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# **Work Assessment Report**

**on the**

## **JUNIOR LAKE PROPERTY**

**2015 Ground Geophysics Program  
Electromagnetic (MaxMin), VLF and Magnetometric Surveys  
(B4-7 East, VW North Areas)**

Falcon Lake Area  
Thunder Bay North Mines and Minerals Division  
Ontario

NTS 52I/08 and 42L/05

Landore Resources Canada Inc.  
555 Central Ave., Suite #1  
Thunder Bay, Ontario, P7B 5R5

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February 25, 2015

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# 1 SUMMARY

The Junior Lake property is located approximately 230 kilometres north-northeast of the city of Thunder Bay, Ontario, within the central portion of the Caribou-O'Sullivan Greenstone Belt. The property is host to two NI 43-101 compliant mineral resources – the B4-7 Ni-Cu-Co-PGE deposit and the VW Ni deposit, located 3 kilometres apart. Other occurrences of Ni-Cu-PGE, Cu, Cu-Zn, Cr, Li and Au are known on the property.

This report covers the 2015 ground geophysics program conducted on the B4-7 East and VW North areas, located in the central portion of the Junior Lake property. During January and early February 2015, an Electromagnetic (MaxMin), VLF and Magnetometric survey was conducted by Geosig Inc., Québec, for Landore Resources. The survey area extended from cut grid line 100W to line 4000E and covered 44.7 line kilometres. The attached report by Geosig Inc. describes the survey logistics, data processing, presentation, and provides the specifications of the survey.

This Electromagnetic (MaxMin), VLF and Magnetometric ground geophysics survey was conducted to identify prospective sulphide mineralization bearing nickel, copper, cobalt, PGEs and gold in the area between the B4-7 deposit and VW deposit. It followed up on previous identical surveys covering line 2000W, through the B4-7 and VW deposits, to line 4000E in 2001 and 2013 which accurately delineated the B4-7 main massive sulphide zone to a depth of 150 metres and subsequently drilled to define a NI 43-101 compliant Indicated resource, as well as identified numerous potential base metal targets.

Results from the 2015 survey have identified further drill targets north of the pre-existing surveys from 2001 and 2013, an area in which the B4-7 polymetallic trend and the BAM gold trend intersect. To date there has been little exploration north of 200N, an area which is highly prospective for further polymetallic nickel, copper, cobalt, PGEs and gold mineralization.

The B4-7 combined open pit and underground NI 43-101 compliant resource is 2,695,000 tonnes at 1.24% Nickel equivalent (NiEq) for 33,248 tonnes of contained metal, all within the Indicated category (2013 Mineral Resource estimate and a NI 43-101 Technical Report on the B4-7 Deposit, RPA, Toronto, Canada).

The VW NI 43-101 compliant resource is 3.73 million tonnes at 0.49% NiEq in the Indicated category at a cut-off grade of 0.25 per cent. nickel. The resource holds a further 0.72 million tonnes at 0.49% NiEq in the Inferred category at the same cut-off grade giving a combined total of 21,760 tonnes of contained NiEq metal. The deposit remains open down plunge at depth and along strike to the east and to the west. (2010 Mineral Resource estimate and a NI 43-101 Technical Report on the VW Deposit, RPA, Toronto, Canada).

The Electromagnetic (MaxMin), VLF and Magnetometric geophysics survey on the B4-7 East and VW North areas was successful in identifying potential massive sulphide mineralisation as well as potential disseminated sulphide mineralization containing economic grades of nickel, copper, cobalt, PGEs and gold. Follow-up drilling is warranted to follow up on promising geophysics results.

This 2015 ground geophysics program included program preparation including local grid cutting, survey implementation, geophysical and geological analysis of results. The total amount from this exploration program claimed for assessment credit is \$208,546.80.

## 2 INTRODUCTION

This report and accompanying documentation presents the results of the 2015 Electromagnetic (MaxMin), VLF and Magnetometric ground geophysics program on Landore Resources Canada Inc.'s Junior Lake property. The Junior Lake property is located approximately 230 kilometres north-northeast of the city of Thunder Bay, Ontario, within the central portion of the Caribou-O'Sullivan Greenstone Belt. It is host to several PGE-Cu-Ni, Cu, Cu-Zn, Li, Au, and Ag occurrences. In the vicinity of the 2015 ground geophysics program, the property hosts two NI 43-101 compliant nickel deposits – the B4-7 Ni-Cu-Co-PGE deposit and the VW Ni deposit, located three kilometres apart.

The 2015 Electromagnetic (MaxMin), VLF and Magnetometric ground geophysics program was conducted from cut grid line 100W to line 4000E and covered 44.7 line kilometres. The survey was conducted by Geosig Inc., Québec, for Landore Resources.

The ground geophysical survey results indicate parallel conductive horizons in the vicinity where the B4-7 polymetallic trend and the BAM gold trend intersect, an area highly prospective for further sulphide mineralization. The survey results have also identified several other areas of prospective sulphide mineralization north of the VW deposit area which warrant follow-up drilling.

This report is submitted to the Ontario Ministry of Northern Development and Mines Geoscience Assessment Office to claim assessment credit.

### 3 PROPERTY DESCRIPTION AND LOCATION

The Junior Lake property is located approximately 230 km north-northeast of Thunder Bay, Ontario, and approximately 75 km east-northeast of the village of Armstrong, Ontario (Figure 2-1). The centre of the property is located at 87°59'4"W longitude and 50°23'9"N latitude; NAD83 UTM coordinates Zone 16, 430,000E and 5,580,000N. The property area is within the NTS 1:50,000 Jackfish Lake and Toronto Lake topographic map sheets NTS 52I/08 and 44L/05, respectively. The Junior Lake property claims and leases are located on the Falcon Lake, Junior Lake, Toronto Lake, Kapikotongwa River, Summit Lake, and Willet Lake claim maps (Thunder Bay Mining Division areas NTS 52I/08NE and SE, 42L/05NW, SE and SW).

#### LAND TENURE

Landore's Junior Lake property consists of 95 mineral claims (1,145 units) and four mining leases totaling 3,793 hectares (Tables 3-1 and 3-2, Figure 3-2).

Landore held a 100% interest in claims TB1077140 to TB1077142, TB1217179 to TB1217181, and TB1233556 and TB1233557, subject to a 2% net smelter return (NSR) royalty held by Wing Resources Inc. The above claims, except TB1077140, have been taken to lease. The B4-7 Deposit lies on patented claims PA39127, PA39128 and lease CLM460, whereas the VW Deposit lies on lease CLM461.

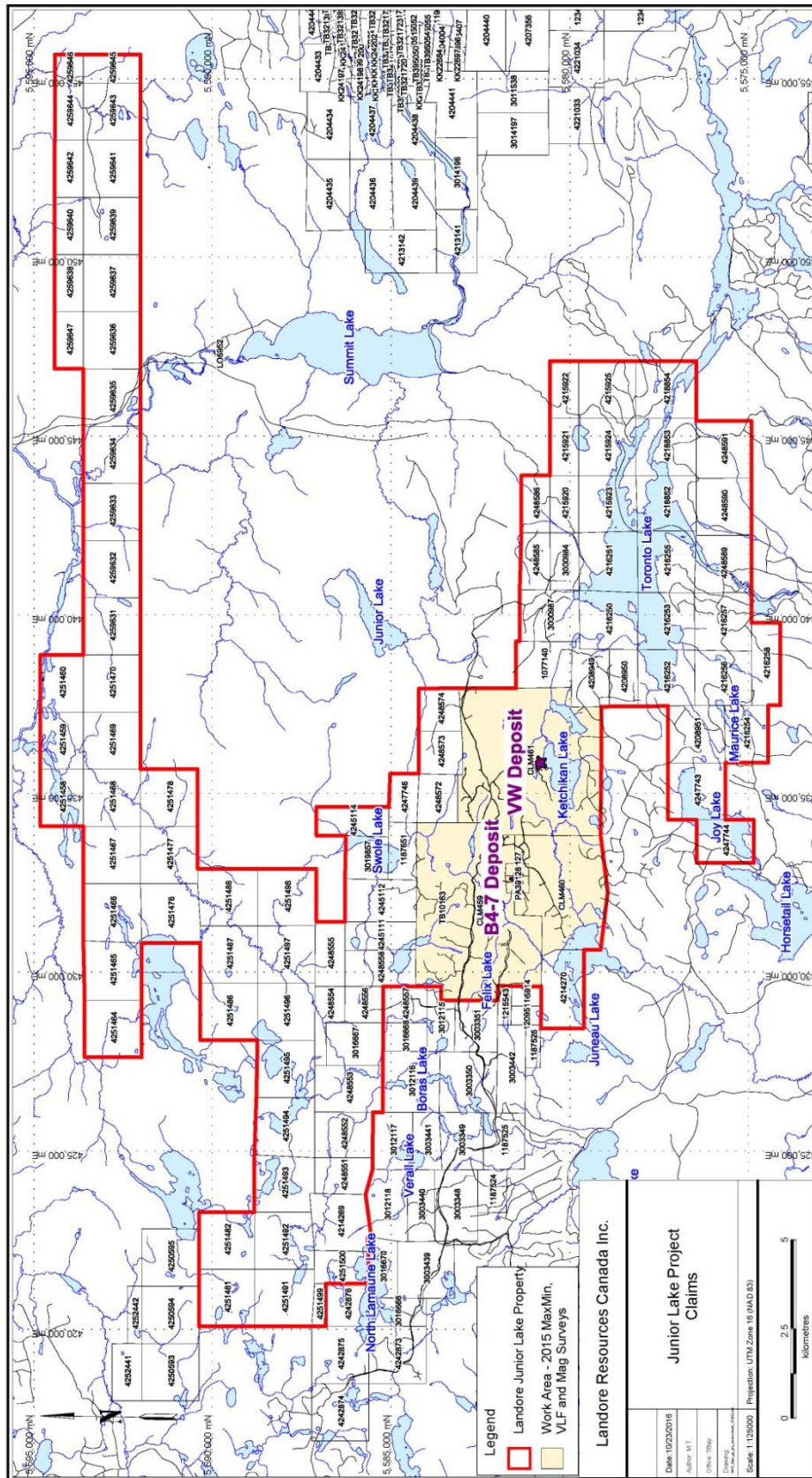
The exploration work undertaken by Landore prior to 28<sup>th</sup> August, 2008 was on mining leases in which Landore held a 100% interest: mining claims TB1077142, TB1217179. These claims were taken to lease (CLM 461) on 28<sup>th</sup> August, 2008.



**Figure 3-1: Junior Lake Property Location**



**Figure 3-2: Junior Lake Property Leases and Claims**



**Table 3-1: Landore Mineral Claims (100% Interest)**

Claim	Calculated Area (ha)	Units	Area	Claim	Calculated Area (ha)	Units	Area
1077140	201.533	9	Junior Lake	4251487	255.274	16	Junior Lake
1187651	126.417	8	Junior Lake	4251488	262.535	16	Junior Lake
3000984	129.049	8	Toronto Lake	4251491	263.875	16	Falcon Lake
3000987	241.242	14	Toronto Lake	4251492	268.399	16	Falcon Lake
3016667	191.05	12	Falcon Lake	4251493	262.351	16	Falcon Lake
3019857	143.257	9	Junior Lake	4251494	271.898	16	Falcon Lake
4208949	174.532	10	Toronto Lake	4251495	258.004	16	Falcon Lake
4208950	127.147	8	Toronto Lake	4251496	255.947	16	Junior Lake
4208951	252.102	16	Toronto Lake	4251497	257.811	16	Junior Lake
4215920	128.463	8	Toronto Lake	4251458	191.468	12	Kapikotongwa R.
4215921	128.45	8	Toronto Lake	4251459	191.47	12	Kapikotongwa R.
4215922	128.443	8	Willet Lake	4251460	191.467	12	Kapikotongwa R.
4215923	255.325	16	Toronto Lake	4251464	255.269	16	Junior Lake
4215924	255.568	16	Toronto Lake	4251465	262.916	16	Junior Lake
4215925	255.604	16	Willet Lake	4251466	262.901	16	Junior Lake
4216250	262.832	16	Toronto Lake	4251467	255.274	16	Junior Lake
4216251	272.55	16	Toronto Lake	4251468	255.272	16	Junior Lake
4216252	250.524	16	Toronto Lake	4251469	255.284	16	Junior Lake
4216253	252.657	16	Toronto Lake	4251470	255.289	16	Junior Lake
4216254	194.379	12	Toronto Lake	4251476	269.928	16	Junior Lake
4216255	277.21	16	Toronto Lake	4251477	255.274	16	Junior Lake
4216256	244.297	16	Toronto Lake	4251478	255.285	16	Junior Lake
4248585	132.61	8	Junior Lake	4251481	247.747	16	Falcon Lake
4248586	127.648	8	Junior Lake	4251498	262.503	16	Junior Lake
4248589	251.612	16	Toronto Lake	4251499	42.8057	3	Falcon Lake
4248590	246.935	16	Toronto Lake	4251500	135.24	8	Falcon Lake
4248591	246.981	16	Toronto Lake	4259631	255.3975	16	Junior Lake
4216257	259.137	16	Toronto Lake	4259632	255.2966	16	Junior Lake
4216258	184.68	12	Toronto Lake	4259633	255.4375	16	Junior Lake
4218852	257.424	16	Toronto Lake	4259634	254.9172	16	Junior Lake
4218853	269.098	16	Toronto Lake	4259635	255.9382	16	Summit Lake
4218854	269.053	16	Willet Lake	4259636	255.4302	16	Summit Lake
4245111	157.295	10	Junior Lake	4259637	255.5525	16	Summit Lake
4245112	236.437	15	Junior Lake	4259638	127.6468	8	Summit Lake
4245114	164.202	10	Junior Lake	4259639	255.2938	16	Summit Lake
4247743	254.86	16	Toronto Lake	4259640	127.657	8	Summit Lake
4247744	191.684	12	Toronto Lake	4259641	255.3059	16	Summit Lake
4247746	108.215	6	Junior Lake	4259642	127.6557	8	Summit Lake
4248551	160.761	10	Falcon Lake	4259643	255.3034	16	Summit Lake
4248552	206.752	12	Falcon Lake	4259644	127.1522	8	Summit Lake
4248553	248.178	15	Falcon Lake	4259645	127.654	8	Summit Lake
4248554	123.24	8	Junior Lake	4259646	63.16516	4	Summit Lake
4248555	151.516	9	Junior Lake	4259647	127.6481	8	Summit Lake
4248556	107.904	8	Junior Lake	4214269	249.927	16	Falcon Lake
4248558	200.808	10	Junior Lake	4214270	258.207	16	Toronto Lake
4248572	151.125	9	Junior Lake	<b>95</b>	<b>18,495.98</b>	<b>1,145</b>	
4248573	147.231	9	Junior Lake				
4248574	137.856	9	Junior Lake				
4251482	247.088	16	Falcon Lake				
4251486	255.278	16	Junior Lake				

**Table 3-2: Landore Leases (100% Interest)**

Lease #	Description	G-Number	Anniversary Date	Area (ha)	Annual Rent (\$)	Expiry Date	Total Work in Reserve (\$)
107421	PA 39127, 39128	4000476	98-Jan-01	52.969	158.91	2019-Jan-01	1,096,271
108257	CLM459 <sup>1</sup>	4040218	08-Aug-01	1,460.795	4,382.39	2029-Aug-01	17,284
108258	CLM461 <sup>1</sup>	4040217	08-Aug-01	1527.388	4,582.16	2029-Aug-01	2,468,109
108259	CLM460 <sup>1</sup>	N/A <sup>2</sup>	08-Aug-01	687.794	2,063.38	2029-Aug-01	0
<b>Totals</b>	<b>4 Leases</b>			<b>3,728.946</b>	<b>11,186.84</b>		<b>3,581,664</b>

Notes:

1. Wing Resources holds a 2% NSR on 3 claims within CLM459, 1 claim within 460 and 3 claims within 461.
2. G-number is generated when work reports are filed.

Landore has been granted four mining leases, which include mining and surface rights, over an area encompassing the B4-7 and VW Deposits. The leases cover 23 mineral claims and two patents for a total area of 3,729 ha and have been granted for 21 years renewable for further terms of 21 years (Table 3-2).

Within the mining leases, Landore has the right, subject to provisions of certain Acts and reservations, to:

- sink shafts, excavations, etc., for mining purposes;
- construct dams, reservoirs, railways, etc., as needed; and
- erect buildings, machinery, furnaces, etc., as required, and treat ores.

There are no known environmental liabilities on the property.

## 4 ACCESSIBILITY

Access to the Junior Lake property from Thunder Bay is via paved provincial highways No. 17 (15 km) and No. 527 to Armstrong, with an overall distance of approximately 235 km. From Armstrong, the Buchanan Forest Products Inc. gravel haulage road (BHR) is taken east to kilometre 105, where a skidder haulage road leads approximately one kilometre to the Landore Junior Lake camp. Skidder and drill roads provide access on the property. The site of the 2015 Electromagnetic (MaxMin), VLF and Magnetometric ground geophysics program is located in the central portion of the Junior Lake property, in the B4-7 East and VW North areas.

There are no power lines or railway lines on the property; however, the main CNR line is approximately 13 kilometres to the south.

During the summer, most drill sites are accessible by 4-wheel-drive vehicles.

## 5 HISTORY

Routledge (2010) has summarized the exploration and development history of the Junior Lake property as:

Geological mapping and exploration in the vicinity of the Junior Lake property is recorded as early as 1917. In 1968, Canadian Dyno Mines Limited staked 333 claims in 15 groups to cover conductors picked from an airborne electromagnetic (EM) and magnetic (MAG) survey. Two groups, B3 and B4, included the Junior Lake property. The company merged with Mogul Mines Limited, and the successor, International Mogul Mines Limited, in joint venture with Coldstream Mines Limited, carried out prospecting, mapping, ground MAG and EM surveys, soil sampling, and trenching on the B3 and B4 claim groups. Eight diamond drill holes totaling 674.8 m (2,213.9 ft.) were drilled to test conductors in January 1969, resulting in the discovery of the B4-7 zone. The discovery hole, No. 69-5, intersected 8.26 m (27.1 ft.) of massive pyrrhotite-pyrite-chalcopyrite mineralization grading 0.80% Ni and 0.53% Cu. The B4-7 deposit was delineated by an additional 30 holes (6,850 m, or 22,479 ft.) in 1969. In the same campaign, eight holes for 628.2 m (2,061 ft.) explored other conductors on the property. A detailed MAG and EM survey was also completed over the deposit and petrographic work done on core at that time.

In late 1969, 136.1 kg (300 lbs) of drill core was composited from 71 assay rejects in 11 drill holes, split to 56.7 kg (125 lbs), and submitted to SGS for flotation recovery (metallurgical) testing, which included semi-quantitative spectrographic analysis for 30 elements. A manual tonnage/grade estimate for the B4-7 deposit was carried out, to total 2,282,520 tons (2,070,689 tonnes) averaging 0.87% Ni and 0.59% Cu (Zurowski, 1970). This historical estimate is not NI 43-101 compliant.

Coldstream Mines Limited acquired 100% of the property in 1970 and took two claims to lease in 1976.

In 1983-1986, Québec Cobalt and Exploration Limited staked part of the south portion of the Junior Lake property and carried out mapping, geophysics, and soil and rock sampling. Conwest Exploration Co. Ltd., the successor to Coldstream Mines Limited, optioned the leases covering the B4-7 deposit to Menacorp Limited in 1990, which resampled B4-7 core, and then to Minatco Exploration Ltd. in 1993.

In addition to the B4-7 deposit, exploration in the Junior Lake-Lamaune area prior to Landore work also revealed two low-grade Cu-Ni zones and occurrences of copper, iron, lithium, chrome, asbestos, zinc, and gold-molybdenite. Most of the occurrences are within two kilometres of the VW and B4-7 deposits.

Landore optioned part of the property from North Coldstream Mines Limited in 1998 and additional claims from Brancote Canada in 2000.

## 6 GEOLOGICAL SETTING

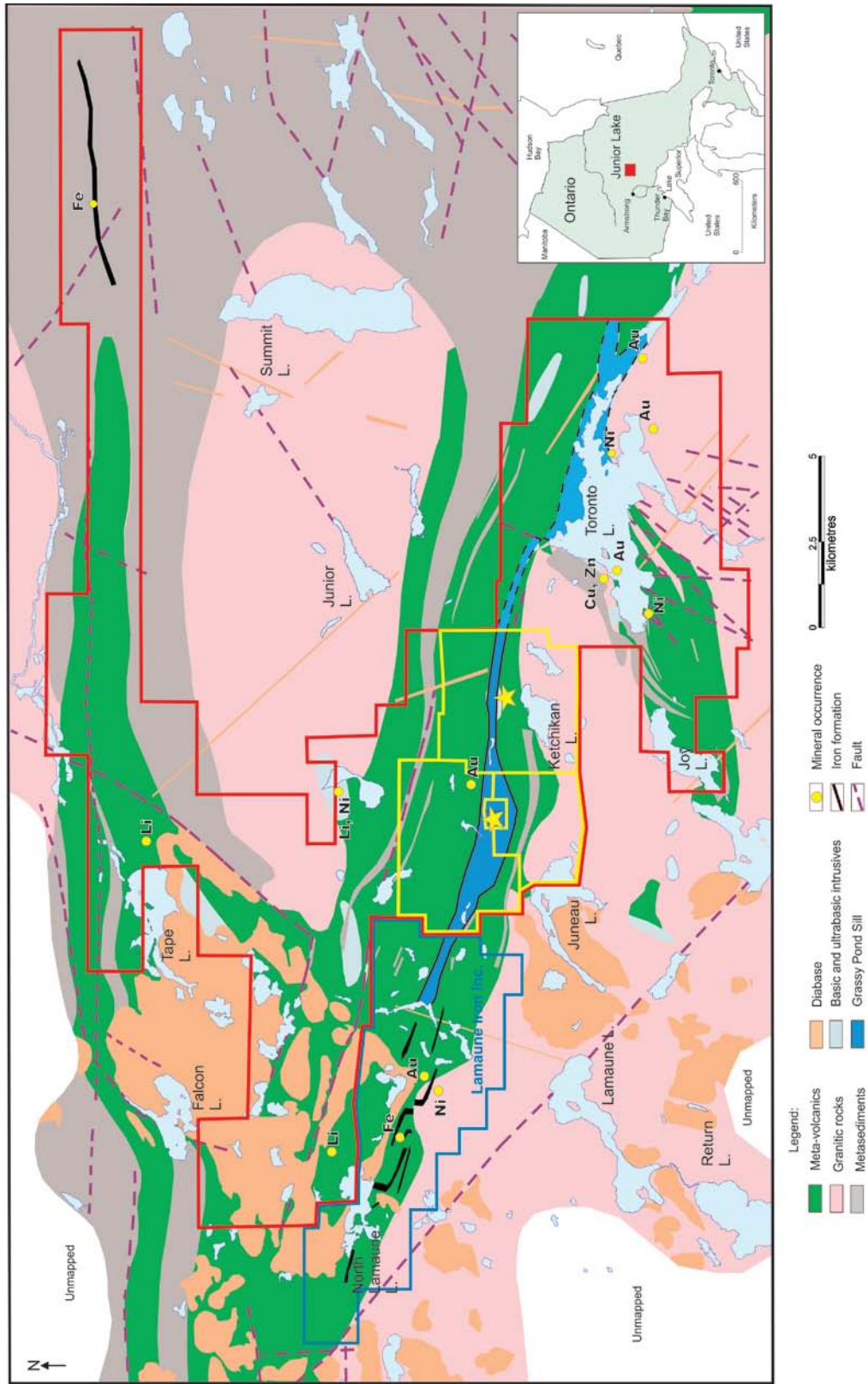
The regional, local and property geology has been for the most part summarized from Routledge, (2010), Lester (2009b), MacTavish (2004, 2004a), and Routledge (2006). Additional contributions are from various others, including Cooper (2009), Mungall (2009), and Pressacco (2013).

### 6.1 Regional Geology

The Junior Lake property is located within the Wabigoon Subprovince of the Superior Province of the Precambrian Shield and within the east-west trending Caribou-O'Sullivan greenstone belt. The belt is flanked to the south by the Robinson Lake Batholith of the Lamaune Batholithic Complex and to the north by a major, east-west-striking shear zone / terrain boundary that marks the southern limit of the English River Subprovince. Northeast of the property the belt is intruded by the elliptical, tonalitic to quartz dioritic Summit Lake Batholith. The western portion of the greenstone belt has been intruded by undulating, flat-lying, NeoProterozoic-age Nipigon diabase sills and localized dykes. These sills are the discontinuous, erosional remnants of laterally extensive sills comprising the Nipigon Plate which is centred on Lake Nipigon, approximately 30 kilometres to the south (MacTavish, 2004, 2004a). The regional geology of the Junior Lake property area is shown in Figure 6-1.



**Figure 6-1: Junior Lake Regional Geology**





## 6.2 Local and Property Geology

The supracrustal rocks and associated mafic to ultramafic intrusions of the Caribou-O'Sullivan greenstone belt are subdivided by Berger (1992) into the Archean-age Toronto and Marshall Lake groups. The two lithostratigraphic groups are similar in many respects; however, the Marshall Lake Group (MLG) contains a higher proportion of clastic metasedimentary rocks and apparently lesser amounts of mafic intrusive rocks.

The Toronto Lake Group (TLG) underlies the southern third of the Junior Lake property and consists of a bimodal assemblage of tholeiitic mafic flows and calc-alkaline rhyolitic to dacitic tuff, tuff breccias, and subordinate flows. The assemblage has been intruded by numerous mafic to ultramafic sills, dykes, and small stocks.

Four lithostratigraphic sequences defined within the TLG are as follows:

- The laterally extensive Carrot Top sequence trends west-northwest within the southern portions of the TLG and is comprised of magnetic talc-carbonatechlorite+/-tremolite schists derived from deformed and altered ultramafic rocks and clastic and chemical metasedimentary rocks. This sequence is 300 to more than 600 metres thick and hosts the D-Z iron occurrence, and several Ni-PGE (including Carrot Top and Zap Zone), Cu, Zn-Cu and Ag occurrences. Strong centimetre to metre scale folding is evident in the iron formation, and as such likely exists on a larger scale, possibly causing thickening and thinning along the main trends.
- The west-northwest trending Grassy Pond Sill intrudes the top of the TLG at its contact with the Marshall Lake Group (MLG) through the centre of the Junior Lake property. The Grassy Pond sill is a thick (100m to 500 metre wide), deformed, laterally continuous, gabbroic to locally anorthositic intrusive. The sill's most identifying characteristic is the presence of large (up to 10 cm in diameter) subhedral to euhedral plagioclase phenocrysts that often collect to form leucogabbro and anorthositic intervals of highly variable thicknesses. The Grassy Pond Sill hosts PGE, Cu and Ni occurrences, and is interpreted as being on the same geophysical structure as the B4-7 zone to the east.
- The B4-7 Sequence is a composite sequence, 1.9 kilometres long and up to 400 metres thick, of primarily mafic metavolcanic flows, intrusives and clastic and chemical metasediments that host the B4-7 Ni-Cu-Co-PGE deposit including the B4-7, Alpha and Beta Zones. The B4-7 sequence lies between the Carrot Top Sequence and the Grassy Pond Sill.
- The BAM Sequence is a composite sequence composed of mafic metavolcanic flows, mafic dykes and sills, and intermediate dykes. The BAM sequence is estimated to be 1.65 kilometres long and up to 160 m thick, possibly associated with an oblique structure. Archean Lamprophyre Dykes cut the TLG rocks.

In the north portions of the Junior Lake property, the Marshall Lake Group (MLG) includes tholeiitic, amphibolite mafic flows and calc-alkalic dacitic tuff, minor tuff breccias, and intercalated greywacke, chert and sulphide iron formation. Thin, discontinuous intermediate to felsic metavolcanic rock units also occur in the MLG. A higher portion of metasedimentary rocks and fewer mafic intrusives occur in the MLG compared to the TLG. Most of the rocks observed on the property are finely amphibolites, pillowed, mafic metavolcanic flows with well-defined pillow selvage and a greater occurrence of plagioclase phenocrysts than observed within mafic

flows south of the Grassy Pond Sill. Some outcrops exhibit an irregular, pervasive alteration, characterized by large, acicular actinolite porphyroblasts contained within a fine-grained matrix of chlorite, sericite, actinolite/tremolite, and epidote. This alteration is very similar to localized alteration observed within the Toronto Lake Group.

Pye (1968) interprets the presence of a large-scale fold on the western portion of the Junior Lake property southeast of Lamaune Lake and east-northeast-trending syncline in the vicinity of Toronto Lake to the east. The east-southeast trending, north-dipping North Lamaune Lake anticline is interpreted from magnetometer surveys tracing Iron Formation.

### **Structural Geology**

Regional deformation rotated the supracrustal packages into near vertical orientation and developed a large west-northwest trending deformation zone (local portion referred to as the Junior Lake Shear Zone) north and west of Toronto Lake. This zone is the most prominent structural feature in the area and is characterized by narrow discrete zones of intensely sheared rock displaying dextral rotation separated by relative undeformed rock packages (Larouche, 1999). The deformation zone is evident as an aeromagnetic lineament which extends east and west of the Junior Lake property and appears to join the regional 450 km long Sydney Lake-Lake St. Joseph (SL-LSJ) Fault zone to the north, which also coincides with the boundary of the English River (ERT) and East Wabigoon subprovinces (EWT). The brittle-ductile fault zone of the SL-LSJ is steeply dipping, one to four kilometres wide, and is estimated to have accommodated about 30 km of right-lateral transcurrent displacement and 2.5 km of north vergent thrust movement (Percival, 2007).

A second, more local deformation in the east part of the property is confined to the supracrustal rocks around the periphery of the Robinson Lake Batholith, with deformation expressed as crenulation cleavage, northeast trending faults, and lineations which clearly post-date the regional deformation (Larouche, 1999).

### **Junior Lake Shear Zone and Associated Geology**

Narrow, discrete zones of intense shearing (Junior Lake Shear Zone) form a corridor up to 800 m wide along the contact between the TLG and MLG. This shearing roughly follows the north contact of the Grassy Pond Sill. The evidence for the shear zone at Junior Lake is based on known geology and textures in drill holes and from limited exposures with deformation textures found from the micro to the macro level encompassing mylonites, cataclasites, sharp thin failure planes, and pressure-solution features such as stylolites. The widespread occurrence of pseudotachylite veinlets and infill demonstrates localized melting on failure planes.

Within the shear zone, the TLG is dominated by a large gabbro intrusive centred in the Grassy Pond Sill to VW area. It is a long linear intrusive and possibly split into several individual units. It is intruded into a mafic volcanic pile consisting of submarine pillow lavas and volcanoclastics. Cooper (2009) speculates that the gabbro has been the feeder for the volcanism and has then intruded its own lava pile.

Although the shear zone is slightly sinuous through Junior Lake, three of the mineral occurrences, Carrot Top, B4-7 and VW, fall on a straight line and Grassy Pond is only slightly to the north of this line. The length of the shear zone is uncertain, however, a length of at least 10 km has been defined. Along this length, there are variations in intensity with local domains of low deformation

surrounded by high deformation zones as a result of competency contrast, general heterogeneity through the zone and lithology types. The rock succession in Junior Lake was deformed within a mobile greenstone belt and all geology became subvertical and with continued deformation within a deep ductile-regime, shear zones developed. During and post to shearing, gabbroic intrusive episodes occurred with a final pulse of very extensive vertical gabbro dikes. Major hydrothermal mineralizing events post-dated the gabbro dike swarm possibly as the result of heat from the post-tectonic sanukitoid style granites, such as high-Mg granitoid found in convergent margin settings (Cooper, 2009).

Less obvious at surface but no less voluminous are ultramafic lithologies such as peridotite, dunite, serpentinite, and their derivatives as talc dominated schistose metamorphic rocks. The ultramafic lava and/or intrusive suite was probably coeval with the basic suite but has suffered much more degradation of original texture and mineralogy within the mobile belt and shear environment. Variably textured granite and quartz diorite to tonalite gneiss and migmatite mapped along the south property boundary are part of the Robinson Lake Batholith.

### **Metamorphism**

Metamorphism on the property is characterized by staurolite-cordierite-garnet, and rare sillimanite, in clastic metasediments; garnet-aluminosilicates-amphibole and rarely staurolite in the felsic and intermediate metavolcanic rocks; and garnet and amphibole in mafic meta-volcanic rocks. Most of the supracrustal rocks attained lower amphibolite grade metamorphic conditions, and greenschist grade metamorphism is only locally present (Larouche, 1999).

### **B4-7 DEPOSIT**

The B4-7 Deposit is located in the south central area of the Junior Lake property. The B4-7 Deposit consists of polymetallic Ni-Cu-Co+PGE+Au mineralization hosted in massive sulphide (vein) and disseminated sulphides in a gabbro-basic volcanic setting coinciding with the Junior Lake shear zone. Strike length attains at least 600 m. Widths are up to approximately 18 m but are usually less than five metres. The B4-7 massive sulphide vein system appears to be a fairly simple dilational structure with marked pinch and swell in the vertical plane with an apparent plunge to the west. The mineralization was possibly introduced rapidly along pre-disposed failure planes under conditions of shearing. B4-7 consists of a continuous tabular body of semi-massive pyrrhotite-rich sulphides hosted in an assemblage of mafic volcanics and mafic intrusive. The contacts of the massive sulphide are typically very sharp and linear with minor wall rock contamination. Host rocks include leucogabbro, melanogabbro, gabbro, as well as mafic metavolcanics at the east end and may play an important role in hosting mineralization. Proximal to the sulphide mineralized zone are mafic schists, shear zones, metasedimentary rocks, locally iron formation, amphibolite, as well as pyroxenite, particularly at the east end.

The Alpha Zone occurs parallel to and approximately 50 m up dip of the B4-7 hanging wall in the gabbro and amphibolitized mafic volcanics. The zone, as described by MacTavish (2004a), is a broad envelope of narrow, moderate to high grade erratic, sulphide-rich carbonate and quartz carbonate veinlets and mineralized shears that generally trend oblique to stratigraphy. This hanging wall mineralization is localized in small fractures, foliations, and gashes and was probably introduced over a much longer time frame than the massive sulphides as the deformation progressed from foliation, through shear failure and into cataclasis. Disseminated sulphide mineralization consists of pyrrhotite, pyrite, and chalcopyrite, occurring as blebs and clots at the margin of gabbro intrusives against the host basic volcanics. Such mineralization is

widespread but the better and more contiguous contact style mineralization occurs on the major gabbro contact. Thickness varies from <5 m to >15 m (Pressacco, 2013).

MacTavish (2004a) reported the ancillary Beta Zone, identified during 2001 drilling, as a net textured extension of the massive B4-7 zone and concluded that it was the probable magmatic source for the massive sulphides injected/emplaced into the fault/breccia zone.

#### **B4-7 EAST AREA – Grassy Pond Sill**

The B4-7 East Area is located immediately east of the B4-7 deposit and extends for at least 1.5 kilometres roughly along Landore's local grid baseline 00. This vicinity is dominated by gabbroic rocks ranging from anorthosite to gabbro cut by melagabbro dykes, interpreted to be the southern margin of the Grassy Pond sill. The geophysical anomaly (as seen in airborne magnetic, ground DCIP+MT, maxmin and vlf data) which delineates the B4-7 deposit extends eastwards through this area defining the boundary of the Grassy Pond sill with the mafic volcanic (typically mafic flows/pillow units) and metasedimentary rocks (commonly metapelites, with some cherty iron formation) located immediately to the south.

As interpreted by C. Cooper, the Grassy Pond sill is the largest of a cluster of gabbro sills in the centre of the Junior Lake greenstone belt. These sills are interpreted as palaeo-magma chambers which originally fed sub-aerial and submarine volcanoes with tholeiitic lava.

As reported by Cooper (2014):

The Grassy Pond is a sill or lopolith of basic to ultrabasic composition intruded into a basaltic lava and meta-sediment package that was possibly still presenting a high thermal gradient. The sill was most likely to have been horizontal or sub-horizontal at time of emplacement as it presents conformable contacts with the host rocks and is not particularly chilled near contacts. The sill is a composite intrusion consisting of several differing compositions but all in the proximity to the gabbro field. The feeder for the sill was a dyke or series of dykes (that may have been eroded and in fact a good part of the sill has also been eroded but we do not know how much). Composite magma chambers are sills kept molten by repeated magma supply by dykes. This is particularly true of magma chambers at divergent spreading centres such as mid-ocean ridges. It is possible that the sill could be the result of a magma chamber intruding its own lava sequence.

The feeder dykes are interpreted as the melanorite dykes seen on the long drill fence 1700E. They should be found south of the sill contact if they are true feeder dykes.

Considering all the known evidence so far it is likely that there was a primary genetic relationship between the basaltic lava piles and the Grassy Pond Sill and the latter is a fossil magma chamber within a volcanic pile at a spreading centre.

In the area of B4-7 the Grassy Pond sill is at its thickest and also most differentiated compositionally with a range from anorthosite to gabbro. Several of the smaller gabbro bodies may in fact be later dykes and the largest gabbro, the Grassy Pond Sill is more likely to be a complex nest of individual sills or an interfingered sill/host succession.

It can readily be appreciated that all significant nickel mineralisation is sited around the southern margin of the largest sill but other occurrences adjacent to some of the smaller sills cannot be ruled out.

The Grassy Pond sill, compared to other sills observed on the property, is the most differentiated in terms of composition. But the high degree of differentiation seems to be limited to the central, thicker part of the sill. This could be a critical point for the deposition of PGEs, and thus the development of Alpha PGE-enriched zones (delineated in the adjacent B4-7 deposit).

## **VW DEPOSIT**

The VW Deposit lies 50 m to 150 m north of Ketchikan Lake near the southeastern end of the Junior Lake claim group on claim TB1077142. The deposit consists of a series of five mineralized subzones hosted by deformed assemblage of sheared mafic and ultramafic metavolcanics, gabbros, and chemical and clastic metasedimentary rocks. Host rocks are mafic volcanics and, to a lesser extent, mafic intrusives and metasedimentary rocks. The subzones are contained in a 125 m to 200 m wide shear (Junior Lake Shear) that dips steeply north. The VW deposit itself has been drilled over a strike length of 620 m, and dips subvertically or steeply to the north, with the deepest intersection in the most southerly subzone at 320 m (22 m elevation).

Stratigraphy of the VW deposit consists of a mixed sequence of mafic volcanics (2A, 2A F2), ultramafic volcanics (1A, 1C), mineralized volcanics (MZ 2A and 2A MZ), and mineralized gabbro (9C MZ) and gabbro (9C). This sequence youngs from south to north, with rock units described by McKay (2006) as follows:

- **Mafic-pillowed volcanics (2A F2)** are fine- to coarse-grained, grey, greenish grey, with locally well-developed pillow selvages up to three centimetres wide. Elongated, pale green to beige porphyroblasts occur locally. Chlorite alteration is moderate. Biotite alteration occurs locally. Quartz veins up to 50 cm wide are scattered throughout. The unit is locally sheared. Red-brown garnets occur but are rare. Sulphides consist of minor disseminated pyrrhotite.
- **Ultramafic volcanic (1A)** is fine- to medium-grained, steel grey, soapy and massive to well foliated. Serpentinization is pervasive. Chlorite, fuchsite and epidote alterations are moderate. White, locally beige, quartz veins up to 10 cm across are scattered throughout the unit.
- **Mafic volcanics (2A)** are fine- to coarse-grained, grey, greenish grey, foliated to massive. Chlorite and biotite alterations are moderate. Silicification is weak and patchy. Quartz veins up to seven centimetres across are scattered throughout. Sulphides, up to 1% pyrite and 0.5% chalcopyrite, occur predominantly in shear zones (?) or possibly poorly defined pillow selvages.
- **Mineralized mafic volcanics (2A MZ and MZ 2A)** are fine- to coarse-grained, grey, greenish grey, locally foliated to massive. Chlorite and biotite alterations are moderate to strong and epidote alteration is locally weak. Quartz veins are scattered throughout. The unit is sheared and fractured throughout. A 30 m intersection in hole 0405-36 contains poorly defined, very fine grained, cherty magnetite iron formation. The magnetite banding is up to 30 cm thick and rarely has sharp contacts

with the hosting volcanics. The sulphide content of this magnetite iron formation is up to 15% pyrrhotite, 3% chalcopyrite, and 1% pyrite. The overall sulphide content of the unit is up to 5% pyrrhotite, 4% pyrite, and 2% chalcopyrite. In addition to the banding in the iron formation, the sulphides also occur as fracture filling, scattered blebs associated with quartz veins, and as disseminations.

- **Mineralized gabbro (9C MZ)** at the collar of hole 0405-35 is fine- to coarse-grained, grey, greenish grey and well foliated to massive. Biotite alteration and silicification are moderate to strong. Amphibole patches occur throughout. Moderate chlorite alteration occurs locally. Creamy white and beige quartz veining occurs throughout the unit. The unit is locally sheared, fractured and faulted, with minor gouge. Disseminated and blebby sulphides, up to 3% pyrite and 2% pyrrhotite, locally enhance the foliation.

## 7 MINERALIZATION

### 7.1 B4-7 Deposit – Nickel, Copper, Cobalt, PGE, Gold

B4-7 deposit mineralization has been summarized from Pressacco (2013), with contributing information from MacTavish (2004).

Mineralization in the B4-7 zone is composed of semi-massive to massive sulphides primarily composed of pyrrhotite (25%-75%), with minor pentlandite and chalcopyrite (1%-5%). Other sulphides include pyrite, violarite, sphalerite, and covellite. Magnetite concentrations are minor (1%-5%) to moderate (5%-25%) and generally occur where oxide iron formation is proximal to the zone walls.

The pyrrhotite is fine grained and carries pentlandite and violarite exsolved as very fine grains (20 microns to 40 microns). Pentlandite occurs as relatively coarse grains as well as fine pentlandite flames. Nickel contents of up to 3% occur in the B4-7 lenses, whereas in the disseminated sulphides the nickel content is usually less than 1%.

The disseminated style of blebby and network style mineralization is, however, generally much richer in PGEs, with up to 10 g/t Pd and up to 1 g/t Pt. Both Cu and Co occur as sulphides in both styles of mineralization. PGE mineral species are represented by kotulskite and borovskite, both palladium tellurides.

MacTavish (2004) described the B4-7 zone mineralization as composed of massive, fine-grained pyrrhotite, highly variable disseminated, stringer, locally semi-massive, fine-grained chalcopyrite, and localized coarse-grained secondary pyrite. Most of the chalcopyrite is concentrated as fine to medium grains near contacts, within fragment-rich portions of the zone, or as veins and stringers within the adjacent hanging wall and footwall rocks. Pyrite occurs as coarse cubes, up to three centimetres in diameter, that usually concentrate near the upper and lower contacts of the massive sulphide zone. Cobalt content correlates directly with the amount of coarse-grained pyrite. The B4-7 zone is locally rich in disseminated magnetite, which, in most cases is correlatable to the presence of oxide facies iron formation in the adjacent hanging wall or footwall rocks.

### 7.2 B4-7 East Area – Nickel, Copper, Cobalt, PGE, Gold

Sulphide mineralization consisting of pyrite, pyrrhotite and chalcopyrite was observed in the gabbro units, with minor sulphides sometimes present in the metasedimentary rocks and to a lesser extent the mafic volcanic flows (though these were typically devoid of sulphides). These sulphides are disseminated through the host rock in relatively low abundances; trace to 2%, but in various intervals reached as high as around 20% as blebs, laminae, and veinlet infill semi massive and network with po the dominant sulphide typically. There were few instances of centimeter-scale high abundances (>50%) of pyrite and pyrrhotite (massive sulphide) but the dominant style of mineralization is as blebs and laminae.

### 7.3 VW Deposit – Nickel, Copper

VW deposit mineralization has been summarized by Routledge, R.E. (2010b):

There are three styles of sulphide mineralization in the VW deposit. The most important is thin lamina and veinlets following the foliation of the volcanoclastic rocks. The hydrothermal fluids appear to have been constrained by the impermeable gabbro dikes in that the highest concentrations of sulphides and grades are found immediately adjacent to dike contacts with a gradual diminution away from them.

The pyrrhotite, pyrite and chalcopyrite mineralized volcanoclastic host unit itself is usually thick, up to 25 m, but of lower overall grade than the mineralization ponded and channelled along the dikes. Mineralization in the centre of the Katrina zone may be of magmatic origin.

The third style is low grade mineralization up to 0.4% Ni occurring as fine blebs of pyrrhotite and pentlandite within ultramafic schist, peridotite and serpentinite.

The subzones within the VW deposit are composed generally of 1% to 5% sulphides consisting of pyrrhotite-pyrite-pentlandite-chalcopyrite-magnetite  $\pm$  sphalerite. Locally sulphides can reach 40-50%, however, no massive mineralization has been noted. In addition to blebs/clots, lamina on foliation planes and veinlets, sulphides also occur to a lesser extent as breccia matrix, as replacement style net texture and as fracture filling. Weak to moderate sulphide mineralization at less than 2% sulphides and stronger mineralization containing more than 2% sulphides was distinguished in logging the mineralized zones.

Pyrrhotite is fine grained and carries minor pentlandite exsolved as very fine flames as well as occluded pentlandite as discrete fine grains. Free pentlandite appears to be rare. Chalcopyrite and pyrite occur as fine to medium grains.



## 7.4 Mineralization Elsewhere on the Property

Prior to Landore ownership, exploration in the Junior Lake–Lamaune Lake area that located the B4-7 deposit in 1969 also revealed two low-grade Cu-Ni zones and occurrences of copper, iron, lithium, chromite, asbestos, zinc, and gold-molybdenite. Most of these are within two kilometres of the VW Zone.

From 1990 to 2003, Landore found nine PGE-Cu-Ni occurrences, one Cu-Pd zone, one gold zone, and Zn-Au-Ag and Zn-Co occurrences in old trenches and boulders bearing base and precious metal or arsenic mineralization. The VW deposit was discovered in 2005.

Four lithostratigraphic sequences favourable for nickel mineralization on the Junior Lake property have been identified by MacTavish (2004b) as follows:

- **VW Sequence:** a 1.9 km long, up to 400 m thick package of mafic metavolcanic flows, mafic intrusive dikes and sills, and clastic and chemical metasedimentary rocks that host the VW Zone.
- **B4-7 Sequence:** 1.9 km long and up to 400 m thick, is composed of primarily mafic metavolcanic flows (2AF1), gabbroic intrusive (9A,B,C), and clastic and chemical metasediments (6P) that lies between the Carrot Top Sequence and the Grassy Pond Sill. This sequence hosts the B4-7 Ni-Cu-Co-PGE deposit including the B4-7 massive sulphide zone and the Alpha and Beta zones.
- **Grassy Pond Sill,** a laterally extensive 100 m to >500 m thick gabbroic sill that hosts Cu-Ni-PGE mineralization near its base.
- **Carrot Top Sequence:** a complex laterally extensive 300 m to >600 m thick sequence of mafic metavolcanic flows, ultramafic schists, and clastic and chemical metasedimentary rocks that host several Ni-Cu-PGE occurrences. This sequence is located in the west portion of the Junior Lake property.
- **BAM Sequence:** a 1.65 km long, up to 165 m wide assemblage composed of mafic metavolcanic flows, mafic dikes and sills, and intermediate dikes that host the BAM gold occurrence. The BAM sequence is located northwest of the VW deposit in the north central portion of the Junior Lake property.

## 8 EXPLORATION

Cheatle (2010a) outlined the exploration history of the Junior Lake property:

Landore optioned part of the property from North Coldstream Mines Limited in 1998 and additional claims from Brancote Canada in 2000. Since then, Landore exploration has found nine PGE-Cu-Ni occurrences, one Cu-Pd zone, one gold zone, and Zn-Au-Ag and Zn-Co occurrences in old trenches and boulders bearing base and precious metals or arsenic mineralization. Landore has successfully delineated several deposits and other potential areas of significant mineralization throughout the Junior Lake property including two Ni+PGE deposits (B4-7 and VW).

Landore initial work in 2000 involved data compilation, Landsat image interpretation, prospecting, mapping, and resampling of the 1969 core, and followed up an Ontario Geological Survey (OGS) airborne EM and MAG survey flown over the area.

Ground magnetometer MaxMin II EM surveys, in addition to drilling, were completed in 2001. In 2003, Landore conducted drilling, stripping, trenching and channel sampling. All drilling data were digitized and reinterpreted, 856 core samples were assayed to fill in unsampled runs in the B4-7 deposit, in its hanging wall mineralization known as the Alpha Zone as well as in mineralization in the east extension of the B4-7 zone known as the Beta Zone.

A low level helicopter AeroTEM time-domain electromagnetic and magnetometer survey was flown in 2004. Principal geophysical sensors utilized in this survey included AeroQuest's AeroTEM© time domain helicopter electromagnetic system and a high sensitivity cesium vapour magnetometer. Bedrock EM anomalies were interpreted and graded according to the conductance.

The VW deposit was discovered in 2005 by follow-up prospecting of an AeroTEM conductor where 0.45% Ni was returned in a surface grab sample. Landore subsequently drilled the new VW deposit, as well as the Whale, NO and BAM zones, and other areas on the Junior Lake and Lamaune projects.

In 2006, Landore drilled the VW deposit, B4-7 zone, and other exploration targets including the Junior Lake, Pichette, and Lamaune claims. The 2006 campaign at the VW deposit included two surface trenches which were excavated and channel sampled. Metallurgical work included preliminary flotation and work indexes were carried out at Lakefield in September–October. Scott Wilson RPA also prepared a technical report (NI 43-101) on the B4-7 zone in 2006.

During 2007, diamond drilling of the VW and B4-7 deposits was the main focus of exploration activity. The following work was completed on the Landore property:

- Relogging of pre-2007 VW deposit drill core was initiated.
- Drill collars of the VW and B4-7 deposits and topographic control areas of the Junior Lake property were surveyed by an Ontario Land Surveyor.

- Minor line cutting was completed near Ketchikan Lake and the B4-7 deposit area to support the drilling operations.
- Baseline environmental studies were initiated and conducted by or under the guidance of Golder Associates Ltd. (Golder), of Sudbury, Ontario:
  - These studies were started in March 2007 and include quarterly sampling and analysis of lake and stream waters
  - Lake and stream sediment sampling was completed during the summer.
  - A benthic study, bathymetric study, and a fisheries study of Ketchikan Lake were completed.
- A weather station was installed at the Landore Junior Lake camp to record wind speed and direction, temperatures and three seasons of precipitation data.
- Sampling of the VW deposit drill core (quarter-cut core) was completed for metallurgical purposes.
- Claim lines were rehabilitated and the claim boundary surrounding an area to be leased was cut and surveyed in advance of filing the application to the Mining Recorder to lease the claims. Four leases have subsequently been granted.
- The land package was expanded to the southeast by staking an additional 24 claims totalling 5,056 ha.
- Aerial photography (stereo) was completed over the lease area by KBM Forestry Consulting in late 2007 to produce an air photo mosaic for exploration and infrastructure planning. The photographic data were processed to establish a detailed digital terrain topographic model (DTM).
- Golder commenced baseline aquatic studies in February 2007 on lakes and drainage tributaries in the vicinity of Junior Lake. These studies, repeated three monthly, are proceeding well and will continue through to economic studies. In addition, Golder completed a “Fish community and Fish habitat” survey of Ketchikan Lake, immediately south of the VW deposit, in addition to a bedrock resistivity survey on the northern side of the lake to determine depth of silt and evaluate bedrock competence.
- The camp was expanded and core storage was improved to hold the Junior Lake drill core on site.
- Core from previous Landore drilling in the VW deposit was relogged with a view to better understanding the controls on mineralization and identifying the disposition of mafic intrusives (dikes and sills) in the zone. In addition, further petrographic investigation was carried out on the VW deposit (Mungall, 2007). The drill hole collars were resurveyed to the Ontario base.

- In early 2007, a resource estimate was carried out by Scott Wilson RPA on the VW deposit.

In May 2008, Scott Wilson RPA prepared an updated resource estimate and NI 43-101 compliant technical report for the VW deposit. Scott Wilson RPA updated the VW deposit estimated resources to reflect 2008 to 2009 drilling and prepared a separate NI 43-101 compliant technical report (Routledge and Scott, 2009).

A non-NI 43-101 compliant mineral resource estimate to JORC standards was carried out by the Snowden Group (Snowden) on the B4-7 deposit in 2008. Scott Wilson RPA prepared resource estimates for the B4-7 deposit in 2006 and 2009.

Exploration efforts in 2009 included drilling, mapping and prospecting throughout the contiguous claims covering approximately 10 km<sup>2</sup>, with work concentrated in the Lamaune Iron, BAM and VW areas. Additional exploration completed included prospecting and mapping at Swole Lake and Toronto Lake as well as east and west of the VW deposit.

To 2009, the VW deposit has been delineated and tested by 141 drill holes with 2,766 analyzed intervals over 2,838.36 m completed in the deposit subzones. Scott Wilson RPA has updated the VW deposit estimated resources to reflect 2008 to 2009 drilling and has prepared a separate NI 43-101 compliant technical report (Routledge and Scott, 2009).

Other exploration efforts in 2009 included mapping and prospecting throughout the contiguous claims covering approximately 10 km<sup>2</sup>, with work concentrated in the Lamaune Iron, BAM and VW areas. Additional exploration completed included prospecting and mapping at Swole Lake and Toronto Lake as well as east and west of the VW deposit.

### **Overview of Recent Exploration**

Recent exploration activity at Junior Lake from 2006 to 2013 has seen drilling focused on several areas including additional resource drilling at VW and B4-7 deposits, Lamaune area exploration drilling, the Whale Zone, Felix Lake, Swole Lake and B4-7 West) exploration drilling.

Other recent work, in 2007-2013, included detailed geologic mapping (B4-7, VW, BAM, Lamaune), 55 trenches over approximately 13km (Lamaune Iron, Grassy Pond, Felix Lake, Juno Lake, BAM Zone, Toronto Lake), additional geophysical work (impulse EM survey, ground magnetic, and reinterpretation and integration with historic magnetic data), as well as approximately 70 km of line cutting. Regional scale prospecting, regional reconnaissance and geologic mapping, including an airborne geophysical coverage (AeroTEM electromagnetic and magnetic) of the Toronto Lake area (various Ni, Au, PGE potential), and Swole Lake (pegmatite lithium) prospecting were also undertaken. Numerous consultant reviews and studies have been completed, including detailed Scanning Electron Microscope (SEM) and petrography studies of the VW and B4-7 deposits; relogging, resampling and reinterpretation of geology for the VW, B47, and BAM sites; as well as reviewing of regional exploration potential. Surveying of drill collars, claim lines, additional claim staking, initiation of environmental baseline study, aerial photography, and metallurgical testing were also undertaken.

In June 2011, the Lamaune block, comprised of 23 claims, for 4,096 hectares, containing the Lamaune Iron deposit as well as the Lamaune Gold prospect, was transferred into a separate private company ('Lamaune Iron Inc.').

In October 2012, a deep penetrating ORION 3D 'Direct Current Induced Polarization' (DCIP) and Magnetotellurics (MT) survey was performed over the Scorpion zone of the Junior Lake property by Quantec Geoscience Ltd. This survey encompassed the western portion of the Scorpion zone, from line 1400W eastwards to line 400E in the B4-7 deposit.

Tuomi (2013) describes the DCIP+MT survey:

This survey acquired three sets of data in multi-directions; DC (direct current), IP (induced polarization) and MT (magnetotellurics), and is a true three dimensional survey. Sophisticated digital signal processing was utilized to obtain high resolution imaging at depths up to 1000+ metres below surface. This survey utilized DC resistivity to identify prospective nickel mineralization, and used IP chargeability to investigate potential copper and PGE targets.

The survey identified three areas of interest, located in the central, eastern and northern parts of the survey area, which appear to be interconnected and geologically controlled by fault lines. A portion of the eastern survey area is drill tested and hosts the B4-7 deposit.

The DCIP + MT survey results indicate that the conductive horizon which harbours the B4-7 massive sulphide mineralization extends to the west through the Exploration Target, an area identified west along strike and down dip from the B4-7 resource containing a potential 1.5 Mt to 2.0 Mt of sulphide mineralization of similar grade range to that which has been outlined to-date (Pressacco, 2013).

Additionally, DC resistivity results have identified potential sulphide mineralization along a 1.53 km wide corridor encompassing the western Scorpion zone. IP chargeability and MT results further support the potential of the Scorpion zone area for massive and disseminated sulphide mineralization.

Subsequent drilling in winter 2013 has tested the DC resistivity and IP chargeability results at various localities along the western portion of the Scorpion zone. Drilling in the Exploration Target area between lines 175W and 300W successfully intersected B4-7 massive sulphide mineralization as well as Alpha zone disseminated sulphide mineralization.

In December 2013, an Electromagnetic (MaxMin), VLF and Magnetometric ground geophysics program was completed over the VW deposit and VW West areas, from line 900E to line 4000E and covering 35.7 line kilometres. The survey was conducted by Geosig Inc., Québec, for Landore Resources.

Results from these surveys have been highly encouraging, identifying multiple near-surface conductor anomalies along the VW Nickel deposit trend with similar signatures to the VW deposit conductive anomaly itself.

From January 17 to February 14 2014, a 3-Dimensional (3D) Direct Current Induced Polarization and Magnetotellurics (DCIP + MT) ground geophysics program was completed over the VW deposit, VW West, and B4-7 East areas, from line 300E to line 3700E and from 700N to 1500S. The survey, covering 739.02 hectares, was conducted by Quantec Geoscience Ltd., Toronto, for Landore Resources. This survey is located directly adjacent to the east of Landore Resources' 2012 Orion 3D DCIP + MT survey block covering the B4-7 West zone.

The DC resistivity displays a good correlation with the B4-7 deposit while the IP chargeability model is best correlated with the VW deposit. Generally, across the survey grid the areas of the highest chargeability values offset the locations of the highest conductivities. This observation is consistent throughout the entire IP chargeability model when compared with the DC resistivity model. Considering the fact that the B4-7 mineralized zone is characterized as conductive target and the VW mineralized zone is characterized as chargeable target, it manifests that these two deposits are of different sources and depositional processes and should be interpreted accordingly. Therefore, for follow-up exploration program it is important to incorporate geological conceptual model for a given deposit type and use the corresponding DC or IP models as guideline for drill targeting (Gharibi/McGill, 2014).

Results from the 2014 survey have been highly encouraging, delineating nine significant new zones ranging from approximately 400m to 1,200m in length of potential nickel sulphide mineralization along strike and adjacent to the existing B4-7 Nickel-Copper-Cobalt-PGEs resource and the VW Nickel resource. Numerous targets are at depth and below existing Landore exploration drilling.

In the survey report, Gharibi/McGill (2014) notes:

The resistivity varies sharply over short lateral distance, indicating a complex subsurface dominated by faults and dike-like structures (Figure 8-1). The conceptual fault system drawn using the resistivity map at 50 m elevation indicates that these deformations are likely the result of a number of tectonic episodes, dominated by an E-W stress field system.

A number of high conductivity areas are resolved across the survey grid; anomalies DC1 through DC9 (Figure 8-2). The conductive anomalies display a general E-W elongated trend. Main conductivity feature, which is observed across the survey grid, is a large conductive body comprising anomalies DC1, DC2, DC3, and DC4 (Figure 8-2). The large conductive body appears to construct a large E-W elongated conductive structure and shows a number of lateral displacements in N-S direction. Displacements are evident along grid line L1300E between DC1 and DC2 and grid line L2000E between DC2 and DC3 and grid line L2800E between DC3 and DC4.

Additionally, resistivity cross-sections indicate that the B4-7 mineralized zone partially correlates with the anomaly DC1 to the south of the baseline (L0N). Existing drill holes in this area do not probe the possible deep extension of B4-7 to the east, south of the baseline L0N. The anomaly DC1 shows a drop of more than 100 m in depth in this area. This behavior is similar to a more than 100 m drop of the conductive anomaly associated with the B4-7 in the west, as observed in the 2012 Orion 3D survey over the same deposit. This suggests that the B4-7 deposit may be an uplifted conductive feature along a very long conductor with an E-W orientation, which is

observed across the previous and present Orion survey areas. Therefore, the deep extension of anomaly DC1 south of gridline LON resolved in the present survey is a potential target of interest to extend the existing B4-7 deposit eastward.

A number of large chargeability anomalies are resolved in the west and northwest of the survey grid (Figure 8-3, anomalies IP4, IP5, and IP6). At greater depth these three anomalies merge together and construct a large chargeable body with chargeability as high as 85 milliradians. The source of this large chargeable body is unknown but the scale and geometry of the anomaly suggest that it could be structural and formational IP responses.

Anomaly IP2 appears to correspond with the B4-7 deposit (Figure 8-3). This anomalous zone displays connectivity with large chargeability anomalies in the east.

During July to August 2014, a total of 16 drill holes (0414-477 to 0414-492) for 4,201 metres were drilled on the B4-7 East area, a prospective zone extending eastwards 1.5 kilometres from the B4-7 Nickel-Copper-Cobalt-PGEs deposit. Drilling followed up on results from the 2014 3D DCIP + MT ground geophysical survey, which identified several prospective anomalies through this area.

Drilling confirmed the extension of a significant copper/gold mineralized structure previously delineated from line 900W in the B4-7 West zone eastwards adjacent to the B4-7. Values as high as 5.49% copper over 0.77 metres in drill-hole 0412-368 and 26.1g/t gold over 0.75 metres in drill-hole 0406-252 had been intersected by previous drilling. The drilling in July-August 2014 extended this copper/gold trend through to line 1600E, with a further 500 metres potential strike length indicated by historical drill hole S-5 on line 2100E with 0.21 metres at 8.97% Cu, giving an overall potential strike extension of 3.0 kilometres.

The drilling also intersected elevated polymetallic mineralization on line 1200E with drill-hole 0414-485 returning 5 metres at 0.25% Ni, 0.33% Cu, 0.01% Co, 497ppb Pd, 100ppb Pt, and 48ppb Au from 61 metres down-hole which together with previous highly encouraging trench results on line 1350E holds potential for near-surface, economic polymetallic mineralization which would provide added value to the B4-7 deposit.

Further drilling is necessary to ascertain the scope of the near-surface polymetallic mineralization, as well as to further define the promising copper/gold mineralized structure.

## **8.1 2015 Electromagnetic (MaxMin), VLF and Magnetometric Ground Geophysics Survey**

In late January to early February 2015, an Electromagnetic (MaxMin), VLF and Magnetometric ground geophysics program was completed over the B4-7 East and VW North areas, from line 100W to line 4000E and covering 44.7 line kilometres. The survey was conducted by Geosig Inc., Québec, for Landore Resources.

In the survey report, Simoneau (2015) notes:

The survey grid, 4.1 km long, is oriented East-West including the base line. The Mag-VLF surveys covered parts of the lines and part of the tieline 6+00N (between 29+00E and 37+00E) for a total of 45.51 km. The tielines were not read because they were not refreshed and missing pickets. The MaxMin survey was run over the lines for a total of 44.7 km.

Seven MaxMin anomalies were described. The seven (7) anomalies are located between 50m and less than 10m deep. Three of these anomalies coincide with slight magnetic anomalies (MM-17, MM-18 and MM-20), one anomaly is located at the northern edge of a magnetic anomaly (MM-7) and two of them have no magnetic feature. Several targets are proposed for drilling.

Table 8-1 describes priority targets as identified by Geosig. Lower priority targets are also included in the Geosig 2015 report.

Results from the 2015 survey have identified further drill targets north of the pre-existing surveys from 2001 and 2013, an area in which the B4-7 polymetallic trend and the BAM gold trend intersect. To date there has been little exploration north of 200N, an area which is highly prospective for further polymetallic nickel, copper, cobalt, PGEs and gold mineralization.

Further exploration work is required to ascertain scope and continuity of this mineralization and test prospective geophysical targets.



**Table 8-1: Recommended Drill Targets From HLEM Anomalies, B4-7 East/VW North Electromagnetic (MaxMin), VLF and Magnetometric Survey**

Anomaly	Line	Station	MAXMIN II-5 F: 1777 Hz C: 200 m.						Association	Comment	Priority
			I %	O %	$\sigma$ . t.	D (m)	W (m)	L (m)			
MM-7	16+00 E	4+00 N	-26	-4	21 Excel	56	10	> 3100	Low Magnetic anomaly VLF	Massive	2
MM-7	29+00 E	0+62 N	-41	-2	90 Excel	36	15	> 3100	Northern Limit of a Magnetic anomaly VLF	Massive	1
MM-7	35+00 E	1+62 S	-43	-13	10 Good	20	10	> 3100	Weak mag Anomaly VLF	Semi-massive	1
MM-7	39+00 E	1+75 S	-42	-5	34 Excel	30	10	> 3100	VLF	Massive	2
MM-17	37+00 E	2+75 N	-21	-5	12 Good	60	35	300	Magnetic VLF	Semi-massive	1
MM-18	7+00 E	8+87 N	-46	-5	36 Excel	26	< 5	> 2700	Slightly Magnetic VLF	Massive	1
MM-18	16+00 E	7+50 N	-21	-8	14 Excel	52	10	> 2700	High Magnetic Anomaly VLF	Massive	1
MM-18	26+00 E	5+37 N	-56	-5	36 Excel	10	20	< 2700	VLF	Massive	1
MM-19	20+00 E	8+87 N	-20	-0	100 Excel	70	< 5	> 1100	VLF	Massive	2
MM-20	1+00 W	7+25 N	-14	-12	3.0 Weak	48	12.5	> 500	Slightly Magnetic VLF	Disseminated	2

F : frequency

C : cable length

I % : in phase component

O % : out of phase component

$1 \text{ nt} = 1 \text{ gamma}$

$\sigma$ . t. : conductivity thickness

D : depth of the anomaly

L : length

W: width

Prio : priority

Source: Simoneau (2015)

## 9 SURVEY DESIGN AND PROCEDURES

The design and procedures for the Electromagnetic (MaxMin), VLF and Magnetometric survey are summarized by Simoneau (2015):

### 9.1 Field Work and Procedure

The field crew moved to the property on January 21 after the grid lines were completed. The survey grid, 4.1 km long, is oriented East-West including the base line. The Mag-VLF surveys covered parts of the lines and the tieline 6+00N (between 29+00E and 37+00E) for a total of 44.7 km. The tielines were not read because they were not refreshed and missing pickets. The MaxMin survey was run over the lines for a total of 44.7 km.

The lines are spaced every 100 metres between 1+00W and 40+00E. Most of the lines from 1+00W to 19+00E average 1000 m long and are chained between 0+00N to 10+00N. Lines 26+00E and 27+00E are chained from 4+00S to 10+00N. Lines 28+00E to 40+00E are chained from 4+00S to 7+00N.

### 9.2 Magnetometric Survey

#### 9.2.1 Methodology

The measurements for the magnetic total field were taken in a mobile mag mode with two (2) seconds sampling readings and regular label readings taken each 12.5 meters.

A GSM-19WMV was used on the field with a GSM-19W base station with a 15 seconds registering readings period. The magnetic readings have been automatically corrected for diurnal variations when the data was dumped with a datum value of 57,000 gammas. The magnetometer system measures the value of the total magnetic field with a precision of  $\pm 0.1$  gammas.

#### 9.2.2 Presentation of the results

The data were processed with the appropriate software, including Geosoft and MicroStation. The data are plotted as Mag total field profiles and postings (maps no. 9657-9658) and colored contours (map no. 9659-9660) at a scale of 1 : 2 000. The identification of magnetic bodies is based on the general picture obtained from the profiles and isocontours.

The magnetic field is very active in the property and ranges from 52,947 gammas to 64,469 gammas confirming the presence of ultramafic intrusions or Iron Formations. In the area of the northern grid, most of the linear magnetic anomalies could be made by weak Iron Formations. Some of the MaxMin anomalies coincide with magnetic anomalies and are believed to carry pyrrhotite like the main massive sulphide zone. Some other places, some of the MaxMin anomalies appear when the magnetic anomalies disappear which could mean that the sulphides are coming from the transformation of the magnetite into sulphides.

## 9.3 Electromagnetic VLF Survey

### 9.3.1 Principles

The VLF-meter uses the signal from the VLF-transmitting stations operating for communications with submarines. The Antenna current from the vertical Antenna of these VLF-transmitting stations operating for communications with submarines is vertical, creating a concentric horizontal magnetic field around them. When these magnetic fields meet conductive bodies in the ground, they create secondary fields that radiate from these bodies. The VLF-meter is simply a sensitive receiver covering the frequency band of the VLF-transmitting stations. It measures the vertical field components of these secondary fields.

### 9.3.2 Methodology

A GSM-19WMV was used on the field. The readings were taken at 12.5 meters spacing and some details at 6.25m spacing. The VLF survey was read with two main VLF-transmitting stations - Cutler (NAA, 24.0 kHz) and Jim Creek-Seattle (NLK, 24.8 kHz). The In-phase and quadrature of the vertical magnetic field were measured as a percentage of horizontal primary field with a resolution of 0.1%. The VLF and Mag were simultaneously read with the same instrument.

Station Identification	Frequency kilo-Hertz	Location	Lat & Long Coordinates	Output kW
NAA (TX 1)	24.0	Cutler Maine	67W17 44N39	1,000
NLK (TX 2)	24.8	Seattle Washington	121W55 48N12	234

### 9.3.3 Presentation of the results

The phase of the dip angle and the quadrature are independently plotted for each VLF station. The phase dip angle was treated using the Fraser Filter technique developed by D.C. Fraser and contour plotted.

The Fraser Filter technique was developed to shift the phase of the dip angle by 90 degrees so that cross-over and inflection points from positive to negative and vice-versa, are transformed into peaks to permit contouring of anomalies. This filter also removes the d-c waveform component and attenuates long wave lengths to increase the resolution and positioning of local anomalies.

For Cutler Station, the results are presented on profiles maps No. 9663-9664 and on Fraser Filter maps No. 9667-9668 at the metric scale of 1: 2 000. For Jim Creek Station, the results are presented on profiles maps No. 9661-9662 and on Fraser Filter maps No. 9665-9666 at the metric scale of 1: 2 000.

The VLF interpretation was drawn on the maps. The VLF axis with full circles are real conductors while the VLF axis with empty circles are weaker conductors or VLF anomalies possibly made from topography feature like deep valleys with wet overburden (edge effect) like the one in the SW corner following the valley at the base of a high hill.

The VLF survey detected twelve (12) new anomalies (VLF-30 to VLF-41). Five (5) are anomalies by their own (VLF-30, VLF-33, VLF-35, VLF-36, VLF-41). Six (6) anomalies corresponds to MaxMin anomalies and one (1) is extension of known anomaly (VLF-15) identified in 2013 and extended north of Ladle Flats. It seems to follow the geological limit between the ultramafic plain (south) and a mafic area (more hilly) north.

The anomalous VLF corroboration from the two independent VLF stations frequencies is generally good except for the eastern parts of VLF-34 and VLF-37 which are much more evident on the Cutler Station maps.

## **9.4 HLEM MaxMin Survey**

### **9.4.1 Methodology**

A MaxMin II-5 portable unit was used in the maximum coupled mode (horizontal loop) with a 200-meter reference cable. The parameters (in phase and out of phase components of the secondary field) were read and recorded for three frequencies: 444, 1 777 and 3 555 Hz. Readings were taken every 25 meters on all the lines.

### **9.4.2 Presentation of the results**

All the results are presented on 2 maps at a 1 : 2 000 scale. The maps (no 9655-9656) show the profiles of the three frequencies with the interpretation of the MaxMin and VLF surveys with the profiles of both components of the three frequencies (scale: 1 cm for 20 %). In phase profiles are in full lines while out of phase profiles are in dashed lines.

The MaxMin survey with a 200m cable was conducted to confirm the presence of deep bedrock conductors.

In total, five (5) new anomalies (MM-16 and MM-20) were detected and two (2) old anomalies (MM-6 and MM-7) were confirmed and extended. There is also a new anomaly (MM-21) building up at the south end of lines 21+00E and 22+00E. It seems to be on strike with MM-6. The VLF anomalies were added on the MaxMin anomalies. It helps to determine if we have a wide conductor or a MaxMin anomaly made of two narrow conductors.

## 10 DATA VERIFICATION

Drill hole and assay data entered or imported into Landore's Microsoft Access database is checked by the software and Senior Geologist for data entry errors.

To validate the drill hole database is checked for potential problems such as:

- 1) Intervals exceeding the hole length (from-to problem).
- 2) Negative length intervals (from-to problem).
- 3) Zero length intervals (from-to problem).
- 4) Inconsistent downhole survey records.
- 5) Out of sequence and overlapping intervals (from-to problem; additional sampling/QAQC/check sampling included in table).
- 6) No interval defined within analyzed sequences (not sampled or missing samples/results).

## 11 INTERPRETATION AND CONCLUSIONS

The 2015 Electromagnetic (MaxMin), VLF and Magnetometric ground geophysics program was conducted on the B4-7 East and VW North areas, from line 100W to line 4000E, and covered 44.7 line kilometres. The survey was conducted by Geosig Inc., Québec, for Landore Resources. The survey followed up on previous identical surveys covering line 2000W, through the B4-7 and VW deposits, to line 4000E in 2001 and 2013, and was used investigate the base and precious mineral potential between the B4-7 Ni-Cu-Co-PGE deposit and the VW Ni deposit.

Results from the 2015 survey have been encouraging, identifying potential massive sulphide mineralization as well as potential disseminated sulphide mineralization containing economic grades of nickel, copper, cobalt, PGEs and gold. The survey delineated multiple near-surface conductor anomalies west of the B4-7 deposit, an area in which the B4-7 polymetallic trend and the BAM gold trend intersect. To date there has been little exploration north of 200N, an area which is highly prospective for further polymetallic nickel, copper, cobalt, PGEs and gold mineralization.

Follow-up drilling is warranted to follow up on promising geophysics results.

## **12 RECOMMENDATIONS**

The 2015 Electromagnetic (MaxMin), VLF and Magnetometric ground geophysics program was successfully completed on the B4-7 East and VW North areas, located in the central portion of the Junior Lake property. Survey results have indicated multiple near-surface conductor anomalies within the area where the B4-7 polymetallic trend and the BAM gold trend intersect, as well as north of the VW deposit itself. MaxMin conductor targets generated from this survey typically located at less than 100 metres depth, and are up to 2.7 km in length.

Follow-up work is recommended to drill prospective geophysical targets along the B4-7 East and VW North areas utilizing the results of this survey together with Landore's geophysical information from earlier surveys.

## 13 REFERENCES

- Barnes, S. J. 2000 Chromite in Komatiites, II. Modification during Greenschist to Mid-Amphibole Facies Metamorphism; *Journal of Petrology*, Vol. 41 # 3., pp. 387-409
- Berger, B.R. (1992): *Geology of the Toronto Lake Area, District of Thunder Bay, Ontario Geological Survey, Open File Report 5784, 145p.*
- Cheatle, A.M. (2010): 2008 Diamond Drill Program on the Junior Lake Property, Lamaune Lake Section (Grassy Pond, Carrot Top, Zap, DC Zones), Unpublished Landore Resources Canada Inc. report submitted to the MNDMF for assessment credit, April 21, 2010.
- Cheatle, A.M. (2010a): 2008-2009 Work Assessment Report for the VW Deposit, Junior Lake Property, Ontario, Canada, Unpublished Landore Resources Canada Inc. report submitted to the MNDMF for assessment credit, June 25, 2010.
- Cheatle, A.M. (2010b): 2008 Diamond Drill Program on the Junior Lake Property, Lamaune Lake Section (Grassy Pond, Carrot Top, Zap, DC Zones), Unpublished Landore Resources Canada Inc. report submitted to the MNDMF for assessment credit, April 21, 2010.
- Cooper, C. C. (2011): VW Deposit Ni Cu Co mineralization. A review; Galloway Mineral Services Mineral Exploration Consultant: Landore intercompany memo, 4 pp.
- Cooper, C. C. (2009): Notes on ophicarbonates in the Ketchican West-VW zone.; Galloway Mineral Services Mineral Exploration Consultant: Landore intercompany memo, 3 pp.
- Cooper, C. C. (2009): B47 Short review; Galloway Mineral Services Mineral Exploration Consultant: Landore intercompany memo, 3 pp.
- Cooper, C. C. (2009): VW Short review; Galloway Mineral Services Mineral Exploration Consultant: Landore intercompany memo, 2 pp.
- Cooper, C. C. (2009): Exploration potential of Lamaune Properties, Junior Lake during 2009, results of recent drilling campaign and a property review; Galloway Mineral Services Mineral Exploration Consultant: Landore intercompany memo, 27 pp.
- Cooper, C. C. (2009): Exploration potential of the Junior Lake Area, Ontario Canada; Galloway Mineral Services Mineral Exploration Consultant: Landore intercompany memo, 14 pp.
- Eng, T. (2001) Report on the Exploration of the Junior Lake/Auden Property with Drilling Recommendations, Thunder Bay District, Ontario Canada; Unpublished Field Maps Map1 and Plate 2 [B4-8 West] intercompany report, Sept 2001, 17 pp.
- Gharibi, M/McGill, D. (2013): ORION-3D DC/IP/MT Survey Geophysical Report, Junior Lake Project (Armstrong, Ontario, Canada) on behalf of Landore Resources Canada Inc.



- (Thunder Bay, Ontario); Unpublished report prepared by Quantec Geoscience Ltd. for Landore Resources, Feb 11, 2013, 139p.
- Kjarsgaard, I (2011) Petrographic Description of 10 Polished Thin Sections for Landore Resources; Vancouver Petrographics Consulting, un-published report, Oct 2011, 39 pp.
- Landore (2014): Landore Resources Ltd. Press release, Geophysics Survey Identifies Significant Anomalies on VW Nickel Trend, released on the AIM Market of the London Stock Exchange (LSE) January 13, 2014.
- Landore (2014b): Landore Resources Ltd. Press release, Drilling Intersects high Grade Palladium and Platinum, Junior Lake Nickel-Copper-PGE Property, released on the AIM Market of the London Stock Exchange (LSE) November 19, 2014.
- Larouche, C. (1999): Results of the exploration program stripping-trenching-sampling completed on the Auden Project for Wing Resources Inc/Landore Resources Inc. Ontario Thunder Bay Mining Division Assessment File Report 2.19123, January 20, 1999, 31 pp.
- Leitch C. (2011) [Petrographic Report on 11 Samples for M. Tuomi Landore Resources-*unofficial title*] Report # 110921: Contents: Swole Lake and B4-8 West Petrographic Report Oct 2011, un-published report. Oct 2011, 15 pp.
- Lester, J. (2009b): Geology VW 091309. Unpublished summary report prepared for Landore Resources Canada Inc., September 13, 2009, 12 p.
- Lester, J./Tuomi, M. (2012): Work Assessment Report on the Junior Lake Property, 2011 Exploration Diamond Drill Program (B4-8 zone, VW West), Unpublished Landore Resources Canada Inc. report submitted to the MNDM for assessment credit, May 10, 2012.
- MacTavish, A.D. (2004): Summary Report on the 2003 Exploration of the Junior Lake and Lamaune Properties, Unpublished report prepared for Landore Resources Inc.
- MacTavish, A.D. (2004a): Diamond Drilling of the BAM and B4-7 Zones, Junior Lake Property, 2003, Unpublished report prepared for Landore Resources Inc.
- MacTavish, A. D. (2004b): Summary report on the 2003 exploration of the Junior Lake and Lamaune properties. Unpublished Landore Resources report, February 15, 2004.
- McKay, B. J. (2006): Technical report of the Junior Lake Project Falcon Lake and Junior Lake areas NTS 2I/08NE and SE, 42L/05NW and SW for Landore Resources Canada Inc. Unpublished draft company report, Volumes I to IV, 35 pp. (Vol. 1).
- Mungall, J. E. (2009): Preliminary petrological report on samples from the Junior Lake Property; Picrite Consulting Inc. unpublished report, 28 pp.
- Percival, J. A. (2007): Geology and metallogeny of the Superior Province, Canada; *in*

- Goodfellow, W.D., ed., Mineral deposits of Canada: A synthesis of major deposit-types, district metallogeny, the evolution of the Geological Provinces, and exploration methods: Geological Association of Canada, Mineral Deposits Division, Special Publication, No 5, pp. 903-928.
- Pressacco, R. (2013): Technical Report on the Mineral Resource Estimate for the B4-7 Zone, Junior Lake Project, Ontario, Canada, NI 43-101 Report prepared for Landore Resources Canada Inc., February 20, 2013.
- Pye, E.G., (1968): Geology of the Crescent Lake Area, District of Thunder Bay; Ontario Department of Mines, Geological Report 55, 72p.
- Routledge, R.E. (2010): Technical Report on the Resource Estimate for the B4-7 Zone, Junior Lake Property, Ontario, Canada, NI 43-101 Report prepared for Landore Resources Canada Inc., March 5, 2010.
- Routledge, R.E. (2010b): Technical Report on the Resource Estimate Update for the VW Deposit, Junior Lake Property, Ontario, Canada, NI 43-101 Report prepared for Landore Resources Canada Inc., January 15, 2010.
- Routledge, R. E. (2006): Technical report on the B4-7 zone Junior Lake property prepared for Landore Resources Canada Inc. Unpublished Roscoe Postle Associates Inc. report, March 17, 2006, 90 pp.
- Simoneau, P. (2015): Report on Electromagnetic (MaxMin), VLF and Magnetometric Surveys on Junior Lake Property prepared for Landore Resources Canada Inc. Unpublished Geosig Inc. report, February 25, 2015.
- Tuomi, M. (2010): Work Assessment Report on the Junior Lake Property – 2008-2009 Exploration Diamond Drill Program (Whale Zone, B4-8 Zone, Windy Hill), Unpublished Landore Resources Canada Inc. report submitted to the MNDMF for assessment credit, September 2, 2010.
- Tuomi, M. (2010): Work Assessment Report on the Junior Lake Property, 2010 Lamaune Diamond Drill Program (Lamaune Gold Prospect, Carrot Top Zone), Unpublished Landore Resources Canada Inc. report submitted to the MNDMF for assessment credit, December 3, 2010.
- Tuomi, M. (2013): Work Assessment Report on the Junior Lake Property, 2012 Ground Geophysics Program, DCIP + MT Survey (Scorpion Zone), Unpublished Landore Resources Canada Inc. report submitted to the MNDMF for assessment credit, June 19, 2013.
- Zurowski, M. (1970): Report on the exploration activities in the Pikitigushi-Crescent-Toronto lakes area, Thunder Bay Mining Division, Province of Ontario for the calendar year 1969. Unpublished M.E.M. Consultants Limited report, October 19, 1970, 24 p.

## 14 SIGNATURE PAGE

This report titled “Work Assessment Report on the Junior Lake Property – 2015 Electromagnetic (MaxMin), VLF and Magnetometric Ground Geophysics Program (B4-7 East, VW North Areas) – October 21, 2016” was prepared by M. Tuomi and signed by the following Author:



Michele Tuomi, P.Geol.  
Landore Resources Canada Inc.

Thunder Bay, Ontario  
October 21, 2016

## 15 CERTIFICATE OF QUALIFIED PERSON

Michele Tuomi, P.Geol.  
Landore Resources Canada Inc.  
555 Central Avenue, Suite 1  
Thunder Bay, ON  
P7B 5R5

Tel: +1 807 623 3770

I, Michele Tuomi, am a Professional Geoscientist, employed as a VP Exploration of Landore Resources Canada Inc.

This certificate applies to the geological report titled “Work Assessment Report on the Junior Lake Property – 2015 Electromagnetic (MaxMin), VLF and Magnetometric Ground Geophysics Program (B4-7 East, VW North Areas) – October 21, 2016” dated October 21, 2016.

I am a member of the Association of Professional Geoscientists of Ontario. I graduated with a BSc. degree in Geology from Lakehead University in 1999.

I have practiced my profession for 17 years. I have been directly involved in mineral exploration and mineral project assessment, as well as mineral resource estimations.

I have visited the Junior Lake property in northern Ontario, Canada on numerous occasions, the most recent being October 16, 2016.

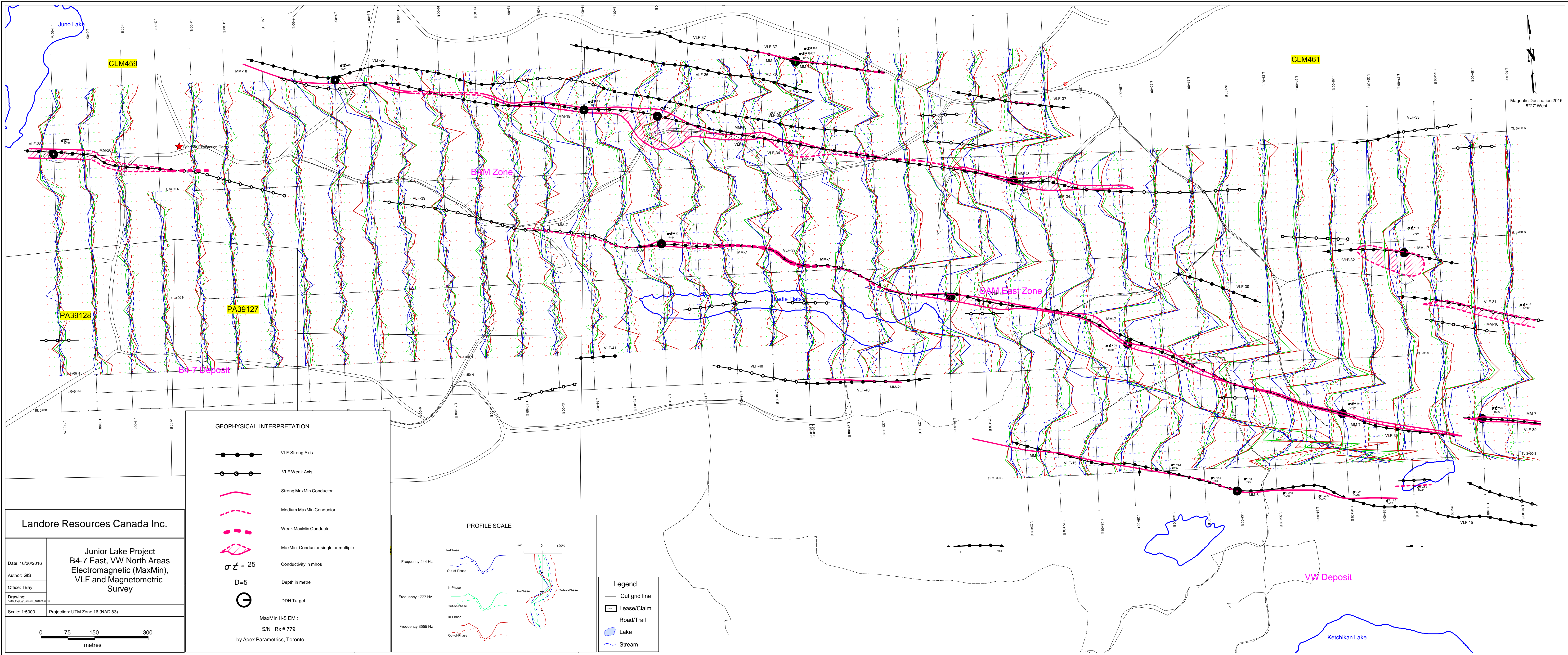
I am responsible for all items of the assessment report “Work Assessment Report on the Junior Lake Property – 2015 Electromagnetic (MaxMin), VLF and Magnetometric Ground Geophysics Program (B4-7 East, VW North Areas) – October 21, 2016”.

As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the assessment report not misleading.



Michele Tuomi, P.Geol.





**Landore Resources Canada Inc.**

**Junior Lake Project  
B4-7 East, VW North Areas  
Electromagnetic (MaxMin),  
VLF and Magnetometric  
Survey**

Date: 10/20/2016  
 Author: GIS  
 Office: TBay  
 Drawing: 0415\_Electro\_maxmin\_1010201608  
 Scale: 1:5000 Projection: UTM Zone 16 (NAD 83)

0 75 150 300 metres

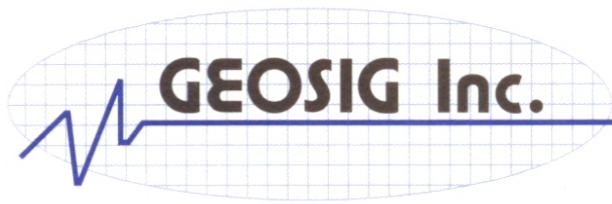
**MaxMin II-5 EM :**  
S/N Rx # 779  
by Apex Parametrics, Toronto

**Legend**

- Cut grid line
- Lease/Claim
- Road/Trail
- Lake
- Stream







EXPERTS-CONSEILS EN GÉOPHYSIQUE  
CONSULTING EXPERTS IN GEOPHYSICS



## LANDORE RESOURCES INC.

**Electromagnetic (MaxMin), VLF and Magnetometric Surveys  
on  
Junior Lake Property,  
Toronto Lake Area**

**Thunder Bay Mining District  
Northwestern Ontario  
42L/05**

### REPORT

**Project 214.05**

**February 25th, 2015**

(Electronic signature)

**Pierre Simoneau, M. SC., Geol.  
OGQ#178**

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## ANNEXES

- Description of HLEM anomalies
- Recommended drill targets from HLEM anomalies
- List of map
- Certificate of Qualifications
- Appendix A Claim Map and Claim Abstracts
- Appendix B Equipment Specification
- Map
- DVD



## 1. INTRODUCTION

At the request of Mrs. Michele Tuomi, P.Geo, Director/VP Exploration for **Landore Resources Canada Inc.**, Electromagnetic (EM) and Magnetic (Mag) surveys were run from January 21st to February 01st, 2015 on the Junior Lake property. The geophysical surveys were carried out by **Géosig Inc.** The EM-VLF and Mag surveys covered 45.51 km of lines including 0.8 km of Tie Lines. The EM-MaxMin survey (HLEM) covered 44.7 km of lines. The MaxMin survey was run with a 200m cable because of deep overburden along the central part of the grid and to confirm the location of previous anomalies and see if there were deeper anomalies, in order to suggest drilling targets.

## 2. PROPERTY LOCALIZATION AND ACCESS

The Junior Lake Property is located in Thunder Bay Mining District, at about 105 km east of Armstrong by the main logging road (km 105). Armstrong is 240 km north of Thunder Bay, Northwestern Ontario. Gravel and winter logging roads are crossing the property. The central part of the grid is approximately located at UTM (zone 16, NAD 83) coordinates 5 581 700mN and 434 500mE in NTS 42L/05. The survey property is overlaying a small lake named Ladle Lake and it extends between Juno Lake to the northwest and Ketchikan Lake to the southeast.

The topography is relatively low. Half the grid (south of Ladle Lake) is a sand plain with a few outcrops and ridges and is almost flat down to Ketchikan Lake. The area north of Ladle Lake is hillier with higher and larger hills due to the change in geology, harder rocks.

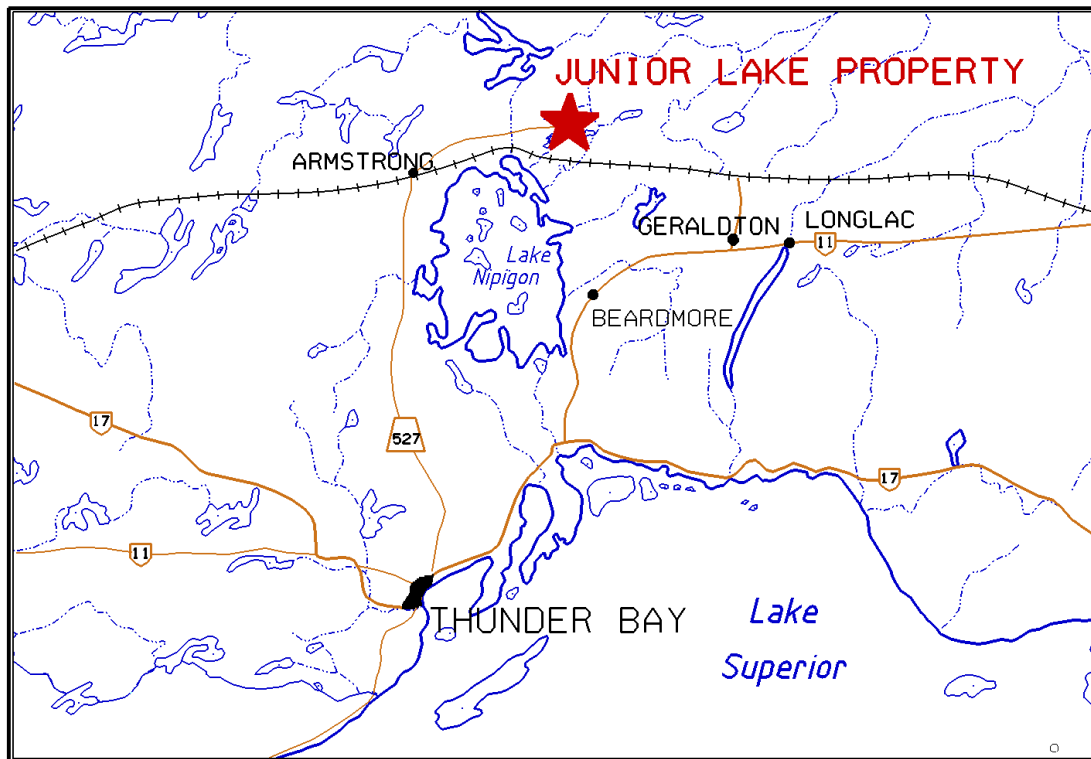
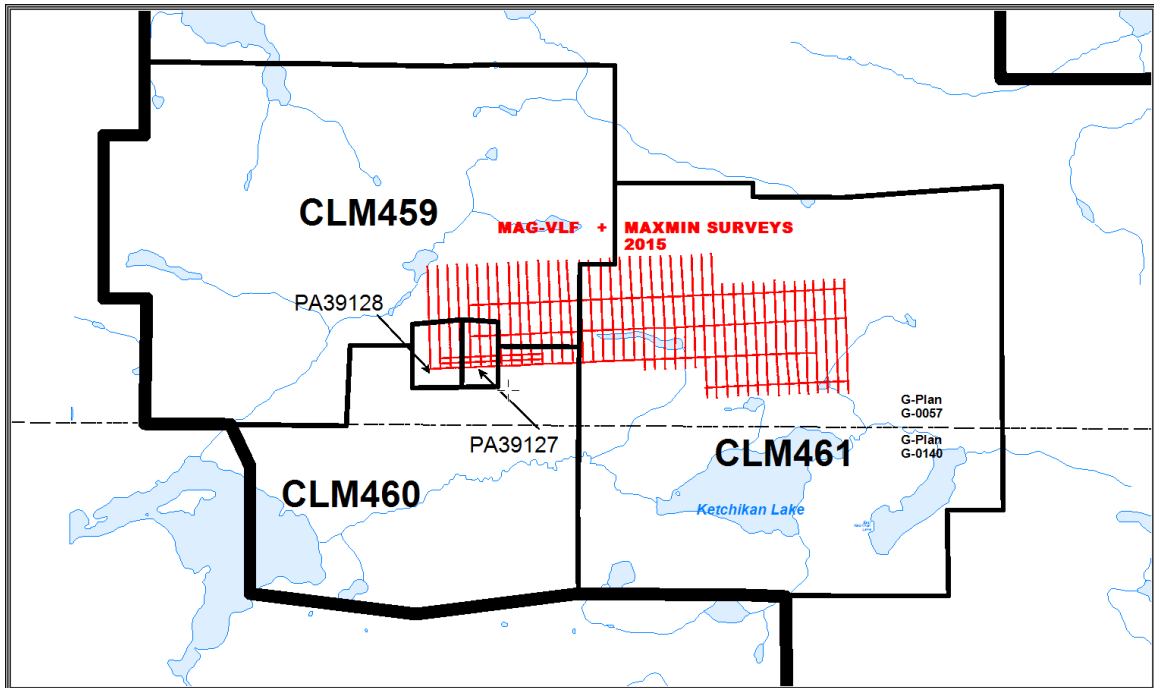


Figure 1: Location of the Junior Lake Property

### 3. CLAIMS

The survey covered parts of 3 leased claims and 2 patented claims making the property Appendix A. The surveyed grid is included in the claims blocks:

**CLM459      CLM460      CLM461      PA39127      PA39128**



**Figure 2. Claims and location of the Junior Lake Grid.**

### 4. REGIONAL AND LOCAL GEOLOGY

The Junior Lake property is located within the Archean Superior province. It is more precisely located within the East Wabigoon Subprovince and within roughly east-west trending Caribou – O’Sullivan greenstone belt, which hosts the East Caribou and Willet assemblages, and the Marshall Lake and Toronto Lake groups. This greenstone belt averages from 3.5 km to 15 km wide and extends roughly east-west for about 100km. The Toronto Lake Group represents the host of much of the mineral occurrences on the Junior Lake property.

Landore outlined an intrusive body that is ultramafic to mafic in composition and extends for a strike of at least 10km with a width at surface in the order of 1,000m to 1,500m. In the area of the present MaxMin survey, which is done in the area of the VW deposit, the intrusion strikes in an east-west direction. The VW deposit is seen to be located at the transition between the ultramafic and the mafic sequence. The ultramafic have a strong magnetic signature. But in the area between line 29+00E and 33+00E, where an intensive

drilling campaign occurred, the magnetism seems low. This is because, to create the nickel sulphides, the iron needed has to be taken from the magnetite in the host rock.

## 5. PERSONNEL AND INSTRUMENTATION

The MaxMin team was composed of:

- Pierre Simoneau, geophysicist, chief party of *Géosig Inc.*
- Murray Hutchins, technician for *Géosig Inc., Thunder Bay*
- Brian Hall, technician for *Géosig Inc., Thunder Bay*

The VLF and magnetometric survey were done by Brian Hall.

The following instruments were used for the surveys:

MaxMin survey:

- Receiver: MaxMin II-5 made by Apex Parametrics (Toronto) n/s 780
- Transmitter: MaxMin II-5 made by Apex Parametrics (Toronto) n/s 779

Electromagnetic VLF and Magnetometric survey:

- GSM-19WV field work, GEM System Inc., Richmond Hill, Ont. n/s 66565
- GSM-19W base station, GEM System Inc., Richmond Hill, Ont. n/s 612621
- GSM-19W mag sensor, GEM System Inc., Richmond Hill, Ont. n/s 52497
- GSM-19W mag sensor, GEM System Inc., Richmond Hill, Ont. n/s 42294
- GSM-19V (2) VLF sensor, GEM System Inc., Richmond Hill, Ont.

The report was written by Pierre Simoneau.

The maps were finalized by Pierre Simoneau and Donald Saindon, geomatician.

## 6. FIELD WORK AND PROCEDURE

The field crew moved to the property on January 21st after the grid lines were completed.

The survey grid, 4.1 km long, is oriented East-West including the base line. The Mag-VLF surveys covered parts of the lines and part of the tieline 6+00N (between 29+00E and 37+00E) for a total of 45.51 km. The tielines were not read because they were not refreshed and missing pickets. The MaxMin survey was run over the lines for a total of 44.7 km.

The lines are spaced every 100 metres between 1+00W and 40+00E. Most of the lines from 1+00W to 19+00E average 1000 m long and are chained between 0+00N to 10+00N. Lines 21+00E to 25+00E are chained from 1+00S to 10+00N. Lines 26+00E and 27+00E are chained from 4+00S to 10+00N. Lines 28+00E to 40+00E are chained from 4+00S to 7+00N.

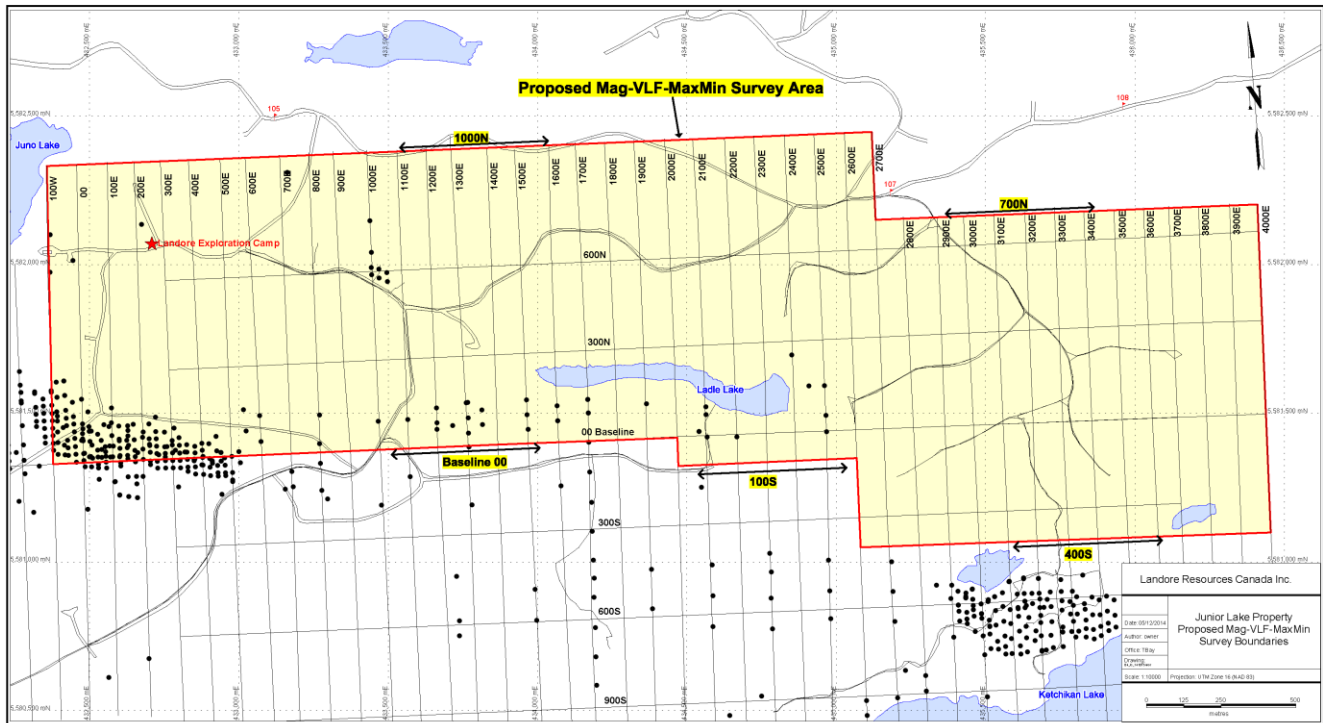


Figure 3: Location of the Junior Lake Property

## 7. MAGNETOMETRIC SURVEY

### 7.1 Methodology

The measurements for the magnetic total field were taken in a mobile mag mode with two (2) seconds sampling readings and regular label readings taken each 12.5 metres.

A GSM-19WMV was used on the field with a GSM-19W base station with a 15 seconds registering readings period. The magnetic readings have been automatically corrected for diurnal variations when the data was dumped with a datum value of 57 000 gammas. The magnetometer system measures the value of the total magnetic field with a precision of  $\pm 0.1$  gammas.

A description of the instruments is given in Appendix B.

### 7.2 Presentation of the results

The data were processed with the appropriate software, including Geosoft and MicroStation.

The data are plotted as Mag total field profiles and postings (maps no. 9657 - 9658) and colored contours (map no. 9659 - 9660) at a scale of 1: 2 000.

The identification of magnetic bodies is based on the general picture obtained from the profiles and isocontours.

The magnetic field is very active in the property and ranges from 52 947 gammas to 64 469 gammas confirming the presence of ultramafic intrusions or Iron Formations. In the area of the northern grid, most of the linear magnetic anomalies could be made by weak Iron Formations. Some of the MaxMin anomalies coincide with magnetic anomalies and are believe to carry pyrrhotite like the main massive sulphide zone. Some other places, some of the MaxMin anomalies appear when the magnetic anomalies disappear which could mean that the sulphides are coming from the transformation of the magnetite into sulphides.

## 8. ELECTROMAGNETIC VLF SURVEY

### 8.1 Principles

The VLF-meter uses the signal from the VLF-transmitting stations operating for communications with submarines. The Antenna current from the vertical Antenna of these VLF-transmitting stations operating for communications with submarines is vertical, creating a concentric horizontal magnetic field around them. When these magnetic fields meet conductive bodies in the ground, they create secondary fields that radiate from these bodies. The VLF-meter is simply a sensitive receiver covering the frequency band of the VLF-transmitting stations. It measures the vertical field components of these secondary fields.

### 8.2 Methodology

A GSM-19WMV was used on the field. The readings were taken at 12.5 metres spacing. The VLF survey was read with two main VLF-transmitting stations - Cutler (NAA, 24.0 kHz) and Jim Creek-Seattle (NLK, 24.8 kHz). The In-phase and quadrature of the vertical magnetic field were measured as a percentage of the horizontal primary field with a resolution of 0.1 %. The VLF and Mag were simultaneously read with the same instrument.

<u>Station Identification</u>	<u>Frequency kilo-Hertz</u>	<u>Location</u>	<u>Lat. &amp; Long. Co-ordinates</u>	<u>Output kW</u>
NAA (TX 1)	24.0	Cutler Maine	67W 17 44N39	1,000
NLK (TX 2)	24.8	Seattle Washington	121W55 48N12	234

### 8.3 Presentation of the results

The phase of the dip angle and the quadrature are independently plotted for each VLF station. The phase dip angle was treated using the Fraser Filter technique developed by D.C. Fraser and contour plotted.

The Fraser Filter technique was developed to shift the phase of the dip angle by 90 degrees so that cross-over and inflection points from positive to negative and vice-versa, are transformed into peaks to permit contouring of anomalies. This filter also removes the d-c waveform component and attenuates long wave lengths to increase the resolution and positioning of local anomalies.

For Cutler Station, the results are presented on profiles maps No. 9663 - 9664 and on Fraser Filter maps No. 9667 - 9668 at the metric scale of 1: 2 000. For Jim Creek Station, the results are presented on profiles maps No. 9661 - 9662 and on Fraser Filter maps No. 9665 - 9666 at the metric scale of 1: 2 000.

The VLF interpretation was drawn on the maps. The VLF axis with full circles are real conductors while the VLF axis with empty circles are weaker conductors or VLF anomalies possibly made from topography feature like deep valleys with wet overburden (edge effect) like the one in the SW corner following the valley at the base of a high hill.

The VLF survey detected twelve (12) new anomalies (VLF-30 to VLF-41). Five (5) are anomalies by their own (VLF-30, VLF-33, VLF-35, VLF-36, VLF-41). Six (6) anomalies corresponds to MaxMin anomalies and one (1) is extension of known anomaly (VLF-15) identified in 2013 and extended north of Ladle Lake. It seems to follow the geological limit between the ultramafic plain (south) and a mafic area (more hilly) north.

The anomalous VLF corroboration from the two independent VLF stations frequencies is generally good except for the eastern parts of VLF-34 and VLF-37 which are much more evident on the Cutler Station maps.

#### **8.4 Description of the results**

##### **VLF-30**

VLF-30 is a 100-m long anomaly that occurs to the east part of the grid, from line 31+00E, station 2+37N to line 32+00E, station 2+00N. It has a good classical response on both lines and it corresponds to a magnetic high on line 32+00E.

##### **VLF-31**

This 300-m long anomaly runs through line 37+00E/1+62N to line 40+00E/1+00N in the east most part of the grid and it has a possibility of extension to the east. The best intensity of the anomaly is on line 38+00E, station 1+37N where it corresponds to magnetic low. VLF-31 also corresponds to a weak HLEM anomaly.

##### **VLF-32**

VLF-32 is another 300-m long anomaly that occurs in the east part of the grid where it runs through line 35+00E/3+00N to line 38+00E/2+62N. This anomaly has a good

classical VLF response. It corresponds to a magnetic high horizon and to a weak and large HLEM anomaly but only on lines 36+00E and 37+00E.

### **VLF-33**

This 200-m long EM anomaly occurs in the northeast part of the grid where it runs through line 36+00E, station 6+00N to line 38+00E, station 6+25N. VLF-33 is a well-defined EM anomaly but a poor conductor.

### **VLF-34**

This very long and strong conductor runs through line 6+00E/9+00N to line 32+00E/4+87N in the north part of the grid. The 2600m long anomaly corresponds intermittently to magnetic high horizons of variable intensity. It also corresponds to a strong HLEM conductor from line 6+00E to line 29+00E that suggests that the conductor horizon represented by VLF-34 is buried at a depth varying from 10m to more than 100m.

### **VLF-35**

This very long and strong conductor occurs in the north part of the grid and it extends parallel to VLF-34 from which it is separated only by 50m or less. The 1600m long anomaly runs through line 5+00E/9+50N to line 21+00E/6+87N. Unlike VLF-34, VLF-35 does not correspond to HLEM conductor and there is no evident correlation with magnetic features. The best intensity of the anomaly is from line 5+00E to line 7+00E, from line 9+00E to line 11+00E and from line 18+00E to line 19+00E.

### **VLF-36**

This very long and strong conductor runs through line 14+00E/9+62N to line 20+00E/8+12N in the central-north part of the grid. VLF-36 is a 600m long anomaly that corresponds to a magnetic high horizon. It shows its best intensity from line 14+00E to line 17+00E. Nevertheless, this conductor has not been detected with the HLEM survey.

### **VLF-37**

VLF-37 is another 600m long and strong conductor that also occurs in the central-north part of the grid where it extends parallel to VLF-36, running through line 16+00E/9+87N to line 22+00E/8+50N. VLF-37 corresponds to a strong HLEM conductor from line 19+00E to line 22+00E (the HLEM conductor weakens on line 22+00E). It also corresponds partly to magnetic high on line 16+00E and line 19+00E. The HLEM anomaly suggests that the conductor horizon represented by VLF-37 is buried at a depth of approximately 60m

### **VLF-38**

This 600-m long EM anomaly occurs in the west most part of the grid where it extends from line 1+00W, station 7+25N to line 5+00E, station 6+00N. VLF-38 is a

weak to strong well-defined EM anomaly that corresponds to a magnetic high horizon and to a fair to good HLEM conductor but only from line 1+00W to line 3+00E. It shows its best intensity from line 0+00E to line 2+00E. The HLEM anomaly suggests that it is theoretically buried at a depth varying from 30m to 100m. It has a possibility of extension to the west beneath the small lake.

### **VLF-39**

This very long and strong conductor runs through line 9+00E/5+37N in the central part of the grid to line 40+00E/1+87S in the southeast part of the grid. The anomaly axis shifts between lines 38+00E and 39+00E probably as a result of a geological structure. The 3100m long anomaly corresponds intermittently to magnetic high horizons of variable intensity. It also corresponds to a strong HLEM conductor except to its western end, from line 9+00E to line 12+00E. The HLEM conductor suggests that the conductor horizon represented by VLF-39 is buried at a depth varying from 10m to more than 100m.

### **VLF-40**

VLF-40 is a 500-m long anomaly that occurs in the central-south part of the grid, from line 18+00E, station 0+37N to line 23+00E, station 0+12S. It has a good classical response on several lines and it corresponds to a magnetic high horizon and to a HLEM conductor on lines 21+00E and 22+00E. It shows its best intensity from line 21+00E to line 23+00E.

### **VLF-41**

VLF-41 is a short and isolated quite strong conductor that also occurs in the central-south part of the grid on line 14+00E, station 0+87N. It is on strike with VLF-40.

### **Old anomaly extension (VLF-15)**

VLF-15 has been extended over 400 metres, from line 30+00E to line 26+00E and it still represent a strong anomaly with another possibility of extension to the west. It corresponds to a fair to good HLEM conductor that suggests that the conductor horizon is buried at an estimated depth of 40 metres.

A VLF anomaly is not usually a drilling target without other indicators.

## **9. HLEM MAXMIN SURVEY**

### **9.1 Methodology**

A MaxMin II-5 portable unit was used in the maximum coupled mode (horizontal loop) with a 200-metre reference cable. The parameters (in phase and out of phase components of the secondary field) were read and recorded for three frequencies: 444, 1 777 and 3 555 Hz. Readings were taken every 25 metres on all the lines.



## **9.2 Presentation of the results**

All the results are presented on 2 maps at a 1: 2 000 scale. The maps (no 9655 - 9656) show the profiles of the three frequencies with the interpretation of the MaxMin and VLF surveys with the profiles of both components of the three frequencies (scale: 1 cm for 20 %). In phase profiles are in full lines while out of phase profiles are in dashed lines.

The MaxMin survey with a 200m cable was conducted to confirm the presence of deep bedrock conductors.

In total, five (5) new anomalies (MM-16 to MM-20) were detected and two (2) old anomalies (MM-6 and MM-7) were confirmed and extended. There is also a new anomaly (MM-21) building up at the south end of lines 21+00E and 22+00E. It seems to be on strike with MM-6. The VLF anomalies were added on the MaxMin anomalies. It helps to determine if we have a wide conductor or a MaxMin anomaly made of two narrow conductors.

The MaxMin anomalies are described on the appendix C.

## **10. RECOMMENDATIONS AND CONCLUSION**

The results of the geophysical survey on this mining property bring a satisfactory conclusion. The VLF anomalies were drawn on the MaxMin map to help in the interpretation.

Seven MaxMin anomalies were described. The seven (7) anomalies are located between 50m and less than 10m deep. Three of these anomalies coincide with slight magnetic anomalies (MM-17, MM-18 and MM-20), one anomaly is located at the northern edge of a magnetic anomaly (MM-7) and two of them have no magnetic feature. Several targets are proposed for drilling.

The drilling targets with priority 1 are on the table at next page.

Drilling targets with other priority are on the second table.

# DESCRIPTION OF HLEM ANOMALIES

## Project : JUNIOR LAKE

MAP	ANOMALY	LINE	STATION	MAXMIN II-5 F: 1777 Hz C: 200 m.						ASSOCIATION	COMMENTS	PRIO
				I %	O %	$\sigma$ . t.	D (m)	W (m)	L (m)			
E	MM-6	26+00 E	2+25 S	-23	-10	4.5 Fair	50	< 5	1200	VLF	Disseminated	3
E	MM-6	27+00 E	2+37 S	-24.7	-10.8	6.5 Good	46	< 5	1200	Low Magnetic Anomaly VLF	Disseminated	2
E	MM-6	28+00 E	2+62 S	-19	-14.3	3.3 Fair	40	< 5	1200	VLF	Disseminated	3
E	MM-6	29+00 E	2+87 S	-22.8	-14.4	3.8 Fair	36	< 5	1200	VLF	Disseminated	3
W	MM-7	13+00 E	4+50 N	-13.4	-5.7	6.8 Good	72	< 5	> 2700	Low Magnetic Anomaly VLF	Disseminated	3
W	MM-7	14+00 E	4+25 N	-19	-3.5	18 Good	70	5	> 2700	Low Magnetic Anomaly VLF	Semi-massive	3
W	MM-7	15+00 E	4+00 N	-21.6	-10.8	5.3 Good	48	5	> 2700	VLF	Disseminated	2
W	MM-7	16+00 E	3+87 N	-25.7	-4.4	21 Good	56	10	> 2700	Low Magnetic Anomaly VLF	Semi-massive	1
W	MM-7	17+00 E	3+87 N	-15.3	-4.8	10 Good	74	10	> 2700	Low Magnetic Anomaly VLF	Semi-massive	2
W	MM-7	18+00 E	3+87 N	-21	-6.1	10.5 Good	60	10	> 2700	Low Magnetic Anomaly VLF	Semi-massive	3
W	MM-7	19+00 E	3+62 N	-7.1	-5	3.3 Fair	84	5	> 2700	VLF	Disseminated	3

F : frequency  
 $\sigma$ . t. : conductivity thickness

C : cable length

I % : in phase component  
D : depth of the anomaly;

O % : out of phase component  
L : length ;

1 nt = 1 gamma  
W: width Prio : priori

## DESCRIPTION OF HLEM ANOMALIES

Project : JUNIOR LAKE

MAP	ANOMALY	LINE	STATION	MAXMIN II-5 F: 1777 Hz C: 200 m.						ASSOCIATION	COMMENTS	PRIO
				I %	O %	$\sigma$ . t.	D (m)	W (m)	L (m)			
W-E	MM-7	20+00 E	3+12 N	-4.1	-1.3	7 Good	120	5	> 2700	Low Magnetic anomaly VLF	Disseminated	2
E	MM-7	21+00 E	3+00 N	-6.8	-1.5	11 Good	120	5	> 2700	VLF	Semi-Massive	3
E	MM-7	22+00 E	2+502 N	-10.5	-5.2	5 Good	80	< 5	> 2700	Southern Limit of Magnetic anomaly VLF	Disseminated	3
E	MM-7	23+00 E	2+25 N	-33.3	-10.8	10 Good	34	< 5	> 2700	VLF	Semi-massive	2
E	MM-7	24+00 E	2+12 N	-62.4	-5.8	60 Excel	10	< 5	> 2700	Magnetic anomaly VLF	Massive (2001)	1
E	MM-7	25+00 E	2+00 N	-41.8	-8.2	20 Excel	20	10	> 2700	Northern Limit of Magnetic anomaly VLF	Massive (2001)	1
E	MM-7	26+00 E	1+75 N	-34.7	-8.8	13 Good	34	15	> 2700	Northern Limit of Magnetic anomaly VLF	Massive (2001)	2
E	MM-7	27+00 E	1+62 N	-20.7	-3.7	23 Excel	62	10	> 2700	Northern Limit of Magnetic anomaly VLF	Massive	3
E	MM-7	28+00 E	1+37 N	-36.4	-6.7	22 Excel	32	20	> 2700	Northern Limit of Magnetic anomaly VLF	Massive	2
E	MM-7	29+00 E	0+62 N	-40.8	-1.9	90 Excel	36	15	> 2700	Northern Limit of Magnetic anomaly VLF	Massive	1

F : frequency      C : cable length  
 $\sigma$ . t. : conductivity thickness

I % : in phase component  
D : depth of the anomaly;

O % : out of phase component  
L : length ;

1 nt = 1 gamma  
W: width      Prio : priority

## DESCRIPTION OF HLEM ANOMALIES

Project : JUNIOR LAKE

MAP	ANOMALY	LINE	STATION	MAXMIN II-5 F: 1777 Hz C: 200 m.						ASSOCIATION	COMMENTS	PRIO
				I %	O %	$\sigma$ . t.	D (m)	W (m)	L (m)			
E	MM-7	30+00 E	0+37 N	-38.2	-3.2	48 Excel	36	20	> 2700	Northern Limit of Magnetic anomaly VLF	Massive	1
E	MM-7	31+00 E	0+25 S	-25.1	-12.8	5.6 Good	40	10	> 2700	Magnetic anomaly VLF	Disseminated	2
E	MM-7	32+00 E	0+62 S	-24.5	-7.8	10 Good	52	5	> 2700	Magnetic anomaly VLF	Semi-massive	2
E	MM-7	33+00 E	0+87 S	-45.4	-16.8	8.5 Good	10	5	> 2700	Stong Magnetic anomaly VLF	Disseminated	2
E	MM-7	34+00 E	1+37 S	-40.6	-18.2	6.3 Good	16	10	> 2700	Magnetic anomaly VLF	Disseminated	2
E	MM-7	35+00 E	1+62 S	-40.3	-12.8	10 Good	20	10	> 2700	VLF	Disseminated	1
E	MM-7	36+00 E	1+87 S	-45.3	-9.3	16 Good	20	10	> 2700	Northern Limit of Magnetic anomaly VLF	Semi-massive	1
E	MM-7	37+00 E	2+12 S	-14.7	-5.4	9 Good	74	10	> 2700	Magnetic anomaly VLF	Disseminated	3
E	MM-7	38+00 E	2+25 S	-13.2	-9.5	3.5 Fair	60	< 5	> 2700	VLF	Disseminated	3
E	MM-7	39+00 E	1+87 S	-42.3	-5.1	35 Excel	30	10	> 2700	Slightly magnetic VLF	Massive	1

F : frequency  
 $\sigma$ . t. : conductivity thickness

C : cable length

I % : in phase component  
D : depth of the anomaly;

O % : out of phase component  
L : length ;

1 nt = 1 gamma  
W: width Prio : priority

## DESCRIPTION OF HLEM ANOMALIES

Project : JUNIOR LAKE

MAP	ANOMALY	LINE	STATION	MAXMIN II-5 F: 1777 Hz C: 200 m.						ASSOCIATION	COMMENTS	PRIO
				I %	O %	$\sigma$ . T.	D (m)	W (m)	L (m)			
E	MM-7	40+00 E	1+87 S	-47.2	-5.8	33 Excel	22	10	> 2700	Slightly magnetic VLF	Massive	1
E	MM-16	38+00 E	1+37 N	-14	-3.7	10.5 Good	76	10	> 200	VLF	Semi-massive	3
E	MM-16	39+00 E	1+12 N	-7	-4.4	3.9 Fair	86	10	> 200	VLF	Disseminated	3
E	MM-16	40+00 E	0+87 N	-13.9	-6.4	5.8 Good	70	10	> 200	VLF	Disseminated	3
E	MM-17	36+00 E	2+87 N	-11.4	-5.9	5.0 Good	76	15	150	High Magnetic Anomaly VLF	Disseminated	3
E	MM-17	37+00 E	2+75 N	-21.6	-4.8	12 Good	60	35	100	High Magnetic Anomaly VLF	Semi-massive	1
W	MM-18	6+00 E	9+00 N	-28	-9.7	8.6 Good	44	< 5	> 2400	Slightly Magnetic VLF	Semi-massive	2
W	MM-18	7+00 E	8+87 N	-46	-5	36 Excel	26	< 5	> 2400	Slightly Magnetic VLF	Massive	1
W	MM-18	8+00 E	8+75 N	-35	-2.5	60 Excel	42	< 5	> 2400	Slightly Magnetic VLF	Massive	1
W	MM-18	9+00 E	8+50 N	-38	-10.2	12 Good	28	10	> 2400	Slightly Magnetic VLF	Semi-massive	2

F : frequency                      C : cable length  
 $\sigma$ . t. : conductivity thickness

I % : in phase component  
D : depth of the anomaly;

O % : out of phase component  
L : length ;

1 nt = 1 gamma  
W: width      Prio : priority

## DESCRIPTION OF HLEM ANOMALIES

Project : JUNIOR LAKE

MAP	ANOMALY	LINE	STATION	MAXMIN II-5 F: 1777 Hz C: 200 m.						ASSOCIATION	COMMENTS	PRIO
				I %	O %	$\sigma$ . t.	D (m)	W (m)	L (m)			
W	MM-18	10+00 E	8+37 N	-19.3	-10.5	4.6 Good	54	10	> 2400	VLF	Disseminated	3
W	MM-18	11+00 E	8+37 N	-22.4	-10.5	5.7 Good	50	10	> 2400	VLF	Disseminated	3
W	MM-18	12+00 E	8+00 N	-21.7	-9.7	6.5 Good	52	10	> 2400	Magnetic anomaly VLF	Disseminated	3
W	MM-18	13+00 E	8+00 N	-22.5	-8.1	8.7 Good	54	15	> 2400	Strong Magnetic anomaly VLF	Semi-massive	2
W	MM-18	14+00 E	7+87 N	-33.4	-5.7	24 Excel.	40	15	> 2400	Slight High Mag VLF	Mssive	1
W	MM-18	15+00 E	7+87 N	-25.8	-14.1	4.7 Good	34	15	> 2400	Strong High Mag VLF	Disseminated	2
W	MM-18	16+00 E	7+50 N	-21	-8	8 Good	52	15 To 50	> 2400	Strong High Mag VLF	Large Maxmin Anomaly Semi-massive	1
W	MM-18	17+00 E	7+25 N	-50.6	-13.9	14 Good	10	15	> 2400	VLF	Massive	1
W	MM-18	18+00 E	6+87 N	-26.7	-6.2	15 Good	52	10	> 2400	VLF	Semi-massive	2
W	MM-18	19+00 E	6+85 N	-23.3	-5.5	14 Good	56	15	> 2400	VLF	Semi-massive	2

F : frequency  
 $\sigma$ . t. : conductivity thickness

C : cable length

I % : in phase component  
D : depth of the anomaly;

O % : out of phase component  
L : length ;

1 nt = 1 gamma  
W: width Prio : priority

## DESCRIPTION OF HLEM ANOMALIES

Project : JUNIOR LAKE

MAP	ANOMALY	LINE	STATION	MAXMIN II-5 F: 1777 Hz C: 200 m.						ASSOCIATION	COMMENTS	PRIO
				I %	O %	$\sigma$ . t.	D (m)	W (m)	L (m)			
W-E	MM-18	20+00 E	6+50 N	-16.4	-2.3	30 Excel.	76	25	> 2400	Slightly Magnetic VLF	Massive	2
E	MM-18	21+00 E	6+25 N	-13.4	-4.5	9.0 Good	76	15	> 2400	Slightly Magnetic VLF	Semi-massive	2
E	MM-18	22+00 E	6+12 N	-9.5	-0.6	60 Excel.	100	10	> 2400	VLF	Semi-massive	2
E	MM-18	23+00 E	5+87 N	-4.8	-1.8	6.8 Good	120	5	> 2400	VLF	Semi-massive	4
E	MM-18	24+00 E	5+75 N	-21	-2.1	36 Excel.	70	< 5	> 2400	VLF	Massive	4
E	MM-18	25+00 E	5+37 N	-32.9	-2.9	45 Excel.	44	10	> 2400	Magnetic anomaly VLF	Massive	2
E	MM-18	26+00 E	5+37 N	-65	-9.2	28 Excel.	10	15	> 2400	VLF	Semi-massive	1
E	MM-18	27+00 E	5+25 N	-33	-7.4	15 Good	38	25	> 2400	Slightly Magnetic VLF	Semi-massive	1
E	MM-18	28+00 E	5+00 N	-25.4	-11.7	6.0 Good	42	5	> 2400	Slightly Magnetic VLF	Semi-massive	2
E	MM-18	29+00 E	5+00 N	-21	-4.4	15 Good	62	5	> 2400	VLF	Semi-massive	2

F : frequency  
 $\sigma$ . t. : conductivity thickness

C : cable length  
 I % : in phase component  
 D : depth of the anomaly;

O % : out of phase component  
 L : length ;

1 nt = 1 gamma  
 W: width Prio : priority

## DESCRIPTION OF HLEM ANOMALIES

Project : JUNIOR LAKE

MAP	ANOMALY	LINE	STATION	MAXMIN II-5 F: 1777 Hz C: 200 m.						ASSOCIATION	COMMENTS	PRIO
				I %	O %	$\sigma$ . t.	D (m)	W (m)	L (m)			
W	MM-19	19+00 E	9+12 N	-20.3	-7.8	8.0 Good	56	< 5	> 200	Slightly Magnetic VLF	Semi-Massive	2
W-E	MM-19	20+00 E	8+87 N	-19.8	0	100 Excel.	72	< 5	> 200	VLF	Massive	1
W	MM-19	21+00 E	8+75 N	-23	-3.5	24 Excel.	60	5	> 200	VLF	Massive	2
W	MM-20	1+00 W	7+25 N	-14.5	-12.7	2.5 Fair	48	15	> 300	Slightly Magnetic VLF	Semi-Massive	1
W	MM-20	0+00 E	7+12 N	-5.4	-4.8	2.8 Fair	88	15	> 300	Slightly Magnetic VLF	Semi-Massive	2
W	MM-20	1+00 E	6+75 N	-7.5	-2.5	10 Good	100	10	> 300	Magnetic anomaly VLF	Disseminated	3
W	MM-20	2+00 E	6+62 N	-8.5	-14.5	1.2 Fair	30	5	> 300	VLF	Disseminated	4

F : frequency                      C : cable length  
 $\sigma$ . t. : conductivity thickness

I % : in phase component                      O % : out of phase component  
D : depth of the anomaly;

L : length ;                      1 nt = 1 gamma  
W: width                      Prio : priority



## RECOMMENDED DRILL TARGETS FROM HLEM ANOMALIES

Project : JUNIOR LAKE

MAP	ANOMALY	LINE	STATION	MAXMIN II-5 F: 1777 Hz C: 200 m.						ASSOCIATION	COMMENTS	PRIO
				I %	O %	$\sigma$ . t.	D (m)	W (m)	L (m)			
			4+00 N							Low Magnetic		
W	MM-7	16+00 E	3+87 N	-26	-4	21	56	10	> 2700	anomaly	Massive	2
						Excel.				VLF		
										Northern Limit of a		
E	MM-7	29+00 E	0+62 N	-41	-2	90	36	15	> 2700	Magnetic anomaly	Massive	1
						Excel				VLF		
E	MM-7	35+00 E	1+62 S	-43	-13	10	20	10	> 2700	VLF	Semi-massive	1
						Good						
										Weak mag		
E	MM-7	39+00 E	1+87 S	-42	-5	34	30	10	> 2700	Anomaly	Massive	2
						Excel				VLF		
E	MM-17	37+00 E	2+75 N	-21	-5	12	60	35	100	Magnetic	Semi-massive	1
						good				VLF		
W	MM-18	7+00 E	8+87 N	-46	-5	36	26	< 5	> 2400	Slightly Magnetic	Massive	1
						Excel				VLF		
										Strong High		
W	MM-18	16+00 E	7+50 N	-21	-8	8	52	10	> 2400	Magnetic Anomaly	Massive	1
						good				VLF		
E	MM-18	26+00 E	5+37 N	-56	-5	36	< 10	20	< 2400	VLF	Massive	1
						Excel						
W-E	MM-19	20+00 E	8+87 N	-20	-0	100	70	< 5	> 1100	VLF	Massive	2
						Excel.						
W	MM-20	1+00 W	7+25 N	-14	-12	3.0	48	12.5	> 500	Slightly Magnetic	Disseminated	2
						Weak				VLF		

F : frequency

C : cable length

I % : in phase component

O % : out of phase component

1 nt = 1 gamma

$\sigma$ . t. : conductivity thickness D : depth of the anomaly;

L : length ;

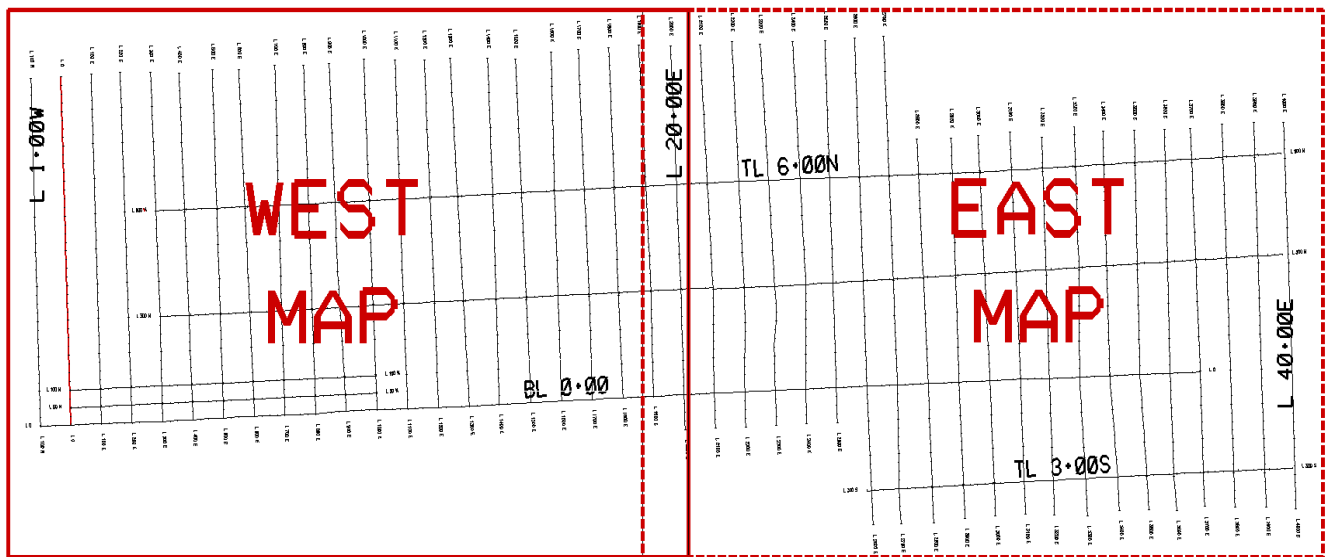
W: width

Prio : priority

# LIST OF MAPS

**Scale: 1: 2 000**

West Map #	East Map #	Title
9655	9656	HLEM-MaxMin survey Profiles and Posting, Reference cable 200 m
9657	9658	Magnetometric survey Profiles and Posting, Total Field
9659	9660	Magnetometric survey Total Field Contours
9661	9662	EM-VLF survey Profiles and Posting, Jim Creek 24.8 kHz
9663	9664	EM-VLF survey Profiles and Posting, Cutler 24.0 kHz
9665	9666	EM-VLF survey Fraser Contours, Jim Creek 24.8 kHz
9667	9668	EM-VLF survey Fraser Contours, Cutler 24.0 kHz



## CERTIFICATE of QUALIFICATIONS

I, Pierre Simoneau of 571 chemin de Ste-Béatrix, Ste-Béatrix, Qc. J0K 1Y0, hereby certify:

1. I am a graduate of University of Quebec at Chicoutimi (1987) with a Master degree in Earth Sciences M.Sc.
2. I have been employed as an exploration geologist and geophysicist on a full time basis since 1987, prior to that as a geological assistant for four field seasons.
3. I am presently employed as a project geophysicist and geologist with GÉOSIG Inc. of 860 Chaudiere Blvd., Quebec, Quebec.
4. I own no direct, indirect or expect to receive any contingent interests in the subject property or shares or securities Landore Resources.
5. The information contained in this report was obtained from geophysical survey conducted on the Junior Lake property carried out by Géosig Inc. and information obtained from the Assessment files.
6. I am a member of the Order of Geologists of Québec (OGQ) # 178, a member of the (AEMQ) Association de l'Exploration Minière du Québec, a member of the Association of professional Geoscientists of Ontario (APGO #1785), a member of the (NWOPA) Northwestern Ontario Prospector Association and a member of the CIM.
7. I have disclosed in this report all relevant material which, to the best of my knowledge, might have a bearing on the viability of the project and the recommendations presented.
8. I consent to the use of this report by Landore Resources for any Filing Statement, Statement of Material Facts, Prospectus, filing of assessment work of for any other reason deemed necessary by the company.



(electronic signature)

Pierre Simoneau, M.Sc. Geol.  
Géosig Inc.

Dated at Quebec, Quebec, this 20th day of february, 2015

# **Appendix A**

Claim Map and Claim Abstracts

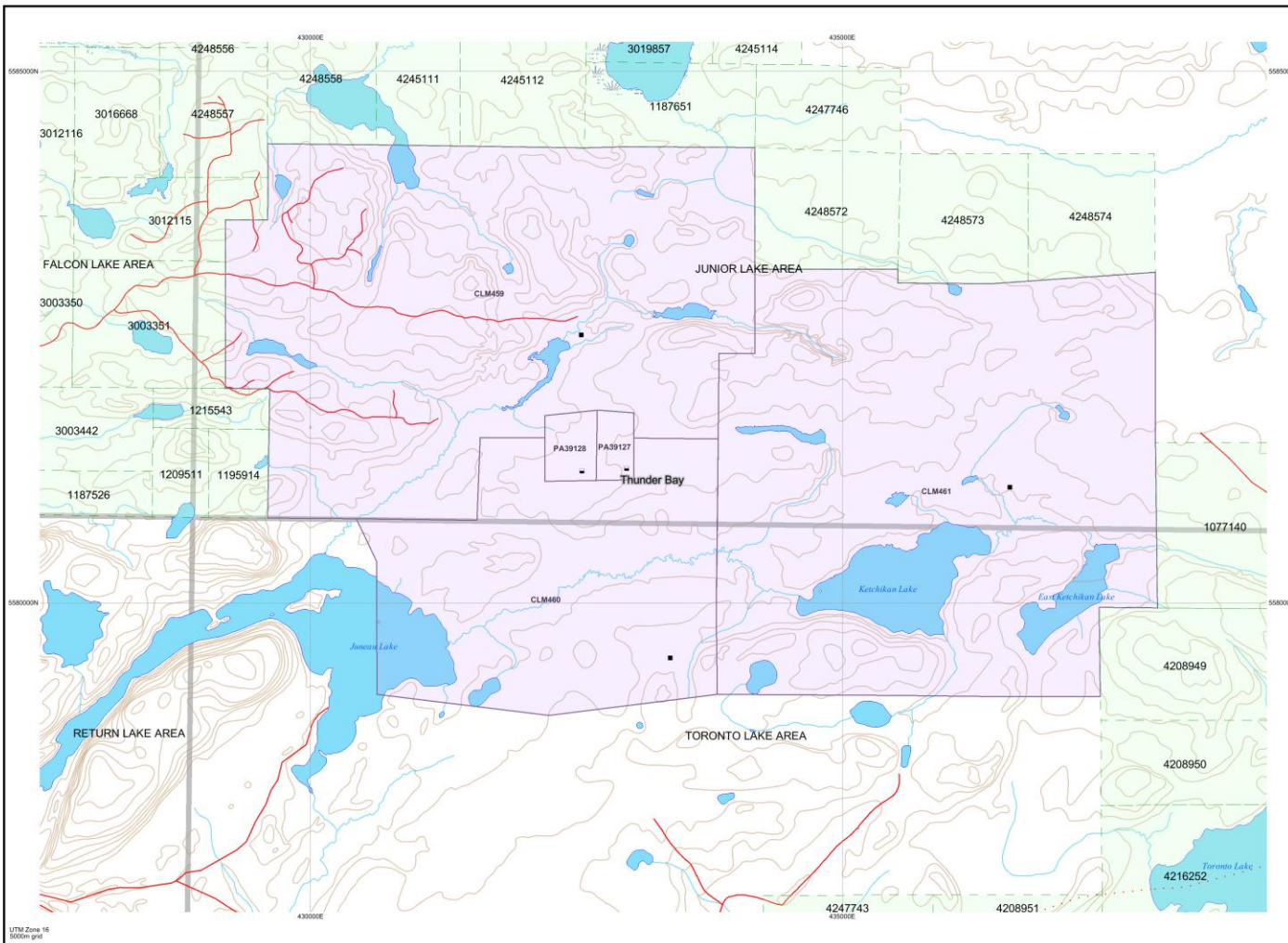
Date / Time of Issue: Tue Mar 10 09:34:06 EST 2015

TOWNSHIP / AREA  
JUNIOR LAKE AREA

PLAN  
G-0057

**ADMINISTRATIVE DISTRICTS / DIVISIONS**

Mining Division: Thunder Bay  
Land Titles/Registry Division: THUNDER BAY  
Ministry of Natural Resources District: NIPIGON



**TOPOGRAPHIC**

- Administrative Boundaries
- Township
- Concession Lot
- Provincial Park
- Indian Reserve
- Cliff, Pit & Fie
- Contour
- Mine Shafts
- Mine Headframe
- Railway
- Road
- Trail
- Natural Gas Pipeline
- Utilities
- Tower

**Land Tenure**

- Surface And Mining Rights
- Surface Rights Only
- Mining Rights Only
- Leasehold Patent
- Surface And Mining Rights
- Surface Rights Only
- Mining Rights Only
- License of Occupation
- Uses Not Specified
- Surface And Mining Rights
- Surface Rights Only
- Mining Rights Only
- Land Use Permit
- Order In Council (Not open for staking)
- Water Power Lease Agreement



- Mining Claim
- Filed Only Mining Claims
- LAND TENURE WITHDRAWALS
- Areas Withdrawn from Disposition
- Mining Acts Withdrawal Types
- Surface And Mining Rights Withdrawn
- Surface Rights Only Withdrawn
- Mining Rights Only Withdrawn
- Order In Council Withdrawal Types
- Surface And Mining Rights Withdrawn
- Surface Rights Only Withdrawn
- Mining Rights Only Withdrawn
- IMPORTANT NOTICES



# Claim Map

Those wishing to stake mining claims should consult with the Provincial Mining Recorders' Office of the Ministry of Northern Development and Mines for additional information on the status of the lands shown hereon. This map is not intended for navigational, survey, or land delineation purposes as the information shown on this map is compiled from various sources. Completeness and accuracy are not guaranteed. Additional information may also be obtained through the local Land Titles or Registry Office, or the Ministry of Natural Resources.

The information shown is derived from digital data available in the Provincial Mining Recorders' Office at the time of downloading from the Ministry of Northern Development and Mines web site.

**General Information and Limitations**  
 Contact Information:  
 Provincial Mining Recorders' Office  
 Viller Green Miller Centre 933 Ramsey Lake Road  
 Sudbury ON P3E 6B5  
 Home Page: [www.mrdn.gov.on.ca/MNDM/MINES/LANDS/mrsmrpgg.htm](http://www.mrdn.gov.on.ca/MNDM/MINES/LANDS/mrsmrpgg.htm)

Toll Free  
 Tel: 1 (888) 415-9845 ext 574  
 Fax: 1 (877) 970-1444

Map Datum: NAD 83  
 Projection: UTM (6 degree)  
 Topographic Data Source: Land Information Ontario  
 Mining Land Tenure Source: Provincial Mining Recorders' Office

This map may not show unregistered land tenure and interests in land including certain patents, leases, easements, right of ways, flooding rights, licenses, or other forms of disposition of rights and interests from the Crown. Also certain land tenure and land uses that restrict or prohibit free entry to stake mining claims may not be illustrated.

# CLM459



Ministry of Northern  
Development and Mines

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## TENURE ATTRIBUTES

<b>Tenure Type:</b>	Lease	<b>Sub-TenureType:</b>	21 Year
<b>Lease or Licence:</b>	108257	<b>Tenure Rights:</b>	Mining and Surface Rights
<b>Start Date:</b>	2008-Aug-01	<b>Lease Expiry Date:</b>	2029-Jul-31

## LAND ATTRIBUTES

<b>Status:</b>	Active	<b>Area in Hectares:</b>	1460.795
<b>Township or Area:</b>	JUNIOR LAKE AREA		
<b>Description:</b>	CLM459		
<b>Location No:</b>		<b>Section or Block No:</b>	
<b>Survey Plan:</b>	55R-12709	<b>Part on Plan:</b> 1-3	<b>CLM No:</b> 459
<b>Land Registry Office:</b>	THUNDER BAY	<b>Parcel No:</b>	<b>PIN No:</b>

Claim Numbers	Lot	Concession	Claim Numbers	Lot	Concession
TB1187562			TB1217181		
TB1187649			TB1232479		
CLM459			TB1187561		
TB1233556			TB1233557		

## OWNER ATTRIBUTES

<b>Owner:</b>	LANDORE RESOURCES CANADA INC.
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## TENURE ATTRIBUTES

<b>Tenure Type:</b>	Lease	<b>Sub-TenureType:</b>	21 Year
<b>Lease or Licence:</b>	108259	<b>Tenure Rights:</b>	Mining and Surface Rights
<b>Start Date:</b>	2008-Aug-01	<b>Lease Expiry Date:</b>	2029-Jul-31

## LAND ATTRIBUTES

<b>Status:</b>	Active	<b>Area in Hectares:</b>	687.794
<b>Township or Area:</b>	JUNIOR LAKE AREA		
<b>Description:</b>	CLM460		
<b>Location No:</b>		<b>Section or Block No:</b>	
<b>Survey Plan:</b>	55R-12708	<b>Part on Plan:</b> 1-3	<b>CLM No:</b> 460
<b>Land Registry Office:</b>	THUNDER BAY	<b>Parcel No:</b>	<b>PIN No:</b>

Claim Numbers	Lot	Concession	Claim Numbers	Lot	Concession
TB3006120			TB3006121		
TB3006121			CLM460		
TB3016669			TB1217180		

## OWNER ATTRIBUTES

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## TENURE ATTRIBUTES

<b>Tenure Type:</b>	Lease	<b>Sub-TenureType:</b>	21 Year
<b>Lease or Licence:</b>	108258	<b>Tenure Rights:</b>	Mining and Surface Rights
<b>Start Date:</b>	2008-Aug-01	<b>Lease Expiry Date:</b>	2029-Jul-31

## LAND ATTRIBUTES

<b>Status:</b>	Active	<b>Area in Hectares:</b>	1527.388
<b>Township or Area:</b>	JUNIOR LAKE AREA		
<b>Description:</b>	CLM461		
<b>Location No:</b>		<b>Section or Block No:</b>	
<b>Survey Plan:</b>	55R-12710	<b>Part on Plan:</b> 1-5	<b>CLM No:</b> 461
<b>Land Registry Office:</b>	THUNDER BAY	<b>Parcel No:</b>	<b>PIN No:</b>

Claim Numbers	Lot	Concession	Claim Numbers	Lot	Concession
TB4208944			TB3006124		
TB1217179			TB3006122		
CLM461			TB3010503		
TB4208946			TB4208945		
TB1077141			TB3006123		
TB3010501			TB1187560		
TB1077142			*** End of Claim Numbers ***		

## OWNER ATTRIBUTES

<b>Owner:</b>	LANDORE RESOURCES CANADA INC.
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# PA39127



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## TENURE ATTRIBUTES

<b>Tenure Type:</b>	Lease	<b>Sub-TenureType:</b>	21 Year
<b>Lease or Licence:</b>	107143	<b>Tenure Rights:</b>	Mining Rights Only
<b>Start Date:</b>	1998-Jan-01	<b>Lease Expiry Date:</b>	2018-Dec-31

## LAND ATTRIBUTES

<b>Status:</b>	Active	<b>Area in Hectares:</b>	52.969
<b>Township or Area:</b>	JUNIOR LAKE AREA		
<b>Description:</b>	PA39127-28		
<b>Location No:</b>		<b>Section or Block No:</b>	
<b>Survey Plan:</b>	55R-2400	<b>Part on Plan:</b> 1,2	<b>CLM No:</b>
<b>Land Registry Office:</b>	THUNDER BAY	<b>Parcel No:</b> 2496LTB	<b>PIN No:</b>

Claim Numbers	Lot	Concession	Claim Numbers	Lot	Concession
PA39128			PA39127		

## OWNER ATTRIBUTES

<b>Owner:</b>	LANDORE RESOURCES CANADA INC.
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# PA39128



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## TENURE ATTRIBUTES

<b>Tenure Type:</b>	Lease	<b>Sub-TenureType:</b>	21 Year
<b>Lease or Licence:</b>	107143	<b>Tenure Rights:</b>	Mining Rights Only
<b>Start Date:</b>	1998-Jan-01	<b>Lease Expiry Date:</b>	2018-Dec-31

## LAND ATTRIBUTES

<b>Status:</b>	Active	<b>Area in Hectares:</b>	52.969
<b>Township or Area:</b>	JUNIOR LAKE AREA		
<b>Description:</b>	PA39127-28		
<b>Location No:</b>		<b>Section or Block No:</b>	
<b>Survey Plan:</b>	55R-2400	<b>Part on Plan:</b>	1,2
<b>Land Registry Office:</b>	THUNDER BAY	<b>Parcel No:</b>	2496LTB
		<b>CLM No:</b>	
		<b>PIN No:</b>	

Claim Numbers	Lot	Concession	Claim Numbers	Lot	Concession
PA39128			PA39127		

## OWNER ATTRIBUTES

<b>Owner:</b>	LANDORE RESOURCES CANADA INC.
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## THUNDER BAY Mining Division

Claim Number	Status	Type	Expiry Date	Lease/Lic#	Township/Area	Short Description
<a href="#">CLM459</a>	Active	Lease	2029-Jul-31	108257	JUNIOR LAKE AREA	CLM459
<a href="#">CLM460</a>	Active	Lease	2029-Jul-31	108259	JUNIOR LAKE AREA	CLM460
<a href="#">CLM461</a>	Active	Lease	2029-Jul-31	108258	JUNIOR LAKE AREA	CLM461
<a href="#">PA39127</a>	Active	Lease	2018-Dec-31	107143	JUNIOR LAKE AREA	PA39127-28
<a href="#">PA39128</a>	Active	Lease	2018-Dec-31	107143	JUNIOR LAKE AREA	PA39127-28
<a href="#">TB1077141</a>	Active	Lease	2029-Jul-31	108258	JUNIOR LAKE AREA	CLM461
<a href="#">TB1077142</a>	Active	Lease	2029-Jul-31	108258	JUNIOR LAKE AREA	CLM461
<a href="#">TB1187560</a>	Active	Lease	2029-Jul-31	108258	JUNIOR LAKE AREA	CLM461

# **Appendix B**

## Equipment Specifications

# GSM-19WGV MAGNETOMETER – GRADIOMETER – VLF



**BY GEM SYSTEM, TORONTO**

## INSTRUMENT SPECIFICATIONS

Resolution:	0.01nT (gamma), magnetic field and gradient.
Accuracy:	0.2nT over operating range.
Range:	20,000 to 120,000nT.
Gradient Tolerance:	Over 10, 000nT/m
Operating Interval:	3 seconds minimum, faster optional. Readings initiated from keyboard, external trigger, or carriage return via RS-232C.
Input / Output:	6 pin weatherproof connector, RS-232C, and (optional) analog output.
Power Requirements:	12V, 200mA peak (during polarization), 30mA standby. 300mA peak in gradiometer mode.
Power Source:	Internal 12V, 2.6Ah sealed lead-acid battery standard, others optional. An External 12V power source can also be used.
Battery Charger:	<b>Input:</b> 110 VAC, 60Hz. Optional 110 / 220 VAC, 50 / 60Hz. <b>Output:</b> dual level charging.
Operating Ranges:	Temperature: - 40°C to +60°C. Battery Voltage: <b>10.0V minimum to 15V maximum.</b> Humidity: <b>up to 90% relative, non condensing.</b>
Storage Temperature:	-50°C to +65°C.
Display:	LCD: 240 X 64 pixels, OR 8 X 30 characters. Built in heater for operation below -20°C.
Dimensions:	<b>Console:</b> 223 x 69 x 240mm. <b>Sensor Staff:</b> 4 x 450mm sections. <b>Sensor:</b> 170 x 71mm dia. <b>Weight:</b> console 2.1kg, Staff 0.9kg, Sensors 1.1kg each.
<b>VLF</b>	
Frequency Range:	15 - 30.0 kHz plus 57.9 kHz (Alaskan station)
Parameters Measured:	Vertical in-phase and out-of-phase components as percentage of total field. 2 relative components of horizontal field. Absolute amplitude of total field.
Resolution:	0.1%.
Number of Stations:	Up to 3 at a time.
Storage:	Automatic with: time, coordinates, magnetic field / gradient, slope, EM field, frequency, in- and out-of-phase vertical, and both horizontal components for each selected station.
Terrain Slope Range:	0° - 90° (entered manually).
Sensor Dimensions:	140 x 150 x 90 mm. (5.5 x 6 x 3 inches).
Sensor Weight:	1.0 kg (2.2 lb).



# APEX

## MAXMIN II-5 EM SYSTEM

- ❑ Designed for geoenvironmental applications and groundwater and mineral exploration, continuing and expanding the concepts of the earlier and highly popular MaxMin models.
- ❑ Frequency span is extended to ten octavely spaced frequencies from 222 to 3555 Hz, with increased range and number of coil separations. These and other developments result in greater performance, with more applications and enhanced interpretation.
- ❑ Advanced spheric and powerline interference rejection is still further improved, resulting in faster and more accurate surveys, particularly at the larger coil separations.
- ❑ MaxMin Computer or MMC, which is described in a separate data sheet, is offered for digital data processing, display, storage and transfer. The MMC displays and stores the in-phase and quadrature readings, their standard deviations, and the corresponding apparent ground conductivity values. Rough terrain surveys are also simplified with the MMC.
- ❑ Data interpretation and presentation programs are available for layered earth parametric soundings and discrete conductor surveys done with MaxMin EM.



**Transmitter**



**Receiver + MMC**

## MAXMIN II-5 ELECTROMAGNETIC SYSTEM SPECIFICATIONS :

# **APEX** MAXMIN COMPUTER MMC

- ▣ The MMC interfaces with MaxMin EM System receivers for digital data processing, display, storage and transfer, enhancing survey productivity and data accuracy.
- ▣ Digital display and logging of in-phase (real) and quadrature (imaginary) readings with standard deviations, the corresponding apparent ground conductivity values, line station, terrain slope and coil tilt information.
- ▣ Easy fingertip operation by read and store switches on MaxMin receiver front panel, with digital averaging for improved signal to noise ratio,
- ▣ Rough terrain surveys are simplified with the use of built-in-tilt meter, slope entry and computed coil orientation and separation information.
- ▣ Data transfer, formatting, correction and viewing programs are supplied for personal computers. Program for computing multi-frequency best-fit apparent conductivities and fit error is provided.
- ▣ Data interpretation and presentation programs are available for multi-layer parametric or geometric soundings and discrete conductor surveys done with MaxMin EM.



**Receiver + MMC**



**Transmitter**

## MAXMIN COMPUTER MMC SPECIFICATIONS :

<b>OPERATING SYSTEM :</b>	Menu driven user-friendly hierarchial operating system. Interfacing with MaxMin EM System receiver and with personal computers.
<b>DISPLAY :</b>	Liquid Crystal Display, with two lines of 24 alphanumeric characters each.
<b>KEYBOARD :</b>	18 tactile pushbutton keys.
<b>BEEPER :</b>	To provide audible operator guidance and to speed up operations, especially in very cold weather.
<b>CLOCK CALENDAR :</b>	Date and Time ( year, month, day, hour and minutes ).
<b>COIL TILT :</b>	Tilt display, with built in tilt sensor and circuitry, with $0 \pm 99\%$ grade range and with 1% resolution.
<b>IN-PHASE &amp; QUADRATURE :</b>	$0 \pm 199.99\%$ autoranging programmable gain system with 0.1% resolution for displayed data and 0.01% resolution for stored data.
<b>APPARENT CONDUCTIVITY :</b>	0.1 to 3276 milliSiemens ( millimho ) per metre available conductivity range, with conductivity arrived at using the quadrature, in-phase, frequency and coil separation data..
<b>PROCESSOR :</b>	16 bit low power CMOS CPU and bus at 6 Mhz clock rate.
<b>MEMORY :</b>	ROM : 16 Kb expandable to 64 Kb RAM : 256 Kb, static CMOS
<b>PHYSICAL SIZE :</b>	24.2 x 17.3 x 4.3 cm, to fit inside MaxMin receiver leather case notebook pocket.
<b>WEIGHT :</b>	1.0 Kilogram.
<b>BATTERIES :</b>	Two 9 Volt - 0.57 Ampere-hour alkaline batteries. Battery life 28 hours continuous duty, less in cold weather. Optional 1.2 Ah lithium batteries recommended for very cold weather operation. One lithium 3 Volt back-up battery, type 2032.
<b>CONNECTIONS :</b>	19 pin bayonet connector receptacle to connect to MaxMin receiver with the supplied aluminum tube connectors.  One each of DB25S and DB9S data transfer cords applied for downloading data to personal computer serial port.
<b>TEMPERATURE RANGE :</b>	Minus 30 to plus 60 degree Celsius. Temperature sensor and temperature display built-in.

1993-10-04