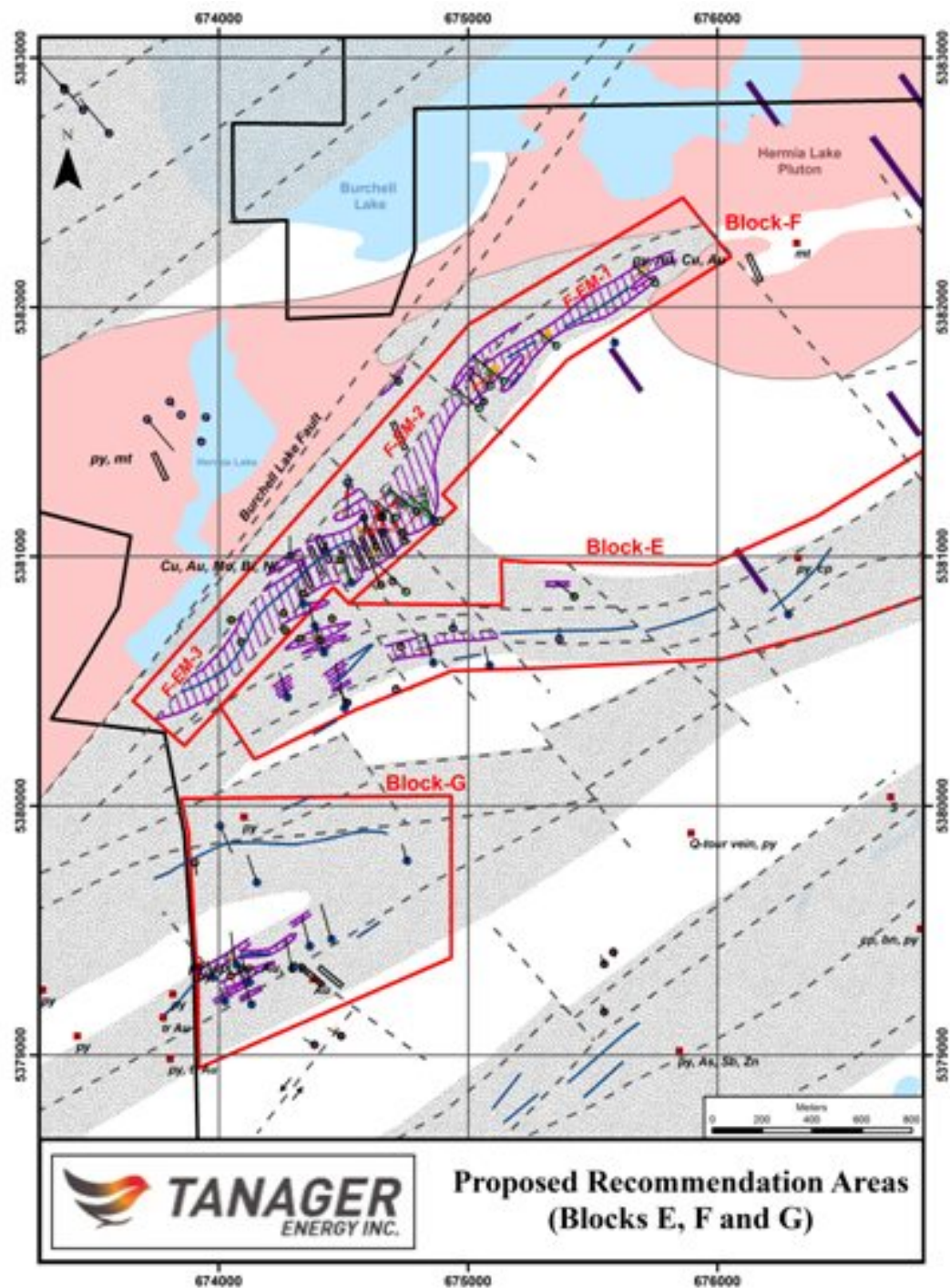


Figure 13. Areas of recommendations (Blocks E, F, and G) proposed for the Burchell Lake Property.

26.1 Proposed Budget

The exploration budget for above recommended work programs is prioritized in two phases on the Property:

PHASE-I EXPLORATION - A short work program is proposed in Phase-I for a quick reassessment of Block H and parts of Block E, F and G by 3D IP/resistivity survey followed by limited prospecting and lithogeochemical sampling program. If these works were to be successful in achieving desired objectives then they should be expanded within these and other blocks for a more comprehensive Phase-II exploration program.

PHASE-II EXPLORATION – After the successful completion of Phase-I exploration program, a more comprehensive Phase-II work program consisting of geological and geophysical surveys, and diamond drilling, is recommended for the entire Property.

PHASE-I BUDGET:

The budget required for the works recommended in *PHASE-I* is presented in **Table 8**.

Table 8. *Proposed Exploration Budget for Phase I.*

3D IP/Resistivity Geophysical Survey	
Survey per kilometer (including line-cutting) - \$3,600/line km (35 km)	\$126,000
Prospecting and Lithogeochemical Sampling	
1 Senior Geologist – Supervision (\$650/day for 15 days)	\$9,750
1 Geologist (\$400/day for 15 days)	\$6,000
1 Prospector (\$350/day for 15 days)	\$5,250
	\$21,000
Geochemical Analysis	
50 samples @ \$40/sample	\$2000
Mob-Demob	
	\$2,000
Truck Rental	
(including Gas)	\$4000
Field Equipments/Other Miscellaneous Items	
	\$800
Accommodation	
(2 rooms for 15 days)	\$4000
Meals	
(3 persons for 15 days)	\$2000
Report	
	\$12,000
Subtotal	
	\$173,800
Contingency (10%)	
	\$17,380
TOTAL	
	\$191,180

PHASE II BUDGET:

The budget required to complete the works recommended in *PHASE II* is presented in **Table 9**.

Table 9. Proposed Exploration Budget for Phase II.

3D IP/Resistivity Geophysical Survey	
Survey per kilometer (including line-cutting) - \$3,600/line km (50 km)	\$180,000
Airborne Electromagnetic/Magnetic Surveys	
Survey per kilometer - \$470/km (320 line kilometer)	\$150,400
Historical Drill Holes GPS Survey	
	\$14,000
Trenching/Structural Study/Sampling	
	\$15,000
Drilling	
Drilling per metre - \$125/metre (7450m)	\$931,250
Misc logging, core cutting and field office equipment	\$8,000
	\$939,250
Personnel (Drill Program)	
2 Geologists and 1 Geotech (\$1,300/day for 75 days)	\$97,500
Personnel (Prospecting/Mapping)	
2 Geologists and 2 Geotechs (\$1600/day for 60 days)	\$96,000
Analytical Geochem	
Drilling: 2500 samples @ \$40/sample	\$100,000
Prospecting/Mapping: 500 samples @ \$40/sample	\$20,000
	\$120,000
Mob-Demob and Shift Change	
14 Round trip flights (\$1500/round)	\$21,000
Truck Rental	
2 Trucks (Drilling Crew/Mapping/Prospecting Crew)	\$15,000
Gas	\$8,000
	\$23,000
Equipment Rentals	
Rock saw, Field equipments, Software and Communications	\$12,000
Room/Board	
Drilling Crew: 2Geologists and 1 Geotech (75 days)	\$22,500
Mapping Crew: 2 Geologists and 2 Geotechs (60 days)	\$24,000
Logging and Cutting facility	\$12,000

	\$58,500
<hr/>	
Miscellaneous	
Core Storage (2 racks)	\$12,000
Reporting	\$22,000
	\$34,000
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Subtotal	\$1,760,650
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Contingency (10%)	\$176,065
TOTAL	\$1,936,715

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28 Statements of Qualification

I, Ike A. Osmani of 1803-5611 Goring Street, Burnaby, British Columbia, do hereby certify that:

1. I am a graduate of Lucknow University, Lucknow, India, with a Bachelor of Science Degree in Geology (1971).
2. I hold a Master of Science Degree in Geology from Aligarh Muslim University, Aligarh, India (1973).
3. I hold a Master of Science degree in Geology with major in Geophysics from University of Windsor, Ontario, Canada (1982).
4. I have been practicing my profession since 1981 both as research geoscientist and mapping geologist with government surveys and, as an exploration geologist with major/junior exploration and mining companies in Canada and internationally.
5. I am a member of the Association of Professional Geoscientists of Ontario (#0609); and a member of the Association of Professional Engineers and Geoscientists of British Columbia (#32050).
6. I have read the definition of “qualified person” set out in NI 43-101 and certify that by reason of my education, affiliation with a professional associations (as defined by NI43-101) and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
7. I have over thirty years of mapping and mineral exploration (precious and base metals) experience in the Archean greenstone belts across the Canadian Shield, especially the western shield areas in northwestern Ontario where the subject Property is located. My extensive experience provided the adequate knowledge and understanding of the geology, deposit types and mineralization styles to critically review and assess technical data and to make recommendations on the subject Property.
8. I am responsible for the compilation and interpretation of all sections of the technical report entitled, “*NI 43-101 Technical Report on the Burchell Lake Property, Thunder Bay Mining District*”, dated October 12, 2017. As of the date of the certificate, I certify, that to the best of my knowledge, information and belief, this Technical Report contains all scientific and technical data to be disclosed to make the report not misleading.
9. I am not aware of any material fact or material change with respect to the subject matter of this technical report, which is not reflected in this report, the omission to disclose which would make this report misleading.
10. I am independent of the issuer (Tanager Energy Inc.) applying the test in section 1.5 of NI 43-101, and there were no circumstances that were or could be seen to interfere with

my judgment in preparing the Technical Report.

11. I have read National Instrument 43-101 and Form 43-101FI, and this Technical Report has been prepared in compliance with that instrument and that form.
12. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 12th day of October 2017, at Burnaby, British Columbia

/s/ "I.A. Osmani"

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

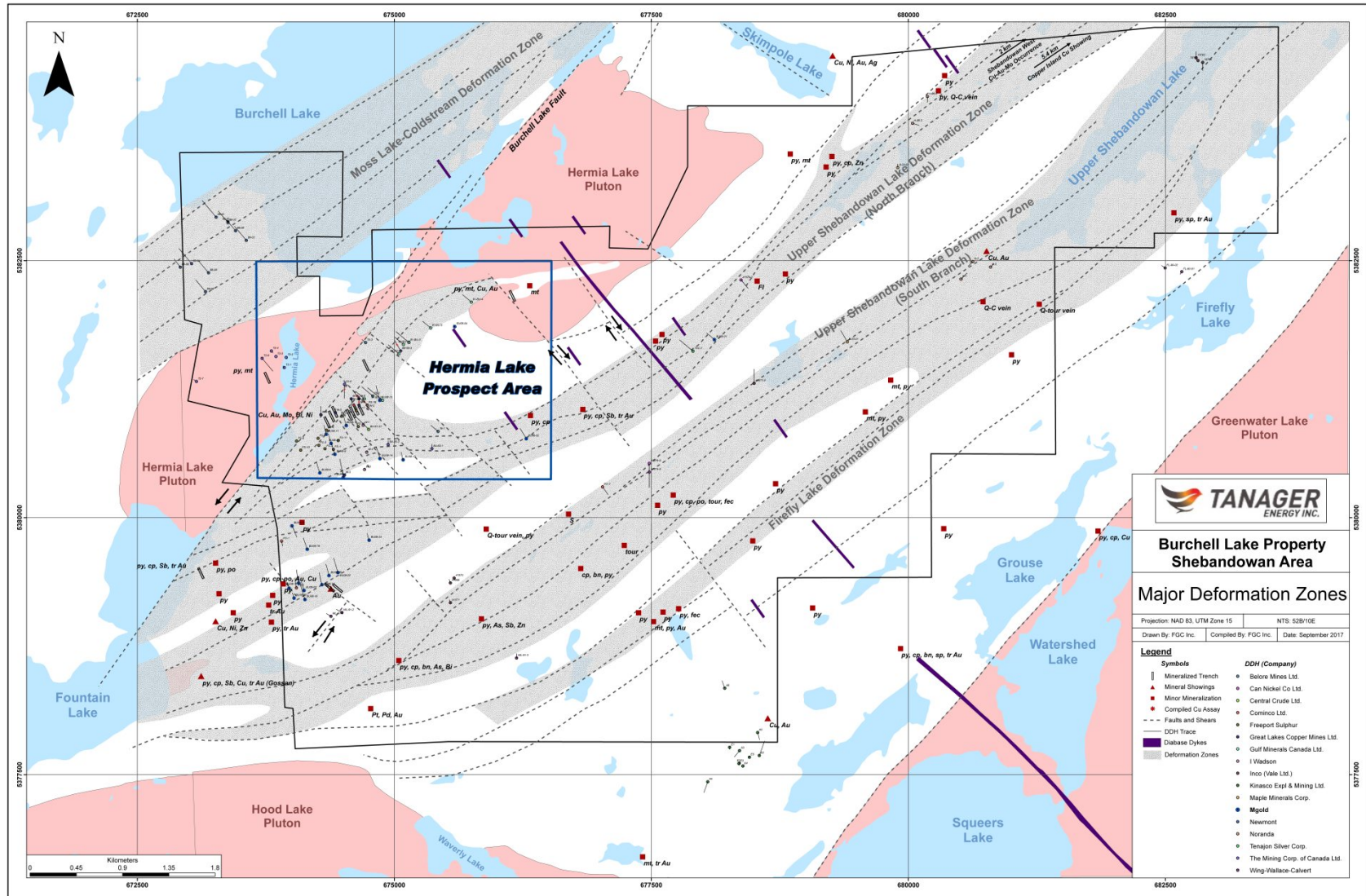
Principal Geologist

Faarnad Geological Consulting (FGC) Inc.

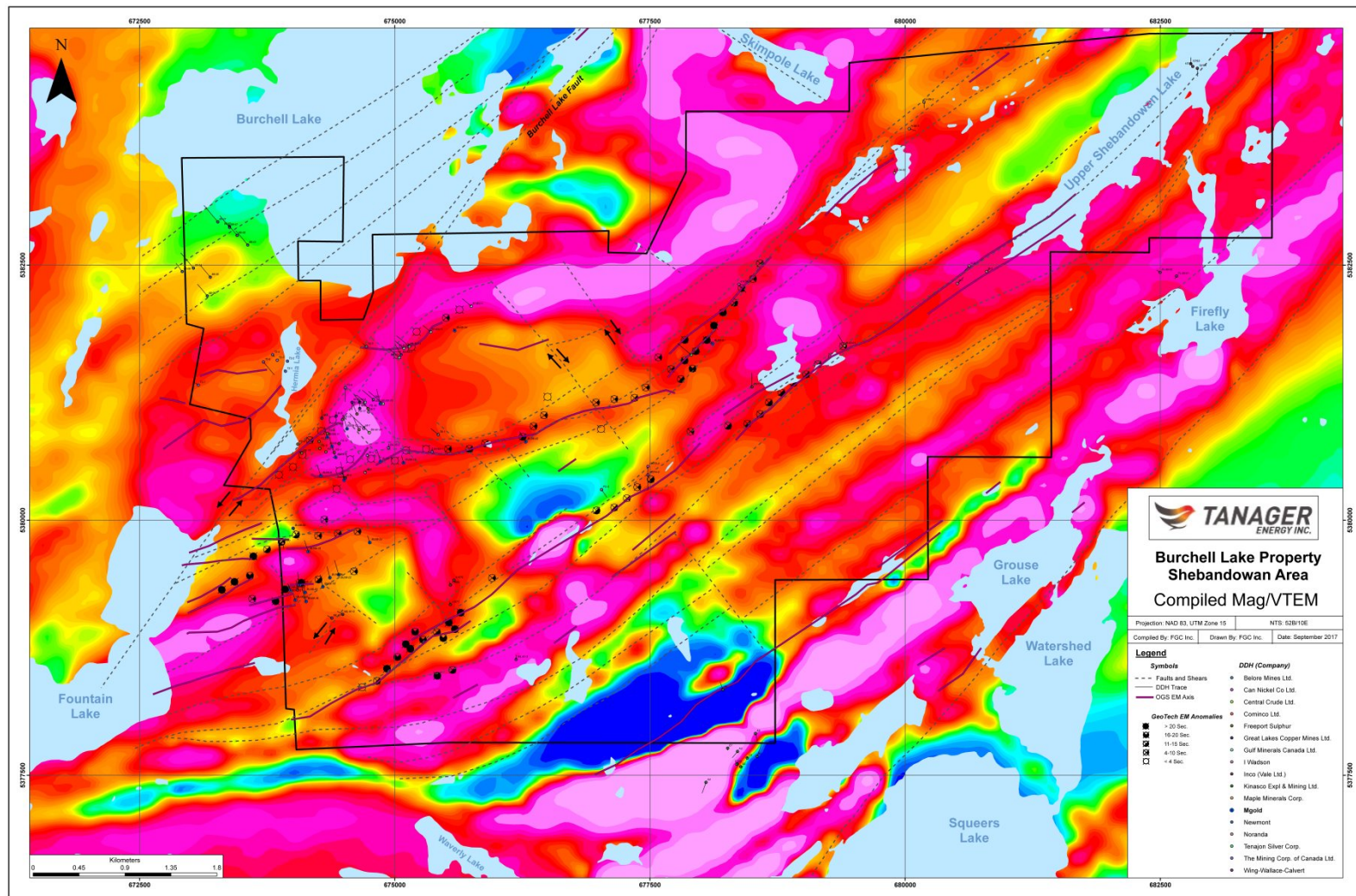
Appendices

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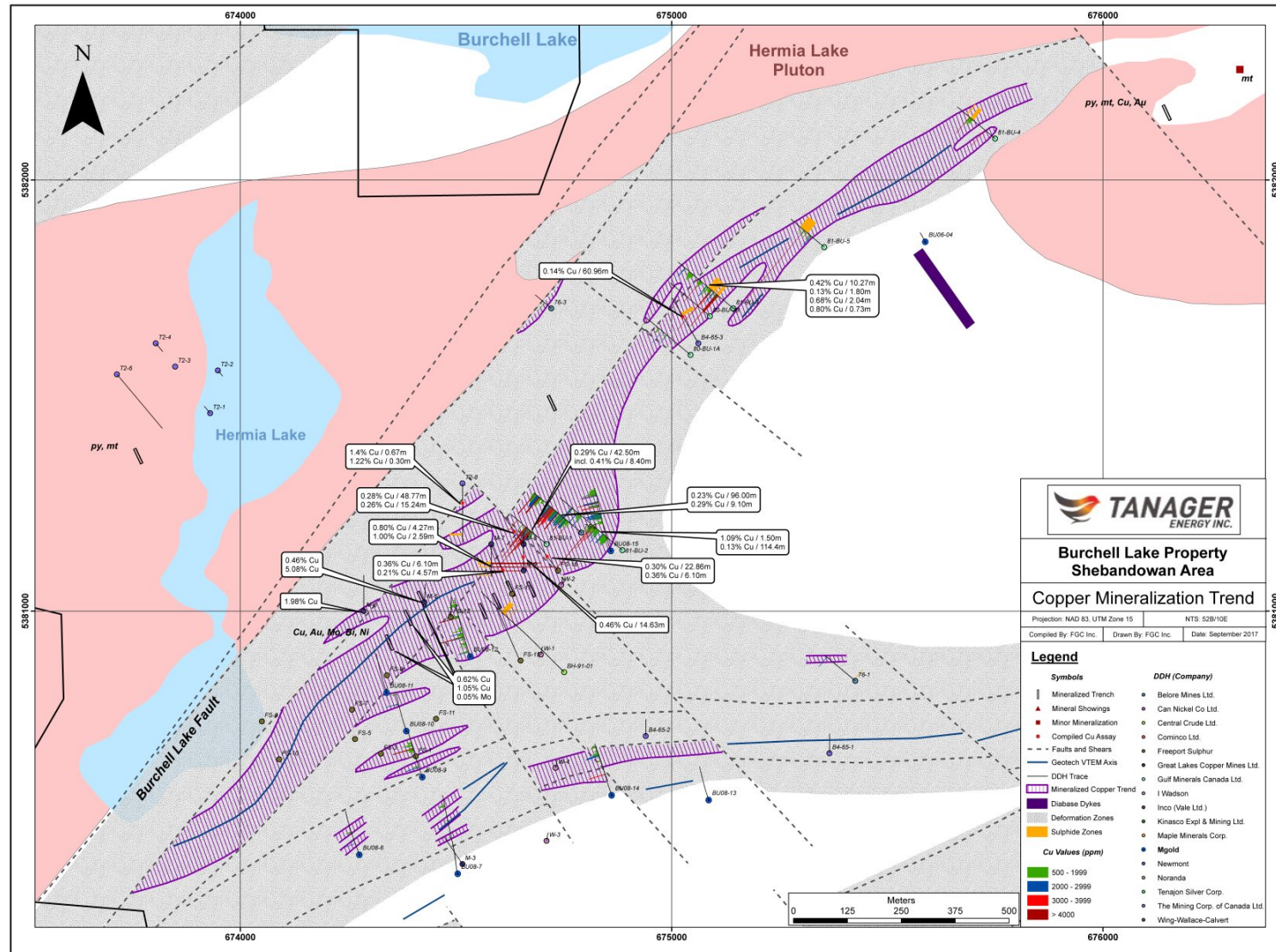
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Appendix 2: Major deformation/alteration zones within the Burchell Lake Property. Also shown on the map is the spatial relationship between the structures and mineralization (sulphide minerals, base and precious metal occurrences). Source: Osmani and Zulinski (2014).



Appendix 3: Major shear zones and EM conductors are shown superimposed on the magnetic map (total field) of Burchell Lake Property and adjacent areas. Source: Magnetic base and EM axes are from Ontario Geological Survey (2003) and trains of EM condors are from Geotech Ltd. (2006). Compilation by Osmani and Zulinski (2014).



Appendix 4: Interpreted copper mineralization trends in the Hermia Lake Prospect area. Map also showing some drill hole traces with significant copper values. Compilation by Osmani and Zulinski (2014).

Appendix 5

(Burchell Lake Property Option Agreement)

09/28/2011 15:40 FAX 1 807 767 1528

+ J. SCODNICK

001

m.f.

BURCHELL LAKE PROPERTY AMENDMENT AGREEMENT

THIS AMENDMENT AGREEMENT is made on September 27, 2011

BETWEEN:

MGOLD RESOURCES INC., having its head office at 1 Place Ville Marie, Suite 4000, Montreal, Quebec, H3B 4M4, Tel: (514) 871-1522, Fax: (514) 871-8977, E-Mail: joelscodnick@mg.com (the "Optionee")

AND: JOHN TERNOWESKY (45%), residing at 132 Robinson Drive, Thunder Bay, Ontario, P7A 6G5 T1(807) 767-1862, F.(807) 767-1528, **EUGENE BELISLE (21.5%)**, residing at 207 Rockwood Avenue South, Thunder Bay, Ontario, P7B 4K5, **NOEL BELISLE (21.5%)**, residing at 105 Blaquier Street, Thunder Bay, Ontario, P7A 6T8, and **MIKE FOGEN Jr. (12%)**, residing at 500 Halton Street, Thunder Bay, Ontario, P7A 7R8, E-Mail: jetex@thaytel.net (collectively, the "Optionors")

AND TO WHICH INTERVENE:

HELM EXPLORATION LTD., having its head office at 75 Forest Lake Road, Sudbury, Ontario P3G 1K8 Tel: (705) 522-4439, Fax: (705) 522-8694, E-Mail: joelscodnick@me.com ("Helm")

WHEREAS the Optionors and Helm entered into an option agreement dated August 13th, 2005 in respect of the Burchell Lake property (the "**Burchell Lake Property**") hereinafter described in Part 1 of the Schedule "A" attached hereto, as amended pursuant to an amendment agreement dated November 1, 2005, an amended agreement dated March 12, 2006 and an amendment agreement dated June 28, 2006, and as extended pursuant to a prolongation agreement dated August 24, 2006 (the "**Option Agreement**");

WHEREAS the Optionee and Helm entered into an option agreement whereby Helm transferred the entire benefit, including all rights and obligations, of the Option Agreement to the Optionee on April 3, 2006;

WHEREAS the Optionee currently holds a 85.1% interest in the Burchell Lake Property and hereby intends to acquire an additional 14.9% interest thereof in order for it to hold a 100% undivided interest in the Burchell Lake Property thereafter;

WHEREAS the Hermia Lake claim attached hereto as Part 2 of the Schedule "A" of this Amendment Agreement will become part and parcel of the Burchell Lake Property pursuant to a purchase and sale agreement entered into concurrently to this Amendment Agreement by the Optionee, John Ternowesky and Eugene Belisle and will be subject to the rights and obligations provided for in this Amendment Agreement;

WHEREAS pursuant to the Option Agreement, the Optionee is in arrears in respect of payments for advance royalties owing to the Optionors in the amount of \$68,080, which amount represents the advanced royalties payable in 2009 and 2010 (85.1% of \$40,000 = \$34,040 per annum);

WHEREAS another advance royalty payment will be due on November 2, 2011 in the amount of \$40,000 considering that the Optionee will then hold a 100% undivided interest in the Burchell Lake Property;

WHEREAS the Optionor and the Optionee intend to settle payments of advanced royalties for 2009, 2010 and 2011 with an aggregate payment of \$108,080;

AND WHEREAS the parties mutually wish to amend the Option Agreement as set out herein:

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NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. The Optionee shall acquire an additional 14.9% interest in the Burchell Lake Property by completing the \$108,080 advance royalty payments in the form of common shares of the Corporation (the "Common Shares") at an issue price of \$0.10 per Common Share, thereby issuing an aggregate of 1,080,000 Common Shares to the Optionors. These Common Shares will be issued following the delivery of all required regulatory approval, including the approval of the TSX Venture Exchange (the "Exchange"). Upon receipt of all required approvals, the Optionee shall promptly execute a treasury order instructing Equity Transfer & Trust Company to issue and deliver the Common Shares to the Optionors via courier.
2. The 1,080,000 Common Shares issuable by the Optionee in payment of the advanced royalties will be subject to a four month hold period commencing on the issue date.
3. For all subsequent advance royalty payments, the Optionors shall have the option of being paid in Common Shares or cash, the whole subject to the terms of this provision. The Optionors shall send a prior written notice to the Optionee on or before July 22 of each year advising the Optionee whether they elect to be paid in the form of Common Shares or in cash. Should the Optionors elect to be paid in Common Shares, such Common Shares shall be issued at a price agreed to by the Optionee's board of directors and subject to the policies of the Exchange. In any event, such issue price shall not be lower than the current market price of the Common Shares less the maximum discount authorized by the policies of the Exchange. Should the Optionee not have sufficient working capital to make any cash payment requested by the Optionors, then the Optionee, at its own discretion, may elect to pay the Optionors in Common Shares instead of cash to prevent arrears in advance royalty payments. The Optionee shall complete all subsequent advance royalty payments to the Optionors on or before September 22nd of each year.
4. The parties acknowledge and agree that upon signing this Amendment Agreement the Optionee shall thereafter be considered to hold a 100% undivided interest in all the claims listed in Part 1 and Part 2 of the Schedule "A" with no further obligations save and except for subsequent advance royalty payments.
5. This Amendment Agreement may be signed in as many counterparts as may be necessary, each of which shall be deemed to be the original, and such counterparts together shall constitute one and the same instrument and notwithstanding their date of execution shall be deemed to bear the date set forth above. An electronic facsimile transmission hereof signed by any person named below will be sufficient to establish the signature of that person and to constitute the consent in writing of that person to the foregoing Amendment Agreement.
6. The Optionee may at any time and from time to time abandon, surrender or allow to lapse any part or parts of the Burchell Lake Property as it may determine, provided that the Optionee shall give to the Optionors not less than ninety (90) days prior written notice of its intention to do so and shall, if requested by the Optionors by prior written notice to the Optionee within that period of time, deliver to the Optionors duly executed assignments or other instruments of transfer of the part or parts of the Burchell Lake Property so intended to be dealt with to effect the transfer of such part or parts of the Burchell Lake Property to the Optionors free and clear of any encumbrances that have been created by or as a result of the activities of the Optionee or any of its affiliates, with each mining claim so transferred to be in good standing for at least 12 months from the date of the original notice from the Optionee.
7. The Hermia Lake claim as described in Schedule A will become part and parcel of the entire Burchell Lake claim group and will be subject to the same NSR as all the other claims.

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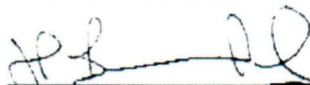

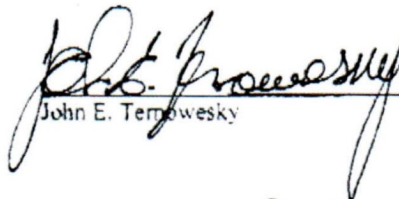
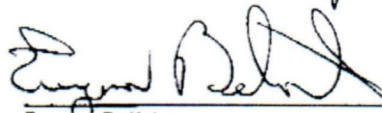
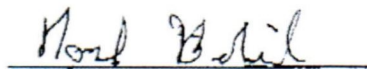
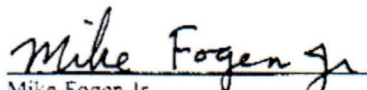
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8. This Amendment Agreement together with its Schedule "A" fully expresses the entire understanding between the parties and replaces and supersedes any prior agreements, understandings or discussions between the parties including the Option Agreement and all amendments thereof.

IN WITNESS WHEREOF, each of the parties has executed this Amendment Agreement effective as of the date first above written.

"Helm"**HELM EXPLORATION INC.**
Joel Scodnick, P.Geol. President & CEO**"Optionee"****MGOLD RESOURCES INC.**
Joel Scodnick, P.Geol. President & CEO**"Optionors"**
John E. Ternowesky
Eugene Belisle
Noel Belisle
Mike Fogen Jr.

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Appendix 6

(Material Change Report)

MATERIAL CHANGE REPORT

FORM 51-102F3

Item 1 - Reporting Issuer

Tanager Energy Inc.
3056 40 Ave S
Lethbridge, Alberta, T1K 6Z9

Item 2 - Date of Material Change

September 23, 2013.

Item 3 - Press Release

A press release was issued on September 20, 2013 through Marketwired and filed with the securities regulatory authorities in the provinces of Alberta, British Columbia and Québec. A copy of the press release is attached hereto.

Item 4 - Summary of Material Change

MGold Resources Inc. name change to **Tanager Energy Inc.**

Item 5 - Full Description of Material Change

The Company announces that the TSX Venture Exchange has accepted the Company's name change for which it received shareholder's approval at its Annual General and Special Meeting held on June 24, 2013 (see the Company's news release dated June 25, 2013).

The Company has accordingly amended its Articles to change the Company's name to **Tanager Energy Inc.** The Company's issued and outstanding shares will trade on the TSX Venture Exchange effective September 23, 2013 under the new symbol "TAN".

Item 6 - Confidentiality of information

This report is not being filed on a confidential basis.

Item 7 - Omitted Information

N/A

Item 8 - Executive Officer

Mr. John Squarek, President and CEO
(403) 388-0969

Item 9 - Date of Report

September 23, 2013

NEWS RELEASE September 20, 2013

MGold Resources Inc. Changes its name to Tanager Energy Inc.

September 20, 2013. MGold Resources Inc. ("MGold" or the "Company") (MNI: TSX.V) announces that the TSX Venture Exchange has accepted the Company's name change for which it received shareholder's approval at its Annual General and Special Meeting held on June 24, 2013 (see the Company's news release dated June 25, 2013).

MGold has accordingly amended its Articles to change the Company's name to **Tanager Energy Inc.** The Company's common shares will trade on the TSX Venture effective September 23, 2013 under the new symbol "**TAN**".

Tanager Energy Inc. is a Lethbridge Alberta based corporation engaged in the exploration for petroleum and natural gas. The Corporation's common shares are listed on the TSX Venture Exchange under the trading symbol "TAN".

For further information please contact:

John Squarek, P. Eng., MBA
President and Chief Executive Officer
Phone: 403-388-0969
Email: john.squarek@mgold.ca

Neither the TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release.