We are committed to providing accessible customer service.
If you need accessible formats or communications supports, please contact us.

Nous tenons à améliorer l’accessibilité des services à la clientèle.
Si vous avez besoin de formats accessibles ou d’aide à la communication, veuillez nous contacter.

PENSE PROPERTY
PROSPECTING REPORT 2019

Pense Township, Larder Lake Mining Division, Ontario
CANADA

Abstract

A prospecting and site-evaluation of a magnetic attraction and confirmation of historical geological mapping performed on August 31, 2019

By: M. Gaudreau

2019-11-23

Contents

PENSE PROPERTY

Pense Township, Larder Lake Mining Division, Ontario, CANADA
2019 Prospecting Report

PROPERTY: SUMMARY

On August 31, 2019 D. Fudge and M. Gaudreau (prospecting site visit field party) visited the Pense Property to examine specifically an area with a moderate Keating Coefficient from MAP 60 102-Revised originally flown for Spider Resources Inc. that lies in the central part of the Pense Property herein referred to as the Property. The team also examined all outcroppings identified from satellite imagery that was near the access road. Three (3) samples of mineralized rocks were taken and sent to AGAT laboratories for gold, silver, whole rock XRF analysis.

The Property is situated in the south-central, north and abutting the Province of Quebec on the west part of Pense Township. The Property originally consisted of thirteen (13) contiguous, unpatented Legacy mining claims totaling 134 units in size and as of 2019, converted to 150 mining cell claims totaling 2,183.44 hectors (5,395.40 acres). The Property host three (3) mineral occurrences and one (1) prospect which has been partial drilled, resulting in an inferred low grade resource.

Historical drilling has also confirmed this resource to be open at depth and >200 meter strike length, from 9 to 13 meter width. Ground geophysical surveys have resulted in numerous untested similar anomalies on the Property.

Historical diamond drill sections in low-grade resource (SEDEX) style exhalite:

- **1997 drilling hole DDH 97-03, 0.893% Cu, 1.30% Zn, 4.12 grams per ton Ag, 1.693 grams per ton Au over 9.02 meters.**
- **1997 drilling 0.5 gram per ton gold associated with zinc and copper over ~13m.**
- **In the same mineralized section of drilling above, 11.46 grams per ton gold over 0.24m.**

The Ontario Geologic Survey (OGS) report OGS MP069 depicts the underlying rocks to include Neoarchean Clastic Metasedimentary, Neoarchean Metavolcanic, Nipissing diabase and felsic intrusive(s) rocks suite.

The Property is also within a district of known kimberlites and situated north of the recently discovered diamondiferous kimberlite by Brixton Metals Langis Project. The company was actively exploring for cobalt-nickel-silver in mineralized shallow Archean rocks when they encountered the kimberlite. Since the kimberlite remained blind from the OGS survey that should have detected a Keating Anomaly the Property has potential to host mafic intrusions of non-diatreme kimberlitic nature.

The Residual Magnetic Intensity nT airborne survey portrays a strong series of east-west trending, strongly magnetic, basement rocks situated in the central part of the property which are, in the author's opinion and observation, not a good fit to the north-south direction of historically mapped geological units. However, to support this hypothesis the magnetic survey does fit well to the mapped mafic dikes. The recent prospecting has confirmed that the geological units overlying the magnetic survey are non-magnetic and that one possible explanation is the basement rocks below the known geology mapping are of a mafic volcanic suite in nature and is covered by Nipissing Diabase rocks (Nipissing mafic sills (2219 Ma): mafic sills, mafic dikes and related granophyre), Coleman conglomerate Cobalt Group Sedimentary rocks (siltstone, argillite, sandstone, conglomerate), Diorite-Monzodiorite-granodiorite rocks and Metasedimentary rocks (wacke, siltstone, arkose, argillite, slate, mudstone, marble, chert, iron formation, minor metavolcanic rocks, conglomerate, arenite, paragneiss, migmatites). All historical mineral occurrences and showings on the Property are situated on the margins of the Residual Magnetic Intensity nT airborne survey.

The Ontario Geological Survey (OGS) Temiskaming Area Airborne Magnetic Survey (Purchased from Terraquest Ltd., magnetic survey, first vertical derivative of the magnetic field and Keating Coefficients – MAP 60 102-Revised originally flown for Spider Resources Inc.) portrays isolated and various sized weak to strong magnetic signatures similar to magnetic signatures hosting cobalt and other metals in the Cobalt Camp and townships to the north and south including; Supreme Metals Corp. property in Ingram Township, Blackstone Development Inc. property in Mulligan Township, SEDEX style mineralization in Pense Township, and Brixton Metals Corporation properties in Casey Township.

OGS REPORT MP069 is reference herein when comparing the project areas geological environment containing known copper and cobalt sulfurization with similarities to other cobalt hosted showings and

deposits in the Englehart – Earlton (Cobalt) districts. The OGS airborne survey series excluded electromagnetic results (reference: Geophysical Data Set GDS 1210-Revision 1).

Gold, zinc, copper, silver, nickel and cobalt is included within the Property.

PROPERTY: HISTORICAL MINERAL EXPLORATION

The Property host three (3) mineral occurrence entries into the Ontario Mineral Deposit Inventory.

1. MDI31M13SE00008, Golden Poly Property, Primary commodities include copper and zinc, secondary commodities include gold, silver and cobalt.
2. MDI31M13SE00009, Gagne Property, Primary commodities include copper, zinc and nickel, secondary commodity, silver.
3. MDI000000001566, Tyranex DDH Tp-3, Primary commodities include nickel and copper.

Exploration activity at the Pense Township zinc occurrence, current to 1993 are hosted in Neoarchean Clastic Metasedimentary and Neoarchean Metavolcanic rock suits.

- Sulphide mineralization was first discovered by L. Shortt in 1950 in Concessions 3 and 4, Lots 10 and 11, Pense Township. W.S. Savage reported (Assessment Files, Resident Geologist's office, Cobalt) that the L. Shortt occurrence consisted of trenches and test pits sunk on mica schists interlayered with dense black slaty rock hosting minor amounts of disseminated pyrrhotite, pyrite, galena and sphalerite. Old trenches sunk on similar host rocks and mineralization at the Inco showing, east of the Pense Township zinc occurrence (Parker 1993), may have also been excavated by L. Shortt.
- G.J. Gereghty and L.A. Waddell (Wabi River Mining Syndicate) discovered the Pense Township zinc occurrence during a diamond drill program in 1969. Diamond drill hole No.5 intersected 1.93% Zn and 0.18% Cu across 28.9 feet in a siliceous mineralized zone, (Assessment File 2.12129, Resident Geologist's office), Kirkland Lake. Subsequent diamond drilling in 1970 intersected 2 separate mineralized sections which analyzed 1.41% Zn and 0.16% Cu across 43.0 feet and 1.88% Zn and 0.16% Cu across 29.7 feet in diamond drill hole No.10, Assessment File 2.12129, (Resident Geologist's Office, Kirkland Lake). In 1993, diamond drilling by Tyranex Gold Inc. intersected a siliceous mineralized zone that analyzed 1.46% Zn and 0.14% Cu across 5.4 feet in diamond drill-hole T-1-93 which was drilled to intersect the mineralization encountered in drill holes No.5 and No.10, W. Whymark, Tyranex Gold Inc., (written and personal communication, 1993).
- Novawest Resources Inc. acquired the property in 1997 and completed ground geophysical surveys and a diamond drilling project, Novawest Resources Inc., Press Release, December 5, 1997 (OFR5996).

Nipissing Diabase: The mineralized quartz/calcite veins within the Nipissing Diabase sill in contact with the Huronian Supergroup contain chalcopyrite, pyrite with minor galena, as noted in the 1953 report that erythrite (cobalt bloom) mineralization (oxidization) was observed in the Cobalt Conglomerate, similar mineralized environments for cobalt in the Cobalt Camp and greater "Cobalt Embayment". The Pense Property includes the Armstrong; Cumming, R. Occurrence 1953 (location 6 on OGS Preliminary Map P.1249 and OGS MP69, pg12) Concession II, Lot 6 N. ½ Pense township.

PENSE TOWNSHIP

Armstrong; Cumming, R. Occurrence 1953 (6)

In a short note R. Thomson (1953) described small trenches in Nipissing diabase, Pense Township, concession II, lot 6, N½, NW and SW¼, containing quartz-calcite veins with minor galena and chalcopyrite. Diabase is exposed also in contact with Cobalt conglomerate, in small pits containing a little cobalt bloom. In 1976 the claims were open for staking.

Considering the geological setting and relation to other cobalt models, coincidental cobalt mineralization at NW trending fault zones in contact with Nipissing Diabase and Cobalt Conglomerate including Mr. Gary Grabowski's recommendations "the Pense Property and abutting Crown and Patented lands have to potential to host cobalt and other minerals. This part of the Property area has not seen any significant exploration documented in the public records since 1953".

PEOPERTY: LOCATION, ACCESS, TOPOGRAPHY

The Pense Property is easily accessed from the west via a concession road which branches off Highway 11 north. This all-season primary, graveled surface concession road, secondary seasonal dirt road and finally by off-road vehicle or snow machine following the OFSC snowmobile trail.

Topography includes 30% bedrock outcropping, a mantle of varved clay and unconsolidated glacial deposition of clay rich till sand and gravel. There are no significant, navigable water bodies excepting the log choked Pontleroy Creek which includes numerous rapid areas. The Property has flat and swampy low areas, elevated with moderate shallow drift in places. Forested areas include mixed boreal forest and shrub brush. Elevation differences, as high as 320 meters to a low of 220 meters.

PROPERTY: OWNERSHIP

The Pense Property was acquired by staking of 13 unpatented mining claims recorded 1/3, 1/3, 1/3 in the names of Gino Chitaroni, Don Fudge and Marc Gaudreau. Mining claims; 4284354 - 4284356, 4285125 - 4285128, 4288413 - 4288418 (totalling 134 units). In 2019 the 134 unites were converted to 150 cell claims listed below.

Claim #	Status	Issue Date	Anniversary Date	Owner Client #'s	Annual Requirement
100157	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
100492	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
100493	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
100510	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
100534	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
100576	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
101888	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
101911	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
115783	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
115784	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
115799	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
115800	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
115814	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
115815	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
115864	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
115865	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
117201	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
117202	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
117988	Active	2018-04-10	2019-09-13	117874, 133964, 408864	400.00
118015	Active	2018-04-10	2019-09-13	117874, 133964, 408864	200.00
124993	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
124994	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
124995	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
125624	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
125634	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
125643	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
125693	Active	2018-04-10	2019-09-13	117874, 133964, 408864	200.00
128356	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
128357	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
128358	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
128359	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
134569	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
141485	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
142124	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
142135	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
142136	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
142148	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
142149	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
142150	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
142676	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
142677	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
142678	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
154906	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
154915	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
154930	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
154931	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
158133	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
158134	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
158163	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
164164	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
169664	Active	2018-04-10	2019-09-13	117874, 133964, 408864	400.00
169690	Active	2018-04-10	2019-09-13	117874, 133964, 408864	400.00

171458	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
171460	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
171461	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
171462	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
171479	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
171504	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
171505	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
172059	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
174489	Active	2018-04-10	2019-09-13	117874, 133964, 408864	200.00
182488	Active	2018-04-10	2019-09-13	117874, 133964, 408864	200.00
200101	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
200716	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
200720	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
200727	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
200756	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
200803	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
203484	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
207638	Active	2018-04-10	2019-09-13	117874, 133964, 408864	200.00
208276	Active	2018-04-10	2019-09-13	117874, 133964, 408864	400.00
208754	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
208762	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
208772	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
208789	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
208790	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
208859	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
209020	Active	2018-04-10	2019-09-13	117874, 133964, 408864	200.00
209021	Active	2018-04-10	2019-09-13	117874, 133964, 408864	200.00
218354	Active	2018-04-10	2019-09-13	117874, 133964, 408864	200.00
218379	Active	2018-04-10	2019-09-13	117874, 133964, 408864	200.00
219010	Active	2018-04-10	2019-09-13	117874, 133964, 408864	400.00
220323	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
220853	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
220917	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
220918	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
220933	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
227000	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
227621	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
227637	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
227638	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
228425	Active	2018-04-10	2019-09-13	117874, 133964, 408864	400.00
228426	Active	2018-04-10	2019-09-13	117874, 133964, 408864	200.00
230354	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
230876	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
257635	Active	2018-04-10	2019-09-13	117874, 133964, 408864	200.00
265575	Active	2018-04-10	2019-09-13	117874, 133964, 408864	200.00
265598	Active	2018-04-10	2019-09-13	117874, 133964, 408864	400.00
266716	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
266842	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
267361	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
267362	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
267372	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
267373	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
267387	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
267388	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
267433	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
273029	Active	2018-04-10	2019-09-13	117874, 133964, 408864	400.00
273558	Active	2018-04-10	2019-09-13	117874, 133964, 408864	400.00
273559	Active	2018-04-10	2019-09-13	117874, 133964, 408864	200.00
274135	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
274136	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
274786	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
274787	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
274796	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
274797	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
274872	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00

275651	Active	2018-04-10	2019-09-13	117874, 133964, 408864	200.00
278060	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
278061	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
286272	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
286273	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
286274	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
286919	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
286920	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
286926	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
286937	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
287510	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
287511	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
292427	Active	2018-04-10	2019-09-13	117874, 133964, 408864	200.00
294201	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
294239	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
296901	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
302703	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
302704	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
302711	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
302712	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
310738	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
310739	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
311336	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
314149	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
323470	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
323471	Active	2018-04-10	2019-12-27	117874, 133964, 408864	400.00
323506	Active	2018-04-10	2019-12-27	117874, 133964, 408864	200.00
336071	Active	2018-04-10	2019-09-13	117874, 133964, 408864	200.00
336072	Active	2018-04-10	2019-09-13	117874, 133964, 408864	400.00
344063	Active	2018-04-10	2019-09-13	117874, 133964, 408864	200.00
344700	Active	2018-04-10	2019-09-13	117874, 133964, 408864	200.00
344701	Active	2018-04-10	2019-09-13	117874, 133964, 408864	200.00
344702	Active	2018-04-10	2019-09-13	117874, 133964, 408864	200.00
					$45,800.00

PROPERTY: GEOLOGY ABSTRACT

The Englehart-Earlton area comprises six adjacent townships each being six miles square (90 km 2), extending westward from the Ontario-Quebec boundary between the silver-mining community of Cobalt and the goldmining community of Larder Lake, Ontario. The names of the townships are Evanturel, Ingram, Pense, Armstrong, Hilliard, and Brethour. Their economic mainstay at present is the agricultural industry established primarily on silt and clay soil deposited on the bed of glacial Lake Barlow-Ojibway, which formerly occupied the central trough of the Lake Timiskaming Rift Valley, a geomorphological expression of the most prominent bedrock structural feature in the map-area.

The main geological value of the Englehart-Earlton area to date is its Pleistocene sand and gravel, Paleozoic limestone road fill and metallurgical material, and picturesque geomorphological formations such as escarpments and a series of waterfalls at Kap Kig-Iwan Provincial Park caused by resistant Early Precambrian metavolcanic bedrock.

The potential for detection of concentrations of base metals seems confined to Pense and Brethour Townships where, unlike the other four townships, the Early Precambrian (Archean) rock formations are not completely covered by soil, flat-lying Paleozoic rocks, or Proterozoic sedimentary and intrusive rocks that are essentially barren of economic metals, with the possible exception of silver. Early Precambrian iron formation, associated with ultramafic rocks and metasediments, occurs in Pense Township, in the least accessible part of the map-area, and has not been explored extensively for base metals.

PROPERTY: REGIONAL & GENERAL GEOLOGY

The Englehart-Earlton area contains metavolcanic, metasedimentary and intrusive bedrock units of Early Precambrian (Archean) age, intrusive and sedimentary rocks of Middle Precambrian (Proterozoic) age, and sedimentary rocks of Paleozoic age. The Early Precambrian rocks lie on the southern margin of the Abitibi Belt that extends from Chibougamau to Wawa (Goodwin and Ridler 1970). The Middle Precambrian rocks comprise part of the Cobalt Plain (or Plate) that extends from Sudbury to Kirkland Lake (Card *et al.* 1972). The Paleozoic rocks are related to the Ordovician rocks

of Lake Nipissing (Hume 1925, p.13) and the Silurian rocks of the James Bay lowlands and Manitoulin Island (Sanford *et al.* 1968). Surficial deposits cover most of the bedrock. They consist of Pleistocene clay, sand, gravel, and glacial till. Recent deposits consist of alluvium and peat.

Lovell, H.L.
1977: Geology of the Englehart-Earlton Area, District of Timiskaming; Ontario Geological Survey Miscellaneous Paper 69, 16p. Accompanied by Map P.1249, scale l inch to V2 mile (1:31,680).

Pense Property - Notes by Gary Grabowski, P.Geo.

1. The geology of the Pense Township claims is similar to that of the Cobalt-Silver Centre-Gowganda silver-cobalt mining area. The simplified geology of these areas consists of Archean (~2700 Ga) metasedimentary and metavolcanic rocks and granitic intrusions, Huronian Cobalt Group Gowganda Formation conglomerate and argillite and Nipissing Diabase sills. The property is about 20 km north of the past producing Langis Mine, presently being explored by Brixton Minerals, and 45 km north of the main Cobalt mining camp.
2. The Pense Township zinc occurrence is situated in the Pontiac Subprovince within a thick, easterly-striking, south-dipping sequence of turbiditic metasedimentary rocks interlayered with komatiites and mafic, tholeiitic metavolcanic flows. Zinc-rich sulphide mineralization occurs within interflow argillite and tuff at contacts between the wackes and metavolcanic flows. The komatiites, mid-ocean ridge-type tholeiitic basalts (N-MORB) and metasedimentary rocks may have been deposited in an extensional tectonic setting within an ocean basin (Parker, 1999).
3. The Cobalt Embayment is an irregular domain of Paleoproterozoic (2.45 - 2.22 Ga) siliciclastic sedimentary rocks (i.e. the Huronian Supergroup) that unconformably overlies Archean basement rocks of the Abitibi Greenstone Belt. The Nipissing Diabase, a regionally-distributed complex of mafic sills and dikes, intruded the Huronian sedimentary rocks ca. 2.22 Ga. The sedimentary rocks were subsequently affected by a poorly constrained subgreenschist-facies metamorphism (Easton, 2000) and by a regionally-distributed, K- and Na-metasomatic event at ca. 1.7 Ga Ma, likely related to the waning stages of the Penokean orogeny (Fedo et al., 1997). Although best known for the economically important Ag-Co veins of the Cobalt mining camp, the Cobalt Embayment also hosts numerous other regionally-distributed, polymetallic (Fe, Cu, Ni, Co, As, Au, Ag, Bi ± U) calcite-quartz vein systems. (Potter, 2010)
4. Nipissing diabase outcropping on the claims should be investigated for jointing directions, paying particular attention to any of a circular nature. Silver-cobalt-copper deposits in the Gowganda-Elk Lake area are found within these “cylindroidal” joints in Nipissing diabase. (Eakins, 1961 and Hester, 1967)
5. Assessment files submitted for the property area show that there are numerous base metal showings (Cu, Zn, Ni) in the Archean rocks. These rocks are covered by Proterozoic units on the western part of the claim group. The current deposit model for silver-cobalt veins (Andrews, 1986 and Smyck, 1990) suggests that the intrusion of the diabase sills provided the source for hydrothermal fluids which remobilized metals in the surrounding rocks and deposited them as veins in suitably fractured rock (Huronian Conglomerate in Cobalt and Archean (Keewatin) volcanics in Silver Centre) and cooling fractures within the diabase (Gowganda-Elk Lake). The best producing silver veins in Cobalt were found in Huronian conglomerate above interflow sediments. The Archean rocks exposed on the property should be investigated for strike of the stratigraphy and mineralization in order to determine where it projects under the overlying Huronian sediments and diabase.
6. The Lake Temiskaming Structural Zone, a major north-west trending regional structure, cuts through the property. This can be seen clearly in the alignment of the magnetic anomalies. This structure is a significant locus for the silver-cobalt veins as well as younger kimberlite bodies.
7. Preliminary Map P.1222 (Lovell and Frey, 1977) shows more faults than that shown on Geology Ontario, OGS Earth and ClaimapsIV. Of note is a NE trending fault along Pontleroy Creek in Concession IV and V heading into Quebec and a NW trending fault parallel to and about a mile east of the main Lake Temiskaming Structural Zone fault shown on the OGS online maps.
8. A cursory investigation indicates base metal mineralization to the east in Montreuil Township in Quebec. The Montreuil Zn-Cu-Ni occurrence (UTM 611136E, 5297405N) is about 2 km east of the Golden Poly MDI occurrence (31M13SE00008) in Pense Township.
9. The geology within the townships of Pense and Brethour is somewhat similar to that of the Cobalt-Silver Centre-Gowganda silver-cobalt mining area. The simplified geology of these areas consists of Archean (~2700 Ga) metavolcanic rocks and granitic intrusions, Huronian Cobalt Group Gowganda Formation conglomerate and argillite and Nipissing Diabase sills.

The property is about 12 km north of the past producing Langis Mine, presently being explored by Brixton Minerals.

10. The Cobalt Embayment is an irregular domain of Paleoproterozoic (2.45 - 2.22 Ga) siliciclastic sedimentary rocks (i.e. the Huronian Supergroup) that unconformably overlies Archean basement rocks of the Abitibi Greenstone Belt. The Nipissing Diabase, a regionally-distributed complex of mafic sills and dikes, intruded the Huronian sedimentary rocks ca. 2.22 Ga. The sedimentary rocks were subsequently affected by a poorly constrained subgreenschist-facies metamorphism (Easton, 2000) and by a regionally-distributed, K- and Na-metasomatic event at ca. 1.7 Ga Ma, likely related to the waning stages of the Penokean orogeny (Fedo et al., 1997). Although best known for the economically important Ag-Co veins of the Cobalt mining camp, the Cobalt Embayment also hosts numerous other regionally-distributed, polymetallic (Fe, Cu, Ni, Co, As, Au, Ag, Bi ± U) calcite-quartz vein systems. (Potter, 2010)

Mr. Gary Grabowski, who is a member of the Association of Professional Geoscientists of Ontario. Mr. Grabowski is a geological consultant for the Pense Property. Mr. Grabowski has forty years relevant exploration experience, which is relevant to the style of mineralization and type of deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person.

PROEPRTY: RECOMMENDATIONS & SUGGESTED EXPLORATION STRATEGY

1. OGS Quaternary Geology Map 2657 shows the area to be mostly covered by swamp and glaciolacustrine clay. Overburden thicknesses shown on OGS Map P.1249 can exceed 200 feet. In order to better define the underlying geology and structures it is recommended to conduct an airborne magnetic/electromagnetic survey similar to the one conducted for Cobalt Power Group's Smith Cobalt Project. https://static1.squarespace.com/static/556b381ce4b061dc075fe46b/t/588f48eee6f2e152d3f1d9d2/1485785359979/EagleGeophysics_CobaltPower_Survey_Report_V3.pdf
2. Prospect, map and sample the outcrop areas found on the property to "ground truth" results from the airborne surveys. The Archean Pontiac Group rocks exposed on the property should be investigated for strike of the stratigraphy and mineralization in order to determine where it projects under the overlying Huronian sediments and diabase.
3. Ground geochemical surveys such SGH or MMI to "see through" the lacustrine clay deposits.
4. Follow-up ground geophysical surveys if necessary, to identify potential diamond drill targets.

Gary Grabowski, 2018

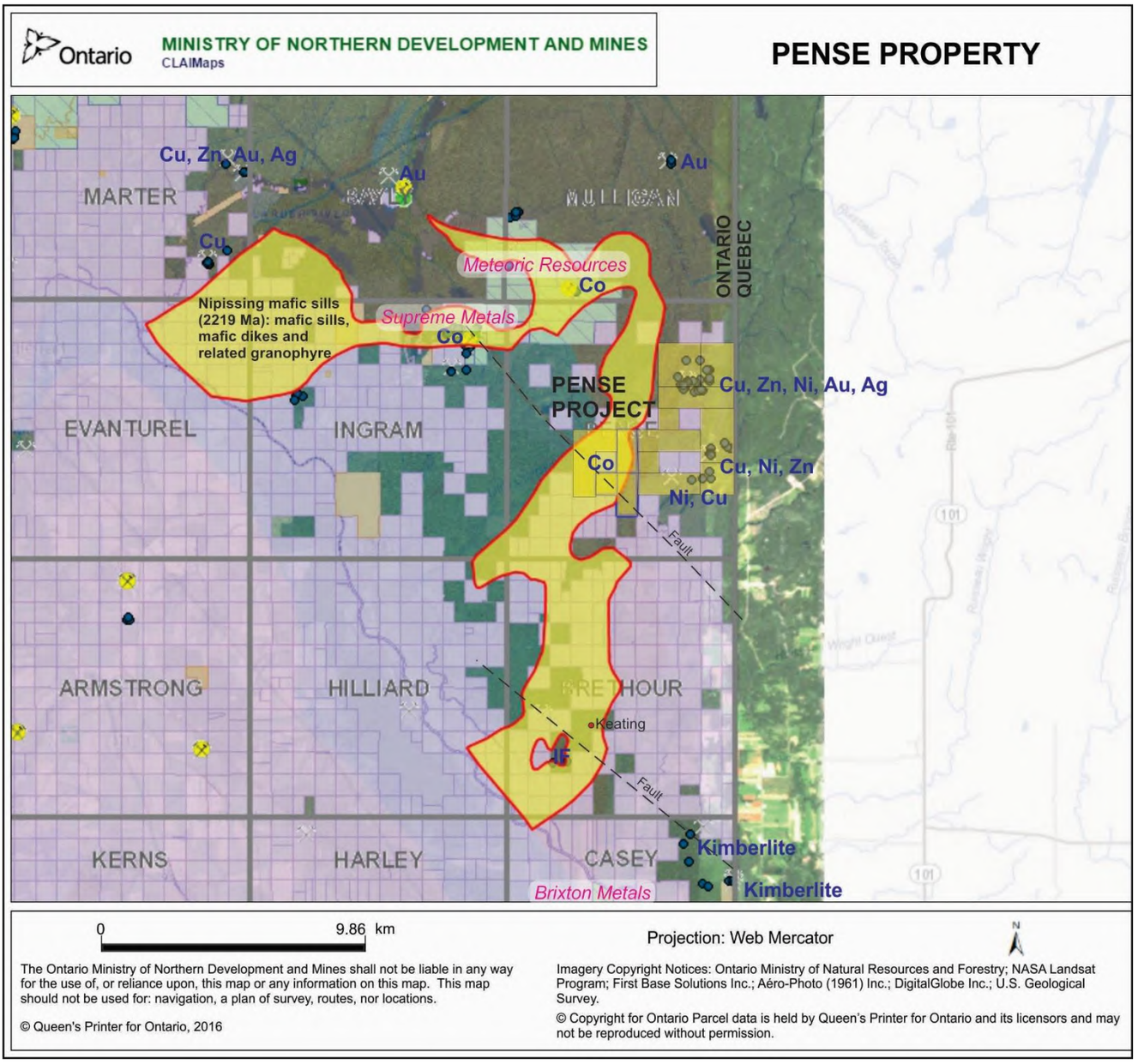


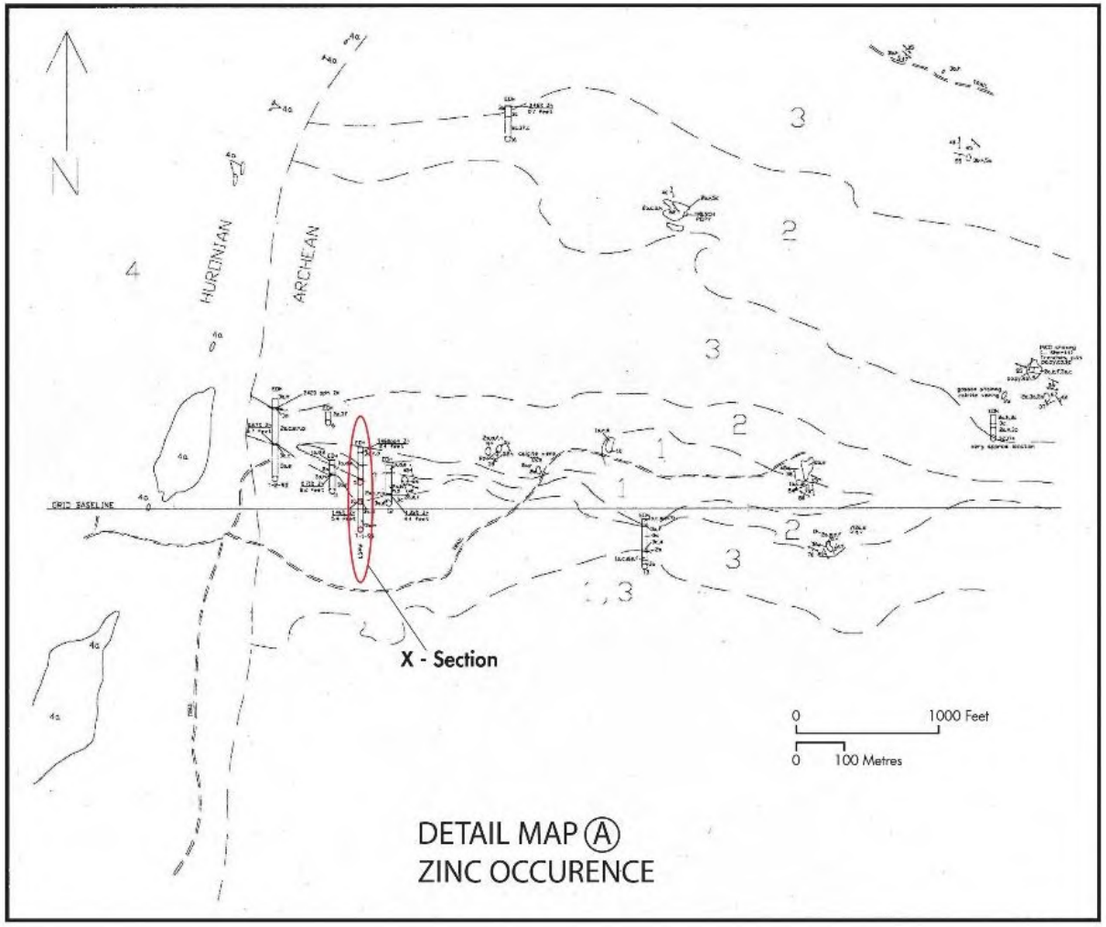
Figure 1. The Pense Project location map including Nipissing Diabase unit, other active cobalt project areas, mineral occurrences, major NW trending faults associated with kimberlites and land superimposed over a Google Earth Image.

Summary of selected historical exploration highlights:

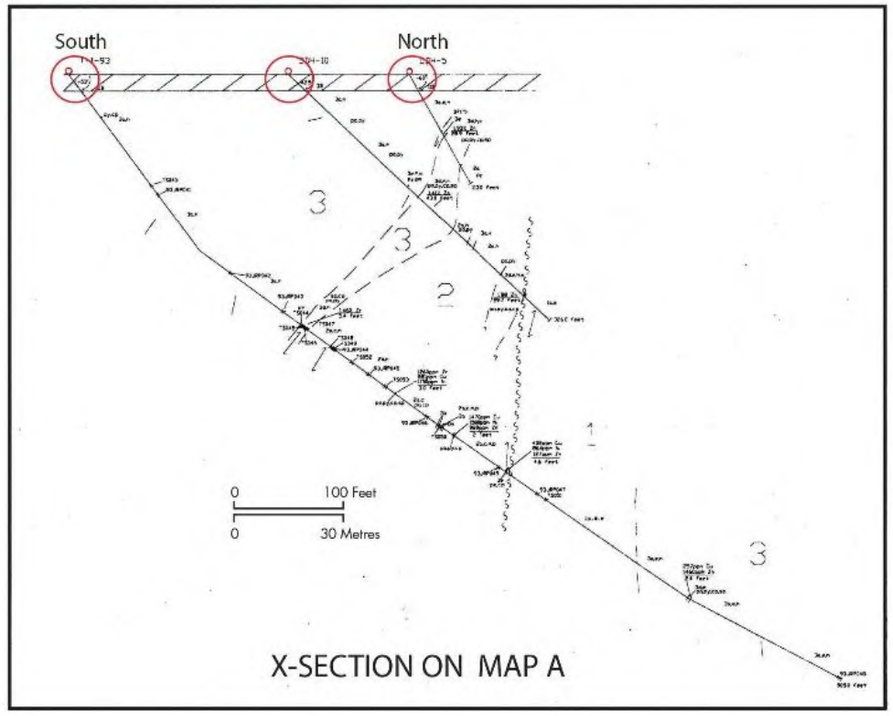
- **1997 drilling hole DDH 97-03, 0.893% Cu, 1.30% Zn, 4.12 gr/t Ag, 1.693 gr/t Au over 9.02 meters.**
- **1997 drilling – 0.5 gram of gold associated with zinc and copper over 42 feet.**
- **In the same mineralized section of drilling above, 11.46 gr/t gold over 0.24m.**

Included below are several images cropped from historical assessment reports in MLAS:

31M13SE0001, 31M13SE0006, 31M13SE0007, 31M13SE0008, 31M13SE0009, 31M13SE0010, 31M13SE0011, 31M13SE0012, 31M13SE0013, 31M13SE0013, 31M13SE0014, 31M13SE0015, 31M13SE001, 31M13SE0014, 31M13SE0015, 31M13SE0016, 31M13SE0017, 31M13SE0018, 31M13SE0040, 31M13SE0119, 31M13SE0120, 31M13SE2002, 31M13SE2003, 31M13SE2004, 31M13SE9685, 20002661, 20004049, 20004162 and 20004443.



DETAIL MAP Ⓐ
ZINC OCCURENCE



X-SECTION ON MAP A

ABBREVIATIONS

cp ..... chalcopyrite
py ..... pyrite
po ..... pyrrhotite
sp ..... sphalerite
qv ..... quartz vein

SYMBOLS

- S1 Foliation (inclined, vertical)
- S2 Foliation (inclined, vertical)
- Lineation (mineral), with plunge
- Bedding (inclined, vertical, angle to diamond drill core axis)
- Diamond drill hole collar (inclined, vertical)
- Trench
- Pit
- Area of bedrock outcrop
- Geological boundary (inferred from diamond drill hole data, outcrop observation and ground geophysical surveys)
- Extent of mapped area (this survey)
- TS 045 — Thin section sample location
- 93JRP045 — Sample location (analysis)

Property Information

Ontario Geological Survey

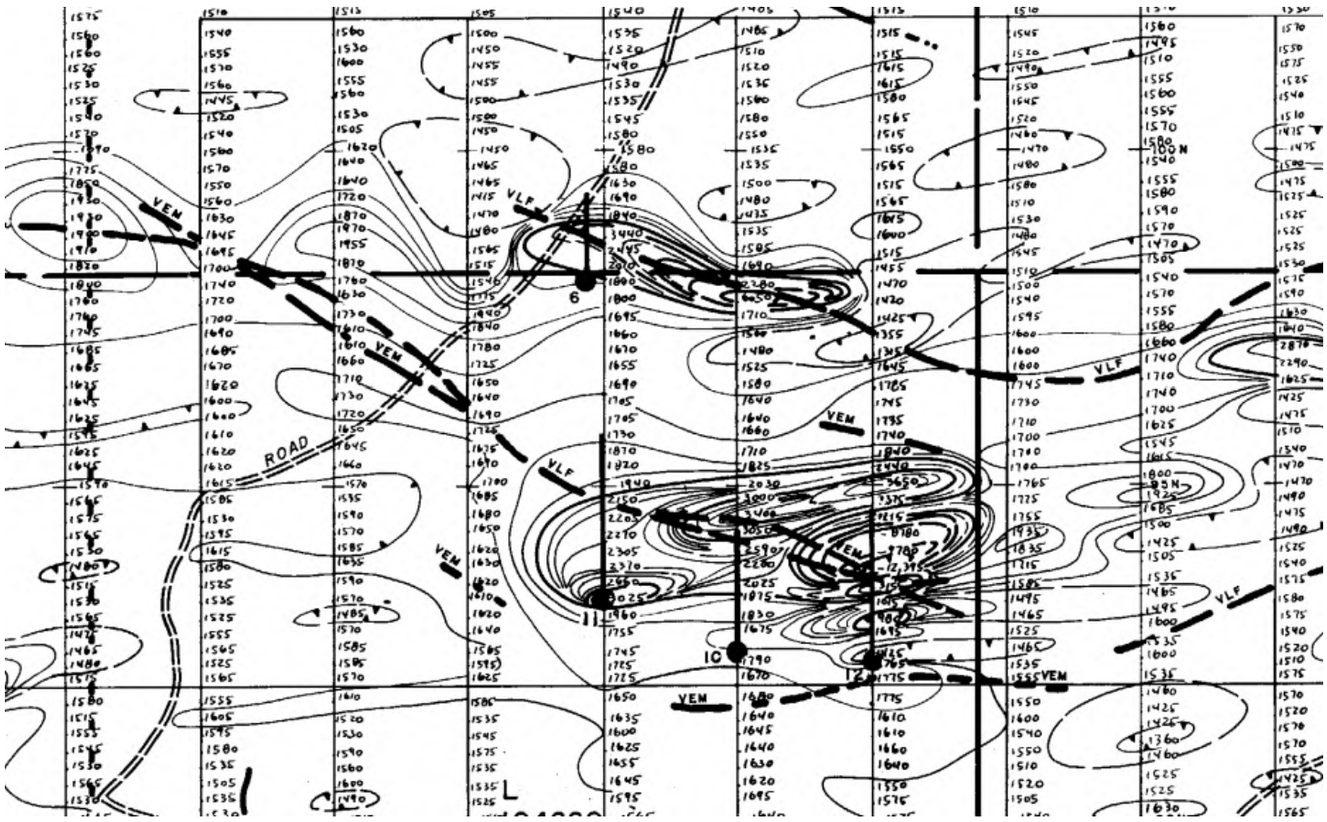
Parker, J.R. and Laport, N. 1993 Precambrian Geology of the Pense Township Zinc Occurrence: Ontario Geological Survey, Preliminary Map P.3247. Various scales.

Date: February 20, 2019
Drawn by: M. Hawirko,HT
Checked by: Gino Chitaroni
File: H18023PenseGeoP3247AX

Map A Detail
X- Section
P3247

Pense Property
Pense Township, Ontario

Gino Chitaroni, Don Fudge, Marc Gaudreau



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

5175 Timberlea Blvd., Mississauga, Ontario, Canada L4W 2S3

PHONE: 905-624-2806 FAX: 905-624-6163

To: NOVAWEST RESOURCES INC.

820 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5

GP-97-04

Project :
Comments: ATTN: FRANK PUSKAS CC: PETER FISHER

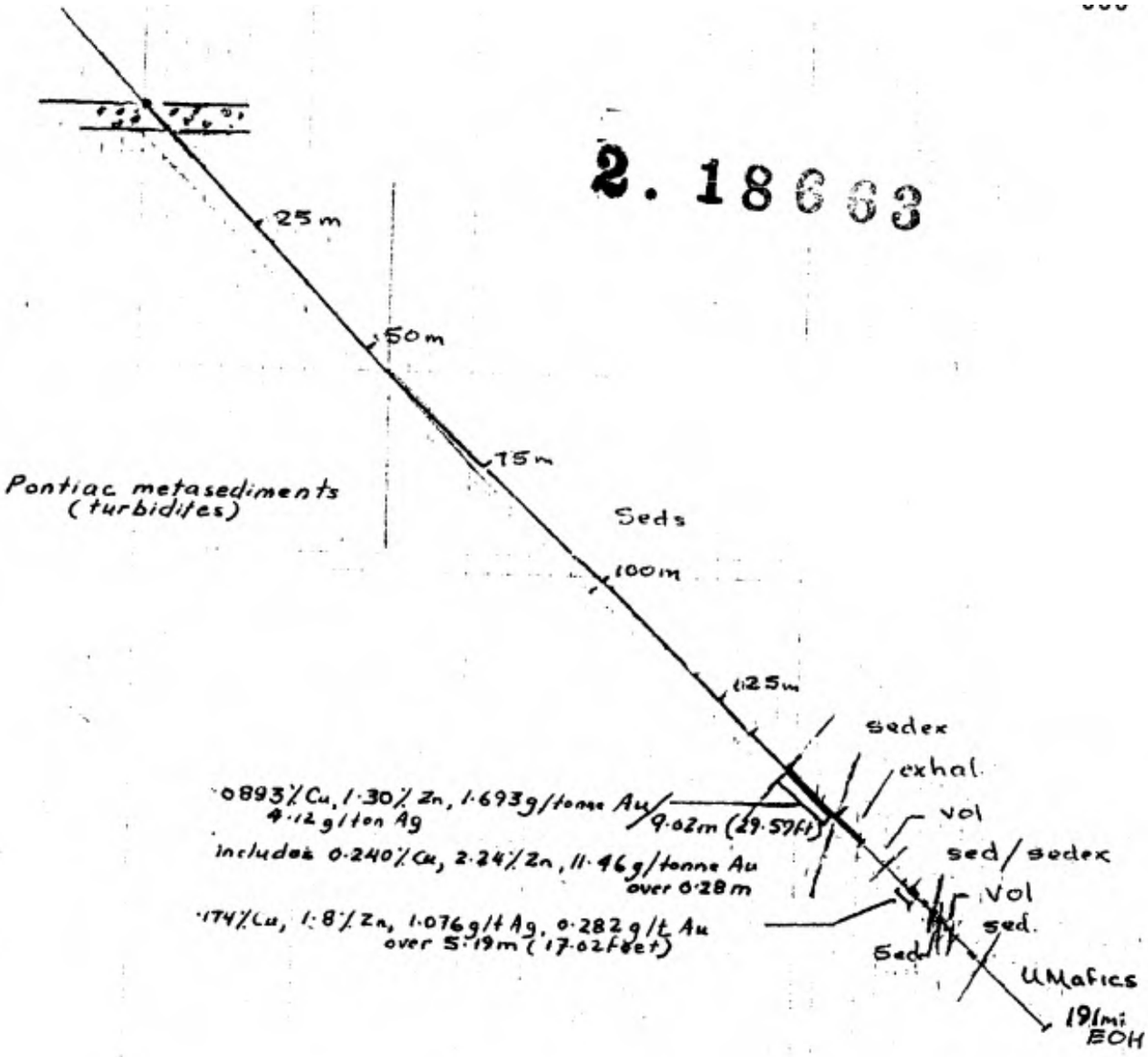
Page Number :1
Total Pages :1
Certificate Date: 25-FEB-98
Invoice No. :19812934
P.O. Number :
Account :PET

CERTIFICATE OF ANALYSIS A9812934

SAMPLE	PREP CODE	Au ppb RUSH	Cu %	Zn %	Ag g/t		
M765502	258 295	525	0.13	1.13	3.0	*	
M765503	258 295	475	0.47	1.32	5.4	*	
M765504	258 295	175	0.07	1.37	2.4	*	
M765505	258 295	520	< 0.01	0.06	0.9	*	
M765506	258 295	8810	0.21	1.97	9.3	*	
M765507	258 295	1300	0.14	3.69	3.9	*	
M765508	205 226	160		440	>10000 (1.7%)	2.0	*
M765509	258 295	1610	0.11	2.69	3.3	*	
M765510	258 295	85	0.06	0.51	0.6	*	
M765511	258 295	185	0.10	2.63	1.8	*	
M765512	205 226	75		740	5500	2.0	*
M765513	258 295	30	0.07	0.51	0.9	*	
M765514	258 295	95	0.13	0.73	5.1	*	
M765515	205 226	< 5		430	123	1.0	
M765516	205 226	< 5		136	94	0.6	
M765517	205 226	< 5		215	230	0.8	
M765518	205 226	< 5		168	56	0.4	
M765519	258 295	5	0.01	< 0.01	< 0.3		
M765520	205 226	< 5		110	62	0.4	

SAMPLE	PREP CODE	Au ppb FA+AA	Cu ppm	Zn ppm	Ag ppm Aqua R	Ni ppm
M765521	205 226	< 5	115	83	0.4	-----
M765522	205 226	< 5	124	85	0.2	930
M765523	205 226	< 5	82	31	0.4	750
M765524	205 226	< 5	23	16	0.4	290
M765525	205 226	< 5	77	41	0.2	810
M765526	205 226	< 5	80	57	0.6	830
M765527	205 226	< 5	260	65	1.0	830
M765528	205 226	< 5	300	102	0.6	138

2.18663



NOVAWEST RESOURCES INC.
GOLDEN POLY PROJECT
PENSE TWP
L 35+00W ; Looking West
DDH: GP-97-03 (-17°); Azimuth 0+00°
(Casing 6m)

25m

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221 FAX: 604-984-0218

To: NOVAWEST RESOURCES INC.
820 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5

GP-97-03

Project :
Comments: ATTN: PETER FISHER CC: FRANK PUSKAS

Page Number : 1
Total Pages : 1
Certificate Date: 19-JAN-98
Invoice No. : I9810572
P.O. Number :
Account : PET

CERTIFICATE OF ANALYSIS A9810572

SAMPLE	PREP CODE		Au ppb FA+AA	Cu ppm	Ag ppm Aqua R
M765401	205	226	120	172	
M765402	205	226	20	------	
M765403	205	226	225	86	
M765404	205	226	210	62	
M765405	205	226	2160	3350	
M765406	205	226	235	340	
M765407	205	226	245	57	
M765408	205	226	440	680	5.0
M765409	205	226	110	55	

SAMPLE	PREP CODE		Au g/t	Ag g/t	Cu %	Zn %	
M765410 139.58 - 140	208	226	0.12	1.5	0.07	0.01	
M765411 140 - 1444	208	226	2.61	5.7	0.17	0.81	
M765412 WRx 142.54	208	226	3.99	4.2	0.07	1.16	
M765413 142.54 - 142.58	208	226	1.32	3.3	0.06	1.27	
M765414 142.88 - 143.04	208	226	0.24	1.8	0.03	0.24	
M765415 W Rx	208	226	0.42	2.7	0.10	2.21	
M765416	208	226	1.05	3.0	0.08	2.52	
M765417	208	226	1.89	3.0	0.06	1.76	
M765418	208	226	11.46	13.8	0.24	2.24	
M765419	208	226	3.27	6.6	0.09	0.48	
M765420 148.46 - 149.8	208	226	0.06	0.3	0.02	0.02	icp fg py 15%
M765421	208	226	< 0.03	< 0.3	0.01	0.01	icp fuchsite with py veins
M765422	208	226	< 0.03	< 0.3	0.01	< 0.01	fuchsite po veins
M765423	208	226	< 0.03	< 0.3	0.01	< 0.01	fuchsitic
M765424	208	226	< 0.03	< 0.3	0.01	< 0.01	wee fuchsite
M765425	208	226	< 0.03	0.3	< 0.01	< 0.01	mixed Vei 'balls' in bio m[illegible]
M765426 158.6 - 160.53	208	226	< 0.03	1.2	0.01	< 0.01	ditto, w retic white Q+CO3 vng

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
5175 Timberlea Blvd., Mississauga
Ontario, Canada L4W 2S3
PHONE: 905-624-2806 FAX: 905-624-6163

To: NOVAWEST RESOURCES INC.
820 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5

GP-97-03

Project :
Comments: ATTN: FRANK PUSKAS CC: PETER FISHER

Page Number : 1
Total Pages : 1
Certificate Date: 23-FEB-98
Invoice No. : I9812878
P.O. Number :
Account : PET

CERTIFICATE OF ANALYSIS A9812878

SAMPLE	PREP CODE		Au ppb FA+AA	Cu ppm	Zn ppm	Ag ppm Aqua R		
M765427 160.53 - 161.70	205	226	< 5	74	39	< 0.2	o	5% flecks of po
M765428 161.70 - 164.15	205	226	< 5	280	194	< 0.2	o	slumped ves ∥ CA
M765429 164.15 - 165.0	205	226	< 5	1200	>10000(1.45)	0.6	•	graph with sized po

SAMPLE	PREP CODE		Au ppb RUSH	Cu %	Zn %	Ag g/t		
M765430 165.0 - 165.25	258	295	5	0.49	1.33	2.4	•	
M765431 165.25 - 165.85	205	226	< 5	1200	>10000(1.88)	1.2	•	graph icpo
M765432 165.85 - 167.05	205	226	< 5	760	500	< 0.2	o	spotted green slts/pb
M765433 167.05 - 168.02	258	295	1100	0.10	2.96	2.1	•	
M765434 168.02 - 170.0	258	295	10	0.11	1.99	0.9	•	
M765435 170.0 - 170.94	258	295	10	0.49	1.48	3.3	•	
M765436 170.94 - 171.5	258	295	< 5	0.41	0.03	2.1	o	
M765437 171.5 - 172.24	205	226	< 5	1350	115	< 0.2		marbled fels tuff S(po(sph))
M765438 172.24 - 172.42	205	226	< 5	630	102	< 0.2		bio-act
M765439 172.42 - 174.51	205	226	< 5	106	67	< 0.2		rg hbe -garnet sil BIF
M765440 174.51 - 177.31	205	226	< 5	88	46	< 0.2		vfg epidosite -act
M765441 177.31 - 178.56	205	226	< 5	73	62	< 0.2		"
M765442 178.56 - 179.69	205	226	< 5	139	58	< 0.2		br bio rich slump
M765443 179.69 - 180.56	205	226	< 5	380	60	< 0.2		slts
M765444 180.56 - 180.96	205	226	10	2200	7700	1.8	•	icp - slts
M765445 180.96 - 181.63	205	226	25	580	>10000(2.24)	2.0	•	graph icpo
M765446 181.63 - 181.90	205	226	20	4150	>10000(1.20)	4.2	•	laminated icp cpy units
M765447 181.90 - 182.18	205	226	< 5	790	760	< 0.2	o	alter UM aphyric contc
M765448 182.18 - 183.98	205	226	< 5	215	800	< 0.2	•	steatitic UM
M765449 183.98 - 186.9	205	226	< 5	85	42	< 0.2		" UM
M765450 186.9 - 190.0	205	226	< 5	58	32	< 0.2		" UM

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221 FAX: 604-984-0218

To: NOVAWEST RESOURCES INC.
820 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5

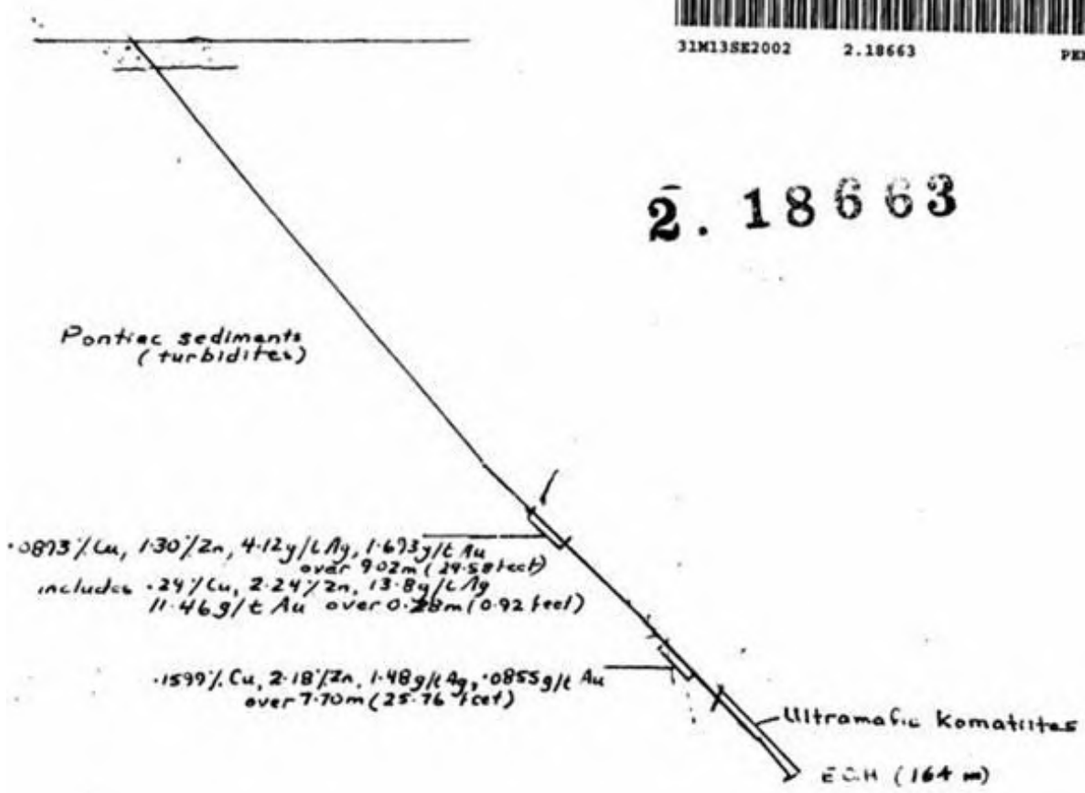
GP-97-03

Project :
Comments: ATTN: FRANK PUSKAS CC: PETER FISHER

Page Number : 1
Total Pages : 1
Certificate Date: 26-FEB-98
Invoice No. : I9813008
P.O. Number :
Account : PET

CERTIFICATE OF ANALYSIS A9813008

SAMPLE	PREP CODE		Zn %
M765429	244	--	1.45
M765431	244	--	1.88
M765445	244	--	2.24
M765446	244	--	1.20



NOVAWEST RESOURCES INC.
GOLDEN POLY PROJECT
PENSE TWP
L 36+00W (Locking west)
DDH GP-97-04 (-50°); Azimuth 0·00°

25m

2019 prospecting site visit details.

On August 31, 2019 D. Fudge and M. Gaudreau (prospecting site visit field party) visited the Pense Property to examine specifically an area with a moderate Keating Coefficient from MAP 60 102-Revised originally flown for Spider Resources Inc. that lies in the central part of the Pense Property herein referred to as the Property. The team also examined all outcroppings identified from satellite imagery that was near the access road. Three (3) samples of mineralized rocks were taken and sent to AGAT laboratories for gold, silver and whole rock XRF analysis.

M. Gaudreau departed Hanmer at 4:00am and travelled to North Bay to meet with D. Fudge and continued to the Property with D. Fudge vehicle. They arrived at Chitaroni Lodge on Portage Bay where they acquired a second vehicle owned by the Lodge which was used to transport a 500 Sportsman ATV. The ATV was considered essential in gaining access into the site using the existing snowmobile trail.

From this point the prospecting team continued northward with two vehicles on Trans-Canada Highway 11 to north of Earleton, then turned east onto Highway 569 to Pense Concession Road, then continued north on a series of concession roads and arrived at Pense Township Lot 4, Con 2 at coordinate NAD83, Zone 17, 605815E, 5291607N where they unloaded and continued by ATV to the Keating location at 607929E, 5293941N.

During the day of prospecting, three (3) selective grab samples of mineralized rock from different lithologies were taken and later sent to AGAT laboratories for gold, silver and multi element analysis.

Location 1: The Keating location has no rock exposure, the outcropping on the east face of a 10m rise of Cobalt conglomerate was thoroughly examined (Photo #1). It appears this location might possibly be in contact with the west part of the Keating anomaly. During the outcrop examination two samples that were mineralized were taken for assay. The samples were taken from within claim 115815.

Sample PENSE-2019-01; in the field described as conglomerate, later confirmation as Coleman conglomerate. Sample taken from large expanse of outcropping, is weakly mineralized with blebby pyrite. The sample was taken at location NAD83 Zone 17, 607880E, 5293925N. The gold assay returned 0.060 ppm, silver <10ppm and multi element highlights of 14.3 % iron and 5.98% magnesium. Some minor veining on the east face was checked closely however was not mineralized and no sample was taken. This east face was further examined for anything that might explain the weak Keating anomaly. The Keating anomaly remains unexplained unless the iron content at this location is concentrated in such a way as to cause the Keating algorithm to interpret an anomaly. The anomaly is a Keating high.

Sample PENSE-2019-02; in the field described as altered diorite due to a rusty oxidization rind possibly carbonatized (Photo's #2 & 3). The sample was taken at location NAD83 Zone 17, 607832E, 5293964N. The angular float was resting on the conglomerate outcrop. It's believed its origin is from the N-S trending Nipissing diabase sill to the west although if the last ice direction is 20° east of north then its origin might be from an undiscovered source or a source considerably further north. The sample was "float" therefore since its origin wasn't confirmed it was not assayed for multi element. Gold assay returned 0.002ppm and silver <10ppm.

Location 2: After closely examining the area of the Keating high it was decided to prospect northward and check the syenite rock shown on the Bedrock Geology of Ontario, 1:1,000,000. The syenite unit was not located in outcrop, however a very course grained quartzite (arkose) that very much looks like syenitic granite was discovered on the west side of the road in numerous outcrops. After a close inspection of the outcrops sample PENSE-2019-03 was collected mainly because it was within a weak foliation location that included minor rusty staining on a fracture (Photo's #4 & 5) NAD83 Zone 17, 607915E, 5294329N. On the Ontario Geological Survey (OGS) Preliminary map P1222 the geology at this location is quartzite (arkose). From the geochemistry being more of a granite or arkose (68% silica and 18.5% aluminum), it appears to have some graphic areas centered on Photo #5 where we sampled at the rusty fracture. The field team worked diligently to find any mineralization and concluded that this lithology is not well mineralized. The sample was taken from within claim 171505.

Shown below: ACTIVE LOG 559 002 imported into Google Earth showing the prospecting traverse and claims it covered being; 203484, 278061, 115815, 171505, 267388, 100534 and 200756.

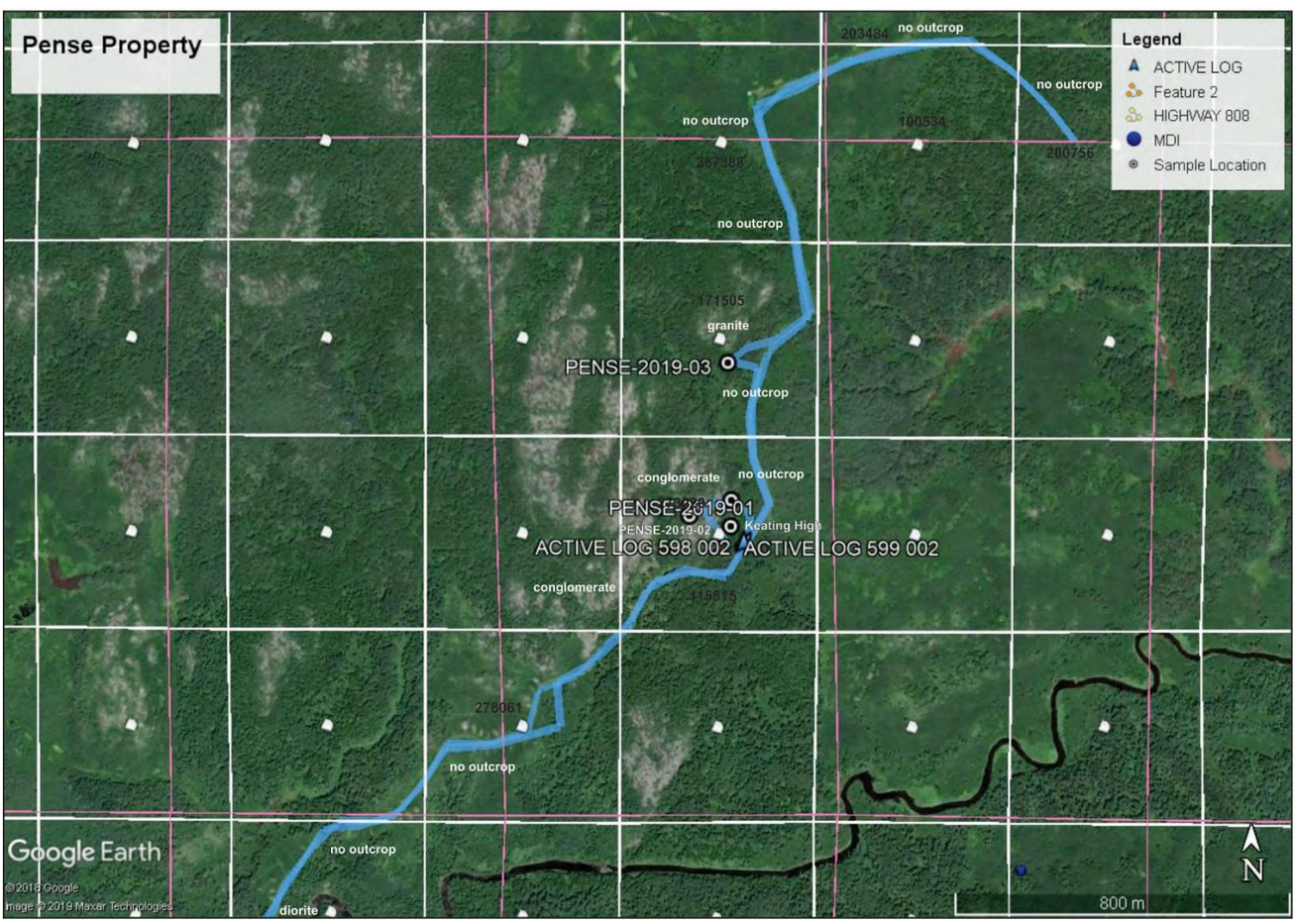
The prospecting traverse also covered variations in terrain, starting with low bog hosting tag alters and mixed lowbush shrub brush. The snowmobile trail was passable with the ATV in 4x4 though had to be winched out at one location. Even the higher terrain wasn't well drained until further north into claim 171505 where glacial and/or alluvial cover dominated. Logging activity, recent as a few years appears to have been removed from the northern access or possibly winter harvest via the southern access. Either way the forest operations did not inhibit the prospecting and did excavate into some areas where the sandy gravel could be examined. The unconsolidated glacial material was somewhat consistent in that no large boulders were present in the locations examined. In the south part of the Property is restricted to limited bedrock outcroppings with moderate till coverage on the north slopes.

The vegetation as described, forested in places removing mainly birch and other pulpwood varieties including poplar, jack pine and spruce. White pine was abundant at the conglomerate outcrops.

At the end of the day the ATV was returned and with a closing meeting at Chitaroni Lodge on Portage Bay the team returned to North Bay and Hanmer in Greater Sudbury.

The three (3) samples were prepared for assay and delivered to AGAT Laboratories in Sudbury, processed under work order 19T514462.

Pense Property traverse from parking area.



The above images captured from Google Earth imagery denote the daily travers (magenta), the sample locations, the major lithological units examined, the location of Keating high anomaly and the claims the route transected.

Photo #1 Sample PENSE-2019-01, Coleman member conglomerate. Note the blebby rust spots caused by pyrite. The sample was taken at location NAD83 Zone 17, 607880E, 5293925N. The gold assay returned 0.060 ppm, silver <10ppm and multi element highlights of 14.3 % iron and 5.98% magnesium. The matric of the conglomerate was highly variable, chaotically sorted, includes irregular to rounded clasts which rarely exceeded 10 centimeters in size. Surprisingly consistent over the entire expanse of the outcropping, void of laminating siltstone layers of veining of any type within. The author will note a similar conglomerate found at the north Silverfields Property in cobalt where it sharply ramps up against the diorite. The outcrop was not prospected to the west where it is in contact with Nipissing diabase sill. On OGS Preliminary Map P1222 denotes the sequence from west to east as quartz diorite (observed), conglomerate (observed), quartzite-arkose (observed), argillite (observed on west side of Pontleroy Creek) and then a sequence of intermixed early Precambrian metasedimentary to mafic intrusive to mafic to ultramafic intrusive rock lithologies (not observed).

Photo #2 Sample PENSE-2019-02. The sample was taken at location NAD83 Zone 17, 607832E, 5293964N. The sample was float therefore since its origin wasn’t confirmed it was not assayed for multi element. Gold returned 0.002ppl and silver <10ppm.

Photo #3 Sample PENSE-2019-02, float sample at location NAD83 Zone 17, 607832E, 5293964N looking west. This sample was easily identified against the thin moss covering the conglomerate. Since the float contained >1% disseminated pyrite it was sampled and sent for gold and silver assay.

Photo #4 Sample PENSE-2019-03. The syenite unit was not located in outcrop. This photo shows the sample taken for assay at NAD83 Zone 17, 607915E, 5294329N. Possibly a course grained quartzite (arkose) that very much looks like syenitic granite. Note the rusty staining on a fracture. The sample was taken from within claim 171505.

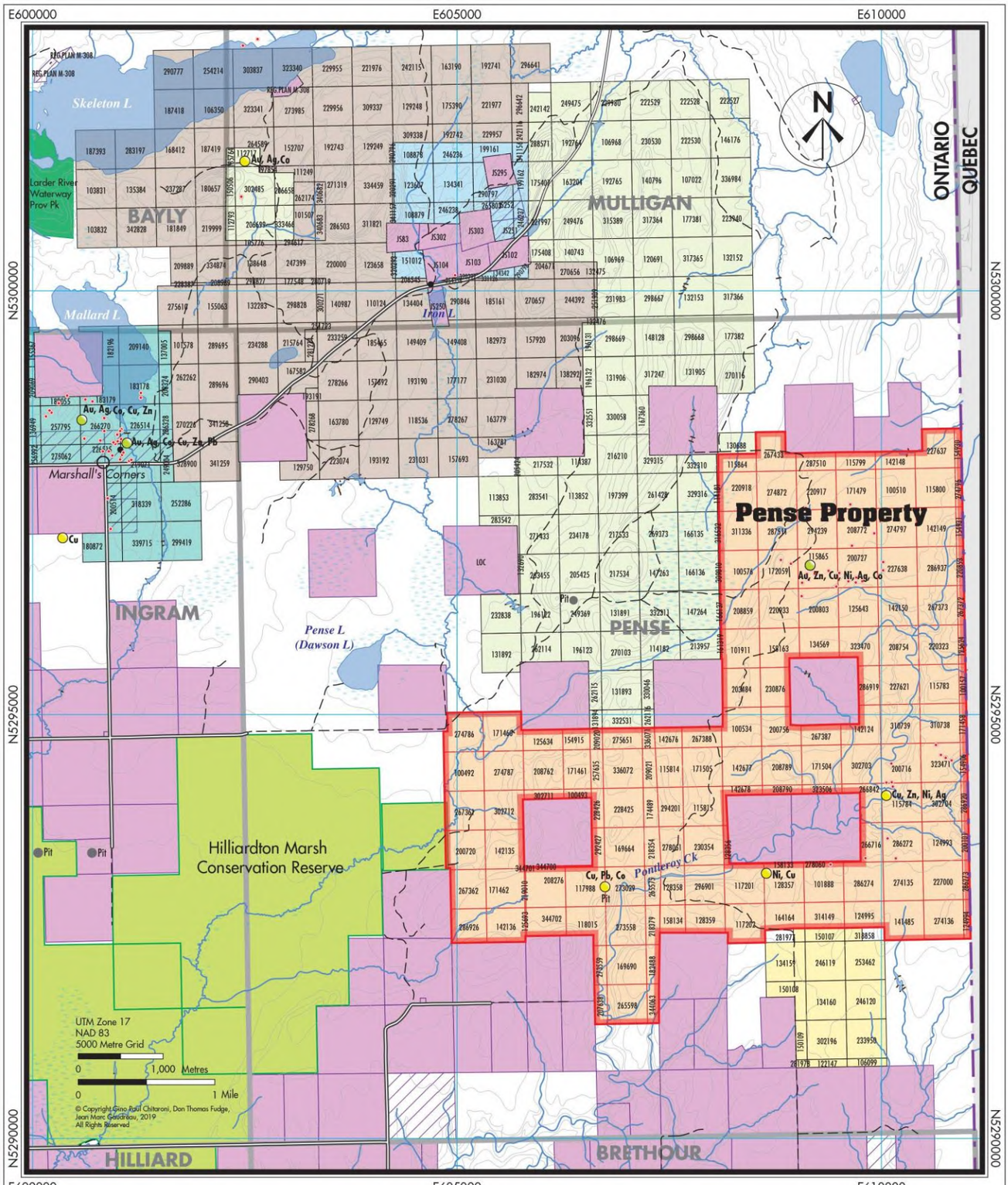
Photo #5 Sample PENSE-2019-03. The syenite unit was not located in outcrop. This photo shows the sample location, centered on the photo appears to be a bedding, supporting a quartzite (arkose).

RECOMMENDATIONS

The prospecting was intended to address a recommendation by Gary Grabowski.

“Prospect, map and sample the outcrop areas found on the property to “ground truth” results from the airborne surveys. The Archean Pontiac Group rocks exposed on the property should be investigated for strike of the stratigraphy and mineralization in order to determine where it projects under the overlying Huronian sediments and diabase.”

The prospecting team sampled outcrop and completed ground truthing. The weak Keating anomaly was not located. The results supplied a better understanding of the Property.



LEGEND

Property Information
MNDM - February 6, 2019

Base Map
Enhanced topographical map by Heritage Technics, 2019, based on the Ontario Base Map (OBM).

MNDM OGS Earth:
Mineral Deposit Inventory - Jan. 2, 2019
Ontario Diamond Drill Holes - Jan. 2, 2019
Abandoned Mine Info. System - Nov. 2018

Property
- G. Chitaroni, D. Fudge, M. Gaudreau
- P. Gryba, C. Larche, S. Wigelsworth
- Marquee Resources Canada Ltd.
- Meteoric Resources Sub Inc.
- Supreme Metals Corp.
- P. Wuest
- Provincial Park
- Conservation Reserve

Patent Land
- Surface Rights Only
- Mining & Surface Rights

Topography
- Lake
- River/Creek
- Wetland
- Contour
- Road
- Track/Trail
- Township Border
- Provincial Border

Mineral Deposit Inventory
- Mineral Occurrence
- Prospect

Ag Silver
Au Gold
Co Cobalt
Cu Copper
Ni Nickel
Pb Lead
Zn Zinc

- Pit
- Abandoned Mine
- Drill Hole

Date: February 20, 2019
Drawn by: M. Hawirko,HT
Checked by: Gino Chitaroni
File: H18023PensePropv2

Map 1
Property Map
Pense Property
Pense Township, Ontario
Gino Chitaroni, Don Fudge, Marc Gaudreau

LEGEND

MESOZOIC

17 — 17 Kimberlite

INTRUSIVE CONTACT

PALEOZOIC

LOWER AND MIDDLE SILURIAN

16 — 16a Clinton (Thornloe) Formation: limestone, dolostone, sandstone

16b Wabi Formation: limestone, shale

MIDDLE AND UPPER ORDOVICIAN

15 — 15a Dawson Point Formation: shale

15b Farr Formation: limestone

15c Bucke Formation: limestone, shale

15d Guigues Formation: sandstone

UNCONFORMITY

PRECAMBRIAN

LATE PRECAMBRIAN (PROTEROZOIC)

MAFIC INTRUSIVE ROCKS[g]

14 — 14 Diabase dikes

INTRUSIVE CONTACT

MIDDLE PRECAMBRIAN (PROTEROZOIC)

ALKALIC INTRUSIVE ROCKS[d]

13 — 13 Syenite, nepheline syenite, lamprophyre

MAFIC INTRUSIVE ROCKS[f]

12 — 12 Diabase, transition rock, and granophyre sheets and dikes

INTRUSIVE CONTACT

COBALT GROUP

11 — 11 Lorrain Formation: quartzite, arkose

10 — 10 Gowganda Formation (unsubdivided)

10a Firstbrook Member: argillite, siltstone, wacke, arkose

10b Coleman Member: conglomerate, wacke, quartzite, arkose, argillite

UNCONFORMITY

EARLY PRECAMBRIAN (ARCHEAN)

MAFIC INTRUSIVE ROCKS[e]

9 — 9 Diabase dikes

INTRUSIVE CONTACT

ALKALIC INTRUSIVE ROCKS[d]

8 — 8. Syenite, monzonite, lamprophyre[h]

INTRUSIVE CONTACT

ALKALIC METAVOLCANICS[b]

7 — 7 Trachyte, leucitic trachyte: flows, tuff, breccia

METASEDIMENTS[j]

6 — 6 Conglomerate, wacke, siltstone, slate, argillite, iron formation[b]

5 — 5 Wacke, siltstone, slate, iron formation

FELSIC INTRUSIVE ROCKS[d, j]

4 — 4 Granitic intrusive rocks

4a Quartz porphyry, quartz-feldspar porphyry, feldspar porphyry, granophyre, felsite[h]

4b Trondhjemite, granodiorite, quartz monzonite: simple batholiths and stocks[h]

4c Trondhjemite, granodiorite, quartz monzonite, quartz diorite, aplite, pegmatite, migmatite: complex batholiths

INTRUSIVE CONTACT

FELSIC METAVOLCANICS[a,j]

3 — 3 Unsubdivided

3a Iron formation (mag - chert; gf-py-po; green and brown dolostone)

3b Flows

3c Pyroclastic rocks

INTRUSIVE CONTACT

METAMORPHOSED MAFIC AND ULTRAMAFIC INTRUSIVE ROCKS[c,j]

2 — 2 Unsubdivided

2a Gabbro, diorite

2b Peridotite, dunite, pyroxenite, serpentinite

INTRUSIVE CONTACT

INTERMEDIATE TO ULTRAMAFIC METAVOLCANICS[a,j]

1 — 1 Unsubdivided dacite, andesite, and basalt

1a Intermediate flows

1b Intermediate pyroclastic rocks

1c Mafic flows

1d Mafic pyroclastic flows

1e Ultramafic flows

a. Formerly classified as Keewatin.
b. Formerly classified as Timiskaming.
c. Formerly classified as Haileyburian.
d. Formerly classified as Algoman.
e. Includes north-trending dikes of Matachewan swarm.
f. Inlcudes Nipissing and Sudbury types.
g. Includes Keweenawan.
h. Several ages; some units appear to be intrusive equivalents of volcanic formations whereas others postdate volcanism.
j. Rocks in these groups are subdivided lithologically; the order does not necessarily imply age relationship within or among groups.

NOTE: All rock types listed in the Legend do not necessarily appear on the map face.

METAL AND MINERAL REFERENCES

Ag . . . . . Silver	mag . . . . . Magnetite
asb . . . . . Asbestos	mar. . . . . Marcasite
asp . . . . . Arsenopyrite	mo . . . . . Molybdenite
Au . . . . . Gold	Ni. . . . . Nickel
bn . . . . . Bornite	Pb . . . . . Lead
Co . . . . . Cobalt	pent . . . . . Pentlandite
cp. . . . . Chalcopyrite	po . . . . . Pyrrhotite
Cr. . . . . Chromium	Pt. . . . . Platinum
Cu . . . . . Copper	py . . . . . Pyrite
ep. . . . . Epidote	qcv . . . . . Quartz-carbonate vein
Fe . . . . . Iron	qv. . . . . Quartz vein
fl . . . . . Fluorite	serp . . . . . Serpentine
gf . . . . . Graphite	sp. . . . . Sphalerite
gn. . . . . Galena	spec . . . . . Specularite
gt . . . . . Garnet	talc. . . . . Talc
hem . . . . . Hematite	tour . . . . . Tourmaline
Hg . . . . . Mercury	Zn . . . . . Zinc

SYMBOLS

160′ — Shaft; depth in feet (for which there is underground information available).

ov80′ TD204′ 2a,3 qcv,py — Drill hole (projected vertically); overburden in feet down hole (ov 80); total depth in feet down hole (TD 204).

27 4DH avg ov avg TD — Group of drill holes; property number 27; average (avg).

Trenching

XXX AEM-IN — Airborne electromagnetic conductors:

Dig. . . . . Dighem
IN . . . . . INPUT
CA . . . . . Canadian Aero Mineral Surveys
Sc. . . . . Scintrex
A . . . . . Aerophysics of Canada Ltd.
H . . . . . Hunting
B . . . . . Barringer
Gx . . . . . Geoterrex

VEM — Ground electromagnetic conductors:

VEM. . . . . vertical loop
HEM. . . . horizontal loop
VLF . .very low frequency
JEM . . . . . crone EM-16
TURAM

M — Ground magnetometer anomaly

AM — Airborne magnetometer anomaly

RA — Radiometric anomaly

ARA — Airborne radiometric anomaly

R — Resistivity anomaly

Gr — Gravity anomaly

IP — Induced polarization conductor

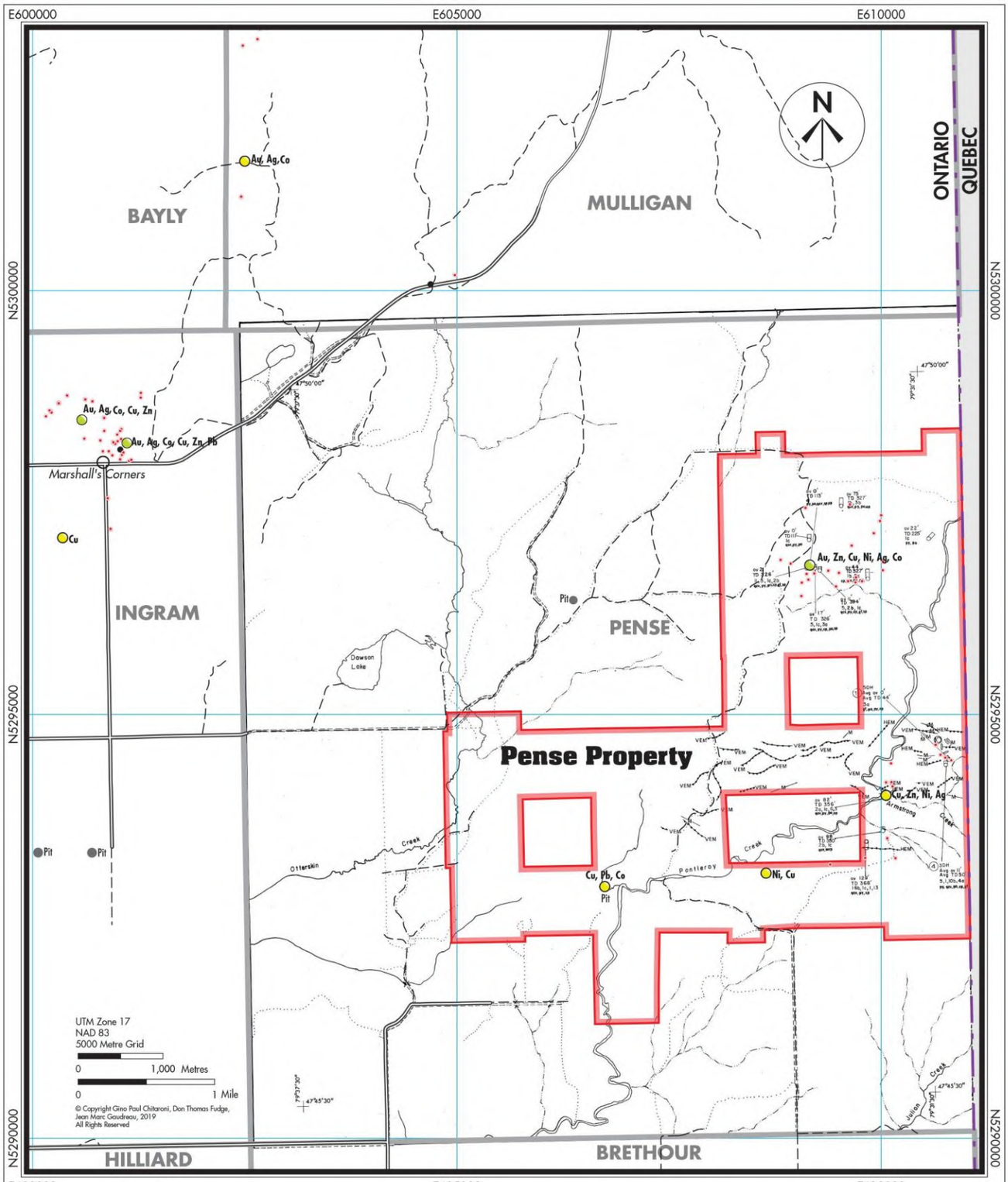
Gc-Zn — Geochemical anomaly (Zn)

Date: February 20, 2019
Drawn by: M. Hawirko,HT
Checked by: Gino Chitaroni
File: H18023PenseP2050

Map 3
Geology Legend
P2050

Pense Property
Pense Township, Ontario

Gino Chitaroni, Don Fudge, Marc Gaudreau



LEGEND

Property Information
MNDM - February 6, 2019

Base Map
Enhanced topographical map by Heritage Technics, 2019, based on the Ontario Base Map (OBM).

MNDM OGS Earth:
Mineral Deposit Inventory - Jan. 2, 2019
Ontario Diamond Drill Holes - Jan. 2, 2019
Abandoned Mine Info. System - Nov. 2018

Ontario Geological Survey
Ploeger, F., Nickoloff, B., and Grabowski, G
1979: Pense Township, District of Timiskaming: Ontario Geological Survey Preliminary Map P.2050, Kirkland Lake Data Series. Scale 1:15,840 or 1 inch to 1/4 mile. Data compiled 1979.

Property
G. Chitaroni, D. Fudge, M. Gaudreau

Mineral Deposit Inventory
Mineral Occurrence
Prospect

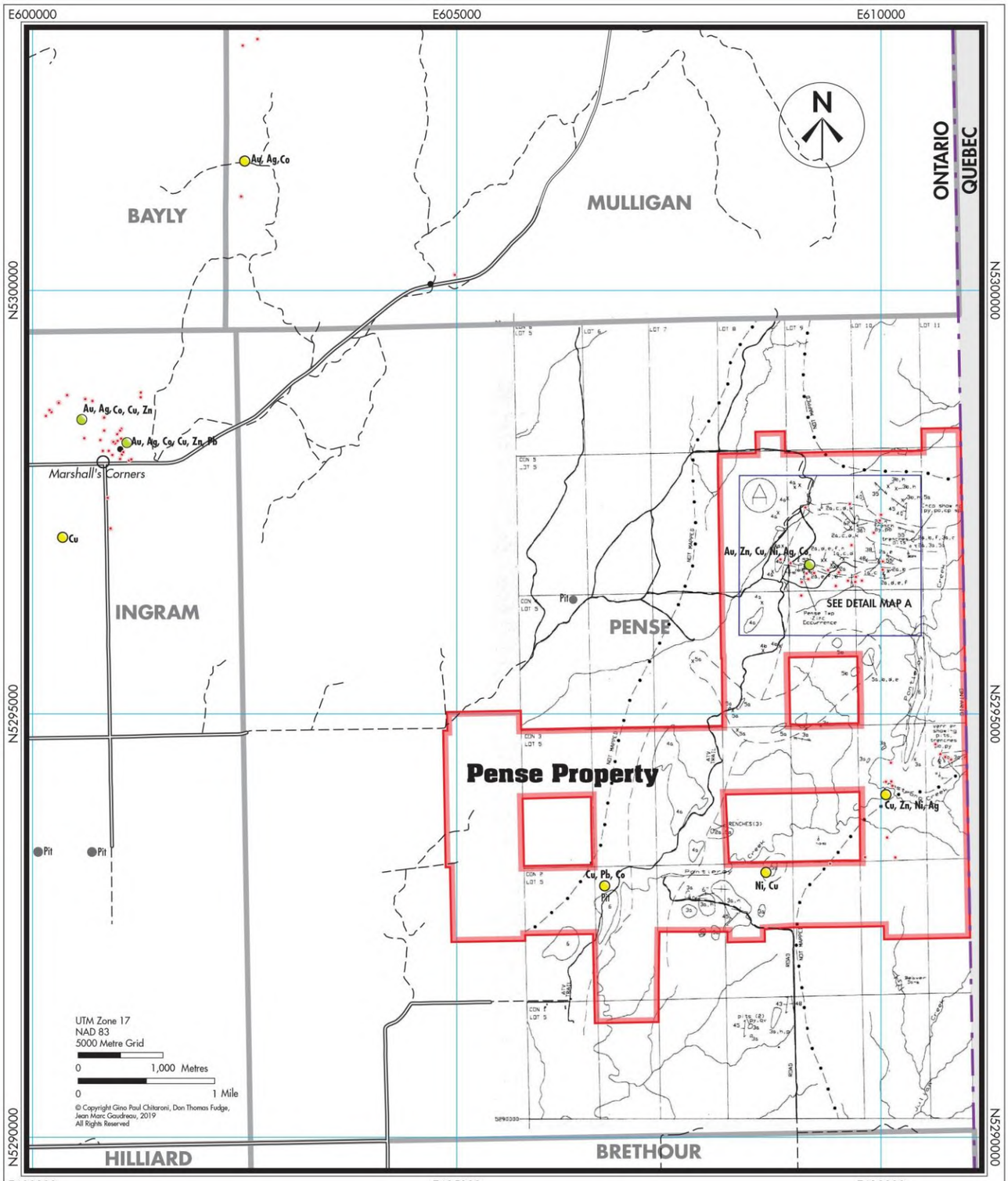
Ag Silver
Au Gold
Co Cobalt
Cu Copper
Ni Nickel
Pb Lead
Zn Zinc

Pit
Abandoned Mine
Drill Hole

Map 3
Geology Map
P2050

Pense Property
Pense Township, Ontario
Gino Chitaroni, Don Fudge, Marc Gaudreau

Date: February 20, 2019
Drawn by: M. Hawirko,HT
Checked by: Gino Chitaroni
File: H18023PenseGeo2050v2



LEGEND

Property Information
MNDM - February 6, 2019

Base Map
Enhanced topographical map by Heritage Technics, 2019, based on the Ontario Base Map (OBM).

MNDM OGS Earth:
Mineral Deposit Inventory - Jan. 2, 2019
Ontario Diamond Drill Holes - Jan. 2, 2019
Abandoned Mine Info. System - Nov. 2018

Ontario Geological Survey
Parker, J.R. and Laport, N. 1993 Precambrian Geology of the Pense Township Zinc Occurrence: Ontario Geological Survey, Preliminary Map P.3247. Various scales.

Property
G. Chitaroni, D. Fudge, M. Gaudreau

Mineral Deposit Inventory
Mineral Occurrence
Prospect

Ag Silver
Au Gold
Co Cobalt
Cu Copper
Ni Nickel
Pb Lead
Zn Zinc

Pit
Abandoned Mine
Drill Hole

Map 4
Geology Map
P3247

Pense Property
Pense Township, Ontario

Gino Chitaroni, Don Fudge, Marc Gaudreau

Date: February 20, 2019
Drawn by: M. Hawirko,HT
Checked by: Gino Chitaroni
File: H18023PenseGeoP3247v2

This map is a graphic representation of data derived from information provided by multiple independent sources. Heritage Technics will not be responsible for, or be held liable for, any errors or omissions therein. Any conclusions based on information provided in this graphic are solely the responsibility of the persons making them and information contained herein should be verified independently.

LEGEND[a]

PRECAMBRIAN

PROTEROZOIC

6 **Mafic Intrusive Rocks (Nipissing)[b]**
Medium-grained diabase

INTRUSIVE CONTACT

5 **Felsic Intrusive Rocks[b]**
- 5a Medium-grained, pink to gray, syenite
- 5b Medium-grained, green, syenite
- 5c Aphanitic, granitic, buff white to gray, felsite
- 5d Mafic, amphibolitized, xenoliths
- 5e Intrusive breccia

INTRUSIVE CONTACT

4 **Metasedimentary Rocks (Huronian Supergroup)[b]**
- 4a Conglomerate (Coleman Member)
- 4b Arkose, wacke (Coleman Member)

UNCONFORMITY

ARCHEAN

3 **Metasedimentary Rocks (Pontiac)[b]**
- 3a Fine- to medium-grained, biotite-quartz-feldspar wacke± garnet
- 3b Fine- to medium-grained, staurolite-muscovite-garnet-biotite-quartz-feldspar wacke
- 3c Carbonaceous, sulphide-bearing argillaceous (interflow)
- 3d Fine-grained, silica-rich metasediment (chert)
- 3e Argillaceous
- 3f Fine-grained mafic tuff
- 3h Laminated to thinly-bedded
- 3k Chloritic zones
- 3r Skarnified

2 **Mafic Metavolcanic Rocks (Pontiac)[b]**
- 2a Fine- to medium-grained, massive, tholeiitic basalt
- 2b Coarse-grained, black, amphibolite
- 2c Pillowed
- 2d Hyaloclastite
- 2e Albitization - "pseudo-varioles"
- 2f Albitization - late fractures and joint
- 2k Actinolite - fractures
- 2m Garnet-bearing
- 2n Carbonatized
- 2p Biotitic

1 **Ultramafic Metavolcanic Rocks(Pontiac)[b]**
- 1a Fine- to medium-grained komatiitic basalt
- 1b Polygonal jointing
- 1c Tremolite
- 1d Tremolite-chlorite
- 1e Carbonatized
- 1f Biotitic

[a] *This is a field legend.*

[b] *Rocks in these groups are subdivided lithologically and order does not imply age relationships within or among groups.*

ABBREVIATIONS

cp	chalcopyrite	sp	sphalerite
py	pyrite	qv	quartz vein
po	pyrrhotite		

SYMBOLS

- S1 Foliation (inclined, vertical)
- S2 Foliation (inclined, vertical)
- Lineation (mineral); with plunge
- Bedding (inclined, vertical, angle to diamond drill core axis)
- Diamond drill hole collar (inclined, vertical)
- Trench
- Pit
- Area of bedrock outcrop
- Geological boundary (inferred from diamond drill hole data, outcrop observation and ground geophysical surveys)
- Extent of mapped area (this survey)
- TS 045 — Thin section sample location
- 93-RP040 — Sample location (analysis)

SOURCES OF INFORMATION

Base map derived from digital 1:20 000 OBM topographic maps 17-6000-52900 and 17-6100-52900 (NTS 31M/13E) with minor revisions.

Assessment Files, Resident Geologist's office, Cobalt.

W. Whymark, Tyranex Gold Inc., written and personal communication, 1993.

G. Gereghty, Prospector, written and personal communication, 1993.

Lovell, H.L. and Frey, E.D. 1977. Pense Township, Ontario Geological Survey, Map P.1222.

Geology not tied to surveyed lines.

Magnetic declination approximately 9°00'W, 1975.

Diamond drill holes T-1-93 and T-2-93 were logged by the authors. Data for the other diamond drill holes were obtained from assessment files. Assay data for T-1-93 and T-2-93 were obtained from W. Whymark, Tyranex Gold Inc.

CREDITS

Geology by J.R. Parker and N. Laporte, 1993.

AutoCAD drafting by C. Brophy.

Issued 1994.

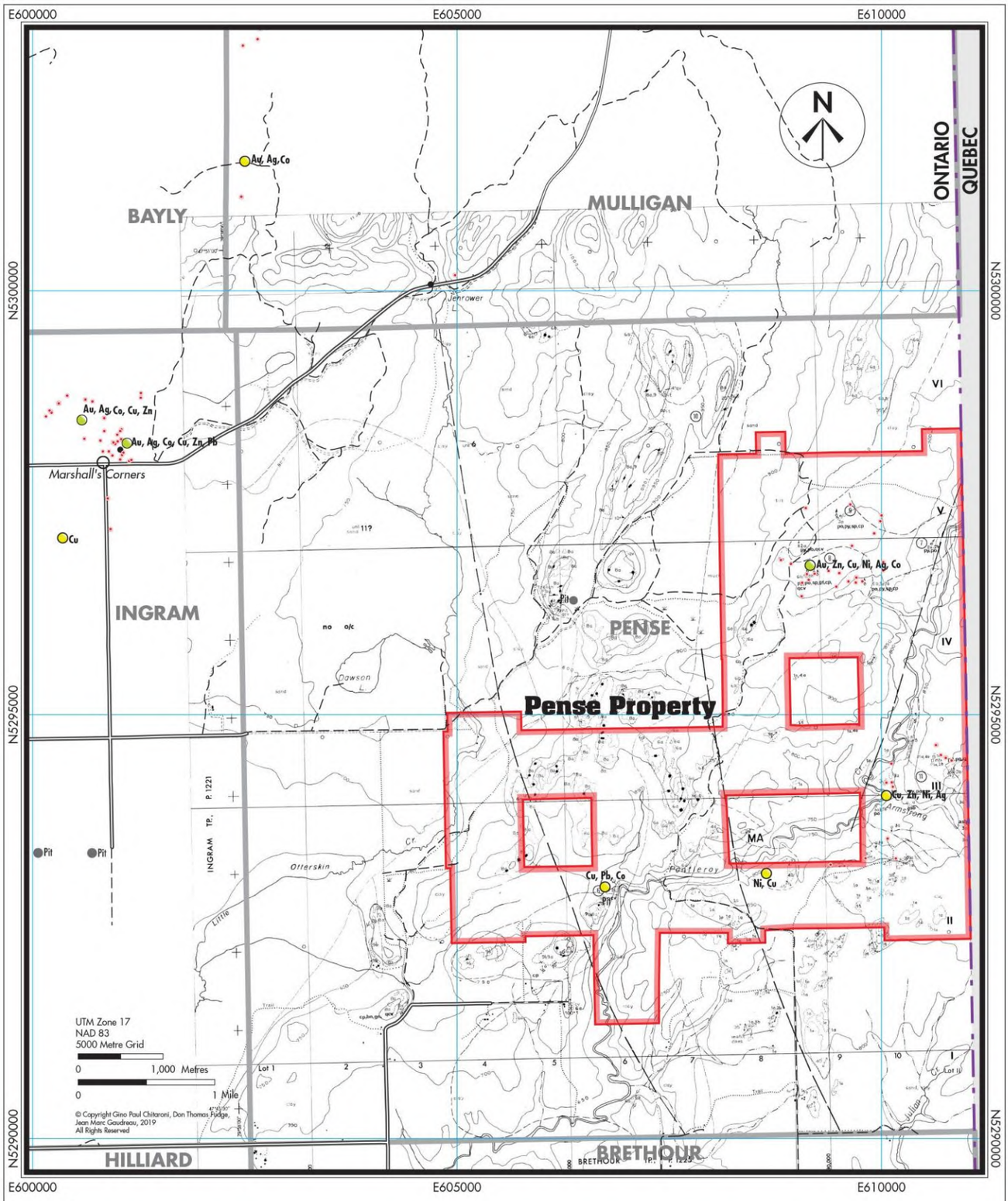
Parker, J.R. and Laporte, N. 1993. Precambrian Geology of the Pense Township Zinc Occurrence; Ontario Geological Survey, Preliminary Map P.3247, Various scales.

Date: February 20, 2019
Drawn by: M. Hawirko,HT
Checked by: Gino Chitaroni
File: H18023PenseP3247

Map 4
Geology Legend
P3247

Pense Property
Pense Township, Ontario

Gino Chitaroni, Don Fudge, Marc Gaudreau



LEGEND

Property Information
MNDM - February 6, 2019

Base Map
Enhanced topographical map by Heritage Technics, 2019, based on the Ontario Base Map (OBM).

MNDM OGS Earth:
Mineral Deposit Inventory - Jan. 2, 2019
Ontario Diamond Drill Holes - Jan. 2, 2019
Abandoned Mine Info. System - Nov. 2018

Ontario Geological Survey
Lovell, H.L. and Frey, E.D.
1977: Pense Township, District of Timiskaming: Ontario Geological Survey Prelim. Map P.1222, Geol. Ser., scale 1:15,840 or 1 inch to 1/4 mile. Geology, 1972

Property
G. Chitaroni, D. Fudge, M. Gaudreau

Mineral Deposit Inventory
- Mineral Occurrence
- Prospect

Ag Silver
Au Gold
Co Cobalt
Cu Copper
Ni Nickel
Pb Lead
Zn Zinc

- Pit
- Abandoned Mine
- Drill Hole

Date: February 20, 2019
Drawn by: M. Hawirko,HT
Checked by: Gino Chitaroni
File: H18023PenseGP1222v2

Map 2
Geology Map
P1222

Pense Property
Pense Township, Ontario
Gino Chitaroni, Don Fudge, Marc Gaudreau

LEGEND

PHANEROZOIC
CENOZOIC
QUATERNARY
PLEISTOCENE AND RECENT

T Ir varved clay, sand, gravel, peat

UNCONFORMITY

PALEOZOIC
SILURIAN (LOWER AND MIDDLE)

Thornloe (Clinton) Formation
13 — 13 Limestone, dolostone, sandstone
Kagawong Formation
12 — 12 Limestone, shale

DISCONFORMITY OR PARACONFORMITY

ORDOVICIAN (MIDDLE AND UPPER)
LISKEARD GROUP

Dawson Point, Farr, Bucke, Gordues Formations
11 — 11 Limestone, shale, sandstone

UNCONFORMITY

PRECAMBRIAN
LATE PRECAMBRIAN
MAFIC INTRUSIVE ROCKS (KEWEENAWAN)

10 — 10 Augite and olivine diabase

MIDDLE PRECAMBRIAN
MAFIC INTRUSIVE ROCKS (NIPISSING)

9 — 9 Unsubdivided
9a Transition rock (variable texture diabase), minor granophyre and aplite

8 — 8a Quartz diabase (gabbro)
8b Hypersthene bearing rocks (including norite)

INTRUSIVE CONTACT

HURONIAN SUPERGROUP

COBALT GROUP
Gowganda Formation
Firstbrook Member
7 — 7 Argillite (boulders)

Coleman Member
6 — 6a Conglomerate
6b Quartz (Lorrain) greywacke
6c Argillite

UNCONFORMITY

EARLY PRECAMBRIAN (ARCHEAN)
MAFIC INTRUSIVE ROCKS (MATACHEWAN)

5 — 5 Diabase

FELSIC INTRUSIVE ROCKS (ALGOMAN)

4 — 4a Granitic rocks
4b Syenite

INTRUSIVE CONTACT

MAFIC TO ULTRAMAFIC INTRUSIVE ROCKS (HAILEYBURIAN) AND POSSIBLE EXTRUSIVE

3 — 3a Serpentinite
3b Gabbro and diorite

INTRUSIVE CONTACT OR DISCONFORMITY

MAFIC AND INTERMEDIATE METAVOLCANICS (KEEWATIN)

2 — 2a Mafic to intermediate tuffs and flows and chlorite schist
2b Iron formation, magnetite cherty tuff, carbonaceous sulphide-bearing schists and pyroclastics

UNCONFORMITY OR CONTACT METAMORPHIC ZONATION

METASEDIMENTS (PONTIAC)

1 — 1 Unsubdivided
1a Quartz-biotite schist, gneiss
1b Mica-quartz feldspar slate, greywacke

GEOLOGICAL AND MINING SYMBOLS

- Glacial striae.
- Glacial fluting. Drumlin.
- Area of bedrock outcrop.
- Bedding, top unknown; (inclined, vertical).
- Bedding, top indicated by arrow; (inclined, vertical, overturned).
- Schistosity; (horizontal, inclined, vertical).
- Geological boundary, position interpreted.
- Fault; (assumed).
- Jointing; (horizontal, inclined, vertical).
- Drill hole; (vertical, inclined)
- Gravel pit.
- MA — Magnetic attraction.
- Water well, bedrock intersected.
- Water well bedrock not intersected.
- 750 — Contour lines. Height above sea level in feet.

METAL AND MINERAL REFERENCES

Ag . . . . . Silver	hem . . . . . Hematite
asb . . . . . Asbestos	mag . . . . . Magnetite
bn . . . . . Bornite	po . . . . . Pyrrhotite
carb . . . . . Carbonate	py . . . . . Pyrite
Co . . . . . Cobalt	qcv . . . . . Quartz carbonate vein
cp. . . . . Chalcopyrite	qv. . . . . Quartz vein
gf . . . . . Graphite	sp. . . . . Sphalerite
gn. . . . . Galena	

WATER WELL ABBREVIATIONS
(in feet)

bldr . . . . . Boulder	hpan . . . . . Hard pan
cgl . . . . . Conglomerate	lmsn . . . . . Limestone
csnd . . . . . Coarse-grained sand	msnd. . . . . Medium-grained sand
fsnd . . . . . Fine-grained sand	qsnd . . . . . Quicksand
grvl. . . . . Gravel	snds . . . . . Sandstone

PROPERTY LIST (for P.1220-P.1225)
(now mostly Crown Land)

Armstrong Township (P.1223)
(1) Belanger, P.
Brethour Township (P.1225)
(2) Brethour Tp. concession I lot 10
(3) Dominion Gulf Company
Ingram Township (P.1221)
(4) Marshall, F.D. and Marshall, J.A.
(5) Peerless Canadian Explorations Ltd.

Pense Township (P.1222)
(6) Armstrong-Cummings
(7) Canadian Nickel Company Limited
(8) Gereghty, G.J. and Waddell, L.A.
(9) Hudson Bay Mines Limited, The
(10) Johnston, R.F.
(11) Wabi River Mining Syndicate

SOURCES OF INFORMATION

Geology by H.L. Lovell, and E.D. Frey, 1972. Geology is not tied to surveyed lines.
Assessment work and additional reports on file at Kirkland Lake Resident Geologist's office.
Base-maps derived from maps of the Forest Resources Inventory, Division of Lands, Ministry of Natural Resources, with modifications by H.L. Lovell.
Topography transferred from Natural Topographic Series areas 31M/13W, 31M/13E, 31M/12W, and 31M/12E.
Water well data from the Ontario Water Resources Commission (Ministry of the Environment), 1972.
Burrows, A.G. and Hopkins, P.E., Blanche River Area, ODM Ann. Rept., Vol.31, Part 3, 1922 and ODM Map 31b, 1922.
Dominion Dept. of Agriculture, Map 21, Soil map of the New Liskeard-Englehart Area, 1955.
Magnetic declination, approximately 9°00'W, 1975.

This map is published with the permission of E.G. Pye, Director, Geological Branch, Division of Mines, Ontario Ministry of Natural Resources.

Issued 1977

Lovell, H.L., and Frey, E.D.
1977: Pense Township, District of Timiskaming; Ontario Geological Survey Prelim. Map P.1222, Geol. Ser., scale 1:15,840 or 1 inch to ¼ mile. Geology, 1972.

Metric Conversion Factor 1 foot = 0.3048 m.

Date: February 20, 2019
Drawn by: M. Hawirko, HT
Checked by: Gino Chitaroni
File: H18023PenseP1222

Map 2
Geology Legend
P1222

Pense Property
Pense Township, Ontario

Gino Chitaroni, Don Fudge, Marc Gaudreau

REFRENCES

Andrews, A.J., Owsiacki, L., Kerrich, R. and Strong, D.F. 1986. The silver deposits at Cobalt and Gowganda, Ontario. I: Geology, petrography, and whole-rock geochemistry. Canadian Journal of Earth Sciences v. 23 p. 1480-1506.

Ayer, J.A., Chartrand, J.E., Grabowski, G.P.D., Josey, S., Rainsford, D. and Trowell, N.F. 2006. Geological compilation of the Cobalt–Temagami area, Abitibi greenstone belt; Ontario Geological Survey, Preliminary Map P.3581, scale 1:100 000.

Ayer, J.A., and Trowell, N.F. 2003. Geological compilation of the Kirkland Lake area, Abitibi greenstone belt; Ontario Geological Survey, Preliminary Map P.3425, scale 1:100 000.

Ayer, J.A., Trowell, N.F., Josey, S., Nevills, M. and Valade, L. 2003. Geological compilation of the Matachewan area, Abitibi greenstone belt; Ontario Geological Survey, Preliminary Map P.3527, scale 1:100 000.

Gao, C. 2010. Quaternary Geology of the New Liskeard area, Northern Ontario; Ontario Geological Survey, Map 2657, scale 1:50 000.

Lovell, H.L. 1977: Geology of the Englehart-Earlton Area, District of Timiskaming; Ontario Geological Survey Miscellaneous Paper 69, 16p. Accompanied by Map P.1249, scale l inch to V2 mile (1:31,680).

Lovell, H.L., and Frey, E.D. 1977: Pense Township, District of Timiskaming; Ontario Geological Survey Preliminary Map P.1222, Geological Series, scale 1:15,840 or 1 inch to *1/4* mile. Geology, 1972.

Parker, J.R. 1999. The geology of zinc-rich sulphide mineralization in metasedimentary subprovinces: examples from the Pontiac and Quetico subprovinces, northeastern Ontario; Ontario Geological Survey, Open File Report 5996, 65p.

Potter, E.G. 2009. Genesis of Polymetallic Mineralization and the Metallogeny of the Paleoproterozoic Cobalt Embayment, unpublished PhD thesis, Carlton University, Ottawa, Ontario, 353p.

Smyk, M.C. and Watkinson, D.H. 1990. Sulphide remobilization in Archean volcano-sedimentary rocks and its significance in Proterozoic silver vein genesis, Cobalt, Ontario. Canadian Journal of Earth Sciences v. 27 p. 1170-1181

5623 McADAM ROAD
MISSISSAUGA, ONTARIO
CANADA L4Z 1N9
TEL (905)501-9998
FAX (905)501-0589
http://www.agatlabs.com

CLIENT NAME: FUDGE & ASSOCIATES INTERNATIONAL
160 BRYAN ROAD
NORTH BAY, ON P1C 1C2
705-472-3053

ATTENTION TO: Marc Gerdeau

PROJECT:

AGAT WORK ORDER: 19T514462

SOLID ANALYSIS REVIEWED BY: Sherin Moussa, Senior Technician

DATE REPORTED: Oct 02, 2019

PAGES (INCLUDING COVER): 10

Should you require any information regarding this analysis please contact your client services representative at (905) 501-9998

*NOTES

All samples are stored at no charge for 90 days. Please contact the lab if you require additional sample storage time.

AGAT Laboratories

5623 McADAM ROAD
MISSISSAUGA, ONTARIO
CANADA L4Z 1N9
TEL (905)501-9998
FAX (905)501-0589
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 19T514462

PROJECT:

CLIENT NAME: FUDGE & ASSOCIATES INTERNATIONAL

ATTENTION TO: Marc Gerdeau

(200-) Sample Login Weight

DATE SAMPLED: Sep 05, 2019 | DATE RECEIVED: Sep 06, 2019 | DATE REPORTED: Oct 02, 2019 | SAMPLE TYPE: Rock

Analyte:	Sample Login Weight
Unit:	kg
Sample ID (AGAT ID) RDL:	0.01
PENSE-209-01 (502709)	0.204
PENSE-209-02 (502710)	0.221
PENSE-209-03 (502711)	0.614

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Sherin Moussa

AGAT Laboratories

5623 McADAM ROAD
MISSISSAUGA, ONTARIO
CANADA L4Z 1N9
TEL (905)501-9998
FAX (905)501-0589
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 19T514462

PROJECT:

CLIENT NAME: FUDGE & ASSOCIATES INTERNATIONAL

ATTENTION TO: Marc Gerdeau

(201-676) Lithium Borate Fusion - Summation of Oxides, XRF finish

DATE SAMPLED: Sep 05, 2019 | DATE RECEIVED: Sep 06, 2019 | DATE REPORTED: Oct 02, 2019 | SAMPLE TYPE: Rock

Analyte:	Al2O3	BaO	CaO	Cr2O3	Fe2O3	K2O	MgO	MnO	Na2O	P2O5	SiO2	TiO2	SrO	V2O5
Unit:	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Sample ID (AGAT ID) RDL:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
PENSE-209-01 (502709)	13.9	<0.01	7.66	0.01	14.3	0.94	5.98	0.27	3.09	0.11	50.4	0.97	0.01	0.03
PENSE-209-03 (502711)	18.5	0.37	0.91	0.02	1.18	0.55	0.39	0.03	10.5	0.05	68.1	0.10	0.11	<0.01

Analyte:	LOI	Total Oxides
Unit:	%	%
Sample ID (AGAT ID) RDL:	0.01	0.01
PENSE-209-01 (502709)	2.36	100
PENSE-209-03 (502711)	0.34	101

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Sherin Moussa

AGAT Laboratories

5623 McADAM ROAD
MISSISSAUGA, ONTARIO
CANADA L4Z 1N9
TEL (905)501-9998
FAX (905)501-0589
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 19T514462

PROJECT:

CLIENT NAME: FUDGE & ASSOCIATES INTERNATIONAL

ATTENTION TO: Marc Gerdeau

(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)

DATE SAMPLED: Sep 05, 2019 | DATE RECEIVED: Sep 06, 2019 | DATE REPORTED: Oct 02, 2019 | SAMPLE TYPE: Rock

Analyte:	Au
Unit:	ppm
Sample ID (AGAT ID) RDL:	0.001
PENSE-209-01 (502709)	0.060
PENSE-209-02 (502710)	0.002
PENSE-209-03 (502711)	0.002

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Sherin Moussa

AGAT Laboratories

5623 McADAM ROAD
MISSISSAUGA, ONTARIO
CANADA L4Z 1N9
TEL (905)501-9998
FAX (905)501-0589
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 19T514462

PROJECT:

CLIENT NAME: FUDGE & ASSOCIATES INTERNATIONAL

ATTENTION TO: Marc Gerdeau

(202-066) Fire Assay - Ag Ore Grade, Gravimetric finish

DATE SAMPLED: Sep 05, 2019 | DATE RECEIVED: Sep 06, 2019 | DATE REPORTED: Oct 02, 2019 | SAMPLE TYPE: Rock

Analyte:	Ag
Unit:	ppm
Sample ID (AGAT ID) RDL:	10
PENSE-209-01 (502709)	<10
PENSE-209-02 (502710)	<10
PENSE-209-03 (502711)	<10

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Sherin Moussa

AGAT Laboratories

5623 McADAM ROAD
MISSISSAUGA, ONTARIO
CANADA L4Z 1N9
TEL (905)501-9998
FAX (905)501-0589
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 19T514462

PROJECT:

CLIENT NAME: FUDGE & ASSOCIATES INTERNATIONAL

ATTENTION TO: Marc Gerdeau

Sieving - % Passing (Crushing)

DATE SAMPLED: Sep 05, 2019 | DATE RECEIVED: Sep 06, 2019 | DATE REPORTED: Oct 02, 2019 | SAMPLE TYPE: Rock

Analyte:	Pass %
Unit:	%
Sample ID (AGAT ID) RDL:	0.01
PENSE-209-01 (502709)	76.06

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Sherin Moussa

AGAT Laboratories

5623 McADAM ROAD
MISSISSAUGA, ONTARIO
CANADA L4Z 1N9
TEL (905)501-9998
FAX (905)501-0589
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 19T514462

PROJECT:

CLIENT NAME: FUDGE & ASSOCIATES INTERNATIONAL

ATTENTION TO: Marc Gerdeau

Sieving - % Passing (Pulverizing)

DATE SAMPLED: Sep 05, 2019 | DATE RECEIVED: Sep 06, 2019 | DATE REPORTED: Oct 02, 2019 | SAMPLE TYPE: Rock

Analyte:	Pass %
Unit:	%
Sample ID (AGAT ID) RDL:	0.01
PENSE-209-01 (502709)	89.37

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Sherin Moussa

AGAT Laboratories

5623 McADAM ROAD
MISSISSAUGA, ONTARIO
CANADA L4Z 1N9
TEL (905)501-9998
FAX (905)501-0589
http://www.agatlabs.com

Quality Assurance - Replicate

AGAT WORK ORDER: 19T514462

PROJECT:

CLIENT NAME: FUDGE & ASSOCIATES INTERNATIONAL

ATTENTION TO: Marc Gerdeau

(201-676) Lithium Borate Fusion - Summation of Oxides, XRF finish

	REPLICATE #1															
Parameter	Sample ID	Original	Replicate	RPD												
Al2O3	502709	13.9	14.0	0.7%												
BaO	502709	< 0.01	< 0.01	0.0%												
CaO	502709	7.66	7.66	0.0%												
Cr2O3	502709	0.013	0.017	26.7%												
Fe2O3	502709	14.3	14.3	0.0%												
K2O	502709	0.94	0.95	1.1%												
MgO	502709	5.98	6.01	0.5%												
MnO	502709	0.27	0.27	0.0%												
Na2O	502709	3.09	3.07	0.6%												
P2O5	502709	0.11	0.11	0.0%												
SiO2	502709	50.4	50.3	0.2%												
TiO2	502709	0.97	0.97	0.0%												
SrO	502709	0.01	0.01	0.0%												
V2O5	502709	0.03	0.03	0.0%												
LOI	502709	2.36	2.57	8.5%												

(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)

	REPLICATE #1				REPLICATE #2											
Parameter	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD								
Au	502709	0.060	0.048	22.2%	502711	0.002	0.002	0.0%								

(202-066) Fire Assay - Ag Ore Grade, Gravimetric finish

	REPLICATE #1				REPLICATE #2											
Parameter	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD								
Ag	502709	< 10	<10		502711	< 10	<10									

AGAT Laboratories

5623 McADAM ROAD
MISSISSAUGA, ONTARIO
CANADA L4Z 1N9
TEL (905)501-9998
FAX (905)501-0589
http://www.agatlabs.com

Quality Assurance - Certified Reference materials

AGAT WORK ORDER: 19T514462

PROJECT:

CLIENT NAME: FUDGE & ASSOCIATES INTERNATIONAL

ATTENTION TO: Marc Gerdeau

(201-676) Lithium Borate Fusion - Summation of Oxides, XRF finish

	CRM #1 (ref.sy-4)				CRM #2											
Parameter	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits								
Al2O3	20.7	20.7	100%	90% - 110%												
BaO	0.038	0.041	108%	90% - 110%												
CaO	8.05	8.01	99%	90% - 110%												
Fe2O3	6.21	6.26	101%	90% - 110%												
K2O	1.66	1.67	100%	90% - 110%												
MgO	0.54	0.53	99%	90% - 110%												
MnO	0.108	0.109	101%	90% - 110%												
Na2O	7.1	7.26	102%	90% - 110%												
P2O5	0.131	0.13	99%	90% - 110%												
SiO2	49.9	49.8	100%	90% - 110%												
TiO2	0.287	0.285	99%	90% - 110%												
SrO	0.141	0.139	99%	90% - 110%												
LOI					4.56	4.32	94%	90% - 110%								

(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)

	CRM #1 (ref.GS6F)				CRM #2											
Parameter	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits								
Au	6.87	6.55	95%	90% - 110%												

(202-066) Fire Assay - Ag Ore Grade, Gravimetric finish

	CRM #1				CRM #2											
Parameter	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits								
Ag	274	276	100%	95% - 105%												

5623 McADAM ROAD
MISSISSAUGA, ONTARIO
CANADA L4Z 1N9
TEL (905)501-9998
FAX (905)501-0589
http://www.agatlabs.com

Method Summary

CLIENT NAME: FUDGE & ASSOCIATES INTERNATIONAL

AGAT WORK ORDER: 19T514462

PROJECT:

ATTENTION TO: Marc Gerdeau

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Solid Analysis			
Sample Login Weight	MIN-12009		BALANCE
Al2O3	MIN-200-12027		XRF
BaO	MIN-200-12027		XRF
CaO	MIN-200-12027		XRF
Cr2O3	MIN-200-12027		XRF
Fe2O3	MIN-200-12027		XRF
K2O	MIN-200-12027		XRF
MgO	MIN-200-12027		XRF
MnO	MIN-200-12027		XRF
Na2O	MIN-200-12027		XRF
P2O5	MIN-200-12027		XRF
SiO2	MIN-200-12027		XRF
TiO2	MIN-200-12027		XRF
SrO	MIN-200-12027		XRF
V2O5	MIN-200-12027		XRF
LOI	MIN-200-12021		FURNACE
Total Oxides	MIN-200-12015		CALCULATION
Au	MIN-12006, MIN-12004		ICP/OES
Ag	MIN-200-12004		GRAVIMETRIC
Pass %			BALANCE