PATTERSON GEOPHYSICS INC.

ITHINGO LAKE 2010 PROJECT
October 2010 Airborne Geophysical Program
Black Birch Lake Area, Saskatchewan
NTS 74 B/13,14

Airborne Magnetic and EM Interpretation Report

For

New Moon Minerals Corp.
Winnipeg, Manitoba

April 2011

Joel Grunerud B.Sc., P.Geo.

PATTERSON GEOPHYSICS INC.
La Ronge, Saskatchewan

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SUMMARY

The airborne magnetic and electromagnetic survey undertaken by Terraquest on New Moon Minerals' Ithingo Lake property in October 2010 served to confirm several known and inferred geologic contacts and suggest new areas for exploration.

In general, the VLF-EM survey data were very responsive to both geologic and topographic changes. Areas such as the Main Zone mineralization do appear as mildly conductive and separable from topographic and contact effects. It appears as though the conductive zone continues along strike in both directions.

Magnetic data is perhaps more useful in mapping local structure here. Several distinct magnetic trends appear in the vicinity of the Main Zone mineralization and along strike in both directions. Iron formations to the south and west of the River Zone, being perhaps genetically linked to gold mineralization in the Ithingo Lake area, are well-defined by this data set. On a larger scale, predicted and known geological contacts are well-delineated by the airborne magnetics.

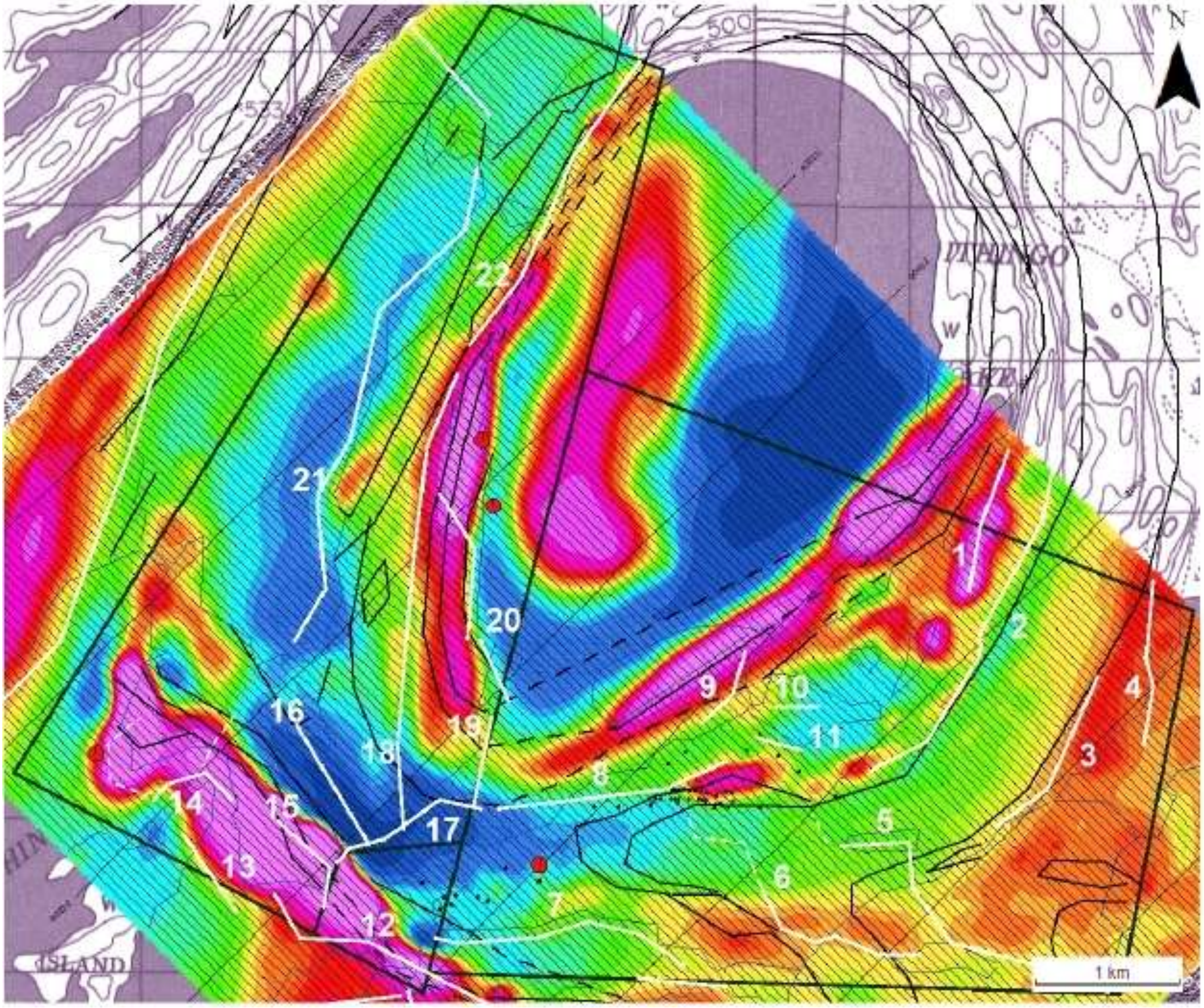

Figure 1: Total Magnetic Intensity (colour contours) and VLF-EM conductive trends (white traces labelled 1-22) on the Ithingo Lake properties. *Known and inferred geological contacts are solid and dashed black traces. See accompanying table for detailed descriptions of conductors.*

Conductor	VLF Components	Area or Zone	Geology*	Strike	Strike Length	Magnetic Signature	Interpretation
CLAIM BLOCK S-111267							
1	X, Y, Z	NE Shore of Ithingo Lake	Amphibolite-hosted	NNE	>1200 m	Strong narrow peak, continues SW towards Main Zone	Faulting or mineralization within amphibolites; possible structural relation to Main Zone
2	X, Y, Z	E of Ithingo Lake	Contact: Amphibolite to Mgp	NNE	>2400 m	Weak; stronger towards SW	Conductivity at/near contact; possible structural relation to Main Zone
3	X, Z	E of Main Zone	Contact: Mgp to Tg	NNE	~1300 m	Moderate peaks near contact	Conductivity caused by contact and water bodies; corresponds to known ground conductors
4	Weak X, Y, Z	ENE of Main Zone	Tg hosted	NNE	>1000 m	Negligible	Fault-related?
5, 6	Weak Y, Z	SE of Main Zone	Leucogranite, Tg, Mgp	Varies W to NNW	>2500 m	E-W striking moderate mag high; diverges towards conductor #7	Conductivity along fold hinge? Possible relation to main zone
7	X, Y, Z	Lake S of River Zone and Main Zone	Amphibolite or Amk, possible contact near BIF	ESE to ENE	~1700 m	Weak, E-W striking (see #5, #6) over~4 km, offset slightly N; strong BIF signature S and W	Unclear; influenced by water bodies, contacts, BIF and local topography
8	X, Y, Z	**Main Zone**	Amphibolite to Amk contact	WNW	~1500 m	absent to moderate; complex	Main Zone mineralization
9	Weak X, Y, Z	NE of Main Zone	May be Saprolitic, psammitic or quartzitic-hosted or contacted	NE	~600 m	none	contact or water body?
10, 11	X, Y, Weak Z	NE of Main Zone	Amphibolite-hosted	ESE	300-400 m	Weak, complex	Probable relation to Main Zone mineralization (Corresponds to known ground conductors)
CLAIM BLOCK S-108320							
12	Z, Y	SW of River Zone	BIF, +/-leucogranite?, +/-amphibolite?, +/-Amk?	WNW	~1900 m	Moderate to very strong; dominated by BIF response	Primarily BIF-related; alteration and/or deformation is probable in this area

***Geological Abbreviations:**
Amk = K-metasomatised Amphibolite (Biotite-rich)
Amm = Mg-metasomatised Amphibolite
BIF = Banded Iron Formation
Tg = Tonalite to Granodiorite
Mgp = Porphyritic Monzogranite

Conductor	VLF Components	Area or Zone	Geology*	Strike	Strike Length	Magnetic Signature	Interpretation
CLAIM BLOCK S-111857							
13	Y; Weak X and Z	W of River Zone	unknown (leucogranite or Amk likely)	NW	>600 m	none	Possible continuation of #12; offset from BIF SW by ~500 m
14	X, Y, Z	NW of River Zone	Amk +/- BIF +/- other	unclear	>600 m	complex	Probable faulting, alteration at BIF/amphibolite contact. Magnetics suggest iron- or sulphide-rich body nearly orthogonal to BIF
15	Y, weak Z	NW of River Zone	BIF +/- contact with Amk	NW	>400 m	very strong (dominated by BIF)	BIF EM response; possible relation to #12 and #14
16	Y, weak X and Z	NW of River Zone	Amphibolite-hosted; on-strike w/ leucogranite contact	NW	~900 m	magnetic low	May be water-body related; fault/fold in amphibolite?
17	Strong X, Y, and Z	N of River Zone	Psammite/quartzite contact?, Amphibolite, Amk, +/- BIF?	WSW	>1000 m	magnetic low	Probable faulting and intense alteration; convergence of conductors #8, 12, 15, 16, 18, 19
18	Strong X and Y, Weak Z	NNW of River Zone	Primarily Psammite/Qtzite hosted, crosses into Amphibolites at S end	N to NNE	>3000 m	weak low, flanked by weak highs	Alteration along fault; Near SMDI 2479 and SMDI 1080
19	Z; weak X and Y	N of River Zone	Amphibolite? +/- Psammite/quartzite contact?, +/- Saprolitics contact	NNE	~600 m	crosses a moderate mag high	Faulting? EM response complicated by water body; Possible continuation of #20
20	Y, weak X and Z	NW of Main Zone	Amm, Saprolitics?, Psammite/quartzite contact?	N-NNW	>1000 m	primarily follows narrow mag high (Amm response)	Unclear. Near SMDI 2479 and SMDI 1080
21	X, Z, weak Y	NW of Ithingo Lake	Amk? +/- contact w/ granites?	NNE	>3000 m	mag low adjacent to weak high	lake shore response; possible contact
22	X, Z, weak Y	NW shore of Ithingo Lake	contact between psammite/quartzite and saprolitic rocks	NNE	>2200 m	weak to moderate narrow mag high	geologic contact at lake shore; possible continuation of #18

***Geological Abbreviations:** **Amk = K-metasomatised Amphibolite (Biotite-rich)** **Tg = Tonalite to Granodiorite**
Amm = Mg-metasomatised Amphibolite **Mgp = Porphyritic Monzogranite**
BIF = Banded Iron Formation

MAIN ZONE

Magnetic data suggests numerous trends in the Main Zone vicinity. The strongest response in this area is north and slightly east of most of the Main Zone pits, suggesting high sulphide content near the boundary of the two amphibolite units (see Figure 2). A number of weaker SSW-NNE striking trends appear in this area and continue into relatively unexplored regions along strike in both directions. There may be structure linking the Main Zone to the River Zone/Camp Zone area to the SW.

VLF-EM data detects the Main Zone as moderately conductive in X, Y, and Z components (see Figures 3 to 6). As with the magnetic data, there is the suggestion of continuation towards the River Zone to the SW. There also appear other moderate conductive trends to the north and east.

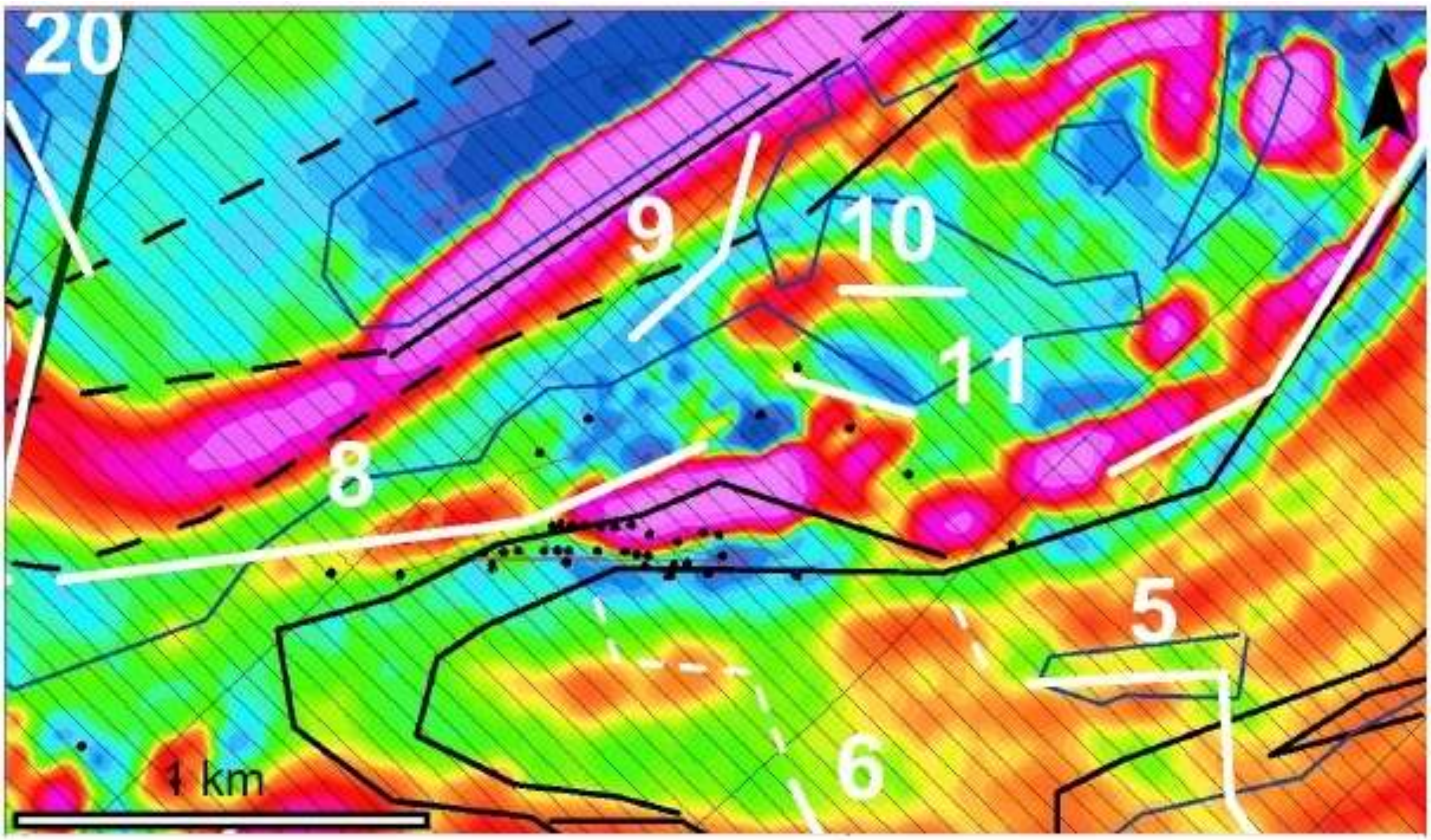

Figure 2: Main Zone detail with magnetic vertical derivative *(colour contours), geological contacts (black traces, after Card et al 2008), ground VLF conductors (red traces), approximate water body locations (blue traces), and historic DDH (black dots).* ***Airborne VLF-EM conductive zones are in white,*** *and numbers correspond to conductor descriptions in the accompanying table. A number of ENE-trending magnetic structures are seen here, principally within and near the edges of the amphibolite unit. Note amphibolite-hosted magnetic bodies to the NE of the Main Zone (top right) that do not correspond to airborne conductors – these are likely sulphides.*

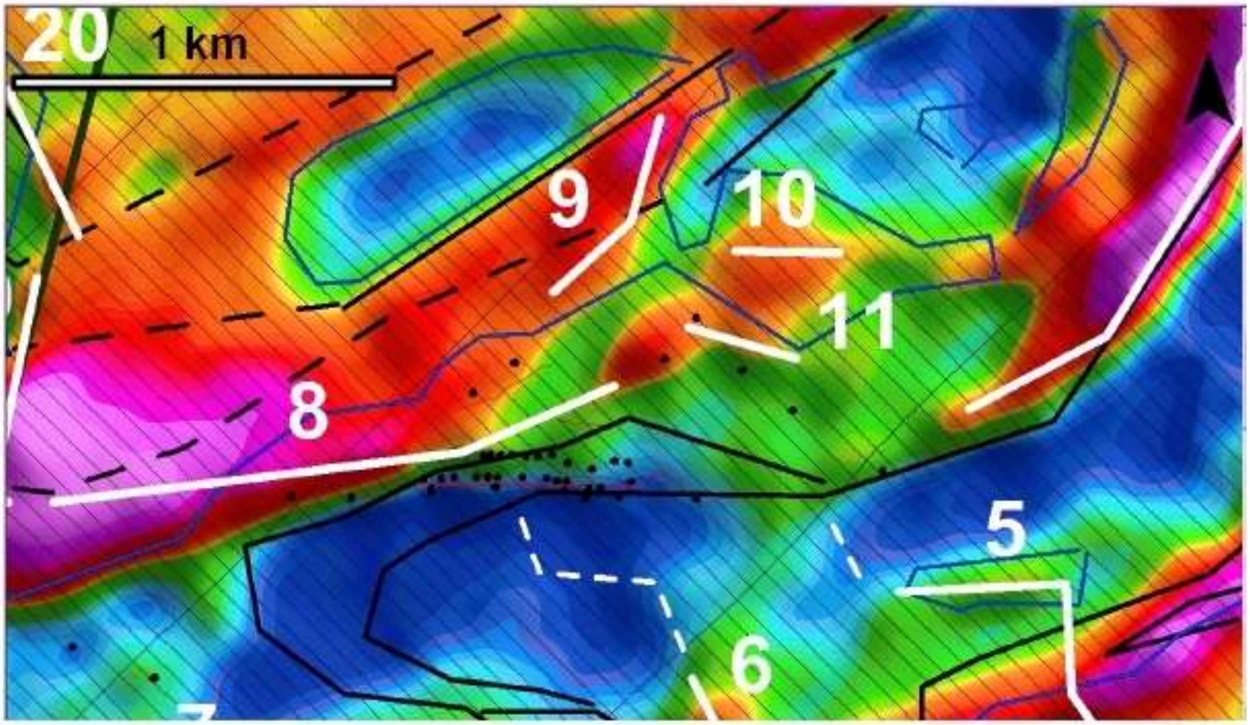

***Figure 3**: **Main Zone detail with X-component (in-line-horizontal) VLF-EM** (colour contours). X-component data is biased towards NE-SW trending structures, and is also reactive to geological contacts and water bodies. Here the Main Zone conductor (#8) is only mildly responsive over the Main Zone itself, but stronger towards the SW.*

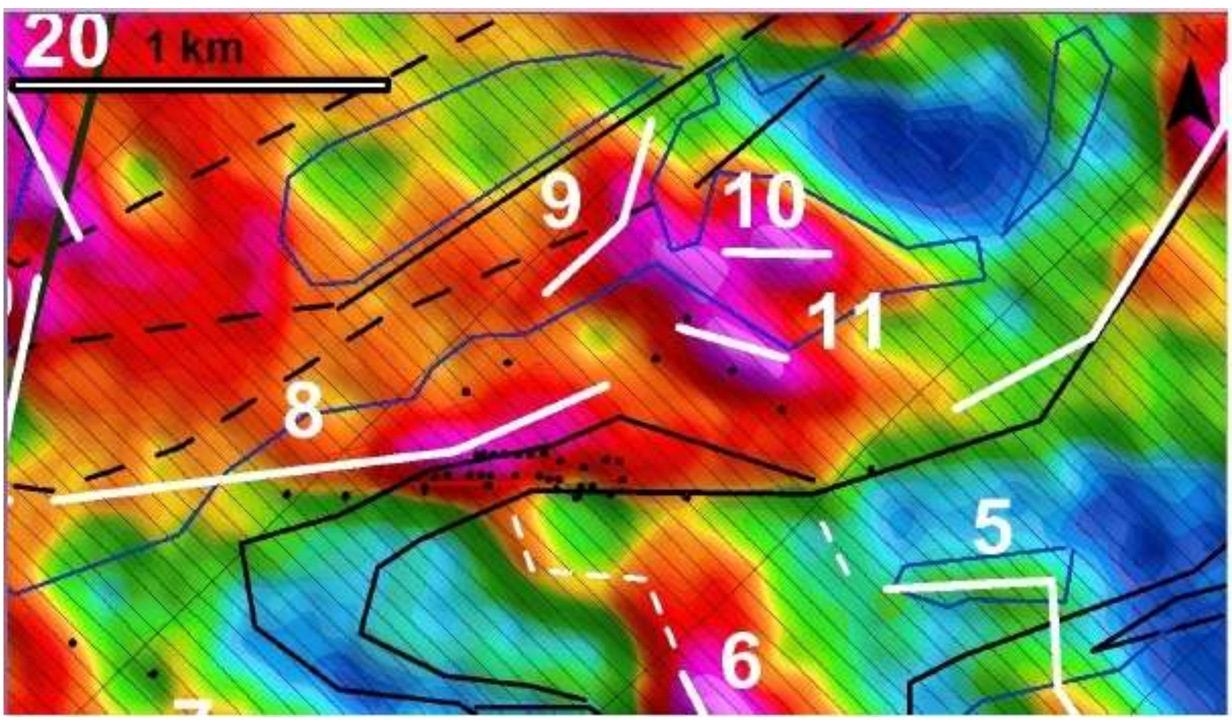

***Figure 4**: **Main Zone detail with Y-component (lateral-horizontal) VLF-EM** (colour contours). Y-component data is biased towards NW-SE trending structures, and is also reactive to geological contacts and water bodies. The Main Zone (conductor #8) appears relatively strongly in this data.*

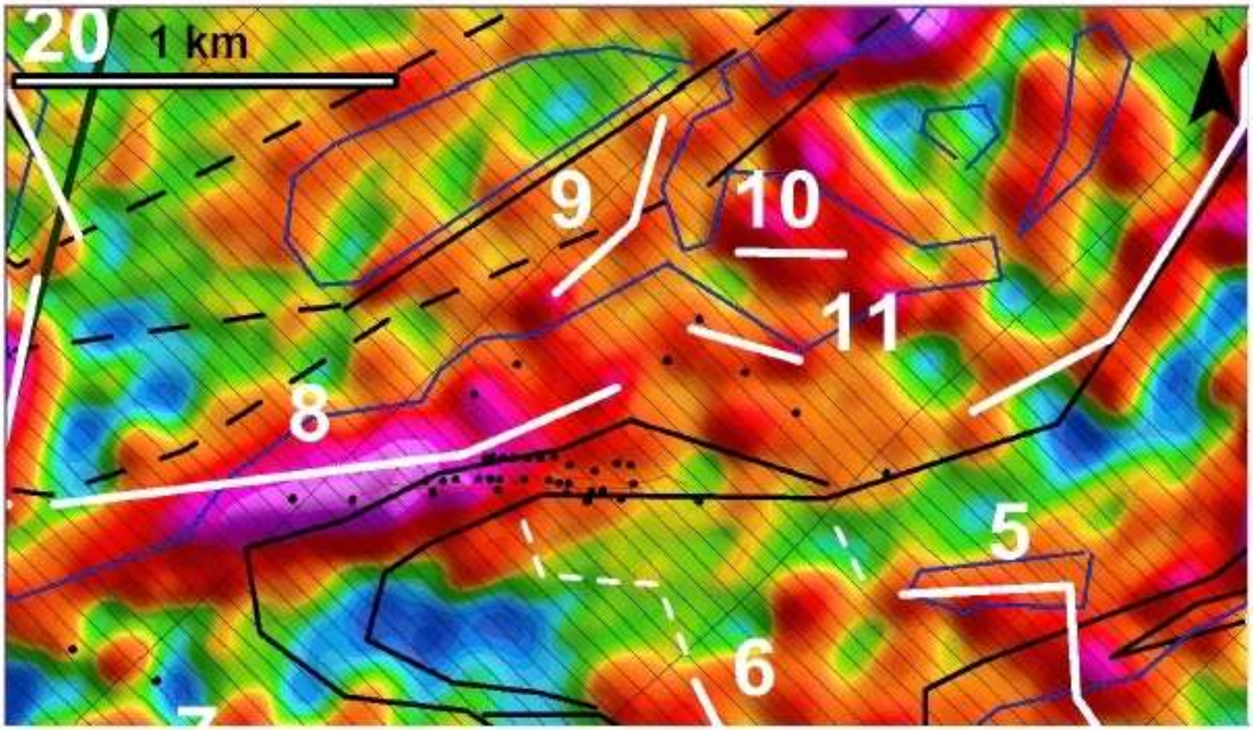

***Figure 5**: **Main Zone detail with Z-component (vertical) VLF-EM (colour contours).** Like the horizontal components, Z is reactive to lakeshores and contacts. The Main Zone itself (conductor #8) is fairly responsive.*

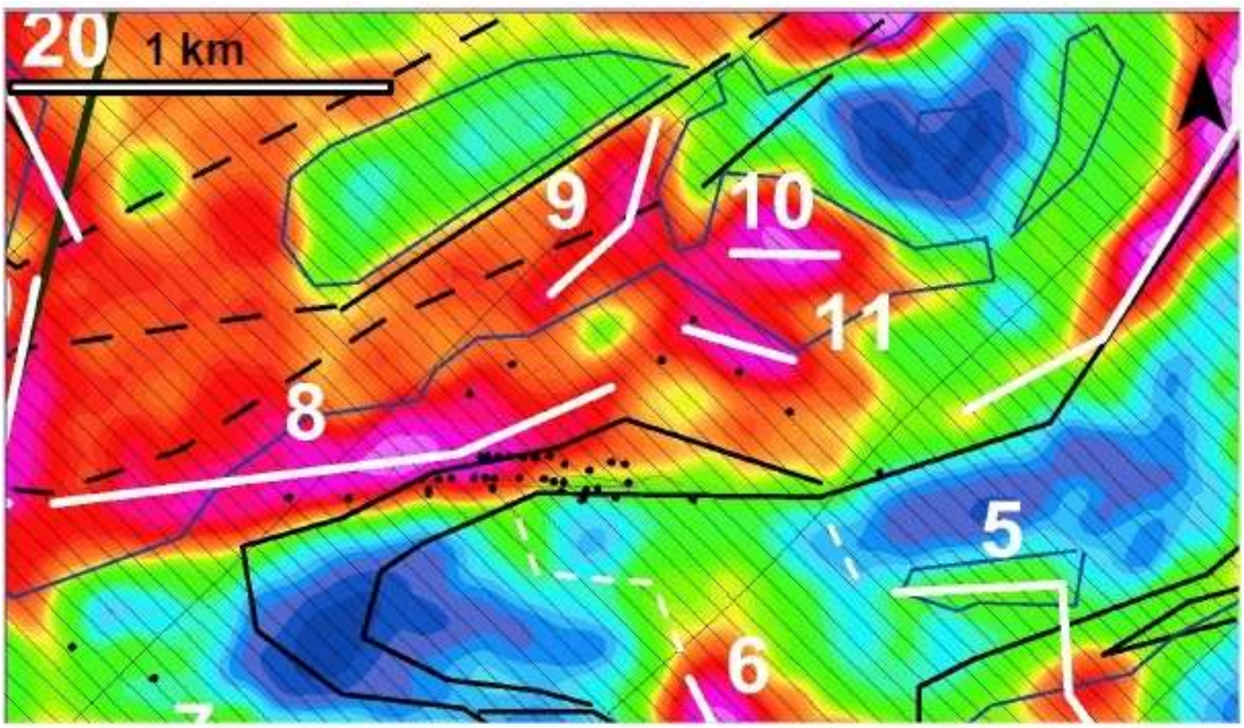

***Figure 6**: **Main Zone detail with "total power" VLF-EM (colour contours).** This parameter is a rough combination of the three orthogonal VLF components. The Main Zone conductive trend (conductor #8) seems to continue SW into Ithingo Lake. Ground VLF conductors correspond to those found near the bay to the NE (conductors #10 and 11).*

RIVER ZONE/CAMP ZONE

No major magnetic or EM anomalies are present in the immediate River Zone, although several small isolated magnetic anomalies appear here. However, intriguing structures appear in both data sets to the north, south, and west.

Geologic mapping (Card et al) shows the presence of banded iron formation to the west and south of the River Zone area. Turner (2010) posits a possible genetic link between these BIFs and the amphibolites which host the Main Zone and River Zone. Folding and faulting in this area is likely.

As expected, the BIFs have a strong magnetic signature, particularly to the west of the River Zone – here the magnetic signature is also narrower, indicating a shallower source, as well as higher iron or sulphide content. As well, a number of conductive features appear to converge in this area (see Figures 7 and 8). Some may be related to water bodies or contacts, while others may represent structural features within the amphibolite unit – see conductor summary table for descriptions.

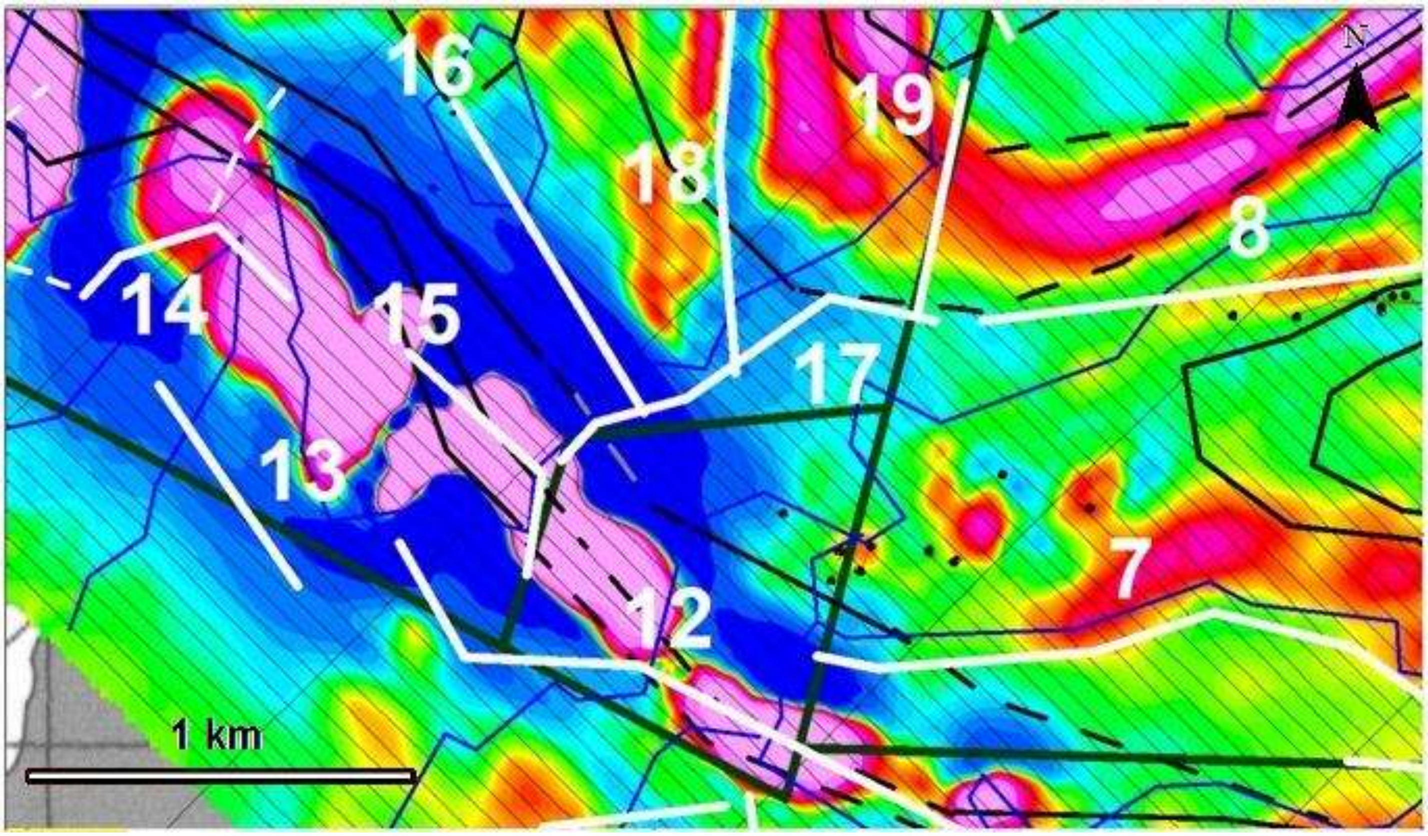

Figure 7: River Zone/Camp Zone detail with magnetic vertical derivative *(colour contours). Some of the magnetic lineaments here are unrelated to known contacts and again are suggestive of activity (alteration, faulting) near where the BIF unit abuts amphibolites in the River Zone area. North-striking structure (possible alteration or fault zone corresponding with conductor #18) is seen as a low flanked by magnetic highs in the derivative data. Also note magnetic structures striking roughly E-W through both granites and amphibolites at the right side of this diagram (near conductors #7 and 8). Isolated magnetic anomalies in the River Zone area (between conductors # 7 and 17) are indicative of complex structure here.*

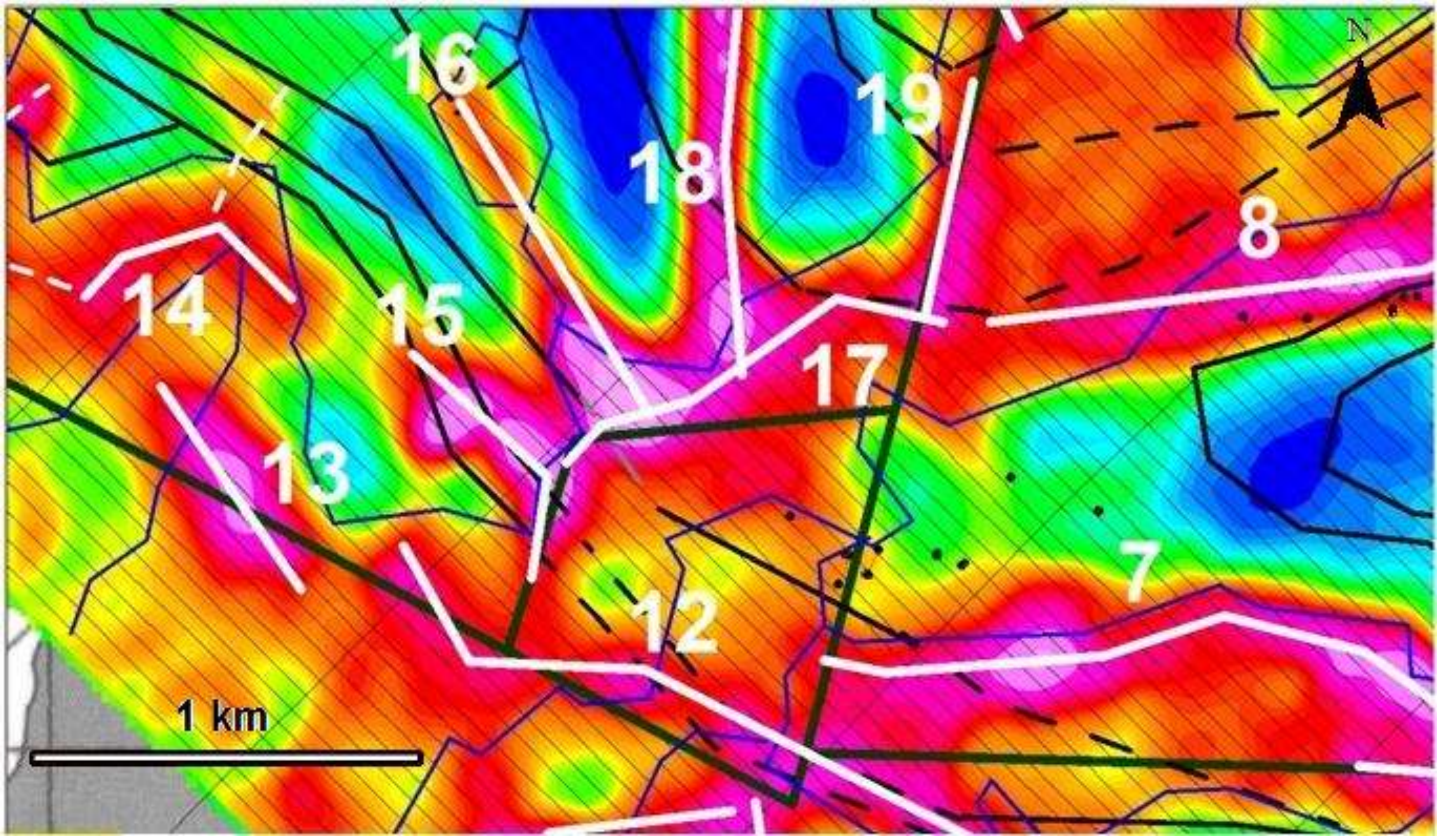

***Figure 8**: **River Zone/Camp Zone detail with "total power" VLF-EM** (colour contours). The Main Zone conductive trend (conductor #8), at top right, apparently continues SW (conductor #17) into Ithingo Lake. Here it appears to converge with several other conductive trends (conductors #12, 15, 16, 18, 19) that may be related to known banded iron formation (the narrow unit corresponding closely with conductors #12 and 15). Of interest is the north-striking conductor (conductor #18), strong in all three VLF components, that seems to cut across a psammite/quartzite unit into amphibolites to the south. This conductor is also present as a magnetic low; this may be a sign of alteration. Several of the conductors seen here are probably caused by or distorted by water bodies.*

OTHER PROSPECTIVE AREAS

Conductor #1, NE of the Main Zone, is apparently amphibolite-hosted and is noted in all three VLF components. Its magnetic signature suggests a possible structural link to the Main Zone mineralization. Conductor #2 displays a similar geophysical response, but appears to follow the amphibolite/monzogranite contact.

Conductors #5 and 6 are not well-defined by the airborne data, but may share a structural link with the Main Zone.

Conductor #7 appears to be influenced primarily by a lake shore, but also follows a magnetic anomaly that crosses over from monzogranites to amphibolites, and is probably structurally related to the River Zone/Camp Zone.

Closer investigation of the area of conductors #12-19 may shed light on local structure; specifically, the relation of BIF to amphibolites and possible mineralization.

Further north, near SMDI 2479 (gold) and SMDI 1080 (pyrite), conductors #18, 20, and 22 merit further investigation.

RECOMMENDATIONS

Surface induced-polarization resistivity surveying is recommended over the Main Zone for deeper and higher-resolution imaging of local structure. This should also be accompanied by high-density surface magnetometer surveying, given the magnetic complexity seen in airborne data. These surveys can be deployed to investigate both the Main Zone itself as well as along strike in both directions. Some attention should be given to the magnetic anomaly apparent just north of the Main Zone; this area shows elevated conductivity as well.

Although the River Zone/Camp Zone does not display any obvious EM conductors, this area remains prospective. Again, IP-R and magnetometer surveys may help to outline local structure, and may detect weaker or deeper conductors that are invisible to airborne techniques.

The area west and north of the River Zone/Camp Zone also merits investigation with IP-R and magnetometer surveys.

REFERENCES

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