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2021 RECONNAISSANCE REPORT ON GROUND VLF SURVEY JEAN LAKE AREA THUNDER BAY MINING DISTRICT NORTHWESTERN ONTARIO, CANADA

DATA COMPILATION, ANALYSIS AND DISCUSSION

MINERAL TENURES: 203658, 299434, 178128, 210300, 109257,109256 132379, 244298, 299433, 339733, 252330, 109254, 197683



Prepared for Ultra Lithium Inc.

ABSTRACT

This report discusses the survey procedure, compilation of data and the qualitative interpretation of ground VLF-EM surveys carried out on the Jean Lake property during November and December of 2021. The purpose of this report is to assist in locating potential Lithium-bearing targets within the Jean Lake property.

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1. SUMMARY

1.1. Property Location

The Jean Lake property consists of 54 contiguous mineral claims which cover a geographic area of 1,135 hectares. The Property is in northwestern Ontario near in Jean Lake, approximately 17 km southeast of the town of MacDiarmid. It is accessible through a series of gravel logging roads and all-weather roads along the north side of Jean Lake which branch northward from Highway 11. By driving 40 km north of the town of Nipigon on Trans-Canada Highway 11, then driving approximately 14 km northeast on the Gorge creek road toward Postagoni Lake and another 10 km to east, the property is reachable. The variation in relief within the property area where metasediments are exposed is relatively low and flat. The Property is in Thunder Bay Mining District of Northwestern Ontario mining division and is centered on Universal Transverse Mercator (UTM) coordinate system, Zone 16N, 5,470,480 meters Northing and 432,416 meters Easting; or geographic coordinates system 87° 55′ 52″ West Longitude and 49° 22′ 59″ North Latitude.

1.2. General Geology and Mineralization

Geologically, the Jean Lake property is underlain mainly by Precambrian metasedimentary gneisses intruded by massive Algoman granitic rocks and by numerous sills and dykes of genetically related porphyry, pegmatite, and aplite. A few small masses and some narrow dykes of basic rocks (Diabase dykes) also invaded the metasediments. Like the metasediments, these have suffered regional metamorphism, and because in places they are cut by granite and pegmatite, they are considered cautiously to be pre-Algoman in age. The diabase occurs in two ways; as dykes and as flat-lying or gently dipping features. The area is intersected by several faults, of north-south, north-northeast, northeast, and northwest strikes all of which seem to be younger in age than the granitic rocks, and post-diabase movements have occurred along most of them (Pye 1965).

Lithium has been the primary mineral of economic interest in this area and Lithium mineralization style is dominantly hosted within spodumene-bearing pegmatite dykes and sills. The pegmatites of the area seem to be of magmatic origin and generated by the progressive crystallization of granitic magma. They usually appear as loosely tabular dykes and sills, attenuated lenses, and small irregular-shaped bodies. The spodumene-bearing deposits is altered in places to either muscovite or to fine-textured sericite. Although muscovitization is quantitatively not very important in some places, sericitization of spodumene, with loss of lithia and gain in iron content, has seriously affected the nature of some deposits. Sericite, which occurs as the principal alteration product of spodumene, seems to be spatially related to the pegmatite dykes and sills in this area. A low-grade copper deposits which are localized along the breccia zone of the fault zones in some places of the area shows that base-metal deposits, as well as lithium pegmatites, may occur. The CAMP lithium deposit occurs as a dyke in metasediments and strikes N50°W and dips vertically. The CAMP pegmatite seems to occur in a matrix of very fine-grained quartz, feldspar, and muscovite and spodumene crystals near oblique fractures are highly sericitized. However, alteration of spodumene in the CAMP lithium deposit does not seem to be quantitatively significant. The TRANS lithium deposit is a spodumene-bearing dyke cutting metasediments. It also strikes N50°W and dips vertically to steeply east. The spodumene content of this dyke appears to be highest at the southeast end, where the dyke is widest. Sericite most likely occurs as the principal alteration product of spodumene in the TRANS lithium deposit. This type of alteration looks to be spatially related to the diabase dykes and oblique fractures that are possibly sericitized in this area (Pye 1965).

1.3. Geophysical Exploration Concept and Status

The 2021 field season included a ground geophysical program comprised of a ground VLF survey. This work was carried out by Ultra Lithium using a Geonics EM16 VLF receiver in November 2021. The VLF EM-16 survey consisted of running 14 VLF traverse Lines totaling 8,864 m. 368 measurements were recorded at about average 25m intervals on two grids in areas where CAMP and TRANS deposits exist. The VLF survey takes true measurements of the Vertical in-phase & Out-of-phase components as % of total field within the VLF frequency range of 15 - 30kHz. The VLF transmitter provided the primary electromagnetic field for this survey was Cutler, Maine (NAA) with a frequency of 24.0 kHz

The objectives of the survey were to map and characterize geological features that predominantly control the mineralized zones. To fulfill these objectives, the VLF-EM system recorded electromagnetic data to measure the earth's response to EM fields generated by a far-field transmitter. Electromagnetic responses subsequently could be interpreted to show variations in bedrock geology to greater depths and delineate well-mineralized structural features. The VLF survey data was compiled and corrected for any errors. This report presents the survey results and discusses data interpretation for both In-phase and Quadrature components VLF signals.

In general, the features with NW-SE trends located within the survey areas are characterized by long or continuous strike lengths, strong conductivity, and seem to be coincident with the location of spodumene-bearing pegmatite dykes and sills.

2. INTRODUCTION

In November 2021 Ultra Lithium conducted a ground geophysical survey comprising of VLF-EM surveys in the central part of the Jean Lake property (Mineral Tenures: 203658, 299434, 178128, 210300, 109257,109256, 132379, 244298, 299433, 339733, 252330, 109254, 197683). The scope of the survey consisted of the acquisition and analysis of VLF data collected on two Grids (GRID#1 in the CAMP deposit and GRID#2 in the TRANS deposit). The objectives of the survey were to indicate and characterize primary and secondary geological processes and features that predominantly control the mineralized zones. The purpose of this technical report is to identify the exploration targets of the property, and to provide recommendations for future field work, if required.

3. RELIANCE ON OTHER EXPERTS

Information, conclusions, and recommendations contained in this report are based upon the information that Ultra Lithium has provided, and it is assumed that the acquisition of the VLF data has been performed in accordance with geophysical survey standards. Other relevant information on the property presented in this report is based upon various publicly available documents as well as maps and technical reports published on the Ultra Lithium's Website.

4. PROPERTY LOCATION AND DESCRIPTION

4.1. Property Location

The Property is in northwestern Ontario near in Jean Lake, approximately 17 km southeast of the town of MacDiarmid. It is accessible through a series of gravel logging roads and all-weather roads along the north side of Jean Lake which branch northward from Highway 11. By driving 40 km north of the town of Nipigon on Trans-Canada Highway 11, then driving approximately 14 km northeast on the Gorge creek road toward Postagoni Lake and another 10 km to east, the property is reachable. The variation in relief within the property area where metasediments are exposed is relatively low and flat.

The Property is in Thunder Bay Mining District of Northwestern Ontario mining division and is centered on Universal Transverse Mercator (UTM) coordinate system, Zone 16N, 5,470,480 meters Northing and 432,416 meters Easting; or geographic coordinates system 87^o 55' 52" West Longitude and 49° 22' 59" North Latitude (Figure 1).



Figure 1: General Location map of the Jean Lake Property

4.2. Property Description

The Jean Lake property consists of 54 contiguous mineral claims which cover a geographic area of 1,135 hectares. The Property is in northwestern Ontario near in Jean Lake, approximately 17 km southeast of the town of MacDiarmid. It is accessible through a series of gravel logging roads and all-weather roads along the north side of Jean Lake which branch northward from Highway 11. By driving 40 km north of

the town of Nipigon on Trans-Canada Highway 11, then driving approximately 14 km northeast on the Gorge creek road toward Postagoni Lake and another 10 km to east, the property is reachable. The variation in relief within the property area where metasediments are exposed is relatively low and flat. The Property is in Thunder Bay Mining District of Northwestern Ontario mining division and is centered on Universal Transverse Mercator (UTM) coordinate system, Zone 16N, 5,470,480 meters Northing and 432,416 meters Easting; or geographic coordinates system 87° 55′ 52″ West Longitude and 49° 22′ 59″ North Latitude. Figure 2 shows the Jean Lake claim boundaries with local physiography.



Figure 2: The Jean Lake claim boundaries with local physiography

5. GEOLOGICAL SETTING AND MINERALIZATION

5.1. Regional Geology

Geologically, the Jean Lake property is underlain mainly by Precambrian metasedimentary gneisses intruded by massive Algoman granitic rocks and by numerous sills and dykes of genetically related porphyry, pegmatite, and aplite (Pye 1965). A few small masses and some narrow dykes of basic rocks (Diabase dykes) also invaded the metasediments. Like the metasediments, these have suffered regional metamorphism, and because in places they are cut by granite and pegmatite, they are considered cautiously to be pre-Algoman in age. The diabase occurs in two ways; as dykes and as flat-lying or gently dipping features. The area is intersected by several faults, of north-south, north-northeast, northeast, and northwest strikes all of which seem to be younger in age than the granitic rocks, and post-diabase movements have occurred along most of them (Pye 1965).

5.2. Mineralization

Lithium has been the primary mineral of economic interest in this area and Lithium mineralization style is dominantly hosted within spodumene-bearing pegmatite dykes and sills. The pegmatites of the area seem to be of magmatic origin and generated by the progressive crystallization of granitic magma. They usually appear as loosely tabular dykes and sills, attenuated lenses, and small irregular-shaped bodies (Pye 1965). The spodumene-bearing deposits is altered in places to either muscovite or to fine-textured sericite. Although muscovitization is quantitatively not very important in some places, sericitization of spodumene, with loss of lithia and gain in iron content, has seriously affected the nature of some deposits. Sericite, which occurs as the principal alteration product of spodumene, seems to be spatially related to the pegmatite dykes and sills in this area. A low-grade copper deposits which are localized along the breccia zone of the fault zones in some places of the area shows that base-metal deposits, as well as lithium pegmatites, may occur. The CAMP lithium deposit occurs as a dyke in metasediments and strikes N50°W and dips vertically. The CAMP pegmatite seems to occur in a matrix of very fine- to fine-grained quartz, feldspar, and muscovite; however, some spodumene crystals near obligue fractures are highly sericitized. Alteration of spodumene in the CAMP lithium deposit, however, does not seem to be quantitatively significant. The TRANS lithium deposit is a spodumene-bearing dyke cutting metasediments. It also strikes N50°W and dips vertically to steeply east. The spodumene content of this dyke appears to be highest at the southeast end, where the dyke is widest. Sericite most likely occurs as the principal alteration product of spodumene in the TRANS lithium deposit (Pye 1965). This type of alteration looks to be spatially related to the diabase dykes and oblique fractures that are possibly sericitized in this area (Figure 3).



Figure 3: General Geology of the Jean Lake property (Ontario Geological Survey, Map 2056, 1964)

6. WORK PERFORMED

6.1 Objective and Scope of Geophysical Survey

The 2021 field season included a ground geophysical program comprised of a ground VLF survey. This work was carried out by Ultra Lithium using a Geonics EM16 VLF receiver in November 2021. The VLF EM-16 survey consisted of running 14 VLF traverse Lines totaling 8,864 m. 368 measurements were recorded at about average 25m intervals on two grids in areas where CAMP and TRANS deposits exist. The VLF survey takes true measurements of the Vertical in-phase & Out-of-phase components as % of total field within the VLF frequency range of 15 - 30kHz. The VLF transmitter provided the primary electromagnetic field for this survey was Cutler, Maine (NAA) with a frequency of 24.0 kHz and heading of 297 degrees (Figure 4).



Figure 4:The VLF-EM survey recorded signals from NAA (24.0-kHz) in Cutler, Maine (USA) with a transmitter heading of about 297 degrees.

The objectives of the survey were to map and characterize geological features that predominantly control the mineralized zones. To fulfill these objectives, the VLF-EM system recorded electromagnetic data to measure the earth's response to EM fields generated by a far-field transmitter. Electromagnetic responses subsequently could be interpreted to show variations in bedrock geology to greater depths and delineate well-mineralized structural features. The VLF survey data was compiled, and the results are discussed. This report describes the survey results and discusses data interpretation. The geophysical database derived from the survey comprises of VLF-EM data that includes tilt angle measurements in percent (%) for real and quadrature components, Fraser Gradients, and Current Density (Karous-Hjelt) Pseudo-sections.

6.2 Data Collection and Processing

All field data were verified based on Operator's explanation for validity and continuity. The quality and accuracy of the positional data were also investigated to flag any possible errors in the positional data.

To assess the feasibility of the very-low-frequency electromagnetic (VLF-EM) signals in the Jean Lake property and to investigate their responses, the In-phase (tilt angle) and Out-of-phase (ellipticity) components of vertical magnetic field as a percentage of horizontal primary field were collected and then processed and interpreted with Fraser and Karous-Hjelt (K-H) filtering approaches. Table 1 and Table 2 provide the characteristics of survey layout for Grid#1 and Grid#2.

Line Number	Direction	Stations (STN)	Line Length (m)
L01	N-S	1-16	375
L02	N-S	1-16	378
L03	N-S	1-16	372
L04	N-S	1-16	374
L05	N-S	1-16	377
L06	N-S	1-16	380
L07	N-S	1-16	361
L08	N-S	1-16	356
Total 8		128	2,973

Table 1: VLF Traverse Lines Surveyed, Grid# 1 (CAMP) and Grid#2 (TRANS)

Table 2: VLF Traverse Lines Surveyed, Grid# 2

Line	Number	Direction	Stations (STN)	Line Length (m)
	L01	SW-NE	1-40	985
	L02	SW-NE	1-40	985
	L03	SW-NE	1-40	978
	L04	SW-NE	1-40	979
	L05	SW-NE	1-40	976
	L06	SW-NE	1-40	988
Total	6		240	5,891

6.3. VLF-EM Survey

A total of 368 points were measured in the Jean Lake property with the total length of 8,864m. The equipment used for this survey was a Geonics model EM16 magnetometer with GPS. Readings were taken at average station interval of 25 m. The VLF-EM survey recorded signals from NAA (24.0-kHz) in Cutler, Maine (USA) with a transmitter orientation of about 297 degrees. The EM field radiated from a VLF

transmitter station over a uniform or horizontally layered earth model consists of a Vertical Electrical field component (Ey) and a Horizontal Magnetic field component (Hx), each perpendicular to the direction of the propagation. Herein, that part of the vertical field which is in-phase with the horizontal magnetic field is called the In-phase (Real Component); that part which is out of phase with the horizontal magnetic field is called the out-of-phase (quadrature Component). They are normally expressed as Tilt (Dip) Angle and Ellipticity respectively and measured as percentage (%). Processing of the VLF data included:

- Polarity reversal of alternating quadrature-phase measurements based on traverse direction.
- Correction/Removal of erroneous data points.
- Grid leveling for filtering line-by-line variations.

Both in-phase and Quadrature components of the VLF responses were processed and interpreted with Fraser Gradient method, Karous-Hjelt (K-H) filtering, and Tilt Derivative (TDR) filtering approaches. The results reveal that zones of relatively high VLF-EM responses with high Fraser gradients are most likely associated with subsurface responses from areas where local mining activities indicate evidence of Lithium and associated metallic mineralization in the pegmatite dykes and sills. The plot of filtered inphase VLF data in terms of distance shows positive Fraser anomalies along the profiles, which is an indication of the probable conductive zones along each of the profiles. In the following sections, these methods are briefly discussed, and the In-phase and Quadrature components of the VLF data are interpreted and presented in gridded format.

• Fraser Gradient Filter

Fraser Filtering, which was suggested by Fraser (1969), is a simple filtering technique that transforms crossovers into peaks, removes regional gradients and intensifies anomalies from near surface. In this report the Fraser filter has been applied to both in-phase (real) and Quadrature components of the VLF measurements. The Fraser filter shifts the data by 90 degrees and transforms the anomaly such that those parts with the maximum slope appear with the maximum positive/negative amplitude. The VLF measurement results for both survey areas of CAMP and TRANS have been plotted at scale of 1:6,000 and then processed by applying the Fraser Gradient, Karous-Hjelt (K-H), and Tilt Derivative (TDR) filters. The filtered results were subsequently plotted on the separate map sheets.

• Karous & Hjelt Current Density

The qualitative analysis of the data along VLF traverses was carried out using Fraser Gradient method and Karous-Hjelt current density procedure developed by Karous and Hjelt (1983). The analysis of VLF responses in terms of buried conductors can be assisted by applying the Karous-Hjelt (K-H) linear filter to

the observed in-phase or quadrature component of VLF data. Karous-Hjelt filter technique is based on discrete linear filtering of VLF data which is an extension of the Fraser filter. This approach converts in-phase/quadrature responses to an apparent current density pseudo-section that indicates the change in current density with depth. The areas with high current density correspond to good conductors. K-H Filtered VLF data help to locate vertical discontinuities such as hidden faults or fractured zones. This technique also provides a useful complementary tool for the semi-quantitative analysis and target visualization up to a few meters in depth (Ramesh Babu, 2007). A freely available KHFFILT software (Pirttijärvi, 2004) and Geosoft Oasis Montaj were used to perform Karous-Hjelt and Fraser filtering on VLF data. The apparent current density pseudo-section provides an illustrative indication of the depths of various current concentrations and hence the spatial distribution of subsurface geological features. As a result of this feature, current density pseudo-sections can provide analytical information for the geological targets (Ogilvy & Lee, 1991).

6.3.1 VLF-EM Survey Discussion

The concept of trying to locate and delineate lithium bearing pegmatites using VLF-EM methods seems to work well in this geological setting. The major causes of the VLF responses, as a rule, are geological structures such as fault, shear zones, breccia zones, and dykes. It is therefore logical to interpret VLF responses to likely be caused by those structural zones. VLF highs are important for targeting the zones of interest since they may be reflecting mineralization zones, geological boundaries, fracturing and/or alteration zones any of which could be associated with metallic mineralization.

In general, the conductive features with NW-SE trends located within the survey areas are characterized by long or continuous strike lengths, strong conductivity, and seem to be coincident with the location of spodumene-bearing pegmatite dykes and sills. From the spatial configuration of the conductors, it would be found that the primary direction of conductive structures in the CAMP Area is generally E-W with the secondary direction being north-westerly. The primary direction of conductive structures in the TRANS Area is dominantly NW-SE. The regional geological mapping indicates that faults prominently strike northeasterly, and bedding planes also strike north-easterly with inclined dip towards southeast. The geology of the survey areas indicates that the survey grids are underlain by Precambrian metasediments including biotite-quartz-feldspar gneiss (Unit 1a) and Garnet gneiss (Unit 1c) intruded by small, thin dykes of pegmatite. The VLF data have mapped the pegmatite dykes properly and they are vividly seen on both inphase and Quadrature components. These thin dykes are potentially important deposits of lithiumbearing pegmatite. The High in-phase and quadrature responses of these dykes suggest that these geological features are relatively strong conductors.

The distribution of both in-phase and quadrature responses in the study area shows that in-phase responses are relatively stronger than Quadrature responses across the study area, implying stronger conductive subsurface materials. Anomalies from good conductors have large in-phase and small quadrature components, while weaker conductors have low in-phase and high quadrature components. The individual profiles of the real and quadrature responses of VLF in the survey area show that the subsurface materials along all the traverse lines have anomalously stronger real (In-phase) components and weaker Quadrature components. This pattern of responses suggests the presence of good subsurface conductive features in those locations.

To better visualize the VLF anomaly distribution across the study areas, the resulting In-Phase and Quadrature Fraser gradients for both Grid#1 and Grid #2 were interpolated to a final 5-m square grid. The regions of high Fraser responses on the VLF profiles of the Real component may suggest possible conductive zones such as faults, fracture zones, and spodumene-bearing dykes. The diabase dykes may also correlate with good VLF-EM responses. These may be due to minerals such as sulphides within the dyke (porphyritic diabase) or possibly to faults or edge effects. Whereas the regions with low responses on the Real component may represent low conductivity zones such as quartz veins and unaltered metasediments.

Tilt Derivative filter (TDR) applied to the In-phase and Quadrature Fraser Gradients has provided enhanced detection and definition of the structural features. The ability of the tilt derivative to provide enhanced mapping of electromagnetic conductivity structures has been considered in this report. The tilt function embodies Automatic Gain Control that normalizes the detection and definition of both weak and strong conductivity gradients. The results show the ability of the method to detect and outline significant conductive features throughout the subsurface. The survey has detected strong conductive features associated with the dykes and alteration zones and less conductive features like quartz veins and unaltered metasediments. The spatial pattern of the VLF responses reveals that Lithium prospects in these survey areas are strongly associated with those conductive features. The red spots on the maps represent the anomalously conductive zones suspected to be either fracture zones or thin geological features trending in the E-W or NW-SE directions. The following images show In-Phase and Quadrature Fraser gradients enhanced by Tilt Derivative filter (TDR) in both CAMP and TRANS Deposit areas (Figure 5 and Figure 6).



Figure 5: In-Phase and Quadrature Fraser Gradients enhanced by Tilt Derivative filter (TDR) In CAMP and TRANS Areas



Figure 6: In-Phase and Quadrature Fraser Gradients in CAMP and TRANS Areas

VLF-EM conductors are common predicament in VLF interpretation. This means that VLF currents tend to flow preferentially in the more-conductive overburden. Weakly conductive targets produce only a quadrature response, moderately conductive targets have both in-phase and quadrature components, and highly conductive targets are mainly in-phase (Eagle Geophysics, 2018).

To better visualize the VLF anomaly distribution across the study area, the resulting In-Phase and Quadrature Fraser gradients for both Grid #1 and Grdid#2 were interpolated to a final 5-m square grid (Figure 5 & Figure 6). To achieve optimal results, the grid spacing was chosen to be no less than 1/5th of the station spacing. The regions of high Fraser responses on the Real component of the VLF profiles may suggest possible conductive zones such as faults or fracture zones. Whereas the regions with low on the Real component of the VLF profiles may represent highly resistive zones.

The images shown in Figure 5 and Figure 6 show the spatial distribution of VLF-EM anomalies for the entire study areas in gridded format. EM anomalies have been identified based on the location of the peaks on the Fraser Filter profile. The red spots represent the anomalously conductive zones suspected to be either fracture zones, dykes or geological features trending in the E-W and NW-SE directions.

6.4. 2D Sections of the VLF-EM Data

The "qualitative analysis" of the data along VLF traverses was carried out using Karous-Hjelt (KH) current density procedure developed by Karous and Hjelt (1983). This procedure allows us to draw apparent current density cross-sections, which show the response of the conductor in depth. Qualitatively, a high positive value corresponds to conductive structure and low negative values are related to resistive one (Benson et al., 1997; Sharma and Baranwal, 2005). Practically, as the distance between measuring stations increases, the total depth of the 2D current density distribution section increases. Theoretically, the common guide to estimate the depth of penetration of an electromagnetic wave is the skin depth, which depends on the frequency of the electromagnetic wave and the conductivity of the host geological material, regardless of the distance interval between measuring points. For this study, the skin depth of 100 m was selected.

6.4.1. VLF-EM Current Density Sections

Karous and Hjelt (1983) filtering technique was used to obtain 2D current density pseudo-sections for modelling the 14 VLF profiles using skin depth of 100m. Two-dimensional VLF-EM current density sections generated by applying Karous and Hjelt filter to the In-phase and Quadrature components of the measured VLF-EM field recorded along the profiles are presented in Figures 7 to Figure 20. The corresponding pseudo-sections (plots of average station interval vs. depth) show variation in current density with depth along the profile. The 2D sections imaged the subsurface in terms of current density distribution and investigated up to 100 m, the depth of resolution is directly dependent on profile length. Long profiles of TRANS area usually probe deeper depths while short length profiles of CAMP area investigate shallower depths. The current density has a linear relationship with ground conductivity and ranges in value from – 10 to +7 mA/cm^2 across the study area (Figures 7 to Figure 20).

The 2D K-H sections identified some regions of LOW and HIGH current density values, with high values defining regions of relatively high conductivity that could be attributed to fractured zones and spodumene-bearing pegmatite dykes and sills, while regions with low current density values could indicate resistive zones within the unaltered metasediments that have little or no fractures. The fractured zones and pegmatite veins usually appear as loosely steep and tabular dykes of high conductivity due to their ability to host water or metallic deposits.

The reference Line of LO2 in CAMP area and the reference Line of LO6 in TRANS area which were established on mineralized veins show relatively high current density values with the zone of high current density corresponding to the region of active local mining operation on the vein. Most of the delineated relatively high current density zones present as dyke, sills, and veins that are either inclined to the east or dipping vertically and run in NW-SE direction.

Sericite, which occurs as the principal alteration product of spodumene, seems to be spatially related to the pegmatite dykes and sills in TRANS area. The relatively high VLF In-phase responses in TRANS indicate that alteration of spodumene is quantitatively significant. In contrast, the CAMP pegmatite seems to occur in a matrix of very fine-grained quartz, feldspar, and muscovite. The relatively low VLF In-phase responses in CAMP indicate that alteration of spodumene does not seem to be quantitatively significant. Sericitization most likely occurs as the principal alteration of spodumene in the TRANS lithium deposit. While muscovitization most likely occurs as the principal alteration of spodumene in the CAMP lithium deposit. This type of alteration creates relatively low in-phase responses compared to sericitization.

In general, a higher value of apparent current density on the sections of in-phase component can be regarded as good conductive subsurface features. Weakly conductive targets produce only a quadrature response, and moderately conductive targets have both in-phase and quadrature components.



Figure 7: 2D Current density sections corresponding to the In-phase and Quadrature components of line L01, CAMP area



Figure 8: 2D Current density sections corresponding to the In-phase and Quadrature components of line L02, CAMP area



Figure 9: 2D Current density sections corresponding to the In-phase and Quadrature components of line L03, CAMP area







Figure 11: 2D Current density sections corresponding to the In-phase and Quadrature components of line L05, CAMP area







Figure 13: 2D Current density sections corresponding to the In-phase and Quadrature components of line L07, CAMP area







Figure 15: 2D Current density sections corresponding to the In-phase and Quadrature components of line L01, TRANS area



Figure 16: 2D Current density sections corresponding to the In-phase and Quadrature components of line L02, TRANS area



Figure 17: 2D Current density sections corresponding to the In-phase and Quadrature components of line L03, TRANS area



Figure 18: 2D Current density sections corresponding to the In-phase and Quadrature components of line L04, TRANS area



Figure 19: 2D Current density sections corresponding to the In-phase and Quadrature components of line L05, TRANS area



Figure 20: 2D Current density sections corresponding to the In-phase and Quadrature components of line L06, TRANS area

7. CONCLUSIONS

VLF-EM data collected from ground geophysical surveys have characterized some aspects of geological features in the Jean Lake property. The original concept of attempting to locate and delineate lithium bearing pegmatites using VLF method seem to work well in this geological setting.

Geologically, the Jean Lake property is underlain mainly by Precambrian metasedimentary gneisses intruded by massive Algoman granitic rocks and by numerous sills and dykes of genetically related porphyry, pegmatite, and aplite. Lithium has been the primary mineral of economic interest in this area and Lithium mineralization style is dominantly hosted within spodumene-bearing pegmatite dykes and sills.

Sericite, which occurs as the principal alteration product of spodumene, seems to be spatially related to the pegmatite dykes and sills in TRANS area. The relatively high VLF In-phase responses in TRANS indicate that alteration of spodumene is quantitatively significant. In contrast, the CAMP pegmatite seems to occur in a matrix of very fine-grained quartz, feldspar, and muscovite. The relatively low VLF In-phase responses in CAMP indicate that alteration of spodumene does not seem to be quantitatively significant. Sericitization most likely occurs as the principal alteration of spodumene in the TRANS lithium deposit. While muscovitization most likely occurs as the principal alteration of spodumene in the CAMP lithium deposit. This type of alteration creates relatively low in-phase responses compared to sericitization.

The distribution of both in-phase and quadrature responses in the study area shows that in-phase responses are relatively stronger than Quadrature responses across the study areas, implying stronger conductive subsurface materials. Anomalies from good conductors have large in-phase and small quadrature components, while weaker conductors have low in-phase and high quadrature components. The individual profiles of the real and quadrature responses of VLF in the survey area show that the subsurface materials along all the traverse lines have anomalously stronger real (In-phase) components and weaker Quadrature components. This pattern of responses suggests the presence of good subsurface conductive features in those locations.

The 2D K-H sections identified some regions of LOW and HIGH current density values, with high values defining regions of relatively high conductivity that could be attributed to fractured zones and spodumene-bearing pegmatite dykes and sills, while regions with low current density values could indicate resistive zones within the unaltered metasediments that have little or no fractures. The fractured zones and pegmatite veins usually appear as loosely tabular and steep dykes of high conductivity due to their ability to host water or metallic deposits.

In general, a higher value of apparent current density on the sections of in-phase component can be regarded as good conductive subsurface features. Weakly conductive targets produce only a quadrature response, and moderately conductive targets have both in-phase and quadrature components.

8. RECOMMENDATIONS

- 1. Further geological mapping and grab sampling along with a soil chemistry analysis are suggested to be conducted in areas where the VLF HIGHS suggest near surface features.
- 2. VLF-EM sections is capable of laterally reflecting changes in environments of deposition; however, they provide poor depth resolutions of subsurface geological materials. Therefore, it is necessary to enhance VLF-EM data with other forms of geophysical surveys (Magnetics) or borehole information for validation of geology inferred from such interpretations.
- An advanced level of acquisition and interpretation of the magnetic survey may be warranted to integrate with VLF data, geology and petrophysical properties to create constrained quantitative inversion models.

9. REFERENCES

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- ULTRA RESOURCES MINING CORP, 43-101F1 TECHNICAL REPORT On the Jean Lake Property, Jean Lake Area, NTS Map 42F, Thunder Bay Mining District, Northwestern Ontario, Canada, Prepared by: Martin Ethier, P.Geo, June 2020.

10. STATEMENT OF QUALIFICATIONS

I, Shahab Tavakoli, resident of West Vancouver, British Columbia, do hereby certify that:

- 1. I am registered as Professional Geophysicist in British Columbia with the Association of Professional Engineers and Geoscientists of British Columbia.
- 2. I have a master's degree in Geomatics for Environmental Management from the UBC, Canada, and a master's degree in Geophysics from the University of Tehran, Iran.
- 3. I am a qualified person as defined in the National Instrument 43-101 and have more than 10 years of experience working in mineral exploration as a Geospatial Information Specialist.
- 4. I have prepared this report and I was involved in data compilation; however, I was not involved in field survey work carried out on the property in November 2021.



Totanakol

Shahab Tavakoli December 12, 2021

APPENDIX A - COST SUMMARY					

Exploration Work type	Comment	Days			Totals
Personnel (Name)* / Position	Field Davs (list actual davs)	Davs	Rate	Subtotal*	
Pleson Geoscience 2 person crew	November 1-30, 2021	16	\$900.00	\$14,400.00	
				\$0.00	
			\$0.00	\$0.00	
				\$14,400.00	\$14,400.00
Office Studies	List Personnel (note - Office only	y, do not in	clude field	days	
Project management / organization	Alex Pleson, P.Geo.	2.0	\$750.00	\$1,500.00	
Database compilation / GIS	Shahab Tavakoli, P.Geo.	2.0	\$750.00	\$1,500.00	
Computer modelling			\$0.00	\$0.00	
Reprocessing of geophysical survey data	Shahab Tavakoli, P.Geo.	3.0	\$750.00	\$2,250.00	
Report preparation -Geology	Afzaal Pirzada, P.Geo.	2.0	\$750.00	\$1,500.00	
Geophysical survey interpretation and					
report	Shahab Tavakoli, P.Geo.	4.0	\$750.00	\$3,000.00	
				\$9,750.00	\$9,750.00
Ground Exploration Surveys	Area in Hectares/List Personnel				
Geological mapping					
Regional		note: expe	nditures here	2	
Reconnaissance		should be a	captured in P	Personnel	
Prospect		field expen	ditures abov	e	
Underground	Define by length and width				
Trenches	Define by length and width			\$0.00	\$0.00
Ground geophysics	Line Kilometres / Enter total amount inv	oiced list pers	onnel		
Radiometrics					
Magnetics					
VLF	8.8645 - km				
Digital terrain modelling					
Electromagnetics	note: expenditures for your crew in	the field			
SP/AP/EP	should be captured above in Personi	nel			
IP	field expenditures above				
AMT/CSAMT					
Resistivity					
Complex resistivity					
Seismic reflection					
Seismic refraction					
Well logging	Define by total length				
Geophysical interpretation					
Petrophysics					
Other (specify)					
				\$0.00	\$0.00
Transportation		No.	Rate	Subtotal	
Airfare			\$0.00	\$0.00	
Taxi			\$0.00	\$0.00	
truck rental	Truck rental with gas	16.00	\$150.00	\$2,400.00	
kilometers			\$0.55	\$0.00	
ATV	Snow mobile/ATV with gas	16.00	\$100.00	\$1,600.00	
fuel			\$0.00	\$0.00	
Helicopter (hours)			\$0.00	\$0.00	
Fuel (litres/hour)			\$0.00	\$0.00	
Other					
				\$4,000.00	\$4,000.00

Accommodation & Food	Rates per day				
Hotel					
Camp			\$0.00	\$0.00	
Meals	60/person/day	32.00	\$60.00	\$1,920.00	
				\$1,920.00	\$1,920.00
Miscellaneous					
Telephone		20.00	\$40.00	\$800.00	
Other (Specify)	Supplies / brushing tools	1.00	\$1,000.00	\$1,000.00	
				\$1,800.00	\$1,800.00
Equipment Rentals					
Field Gear (Specify)			\$0.00	\$0.00	
Other (Specify)	Magnetic / VLF Survey Equipment	4.00	\$500.00	\$2,000.00	
				\$2,000.00	\$2,000.00
Freight, rock samples					
			\$0.00	\$0.00	
			\$0.00	\$0.00	
				\$0.00	\$0.00
TOTAL Expenditures					\$33,870.00
	-				11

APPENDIX B - MAPS AND SECTIONS					



























































ONTARIO







ONTARIO







ONTARIO

Aboriginal Consultation Ultra Lithium Inc Report 4427

Thank you for your email, Ultra Lithium have been doing community consultation with the following three First Nation Bands since June 2021 immediately after filing exploration permit application.

- 1. Red Rock Indian Band (RRIB),
- 2. Bingwi Neyaashi Anishinaabek (BNA),
- 3. Biinjitiwaabik Zaaging Anishinaabek (BZA)

The company arranged several online meetings and successfully signed an Memorandum of Understanding (MOU) with a purpose to outline Ultra's Project, the communications processes that are to be established, and the plan forward to negotiate certain items with the intention that it will lead to an eventual Exploration Agreement. The Company is working with the communities to finalize a formal Exploration Agreement.

I charged my time for community consultation and split it into three claim blocks of the company.

With best regards, Afzaal