ASSESSMENT WORK REPORT ON MAGNETIC SURVEY & VLF-EM SURVEY OVER MINING CLAIM 720210, IN NTS 52E11 OF THE HIGH LAKE AREA, NORTHWEST ONTARIO, CANADA

Field Work & Report By:
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Field Work: Feb. 12, 13, 14, 15, 16 & 20, 2024
Report Completed: March 30, 2024

Summary of Reported Work:

Mining District: NTS 52E11, Kenora District
Geographic Area: High Lake, Ewart Twp, Lake of the Woods Area
Cell Mining Claim: 720210 (52E11J358)
Target Commodity: Au
Flagged Grid: 1.9 line-km, 100m line spacing, 25m flag spacing
Ground Magnetic Survey: 1.9 line-km, 100m line spacing, 12.5m station spacing
Ground VLF-EM Survey: 1.9 line-km, 100m line spacing, 12.5m station spacing

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SUMMARY

This report describes the results from a small program of magnetic and VLF electromagnetic surveys completed by the author during February, 2024, over a single cell claim covering the McCallum gold occurrence near High Lake, northwestern Ontario. This geophysical work is intended to provide baseline data prior to summer geology and geochemical work. Interest in the general area has been prompted by exploration at the nearby High Lake gold property, several kilometers to the northeast.

A 200m wide zone of high (up to 5,000 nT above background), but erratic, magnetic anomalies was outlined across the south-central area of the claim, in an area of rusty gabbro float with pyrite mineralization. The magnetic anomaly is accompanied by a strong VLF electromagnetic conductor and recessive weathering topographic lineament, possibly associated with shearing and serpentine alteration of the gabbro. Minor quartz veining and trenching was noted in the southwest corner of the claim during the course of this work.

Further work, mainly geologic mapping, prospecting and sampling, is recommended on this claim.

William C. Hood
March 30, 2024

INTRODUCTION

This report describes the results from a small program of magnetic and VLF electromagnetic surveys completed by the author during February, 2024, over a single cell claim covering the McCallum gold occurrence near High Lake, northwestern Ontario. This geophysical work is intended to provide baseline data prior to summer geology and geochemical work. Interest in the general area has been prompted by exploration at the nearby High Lake gold property, several kilometers to the northeast.

LOCATION, ACCESS & PHYSIOGRAPHY

The McCallum claim is located within Ewart Township in northwestern Ontario, about 45 km west of Kenora, and 1 km east of the Manitoba boundary. The claim is 7 km south of the Trans-Canada Highway, and 6 km west of the Shoal Lake Road. The claim lies immediately east of the south end of High Lake (Fig. 1).

Access for this winter program was by vehicle to Falcon Lake in eastern Manitoba, a distance of 144 km from the author's residence in Beausejour, Manitoba, and then by snowmobile from the Falcon Lake South Shore Road, a distance of 6 km on the ice of Falcon Lake and High Lake. Summer access to the McCallum property is by boat from the boat launch at the east end of High Lake, utilizing the Shoal Lake Road and a 3 km bush road to High Lake.

The property is situated in typical Precambrian terrain, at an elevation of about 340m asl, with local relief generally less than 30 m. Outcrop is very abundant in this area, forming rolling hills interspersed with swamp and glacial drift. Vegetation comprises mainly jackpine on outcrops, spruce and poplar in till-covered areas, and alder/beaver swamps in low areas. The south and west sides of outcrop areas have deposits of boulder gravels and tills which are heavily overgrown with hazelnut brush. A topographic lineament, locally characterized by a sharp outcrop cliff on its south side, crosses the center of the claim from west-southwest to east-northeast. High Creek, flowing south from High Lake, crosses the southwest corner of the claim.

McCallum Au Project

LOCATION MAP

Fig. 1 Feb/24 BH

CLAIM STATUS

The claim covering the McCallum gold showing was staked in 2022 as Single Cell Mining Claim 720210, covering NTS cell 52E11J358. The claim is held by William C. Hood of Beausejour, Manitoba, the author of this report. The claim has an area of about 21 ha (Fig. 2).

GEOLOGY & MINERALIZATION

The McCallum gold property lies within the Wabigoon terrain of Archean-age volcanic, sedimentary and plutonic rocks of the Superior Province of the Canadian Shield (Fig. 3). The claim lies within a section of northeast-southwest trending mafic volcanic and intrusive rocks, immediately southeast of the High Lake stock, a composite pluton of granodiorite, granite and porphyry. Numerous gold, copper and molybdenum occurrences are associated with this intrusive body (Fig. 4). Geologic mapping shows the McCallum claim to be underlain by mafic volcanic rocks and a large gabbro sill, which is cross-cut by a granitic dike (Fig. 5). This geologic environment is prospective for gold mineralization.

J.C. Davies' 1965 report GR#41 for ODM describes the McCallum gold showing as follows:

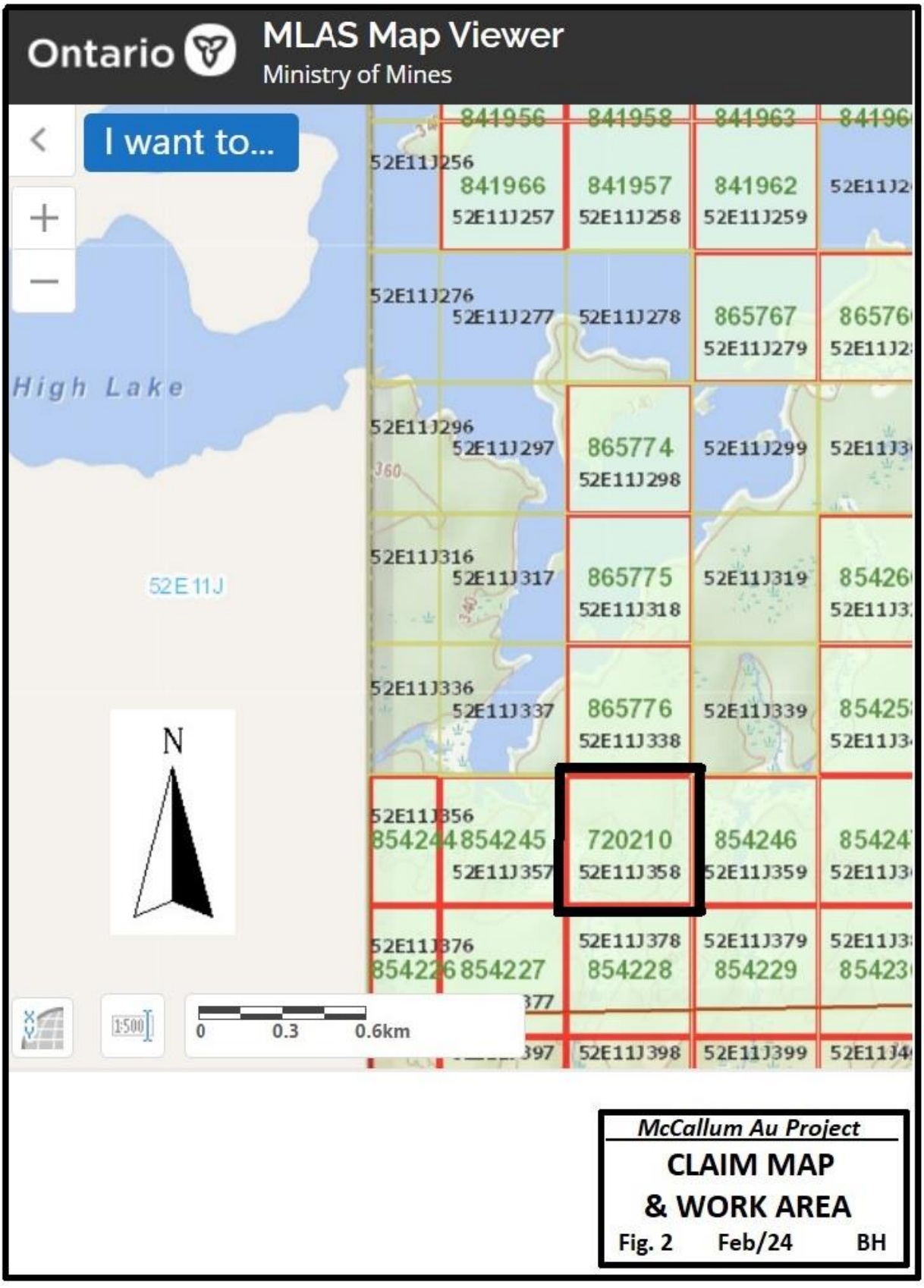
F. McCallum Group

Four patented claims (K.8844, 8845, 8849, and 8850), owned in 1963 by F. McCallum of Vancouver, are adjacent to the southernmost bay of High Lake. Staked by Mr. McCallum in 1937, one year after a forest fire in the area, neither claims nor showings could be found during the present survey.

According to C. A. Alcock, quartz containing pyrite and gold was found in a northwest-trending shear zone at a point where the four claims meet; also about 0.40 ounces per ton of gold was found across a width of about 4 feet.[1]

WORK PROGRAM; FEBRUARY, 2024

A small work program was completed across the claim by the author during February, 2024. Since the property is within reasonable commuting distance from the author’s residence, work was conducted on days when weather and travel


Ontario
MLAS Map Viewer
Ministry of Mines
I want to...
High Lake
52E11J
N
0
0.3
0.6km
841956
841958
841963
52E11J256
841966
52E11J257
841957
52E11J258
841962
52E11J259
52E11J276
52E11J277
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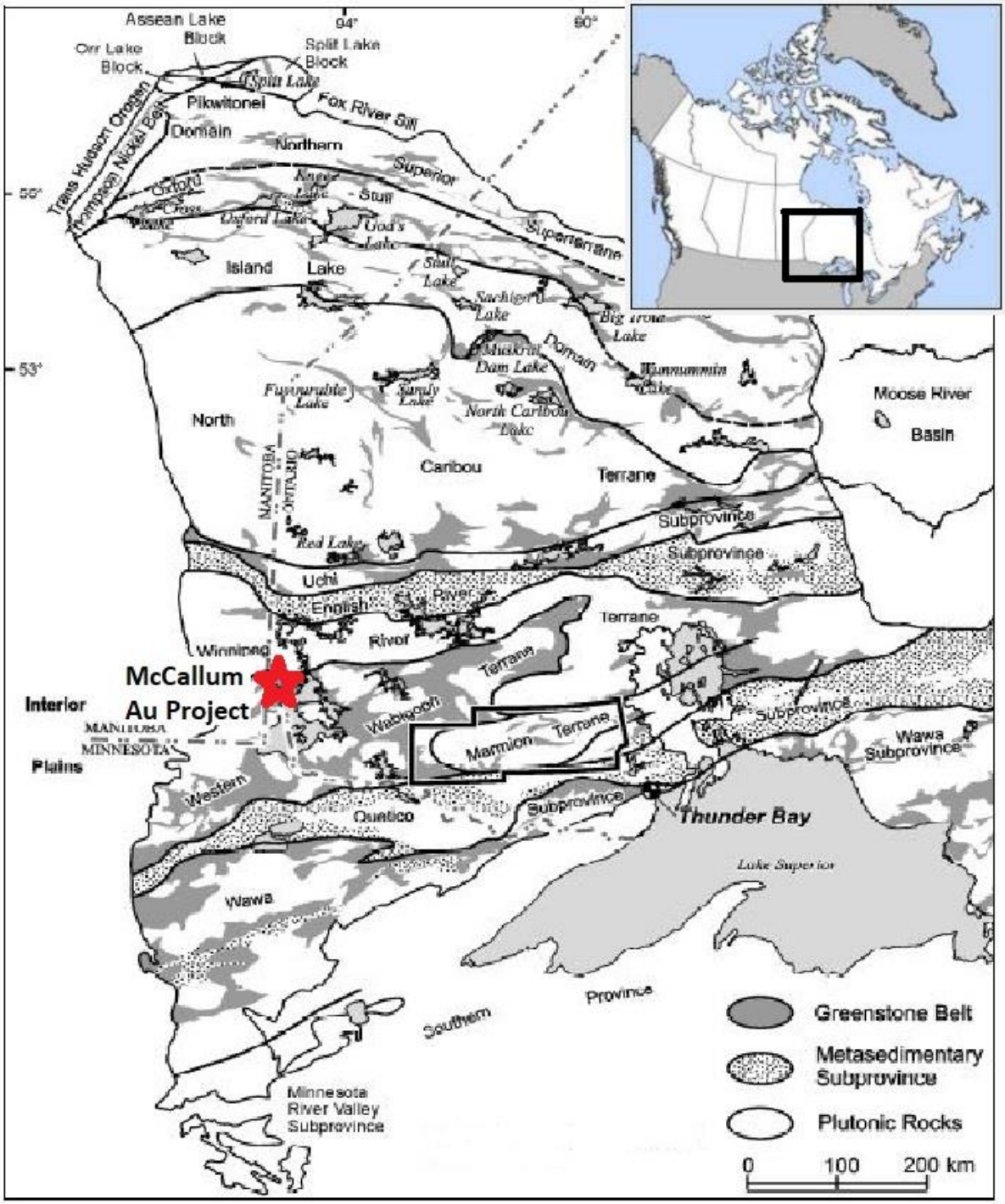
52E11J399
McCallum Au Project
CLAIM MAP
& WORK AREA
Fig. 2 Feb/24 BH

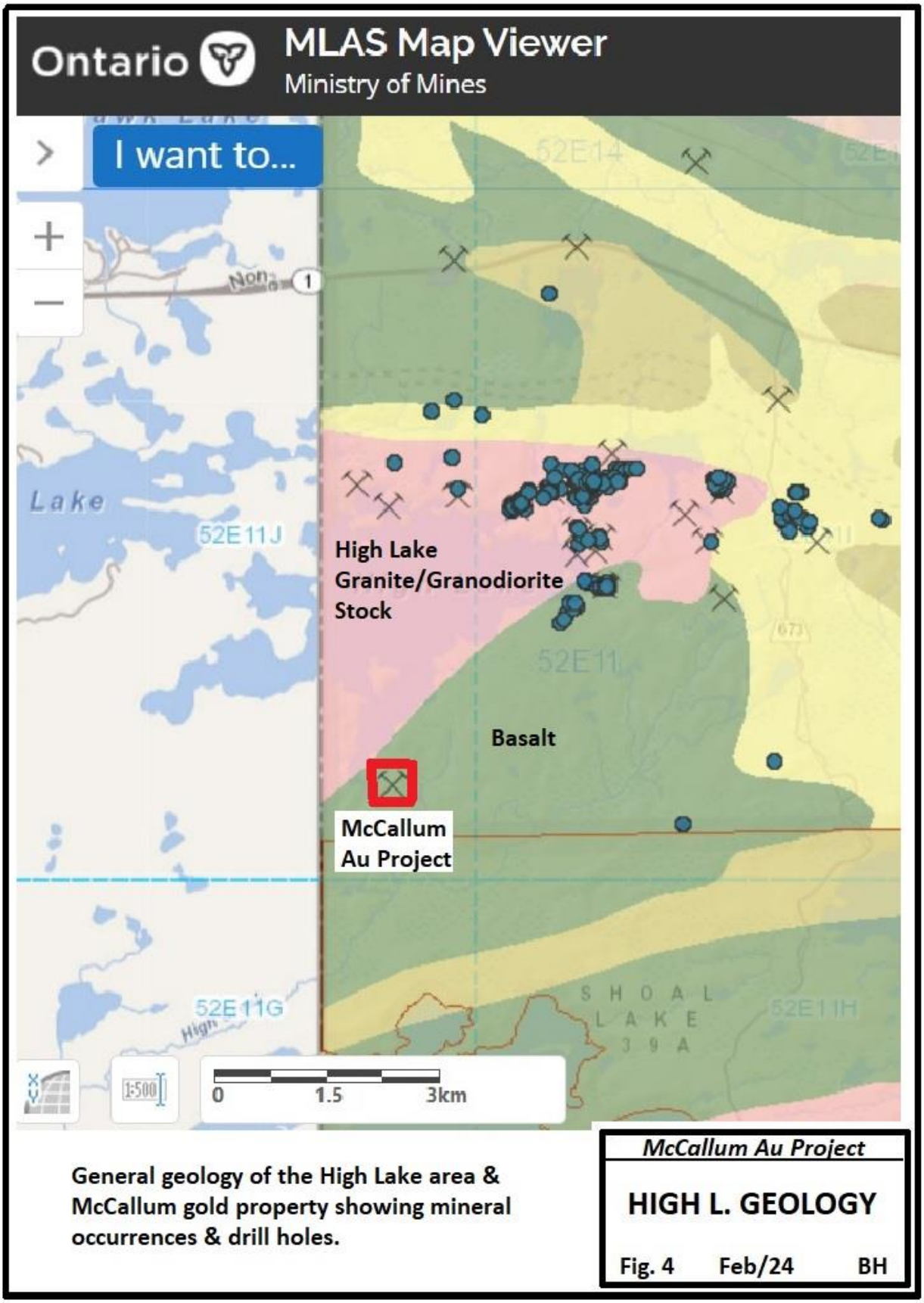


From D.Stone, 2010

McCallum Au Project

REGIONAL GEOLOGY

Fig. 3 Feb/24 BH

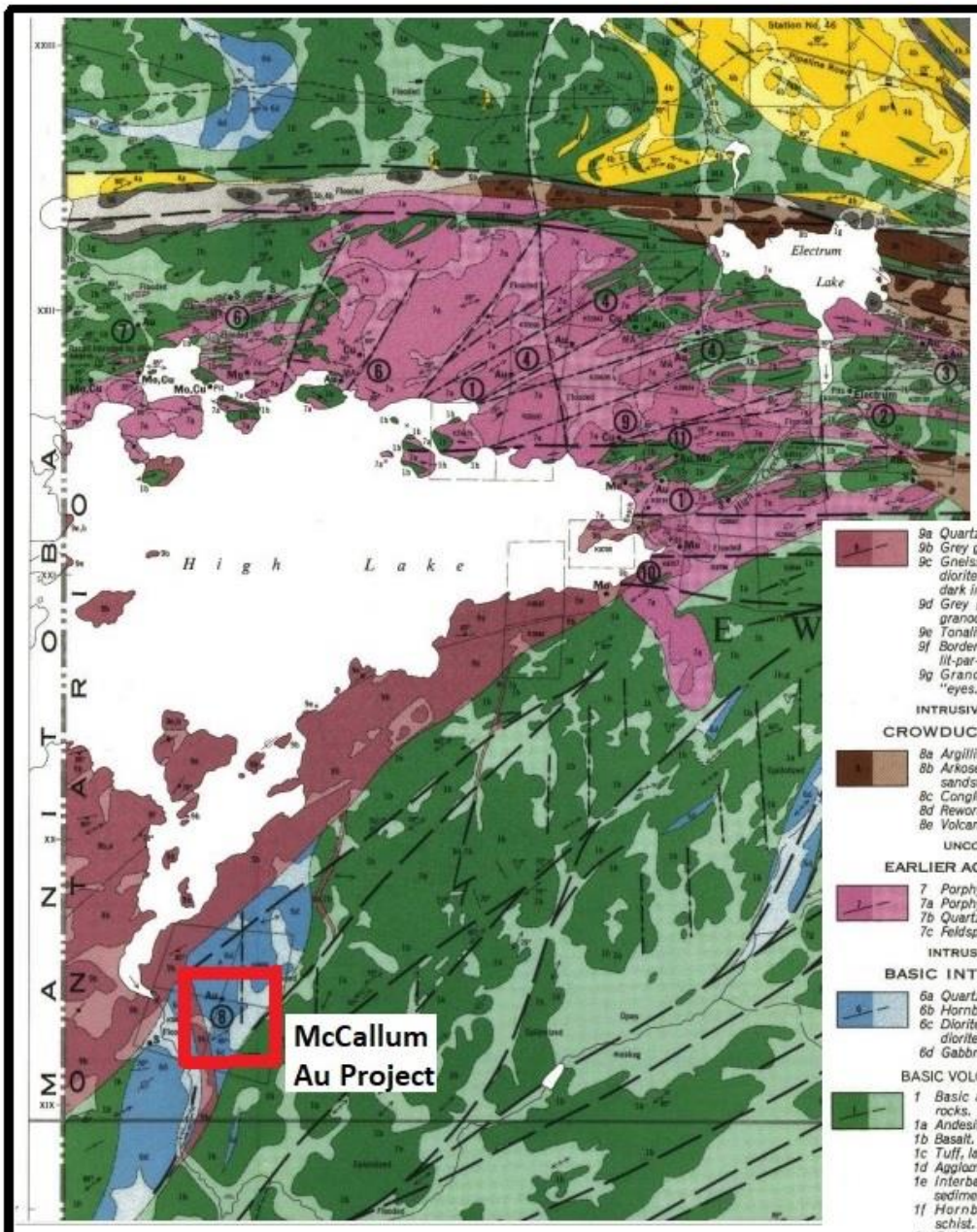


General geology of the High Lake area & McCallum gold property showing mineral occurrences & drill holes.

McCallum Au Project

HIGH L. GEOLOGY

Fig. 4 Feb/24 BH



From J.C. Davies, 1965, GR #41, ODM

McCallum Au Project

PROPERTY GEOLOGY

Fig. 5 Feb/24 BH

conditions were favourable. Field work was conducted on Feb. 12, 13, 14, 15, 16 and 20, 2024. Access was by vehicle to the east end of the Falcon Lake South Shore Road, and then by snowmobile across Falcon Lake and High Lake

A flagged grid was installed using a Garmin 64S GPS instrument, on UTM NAD83, Zone 15 coordinates. Specifications for this instrument indicate 3m accuracy, but where both lines and stations could be observed, appeared to be better than 2m accuracy. Four north-south lines were installed at 100m spacing, covering most of the claim. Lines were oriented at UTM north-south, which is 358°-178° azimuth. Lines were labeled with the last 4 digits of the UTM easting. Lines were installed at 5400E, 5500E, 5600E and 5700E, representing UTM eastings 345400E through 345700E. Stations north-south along the lines were marked at 25m spacing, with blue flagging at the 50s and 100s, and pink flagging at the 25s and 75s. Line and station number were marked on all flags. Station coordinates were the last 4 digits of the UTM northing, from 4700N through 5175N, representing UTM northings from 5504700N to 5505175N. Station positions at 12.5m points between the 25m flags were estimated. A total of 1.9 line-km of flagged grid was installed in this manner.

Detailed magnetic and VLF electromagnetic surveys were completed by the author using instruments owned by the author. The objective was to obtain baseline magnetic and electromagnetic data across the claim, locate any obvious trenching or mineralization, and get a "first pass" look at the claim. Photographs from this work are included in Appendix I. Specifications on the geophysical instruments used are in Appendix II.

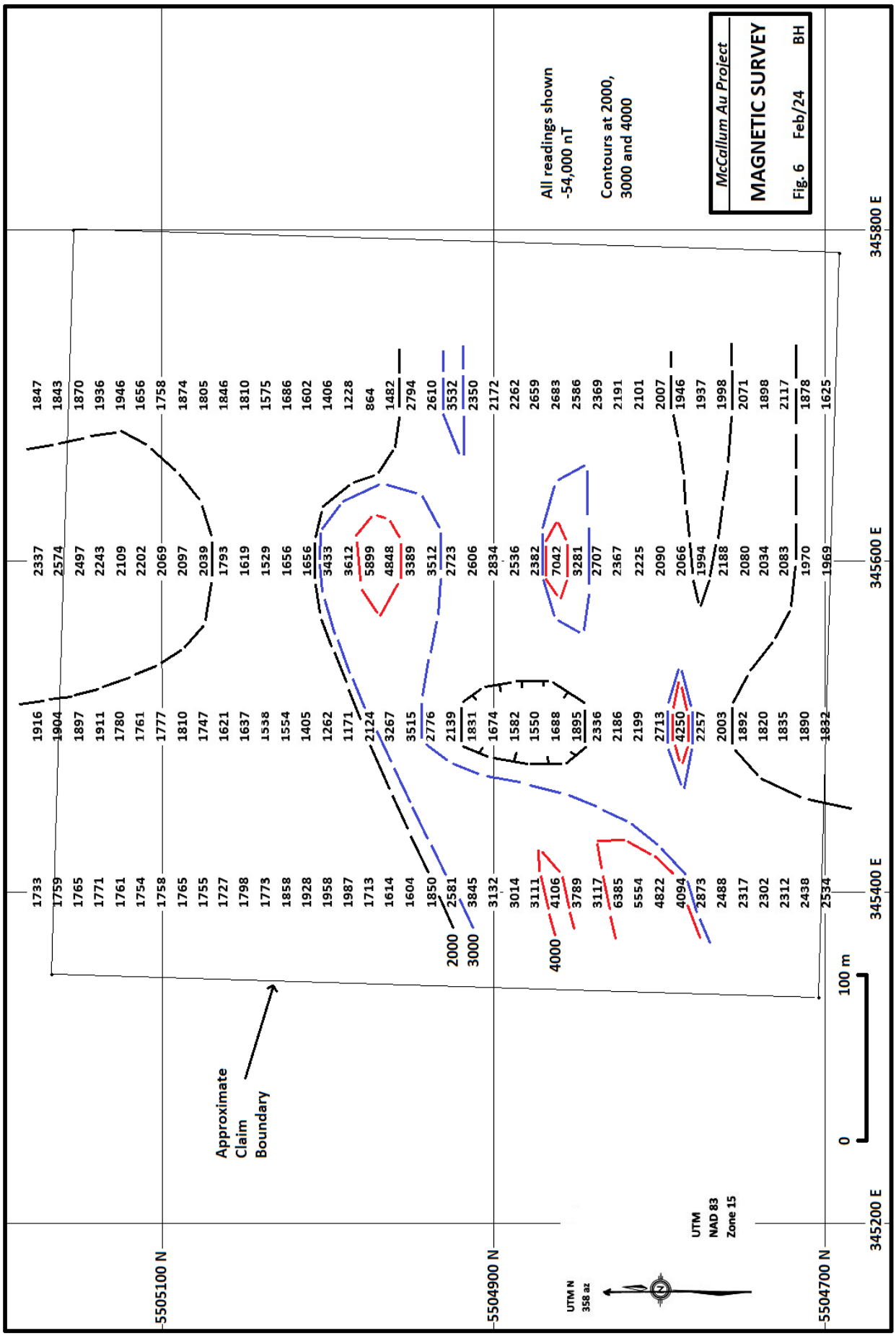
Snow depths were minimal at the time of this work, allowing casual rock type observations during the course of this work, confirming the general geology of the claim, as shown in Figure 5. Most of the claim area was observed to be underlain by gabbro, which was locally rusty, and locally appeared altered and serpentinized. Basalt volcanics were noted in the southeast corner of the claim area. Granodiorite and granite were observed in outcrops immediately northwest of the northwest corner of the claim. An old dug pit was noted in overburden on line 5400E at 4805N. Minor quartz veining was noted in a shear between gabbro and granite in outcrop at approximately 5475E/4725N just east of High Creek. Rusty gabbro float boulders at L5700E/4950N had significant disseminated pyrite. Overall, within the McCallum claim, there was a general discordancy of features,

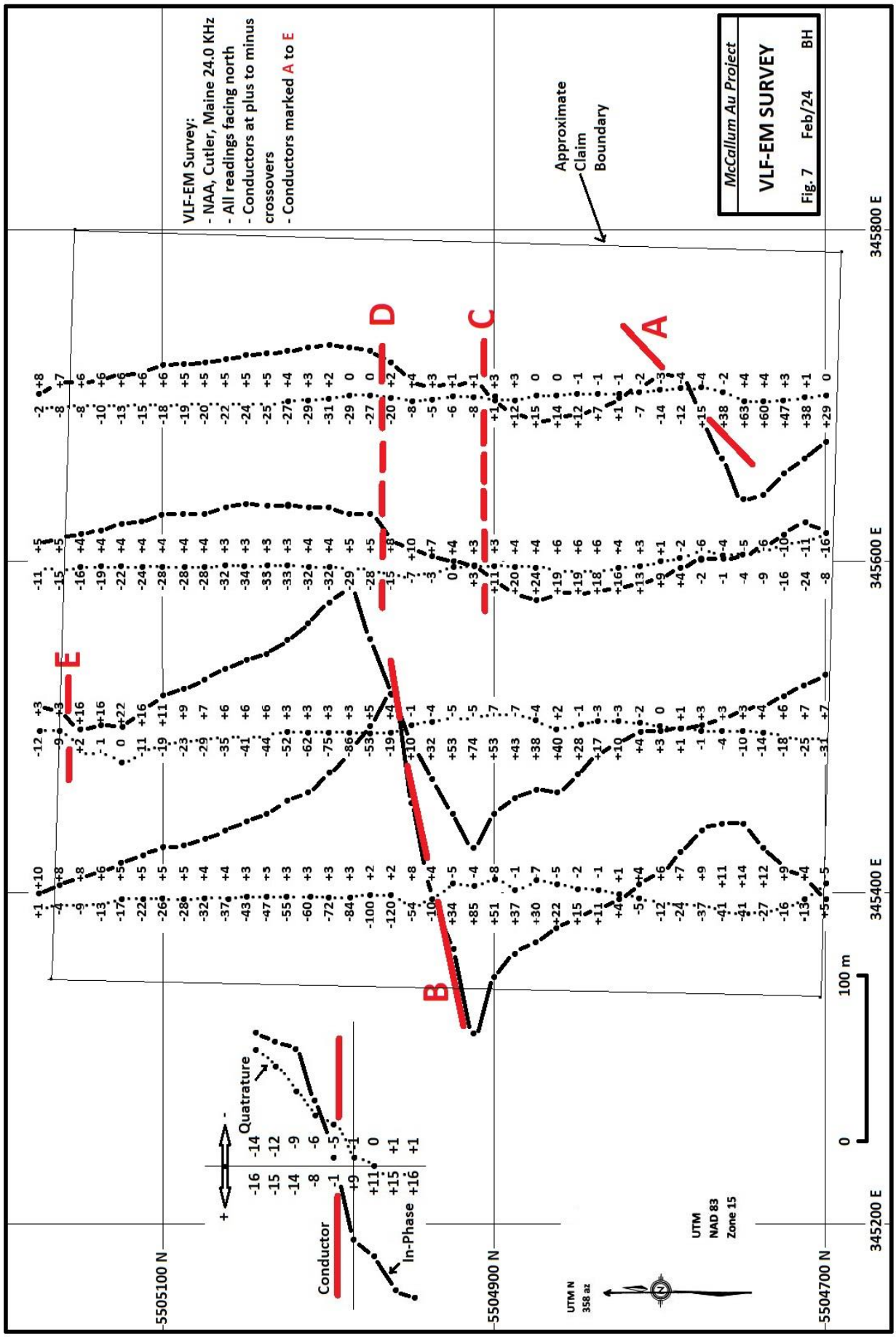
with outcrops trending north-south, lithology/stratigraphy trending southwest-northeast, and topographic lineaments trending west-southwest to east-northeast.

The total field magnetic survey was completed using a Geometrics G-856 proton precession magnetometer. The magnetic survey totalled 1.9 line-km, on 100 m spaced lines, with 12.5 m station spacing. All field readings were looped from a consistent base station location at 345172E/5505141N along the southeast shore of High Lake, about 200m west of the northwest corner of the McCallum claim. All data was leveled relative to this point, averaged at 55,895 nT, in direct proportion to elapsed time. Magnetic surveying was only conducted on days when solar activity and variations in the geomagnetic field were minimal, as monitored on NOAA's online WWV Text Geophysical Alert. The maximum drift within a loop was 17 nT. Data error is expected to fall well within a plus/minus 5 nT bracket, which is adequate for this survey.

The total magnetic field results from this survey are plotted and contoured on Figure 6. Readings are shown minus 54,000 nT to simplify plotting. The corrected readings fell within a range from 54,864 nT to 61,042 nT, a large range indicating substantial magnetic anomalies. Results are contoured at 1000 nT intervals, at 56,000 nT, 57,000 nT and 58,000 nT, in order to outline gross stratigraphic units rather than fine detail. As can be seen in the magnetic data on Figure 6, a roughly 200m wide band of high, but erratic, magnetic anomalies extend across the south-central area of the claim, from west-southwest to east-northeast. This band of high magnetic anomalies is slightly discordant to stratigraphic orientation, but partly corresponds with a topographic lineament of recessive weathering rocks. Rusty gabbro float boulders were observed in several area along the trend of this magnetic anomaly.

A VLF electromagnetic survey was completed by the author using a Geonics EM-16 instrument tuned to NAA, Cutler, Maine, on 24.0 khz. The VLF survey totalled 1.9 line-km with 100 m line spacing and 12.5 m station intervals. All VLF readings were taken facing north, with plus-to-minus, in-phase crossovers marking conductive horizons. Field readings with interpreted conductors are shown plotted in profiles on Figure 7.


McCallum Au Project
MAGNETIC SURVEY
Fig. 6 Feb/24 BH
All readings shown
-54,000 nT
Contours at 2000,
3000 and 4000
Approximate
Claim
Boundary
5505100 N
5504900 N
5504700 N
345200 E
345400 E
345600 E
345800 E
0
100 m
UTM
NAD 83
Zone 15
UTM N
358 az


McCallum Au Project
VLF-EM SURVEY
Fig. 7 Feb/24 BH
VLF-EM Survey:
- NAA, Cutler, Maine 24.0 KHz
- All readings facing north
- Conductors at plus to minus crossovers
- Conductors marked A to E
Approximate Claim Boundary
A
B
C
D
E
Quatrature
In-Phase
Conductor
UTM NAD 83 Zone 15
UTM N 358 az
0
100 m
345200 E
345400 E
345600 E
345800 E
5505100 N
5504900 N
5504700 N

Several conductors marked A through E are shown on Figure 7. Conductor A, crossing the southeast corner of the claim, is believed to be the contact, possibly sheared, between basalt volcanics to the southeast and the large gabbro sill to the northwest. A weak conductor, marked E, at the north edge of the claim, corresponds to a local north-south trending swampy area, between two outcrops to the east and west, and is believed to be caused by conductive overburden.

A major electromagnetic conductor, marked as B, C and D on Figure 7, extends roughly east-west across the center of the claim at approximately 4925N. This conductor corresponds with a sharp, recessive-weathering topographic lineament, especially on lines 5400E and 5500E. This conductor may split into two weaker features, marked C and D, on lines 5600E and 5700E. This major electromagnetic conductor corresponds to the north edge of the area of erratic high magnetic anomalies. The gabbroic rocks in the area of this major electromagnetic conductor locally appeared to be fine-grained and altered to a light greenish colour, rather than the grey, medium-grained crystalline texture observed elsewhere. This may be due to shearing and serpentinization of the gabbro, which could explain both the conductive and magnetic anomaly in this area.

CONCLUSIONS & RECOMMENDATION

A small program of magnetic and electromagnetic geophysics was completed during February, 2024, across Single Cell Mining Claim 720210, believed to cover the McCallum gold occurrence near High Lake in northwestern Ontario. Four lines of GPS flagged grid, totalling 1.9 line-km, was installed and surveyed over 6 field days. The objective of this work was to acquire baseline geophysical data to support future work, and get a "first pass" look at the claim.

A 200m wide zone of high (up to 5,000 nT above background), but erratic, magnetic anomalies was outlined across the south-central area of the claim, in an area of rusty gabbro float with pyrite mineralization. The magnetic anomaly is accompanied by a strong VLF electromagnetic conductor and recessive weathering topographic lineament, possibly associated with shearing and serpentine alteration of the gabbro. Minor quartz veining and trenching was noted in the southwest corner of the claim during the course of this work.

Further work, mainly geologic mapping, prospecting and sampling, is recommended on this claim.

William C. Hood
March 30, 2024

REFERENCES

Davies, J.C., 1965; GR #41, Geology of the High Lake area, ODM.

CERTIFICATE

For: William C. Hood
P.O. Box 1722; 508 Elm Ave.
Beausejour, Manitoba
Canada R0E0C0
(204)268-3455
bhood@mts.net

1) I am a graduate of the University of Manitoba (1979) with a B.Sc. (Honours) Degree in Science (Geology) and I have practiced my profession since that time.

2) I am a Registered Professional Geoscientist with the Association of Professional Engineers and Geoscientists of Manitoba since 1982.

3) I have been employed by Tantalum Mining Corporation (1979-1983), Province of Manitoba Departments of Labour (1992 – 1995) & Energy and Mines (1995 - 1997), and ProAm Exploration Corporation (1997 – 2000), as well as operating my own business as W.C. Hood, Consulting Geologist (1983 – 1992 & 2000 – present).

4) I have researched, conducted and supervised a wide range of exploration programs for hydrothermal & placer gold, volcanogenic copper-zinc, magmatic nickel-copper-PGE, pegmatitic tantalum-lithium-cesium, kimberlitic diamonds and various industrial mineral commodities.

William C. Hood
March 30, 2024

APPENDIX I - PHOTOGRAPHS

Photo 1. Setting up magnetometer at the southeast shore of High Lake approximately 200 m west of the northwest corner of the McCallum claim. Base station for magnetic survey on shoreline to left. Old portage trail to High Creek in background, around waterfall at outlet of lake, February, 2024.

Photo 2. Author selfie looking west at L5400E/5175N during VLF survey, February, 2024.

Photo 3. Rusty gabbro float boulders mineralized with pyrite at L5700E/4950N during VLF survey, February, 2024.

APPENDIX II

Specifications For
Geometrics G-856 Magnetometer &
Geonics EM-16 VLF Receiver

G-856 Memory-Mag™

Proton Precession Magnetometer

MODEL G-856A & AX OP MAN
EDITION 2/2002
REV 02

M. SPECIFICATIONS

Displays	Six digit display of magnetic field to resolution of 0.1 gamma or time to nearest second. Additional three digit display of station, day of year, and line number.
Resolution	Typically 0.1 gamma in average conditions. May degrade to lower resolution in weak fields, noisy conditions or high gradients.
Absolute Accuracy	One gamma, limited by remnant magnetism in sensor and crystal oscillator accuracy.
Clock	Julian clock with stability of 5 seconds per month at room temperature and 5 seconds per day over the temperature range of -20 to +50 degrees Celsius.
Tuning	Push button tuning from keyboard with current value displayed on request. Tuning range 20 to 90 kilogammas.
Gradient Tolerance	Tolerates gradients to 1800 gammas/meter. When high gradients truncate count interval, maintains partial reading to an accuracy consistent with data.
Cycle Time	Complete field measurement in three seconds in normal operation. Internal switch selection for faster cycle (1.5 seconds) at reduced resolution or longer cycles for increased resolution.

Manual Read	Takes reading on command. Will store data in memory on command.
Memory	Stores more than 5000 readings in survey mode, keeping track of time, station number, line number day and magnetic field reading. In base station operation, computes for retrieval but does not store time of recording designated by sample interval, allowing storage of up to 12,000 readings.
Output	Plays data out in standard RS-232 format at selectable baud rates. Also outputs data in real time byte parallel, character serial BCD for use with digital recorders.
Inputs	Will accept an external sample command.
Special Functions	An internal switch allows: 1) adjustment of polarization time and count time to improve performance in marginal areas or to improve resolution or speed operation, 2) three count averaging, 3) choice of lighted displays in auto mode.
Physical	Instrument console: 7 x 10 ½ x 3 ½ inches (18 x 27 x 9 cm) 6 LB (2.7 kg) Sensor: 3 1/2 x 5 inches (9 x 13 cm) 4 LB (1.8 kg) Staff: 1 inch x 8 feet (3cm x 2.5m) 2 LB (1kg)
Environmental	Meets specifications from 1 to 40°C. Operates satisfactorily from -20 to 50°C.
Power	Operates from 9 D-cell flashlight batteries (or 13.5 volts external power). May be operated at 18 volts external power to improve resolution. Power failure or replacement of batteries will not cause loss of data stored in memory.

ACCESSORIES

Standard:	Sensor Staff Backpack Two sets of batteries Carrying case Applications Manual for Portable Magnetometers RS-232 Cable
Optional:	Cold weather battery belt Rechargeable Battery option 50' External power / Sensor cable Spares Kit

PRODUCTS
Conductivity Meters
Metal Detectors
Time Domain Systems
VLF Systems
Borehole Probes
Data Acquisition
Software
Third Party Software

Downloads
Catalogue

EM16 | EM16R | TX27

The EM16 VLF Receiver is the most widely used electromagnetic geophysical instrument of all time. Local tilt and ellipticity of VLF broadcasts are measured and resolved into inphase and quadrature components of VLF response. The EM16 has discovered several base and precious-metal ore bodies and many water-bearing fractures and faults.

The EM16R Resistivity Attachment uses a pair of electrodes to measure the apparent resistivity of the earth. The combined EM16/16R instrument can detect a second earth layer if the layer occurs within the VLF skin-depth. In addition, the EM16/16R can map resistive alteration for gold exploration.

The TX27 is a portable VLF transmitter supplying a VLF field for surveying with either the EM16 or EM16/16R if remote broadcasts are weak, intermittent or poorly coupled with the target. For EM16 surveys, the TX27 antenna consists of a long (typically 1 km) grounded wire.

Specifications

MEASURED QUANTITIES

EM16: inphase and quadrature components of the secondary VLF field, as percentages of the primary field

EM16R: apparent resistivity in ohm-metres, and phase angle between Ex and Hy

PRIMARY FIELD SOURCE

EM16: ferrite-core coil

EM16R: Stainless-steel electrodes, separated by 10 m: impedence of sensor is 100 MΩ in parallel with 0.5 pf

SENSOR

9.8 kHz

OPERATING FREQUENCY

15 to 25 kHz (optionally to 30kHz) depending on VLF broadcasting station

MEASURING RANGES

EM16: inphase: ±150%
quadrature: ±40%

EM16R: 300,3K,30KΩ-m
phase: 0 - 90°

POWER SUPPLY

EM16/EM16R: 6 alkaline "AA" cells

DIMENSIONS

EM16/EM16R: 53x30x22 cm

WEIGHTS

EM16:1.8 kg;shipping:6.2 kg

EM16R:1.5 kg;shipping:6 kg