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ASSESSMENT WORK REPORT ON DETAILED MAGNETIC SURVEY & VLF-EM SURVEY OVER MINING CLAIM 102863, IN NTS 52L07 OF THE WERNER LAKE AREA, NORTHWEST ONTARIO, CANADA

Field Work & Report By:
William C. Hood
Beausejour, Manitoba

Property Holder:
William C. Hood
P.O. Box 1722
Beausejour, Manitoba R0E0C0

Field Work Jan. 17, 18, 19, 20, 23, 24, 25 & 26; Feb. 2, 6, 7 & 9; 2023
Report Completed Feb. 27, 2023

Summary of Reported Work:

Mining District: NTS 52L07, Kenora District
Geographic Area: Almo (Tigar) Lake, Werner Lake Area
Cell Mining Claim: 102863 (52L07L141)
Target Commodity: Ni-Cu-Co
Flagged Grid: 3.5 line km, 25m flag spacing
Ground Magnetic Survey: 3.5 line km,
50m line spacing, 12.5m station spacing
Ground VLF-EM Survey: 3.5 line km,
50m line spacing, 12.5m station spacing

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SUMMARY

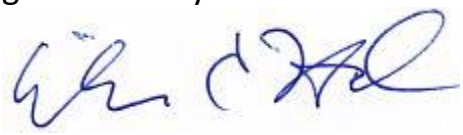
This report describes the results from a small program of magnetic and VLF electromagnetic surveys completed by the author during January and February, 2023, near the center of a claim group covering prospective ground between the Norpax nickel deposit to the west and the Werner Lake cobalt deposit to the east. Mineralization in this area is closely associated with the Werner Lake fault structure, which forms a major, east-west trending topographic lineament in this area.

The author previously held claims in the area in the 1990s and completed detailed geologic mapping in 1992. Drilling by Canmine Resources Corporation intersected modest cobalt-copper mineralization at the east end of the claim group in 1996. The author completed a small program of magnetic and VLF electromagnetic geophysics at the east end of the claim group, over the cobalt-copper showing, in 2016. This work showed that a weak magnetic and VLF electromagnetic anomaly was associated with the cobalt-copper mineralized zone. Also from this work, the Werner Co zone was determined to lie about 150m north of, but running parallel to, the main trend of the Werner Lake fault structure. Global Energy Metals Corp and their joint venture partner, Marquee Resources Ltd, completed significant drilling on the Werner cobalt deposit, immediately east of the claim group, in 2018. The author then completed a small program of magnetic and VLF electromagnetic geophysics at the west end of the claim group in 2019. This work was successful in tracing a magnetic anomaly, possibly associated with the adjacent Norpax Ni deposit, along the main Werner fault structure, into the west end of the claim group, as well as locating a small conductive and magnetic anomaly to the north, in a position analogous to where the Werner Co mineralization would be expected to occur. In January, 2023, the Werner Co property was purchased by High-Tech Metals Ltd.

A small program of magnetic and electromagnetic geophysics was completed near the center of the Almo Lake claim group during January-February, 2023. This work delineated the Werner fault structure as a magnetic low, believed caused by shearing and magnetite destruction. No indication of Norpax type Ni mineralization was found along the Werner fault zone in this area. A broad zone of irregular magnetic anomalies coinciding with a modest conductive anomaly was outlined in a recessive weathering area, just north of the Werner fault

structure. This zone coincides with the known Co mineralization to the east and a Cu occurrence to the west. This area is believed to be prospective for Cu-Co mineralization.

Further work is recommended to both follow-up with geologic mapping, prospecting and sampling on the delineated anomalies from this work, as well as extending the grid and geophysical work across the balance of the Almo Lake property. The recent forest fire in the area has resulted in outcrops and B-horizon mineral soil being very well exposed for surface prospecting activities and geochemistry.



William C. Hood
February 27, 2023

INTRODUCTION

This report describes the results from a small program of magnetic and VLF electromagnetic surveys completed by the author during January and February, 2023, near the center of a claim group covering prospective ground between the Norpax nickel deposit to the west and the Werner Lake cobalt deposit to the east. Mineralization in this area is closely associated with the Werner Lake fault structure, which forms a major, east-west trending topographic lineament in this area.

The author previously held claims in the area in the 1990s and completed detailed geologic mapping in 1992. Drilling by Canmine Resources Corporation intersected modest cobalt-copper mineralization at the east end of the claim group in 1996. The author completed a small program of magnetic and VLF electromagnetic geophysics at the east end of the claim group, over the cobalt-copper showing, in 2016. This work showed that a weak magnetic and VLF electromagnetic anomaly was associated with the cobalt-copper mineralized zone. Also from this work, the Werner Co zone was determined to lie about 150m north of, but running parallel to, the main trend of the Werner Lake fault structure. Global Energy Metals Corp and their joint venture partner, Marquee Resources Ltd, completed significant drilling on the Werner cobalt deposit, immediately east of the claim group, in 2018. The author then completed a small program of magnetic and VLF electromagnetic geophysics at the west end of the claim group in 2019. This work was successful in tracing a magnetic anomaly, possibly associated with the adjacent Norpax Ni deposit, along the main Werner fault structure, into the west end of the claim group, as well as locating a small conductive and magnetic anomaly to the north, in a position analogous to where the Werner Co mineralization would be expected to occur. In January, 2023, the Werner Co property was purchased by High-Tech Metals Ltd.

The work outlined in this report was intended to test for possible conductive or magnetic mineralization along both the main Werner Lake fault structure, as well as the adjacent horizon to the north hosting the Werner Co mineralization, near the center of the claim group.

LOCATION, ACCESS & PHYSIOGRAPHY

The Almo Lake claim group is located in northwestern Ontario, about 10 km east of the Manitoba border. The claims are 80 km north-northwest of the city of Kenora (Fig. 1), at the northeast corner of Almo Lake (also known as Tigar Lake).

Access to the property is from Manitoba, on the Werner Lake road, which is an extension of Manitoba provincial road #315, which ends at the border. The Werner Lake road is unmaintained and generally only accessible by ATV in summer and snowmobile in winter. It is periodically repaired for vehicle usage when drilling or other work requires improved access. At the present time, the road is being maintained to facilitate a mine rehabilitation project at the old Gordon Lake Ni mine, east of the Werner Co deposit. The snowmobile distance from the end of PR #315 to the present work area in the center of the Almo Lake claim group was 12 km. The Werner Lake road, inside Ontario, is a restricted access road, requiring a travel permit from the Ministry of Natural Resources in Kenora.

The property is situated in typical Precambrian terrain with local relief generally less than 30 m. Outcrop is very abundant in this area, forming rolling hills interspersed with swamp and glacial drift. A low-lying topographic lineament, marking the location of a major fault structure, extends east-west through the south-central portion of the claims. Outcrops in the area have a strong east-west orientation, corresponding the overall gneissic layering and fault structures. Much of the area was burned in a large forest fire in the 1990s. Thick re-growth of jack pine, poplar and spruce, combined with extensive windfalls of both old dead trees and re-growth, make traversing locally difficult in this area. The present work area in the center of the property was burned in a new forest fire during the summer of 2018, resulting in local areas of wind-fallen dead trees.

CLAIM STATUS

The Almo Lake property was originally acquired as two ground-staked mining claims, K4257542 in 2014, and K4257548 in 2017. The original #1 (northeast) claim post corner and #2 (southeast) post of K4257542 are tied into survey cairns and pegs marking the boundary of adjoining patented/lease claims to the east.

Almo Lake Co Project

LOCATION MAP

Fig. 1 Apr/16 BH

The original ground-staked claims totalled about 68 hectares in area, straddling the boundary between the Werner Lake map sheet, G-2654, and Reynar Lake, G-2636. The claims were staked to cover prospective ground between the Werner cobalt deposit to the east and Norpax nickel deposit to the west.

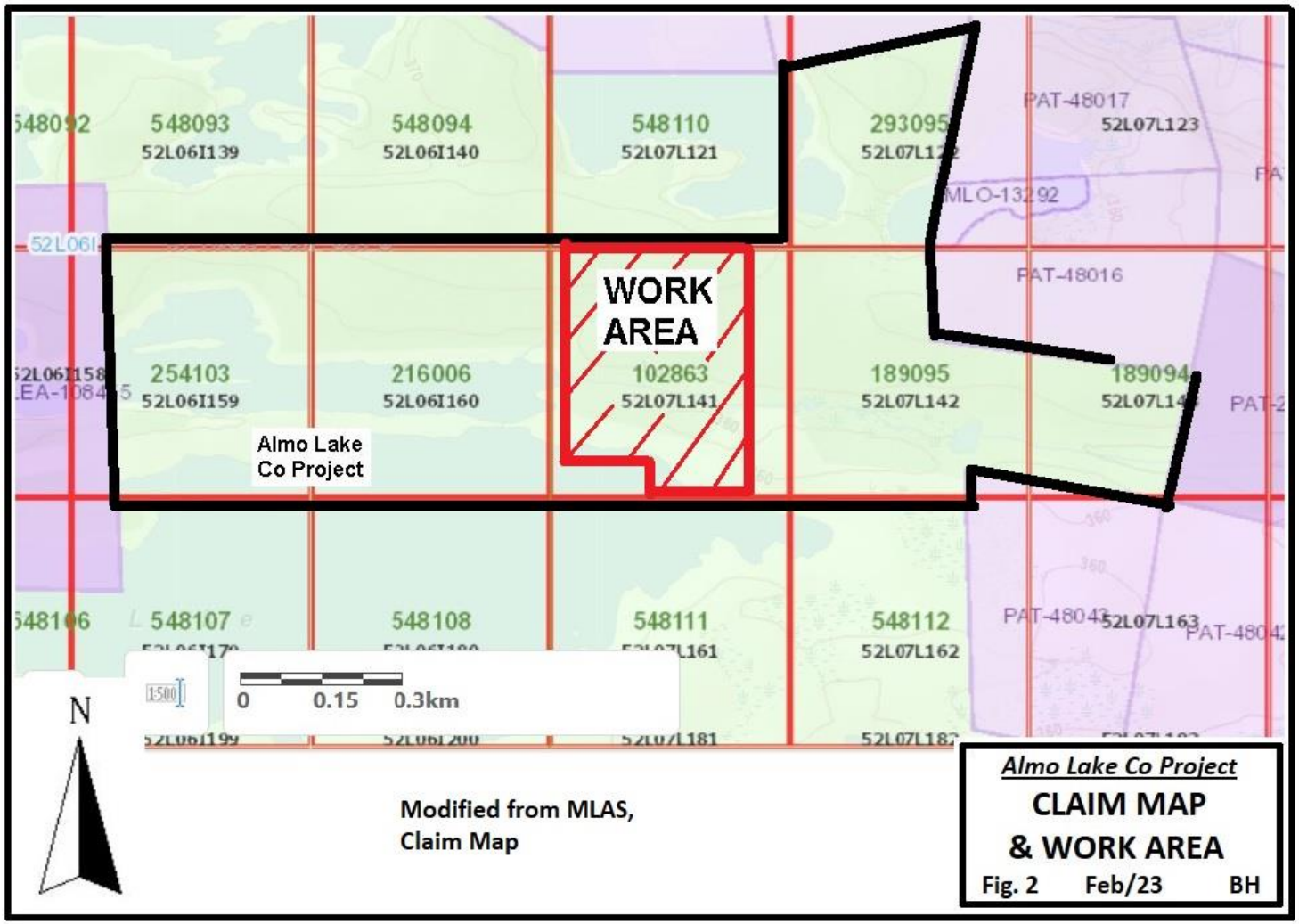
Under the transition to digital map staking in 2018, the original ground-staked mining claims were converted to one “single cell” mining claim, 189094, and five “boundary cell” mining claims, 189095, 102863, 293095, 216006 and 254103. As other interests within the five “boundary cell” claims expired, the claims expanded to cover all of the available ground within the cell. However, only two of the central claims cover the full cell area of about 440 x 460m, while the remaining four claims have portions of the adjacent Norpax Ni and Werner Co patented/lease claims within part of the cell. The property presently comprises six Single Cell Mining Claims, totalling approximately 85 ha, straddling the boundary between NTS 52L06 and 52L07 (Fig. 2). The present work area in the center of the claim group is also shown on Figure 2, Claim Map.

GEOLOGY & MINERALIZATION

The Almo Lake claim group lies along the Werner Lake fault structure which extends easterly from the pinch-out of the Bird River greenstone belt near the Manitoba-Ontario border. These rocks are Archean in age and lie within the English River Subprovince, a sedimentary gneiss terrain, of the Superior Province of the Precambrian Shield (Fig. 3).

The Werner Lake fault structure extends east-west along the south-central portion of the Almo Lake claim group. This fault is a major structure which is marked by a strong topographic lineament and has been a locus for ultramafic intrusions in several locations along its length. It is believed that these ultramafic rocks represent the remnants of a feeder system to overlying intrusions related to the Bird River Sill to the west. Copper, nickel, cobalt and platinum mineralization are closely associated with peridotite sills and plugs along the Werner Lake fault structure.

Most of the Almo Lake claims are underlain by sedimentary gneisses and migmatite which consist mainly of layered biotite-amphibole schist interspersed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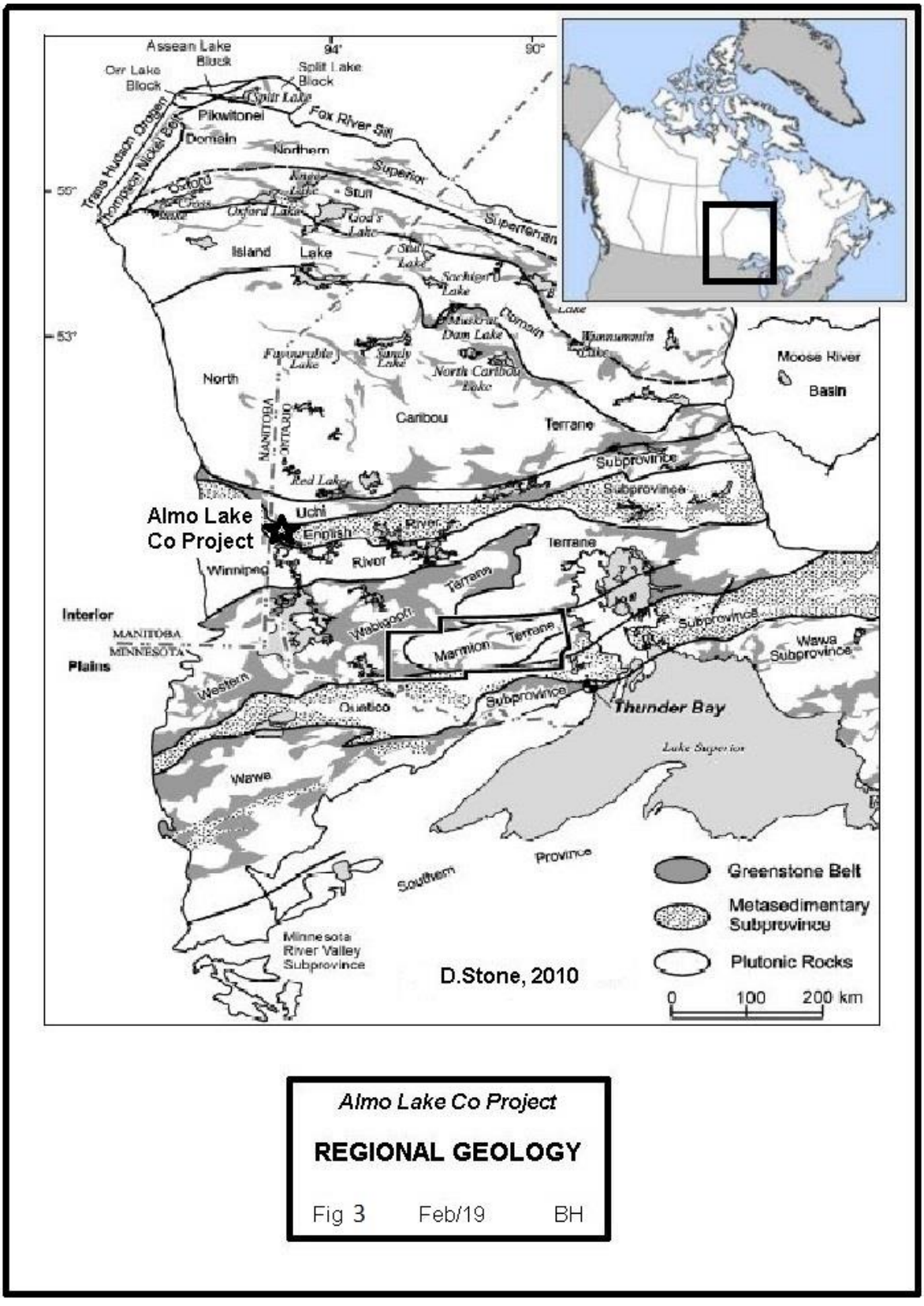
52L06I139
548094
52L06I140
548110
52L07L121
293095
PAT-48017
52L07L123
MLO-13292
PAT-48016
WORK
AREA
254103
52L06I159
216006
52L06I160
102863
52L07L141
189095
52L07L142
189094
Almo Lake
Co Project
548107
548108
548111
548112
52L07L162
PAT-48043
52L07L163
0
0.15
0.3km
N
Modified from MLAS,
Claim Map
Almo Lake Co Project
CLAIM MAP
& WORK AREA
Fig. 2 Feb/23 BH



Almo Lake Co Project

REGIONAL GEOLOGY

Fig 3 Feb/19 BH

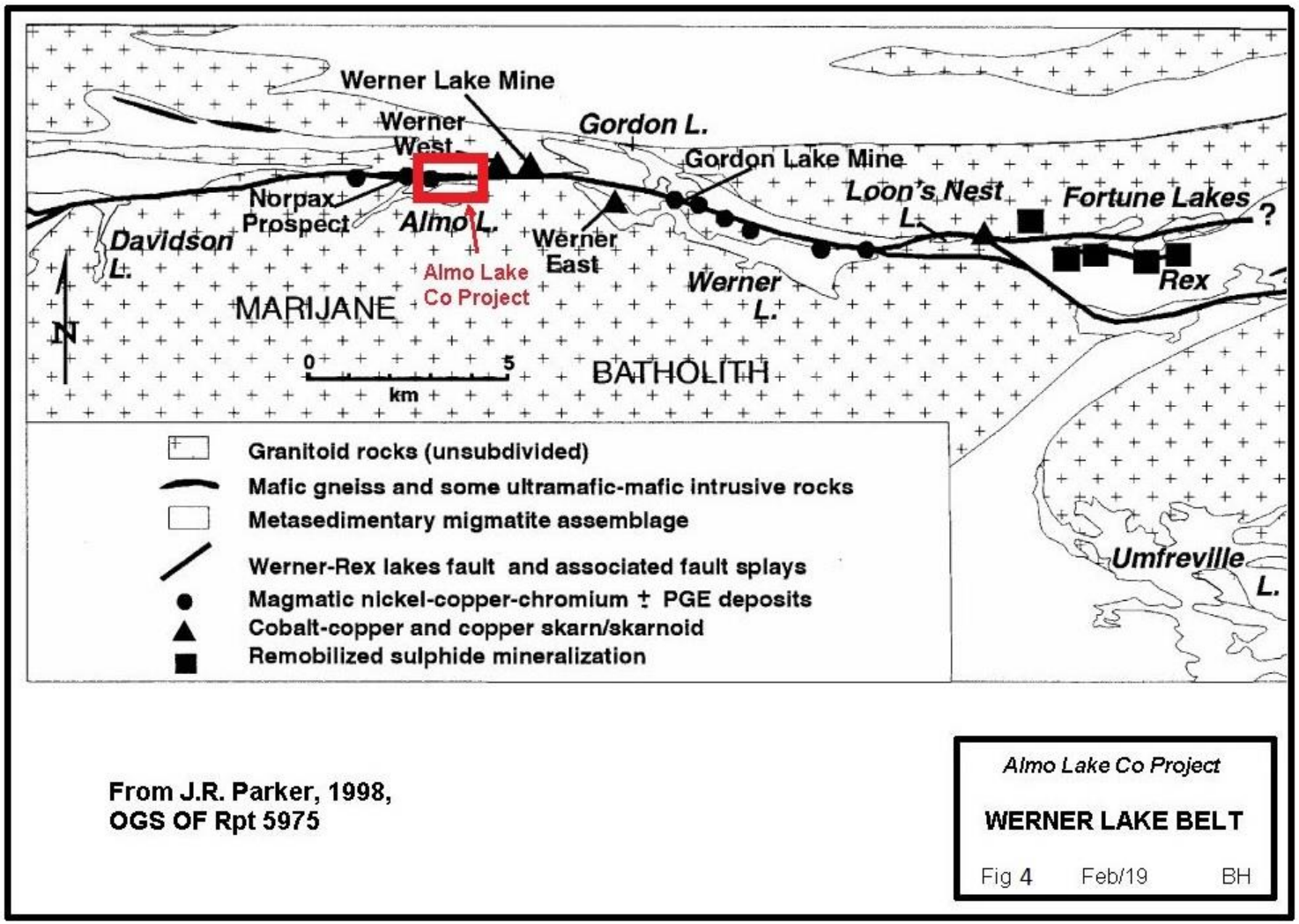
with bands of white granite and granodiorite. These lithologies have been frequently intruded by pink granite which is locally megacrystic or pegmatitic. South of the Werner Lake fault in this area, the rocks consist mainly of tonalite, granodiorite and granite of the Marijane Batholith (Fig. 4).

Within the 2023 work area, the gneisses along the north boundary of the claims form a high resistant ridge, while the rocks of the Werner fault zone and prospective Co horizon to the south are recessive weathering and lower in elevation, as shown in Photo 1, Appendix I. Photo 2, Appendix I, shows the steep north-dipping sedimentary gneissic rocks near the north edge of the claim group.

Two types of mineralization related to ultramafic rocks occur in the Werner Lake area and are known to be present on the Almo Lake property. Nickel-copper mineralization, associated with peridotite, occurs along the Werner Lake fault structure and extends into the Almo Lake property from the Norpax deposit, located to the immediate west. Cobalt-copper mineralization occurs along a garnetiferous mafic gneiss horizon about 150m north of the Werner Lake fault. Recent work has suggested that this mineralization may be a skarnoid remobilization. Drilling at the east end of the Almo Lake property has intersected up to 0.29 % Co and 0.81% Cu over 2.0 m, probably an extension of the Werner West cobalt deposit located just to the east. Both the Werner Lake fault structure with local nickel mineralization and the mafic gneiss horizon hosting cobalt-copper mineralization are believed to extend across the 2 km strike length of the Almo Lake property (Fig. 5).

WORK PROGRAM; JANUARY-FEBRUARY, 2023

A small work program was completed in the center of the property by the author within cell mining claim 102863 during January and February, 2023. Since the property is within reasonable commuting distance from the author's residence, work was conducted on days when weather and travel conditions were favourable. Field work was conducted on Jan. 17, 18, 19, 20, 23, 24, 25 & 26; Feb. 2, 6, 7 & 9; 2023. Access was by vehicle to the end of PR #315 at the Manitoba-Ontario border, and then snowmobile to Almo Lake.

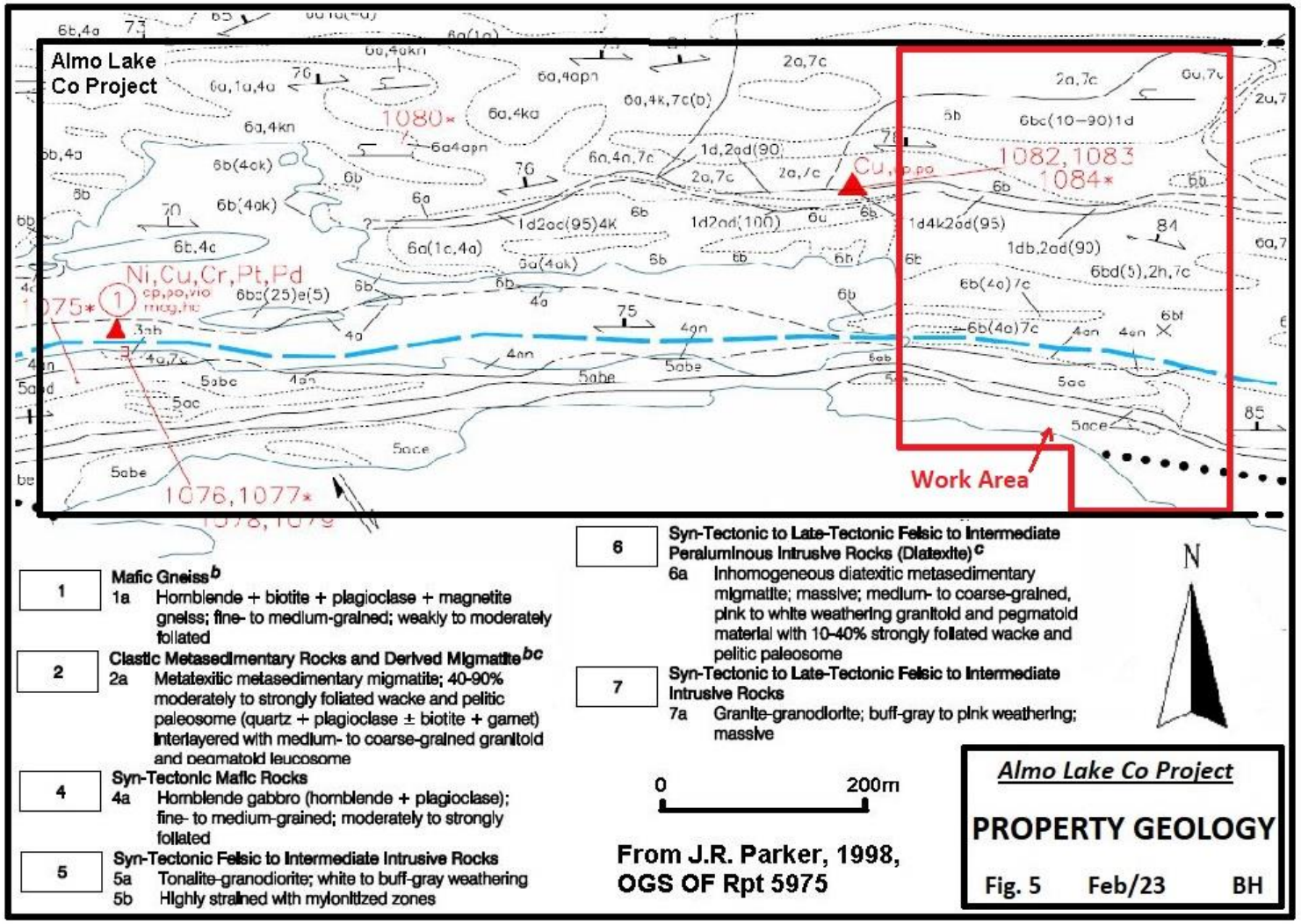


From J.R. Parker, 1998,
OGS OF Rpt 5975

Almo Lake Co Project

WERNER LAKE BELT

Fig 4 Feb/19 BH

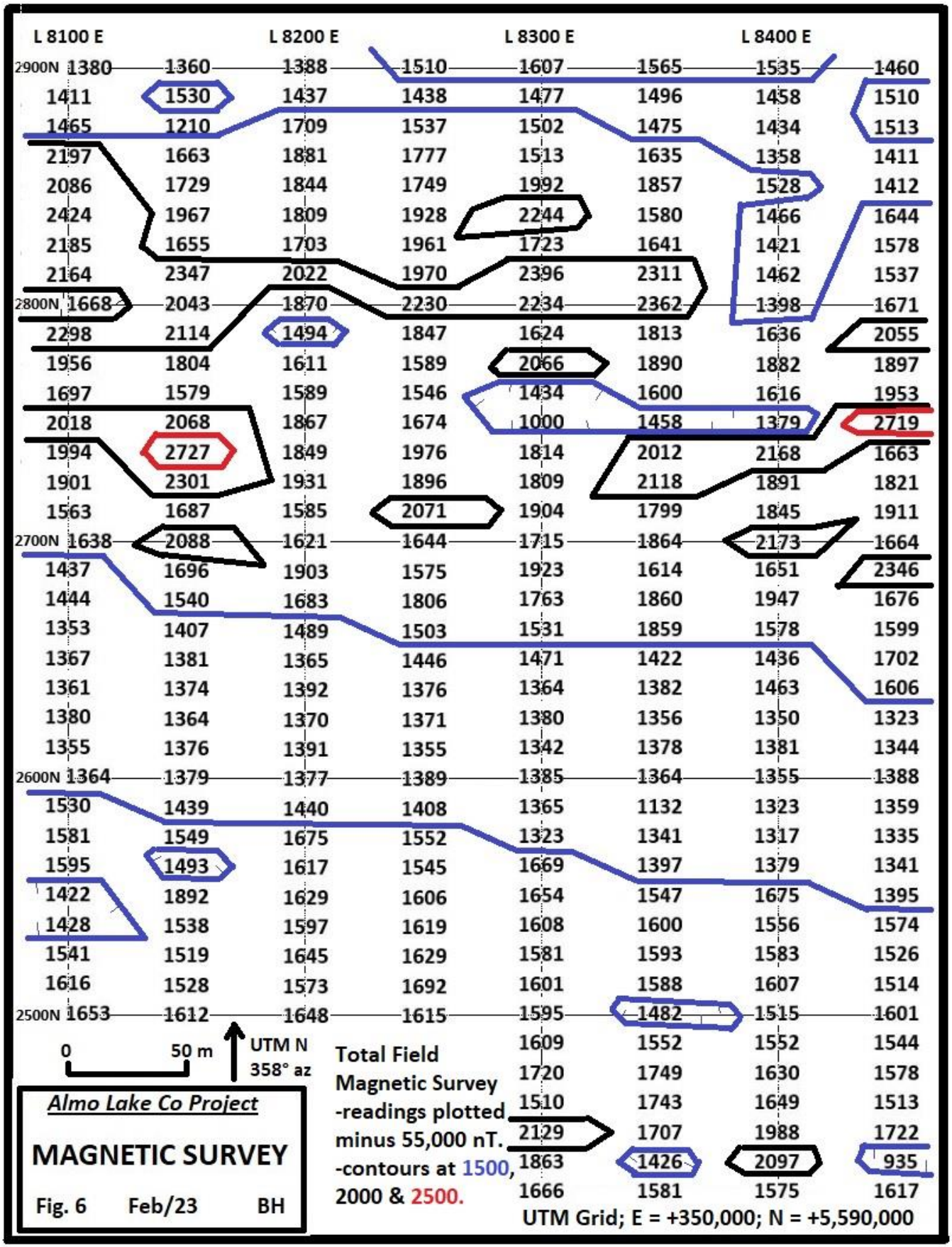

Almo Lake
Co Project
Work Area
Ni,Cu,Cr,Pt,Pd
cp,po,vio
mag,hc
1080*
1082,1083
1084*
1076,1077*
1075*
Cu,
1
Mafic Gneiss[b]
1a Hornblende + biotite + plagioclase + magnetite gneiss; fine- to medium-grained; weakly to moderately foliated
2
Clastic Metasedimentary Rocks and Derived Migmatite[bc]
2a Metatexitic metasedimentary migmatite; 40-90% moderately to strongly foliated wacke and pelitic paleosome (quartz + plagioclase ± biotite + garnet) interlayered with medium- to coarse-grained granitoid and pegmatoid leucosome
4
Syn-Tectonic Mafic Rocks
4a Hornblende gabbro (hornblende + plagioclase); fine- to medium-grained; moderately to strongly foliated
5
Syn-Tectonic Felsic to Intermediate Intrusive Rocks
5a Tonalite-granodiorite; white to buff-gray weathering
5b Highly strained with mylonitized zones
6
Syn-Tectonic to Late-Tectonic Felsic to Intermediate Peraluminous Intrusive Rocks (Diatexite)[c]
6a Inhomogeneous diatexitic metasedimentary migmatite; massive; medium- to coarse-grained, pink to white weathering granitoid and pegmatoid material with 10-40% strongly foliated wacke and pelitic paleosome
7
Syn-Tectonic to Late-Tectonic Felsic to Intermediate Intrusive Rocks
7a Granite-granodiorite; buff-gray to pink weathering; massive
N
0
200m
From J.R. Parker, 1998,
OGS OF Rpt 5975
Almo Lake Co Project
PROPERTY GEOLOGY
Fig. 5 Feb/23 BH

A flagged grid was installed using a Garmin 64S instrument. Specifications for this instrument indicate 3m accuracy, but where both lines and stations could be observed, appeared to be better than 2m accuracy. North-south lines were run at 50m spacing, covering most of the claim. Lines were oriented at UTM NAD83 Zone 15 north-south, which is 358°-178° azimuth. Lines were labeled with the last 4 digits of the UTM easting. Lines were installed at 8100E, 8150E, 8200E, 8250E, 8300E. 8350E. 8400E and 8450E, representing UTM eastings 358100E through 358450E. Stations north-south along the lines were marked at 25m spacing with blue flagging at the 25s, 50s and 75s, and pink flagging at the 100s. Grid coordinates were marked every 50m. Station coordinates were the last 4 digits of the UTM northing, from 2425N through 2900N, representing UTM northings from 5592425N to 5592900N. Lines 8100E to 8250E were only installed south to 2500N, rather than 2425N, due to poor ice conditions with slush on top of the ice. Station positions at 12.5m points between the 25m flags were estimated. A total of 3.5 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 determine whether geophysical anomalies at the west end of the property associated with the Norpax Ni mineralization, and east end of the property associated with the Werner Co mineralization, extended through the central area of the claim group. Photographs from this work are included in Appendix I. Specifications on the geophysical instruments used are in Appendix II.

The total field magnetic survey was completed using a Geometrics G-856 proton precession magnetometer. The magnetic survey totalled 3.5 line km, on 50 meter spaced lines, with 12.5 meter station spacing. All field readings were looped from a consistent base station location at 358055E/5592580N along the Werner Lake road. All data was leveled relative to this point, averaged at 56,616 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. 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. A photograph taken during this work is included in Appendix I.

The total magnetic field results from this survey are plotted and contoured on Figure 6. Readings are shown minus 55,000 nT to simplify plotting. The corrected

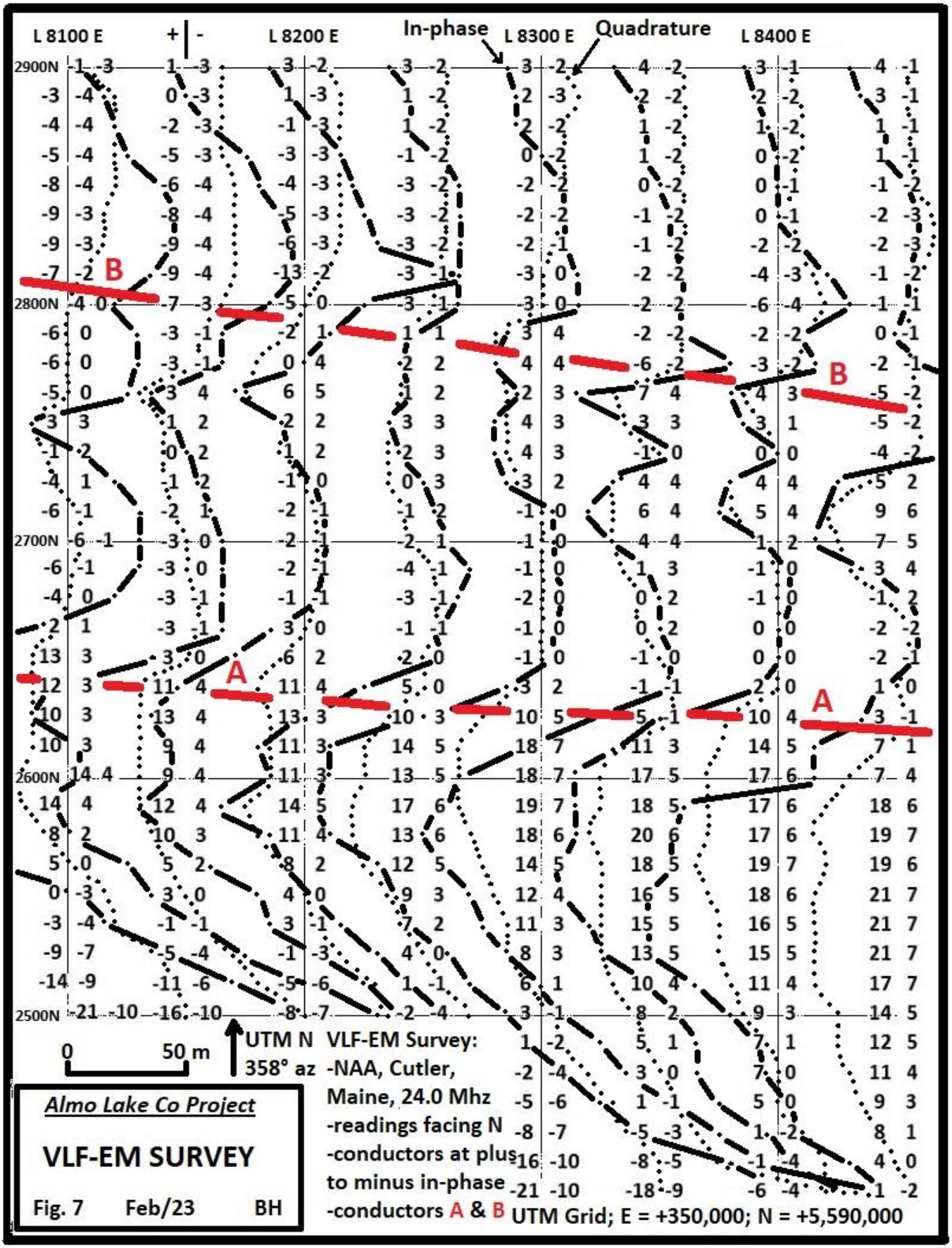

L 8100 E
L 8200 E
L 8300 E
L 8400 E
2900N 1380 1360 1388 1510 1607 1565 1535 1460
1411 1530 1437 1438 1477 1496 1458 1510
1465 1210 1709 1537 1502 1475 1434 1513
2197 1663 1881 1777 1513 1635 1358 1411
2086 1729 1844 1749 1992 1857 1528 1412
2424 1967 1809 1928 2244 1580 1466 1644
2185 1655 1703 1961 1723 1641 1421 1578
2164 2347 2022 1970 2396 2311 1462 1537
2800N 1668 2043 1870 2230 2234 2362 1398 1671
2298 2114 1494 1847 1624 1813 1636 2055
1956 1804 1611 1589 2066 1890 1882 1897
1697 1579 1589 1546 1434 1600 1616 1953
2018 2068 1867 1674 1000 1458 1379 2719
1994 2727 1849 1976 1814 2012 2168 1663
1901 2301 1931 1896 1809 2118 1891 1821
1563 1687 1585 2071 1904 1799 1845 1911
2700N 1638 2088 1621 1644 1715 1864 2173 1664
1437 1696 1903 1575 1923 1614 1651 2346
1444 1540 1683 1806 1763 1860 1947 1676
1353 1407 1489 1503 1531 1859 1578 1599
1367 1381 1365 1446 1471 1422 1436 1702
1361 1374 1392 1376 1364 1382 1463 1606
1380 1364 1370 1371 1380 1356 1350 1323
1355 1376 1391 1355 1342 1378 1381 1344
2600N 1364 1379 1377 1389 1385 1364 1355 1388
1530 1439 1440 1408 1365 1132 1323 1359
1581 1549 1675 1552 1323 1341 1317 1335
1595 1493 1617 1545 1669 1397 1379 1341
1422 1892 1629 1606 1654 1547 1675 1395
1428 1538 1597 1619 1608 1600 1556 1574
1541 1519 1645 1629 1581 1593 1583 1526
1616 1528 1573 1692 1601 1588 1607 1514
2500N 1653 1612 1648 1615 1595 1482 1515 1601
1609 1552 1552 1544
1720 1749 1630 1578
1510 1743 1649 1513
2129 1707 1988 1722
1863 1426 2097 935
1666 1581 1575 1617
0
50 m
UTM N
358° az
Almo Lake Co Project
MAGNETIC SURVEY
Fig. 6 Feb/23 BH
Total Field
Magnetic Survey
-readings plotted
minus 55,000 nT.
-contours at 1500,
2000 & 2500.
UTM Grid; E = +350,000; N = +5,590,000

readings fell within a range from 55,935 nT to 57,727 nT, and are contoured at 500 nT intervals, from 56,500 nT to 57,500 nT, in order to outline gross stratigraphic units rather than fine detail. As can be seen in the magnetic data on Figure 6, rocks within the work area strike about 100° azimuth, and are observed in outcrop to dip between 75 and 80° north.

Two main magnetic lithology units are evident in the data, extending east-west across the central portion of the work area. A uniform area of low magnetic intensity, about 100m wide, extends across the grid from about 2600N to 2700N on line 8100E, to between 2550N and 2650N on line 8450E. This low magnetic zone corresponds with the interpreted position of the main Werner Lake fault structure, and is believed to be caused by magnetite destruction due to shearing. An area of moderate, but very irregular, magnetic intensity, about 150m wide, lies immediately north of the Werner fault zone, extending from between 2725N and 2875N on line 8100E, to between 2675N and 2800N on line 8450E. This magnetic unit is believed to reflect a sedimentary gneiss unit that is more mafic than other rocks in the area. This unit may correlate with the rocks hosting the Co mineralization to the east. As can be seen on Figure 4, a copper occurrence lies within these rocks, just west of the grid area.

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 3.5 line km with 50 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. A photograph from this work is included in Appendix I. Field readings with interpreted conductors are shown plotted in profiles on Figure 7.

Two VLF electromagnetic anomalies, marked A and B, are notable in the data. A strong conductive anomaly, marked as anomaly A, extends east-west across the grid area from 2650N on line 8100E to 2625N on line 8450E, and clearly corresponds with the Werner Lake fault, a major structure and topographic lineament along the entire Werner Lake belt. Anomaly B, about 150m north of anomaly A, is of interest because it is at the same position that Co-Cu mineralization occurs at the east end of the Almo Lake property. Anomaly B is weaker and more irregular than anomaly A, however anomaly B was also noted in the field to correspond with a topographic lineament and recessive weathering


L 8100 E
+ | -
L 8200 E
In-phase
L 8300 E
Quadrature
L 8400 E
2900N
2800N
2700N
2600N
2500N
B
A
B
A
0
50 m
UTM N
358° az
VLF-EM Survey:
-NAA, Cutler, Maine, 24.0 Mhz
-readings facing N
-conductors at plus to minus in-phase
-conductors A & B
UTM Grid; E = +350,000; N = +5,590,000
Almo Lake Co Project
VLF-EM SURVEY
Fig. 7 Feb/23 BH

rocks. Anomaly B also corresponds with a broad zone of irregular magnetic high anomalies.

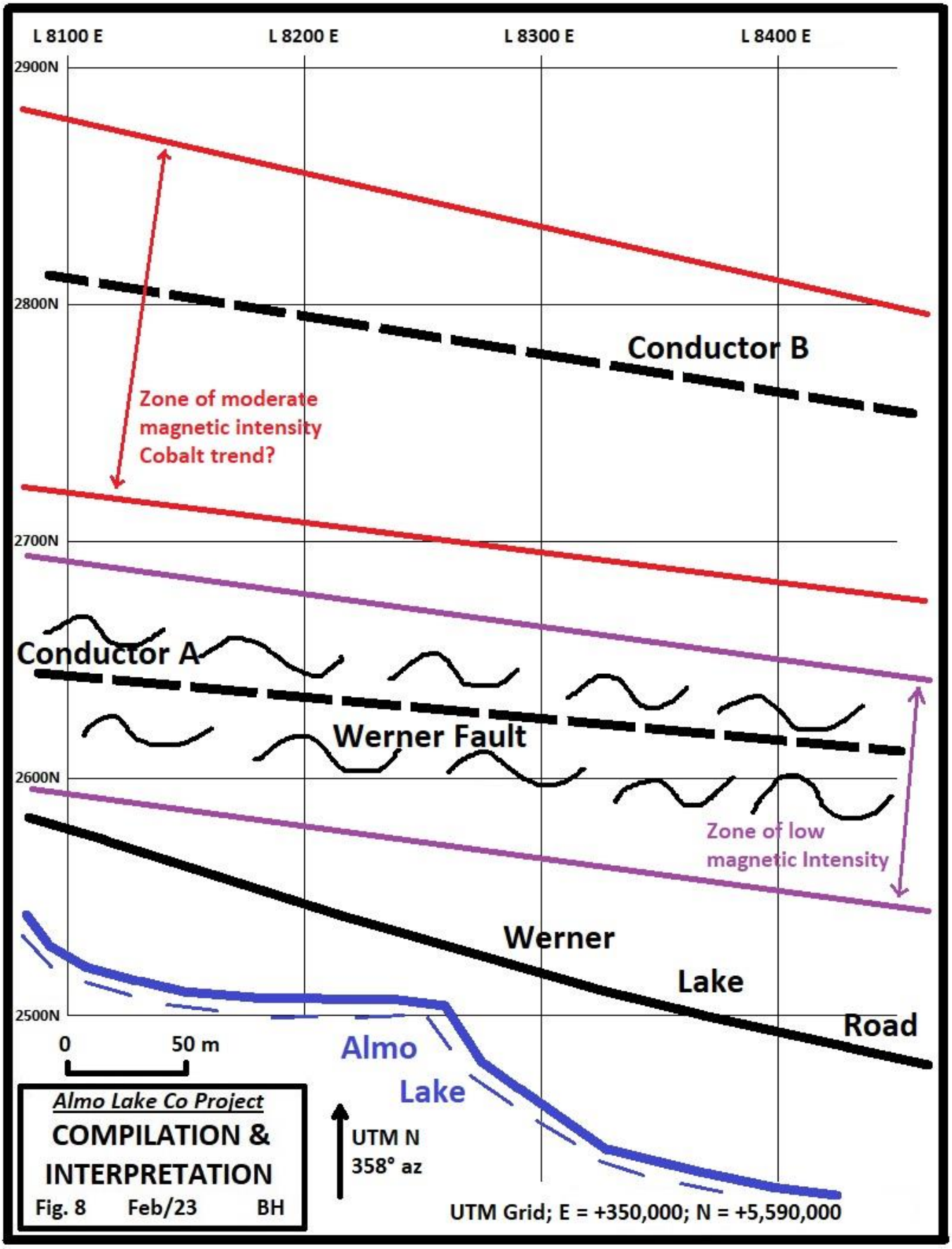
Figure 8 is a compilation showing the location of the magnetic anomalies, VLF electromagnetic conductive anomalies, Werner Lake mine road and Almo Lake shoreline. No ultramafic intrusions or related Norpax type Ni mineralization is interpreted to be present along the Werner fault structure in this area. However, the area north of the Werner fault in the area of conductor B is believed to be prospective for Cu-Co type mineralization.

CONCLUSIONS & RECOMMENDATIONS

A small program of magnetic and electromagnetic geophysics was completed near the center of the Almo Lake claim group during January-February, 2023. This work delineated the Werner fault structure as a magnetic low, believed caused by shearing and magnetite destruction. No indication of Norpax type Ni mineralization was found along the Werner fault zone in this area. A broad zone of irregular magnetic anomalies coinciding with a modest conductive anomaly was outlined in a recessive weathering area, just north of the Werner fault structure. This zone coincides with the known Co mineralization to the east and a Cu occurrence to the west. This area is believed to be prospective for Cu-Co mineralization.

Further work is recommended to both followup with geologic mapping and sampling on the delineated anomalies from this work, as well as extending the grid and geophysical work across the balance of the Almo Lake property. The recent forest fire in the area has resulted in outcrops and B-horizon mineral soil being very well exposed for surface prospecting activities and geochemistry.

William C. Hood
February 27, 2023


L 8100 E
L 8200 E
L 8300 E
L 8400 E
2900N
2800N
2700N
2600N
2500N
Conductor B
Zone of moderate
magnetic intensity
Cobalt trend?
Conductor A
Werner Fault
Zone of low
magnetic Intensity
Werner
Lake
Road
0
50 m
Almo
Lake
Almo Lake Co Project
COMPILATION &
INTERPRETATION
Fig. 8 Feb/23 BH
UTM N
358° az
UTM Grid; E = +350,000; N = +5,590,000

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
February 27, 2023

APPENDIX I - PHOTOGRAPHS

Photo 1. Looking south-southwest from 8375E/2830N on the ridge near the northeast corner of the work area across the prospective Cu-Co zone, the Werner fault structure, and Almo Lake in the background.

Photo 2. Looking east at north-dipping sedimentary gneissic rocks and migmatite at 8205E/2810N. EM-16 VLF instrument for scale.

Photo 3. Looking west-northwest from L8100E/2575N at km 12 along Werner Lake road during magnetic survey.

Photo 4. Author "selfie" during VLF-EM survey looking west-northwest from L8200E/2585N across probably trace of the Werner Lake fault structure.

APPENDIX II

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

G-856 Memory-MagTM

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

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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