

## MEMORANDUM

Date: July 7, 2016  
From: Trisha Roberson  
To: Matt Turner, Rockhaven Resources Ltd.  
SUBJECT: Volterra-3DIP Interpretation on Preliminary Inversion

In June 2016, SJ Geophysics completed a 7-line Volterra-3DIP survey on the Klaza Property. Rockhaven is looking for indication of potential calc-alkaline porphyry deposits. This survey followed previous Mag-VLF surveys also completed by SJ Geophysics in 1996 and 2014.

Matt Turner contacted SJ Geophysics after the survey was complete and asked us to look at the inversion results for signs of a porphyry system. This memo is the result of a meeting between Syd Visser, Trent Pezzot, and Trisha Roberson looking at a preliminary inversion model.

The Klaza property is located in the Yukon territory. The property is dominated by the Whitehorse suite with some volcanic and porphyry systems indicated on the Property Geology map as depicted in the Klaza Assessment Report from 2013. The geology map is included as Figure 1. There is a large amount of overburden in the area. The geology map indicates porphyry rocks to the southeast of the 3DIP region.

### ***Background***

On a regional level, Mag-VLF data show porphyry deposits as magnetic anomalies transverse to predominant structural grain (eg faults or host structure). More locally, porphyry deposits are associated with a magnetic highs or lows surrounded by a halo, donut, or open ring of contrasting magnetic response. The outer ring of magnetic data tends to be noisy and irregular.

Resistivity data can identify porphyry deposits as resistivity high or lows. Low resistivity indicates clay or stockwork veins. Resistivity highs are detecting the quartz content in the stockwork. Whether high or low, circular patterns in the resistivity data indicate areas of interest. Chargeability data can indicate both alteration and mineralization. Pyrite is generally more abundant and is usually the source of the highest chargeability areas. Copper minerals (eg. chalcopyrite or bornite) tend to have lower chargeability values, but are associated with the highly chargeable pyrite zones.

In this memo, we highlight areas of interest from the results of the the Mag-VLF and Volterra-3DIP surveys. In the Volterra-3DIP results, we are particularly interested in areas of coincident high chargeability and low resistivity.

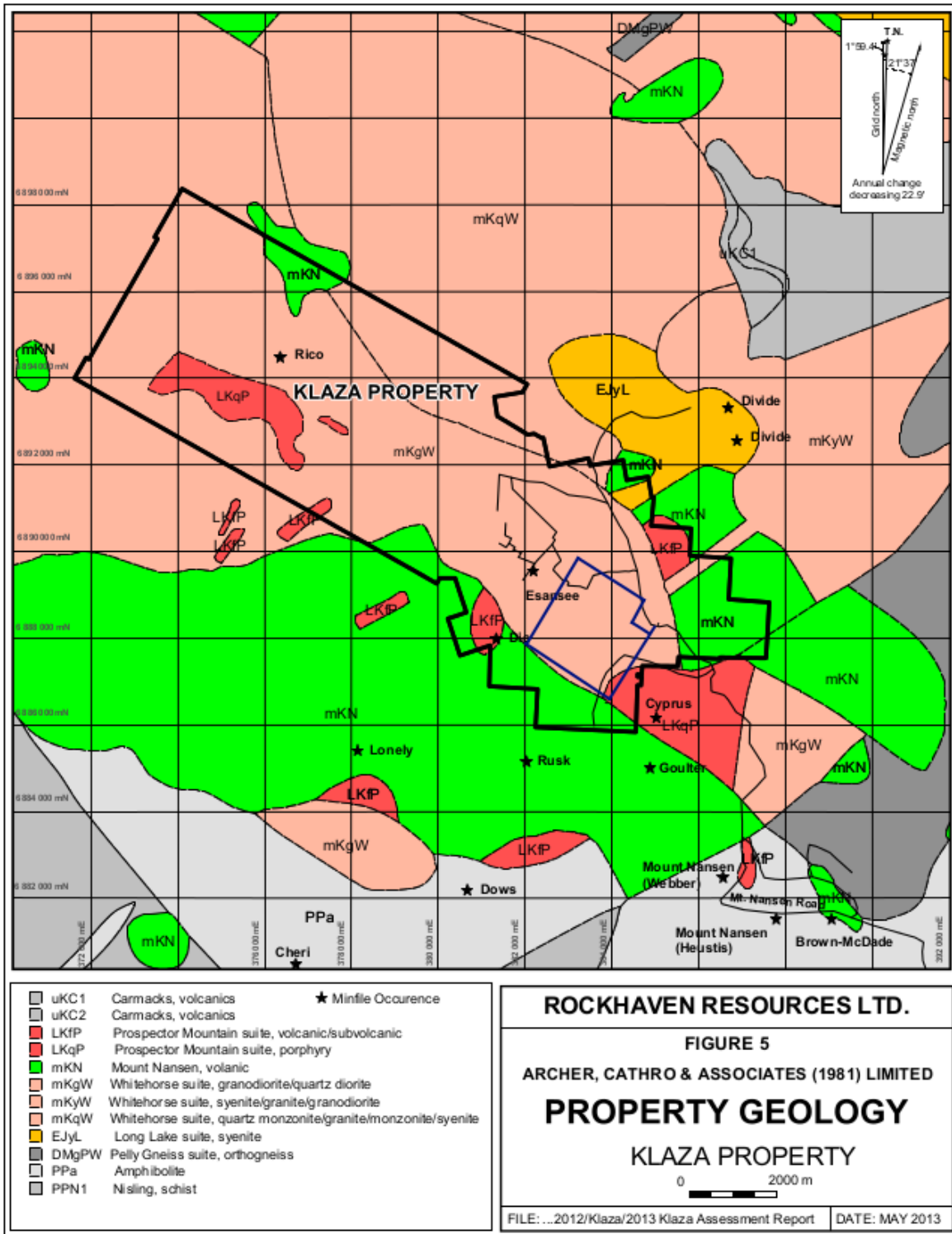


Figure 1: Property geology map from the 2013 Klaza Assessment Report. The blue box is approximately the region of the Volterra-3DIP survey.

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# Mag-VLF

The previous VLF surveys indicated epithermal veins, but because of the large amount of overburden, tended to image only the near surface. The VLF shows a circular footprint where there is a break in the pattern and the VLF tends to turn. Figure 2 shows the result of the 2014 SJ Geophysics VLF survey.

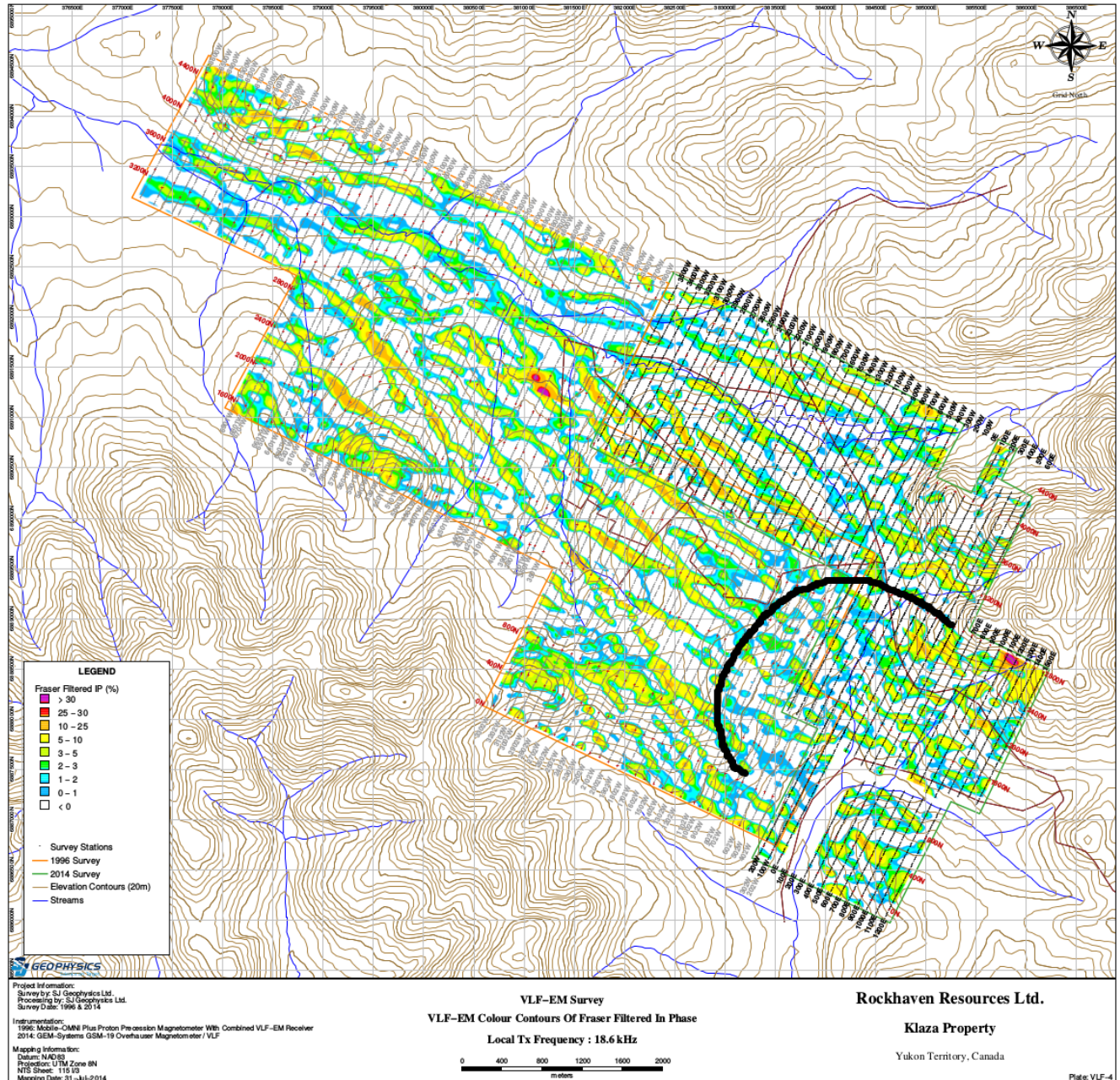


Figure 2: 2014 SJ Geophysics VLF survey map. Near the middle of the grid, yellow-orange linear structures trending northwest can be identified, but to the southeast they fade out along an arc. This circular footprint of interest is indicated by the black arc.



## Volterra-3DIP

Because of the large line spacing chosen for the IP survey design, shallow results from the survey are poor. However, the deeper data, particularly between 100–300 m, are particularly promising. The plan map of the resistivity model at 200 m depth in Figure Error: Reference source not found shows structure trending north-south. The very southeast corner, where the porphyry was identified on the geology map, contains a resistivity low surrounded by a high resistivity arc. These circular bands tend to be indicators of a porphyry deposit. It is likely that porphyry intrusions would be controlled by the structure indicated by the resistivity banding.

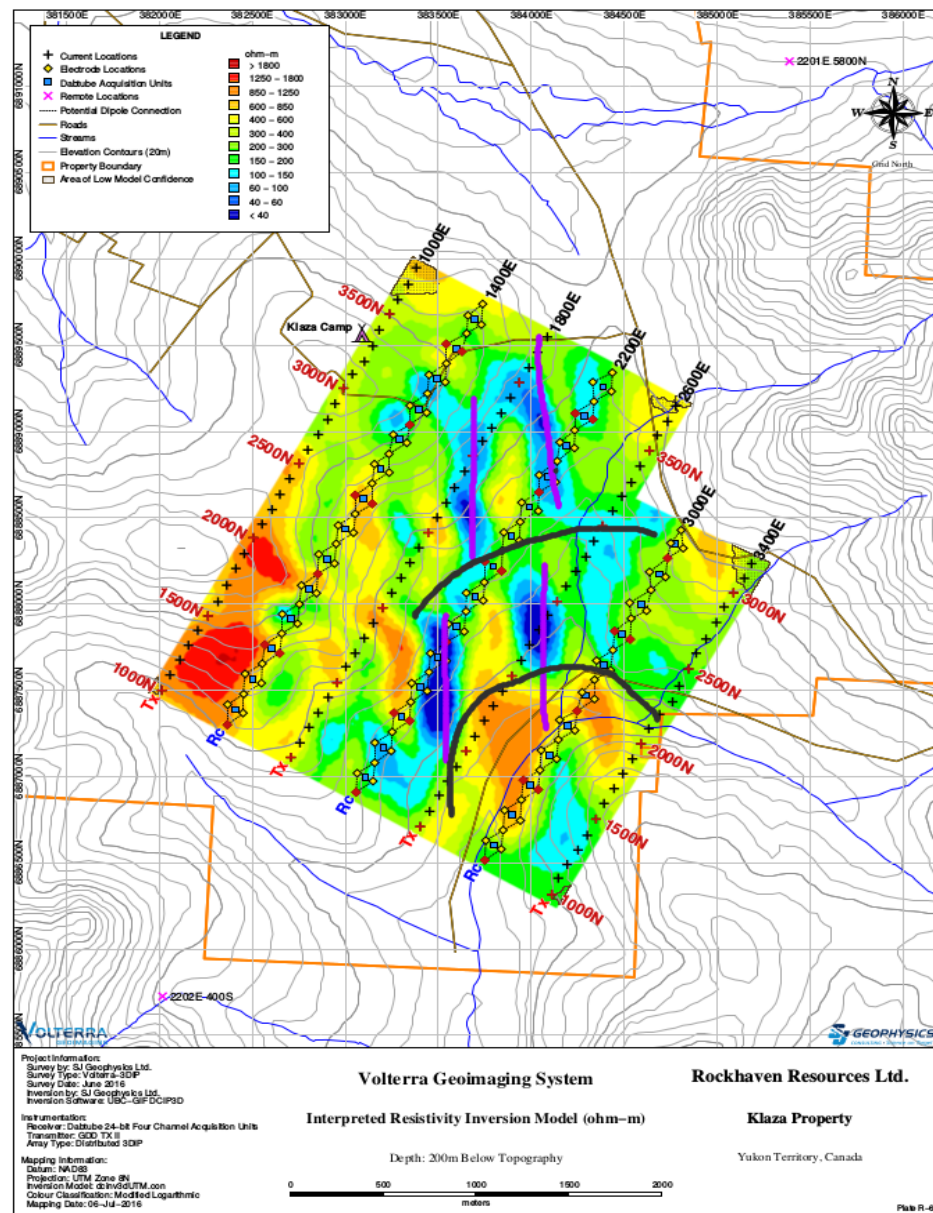


Figure 3: Plan map of the resistivity model at 200 m depth below topography. The purple lines indicate the dominant linear structures at shallower depth. The arcing features indicated by the black lines become more dominant as depth increases.

The chargeability plan map at depth 300 m in Figure 4 also shows ring structures. There are at least two interpretations of the map, indicated by the black or purple lines on the map. One possibility is a large porphyry system centered to the southeast of the property as indicated by the black arcs showing one quadrant of the system. Another possibility is shown by the purple circle with the porphyry system centered in the middle of the grid surveyed.

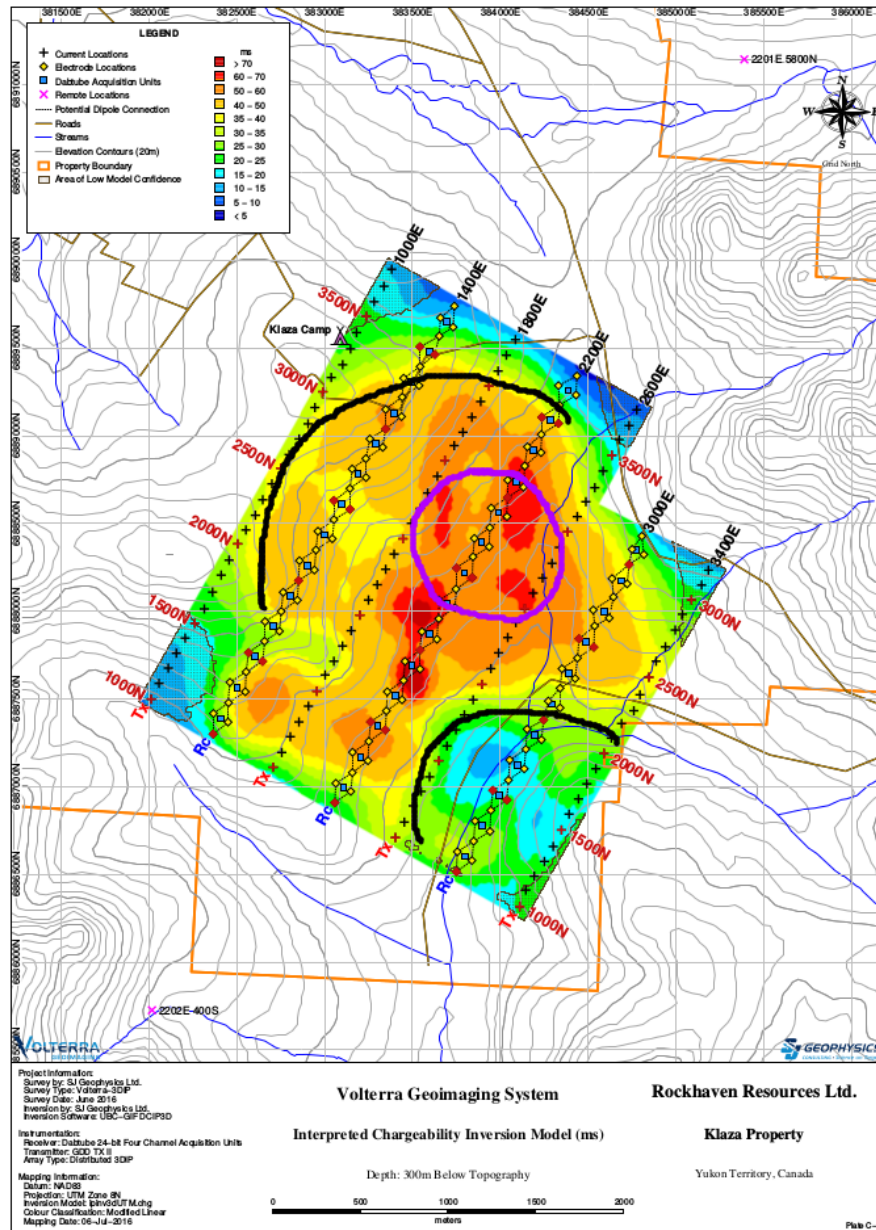


Figure 4: Plan map of chargeability model at 300 m depth below topography. The black lines indicate a large porphyry system centered to the southeast of the Klaza property. The purple circle indicates a second possibility for the center of a smaller porphyry deposit.

On the section maps of the inversion model, resistivity lows are shown to coincide to chargeability highs on lines 2200E and 2600E, shown in Figures 5 and 6. These regions make attractive drill targets and correspond to a secondary ring structure in the 3DIP inversion model near the middle of the grid. There are two high chargeability anomalies on line 2200E (also visible in the plan map in Figure 4).

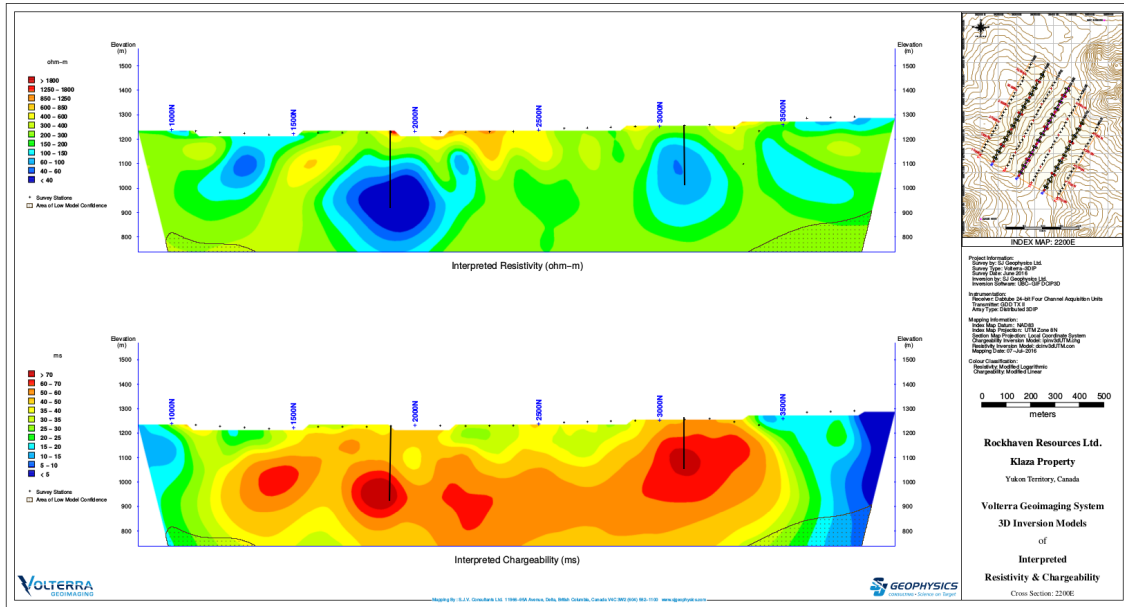
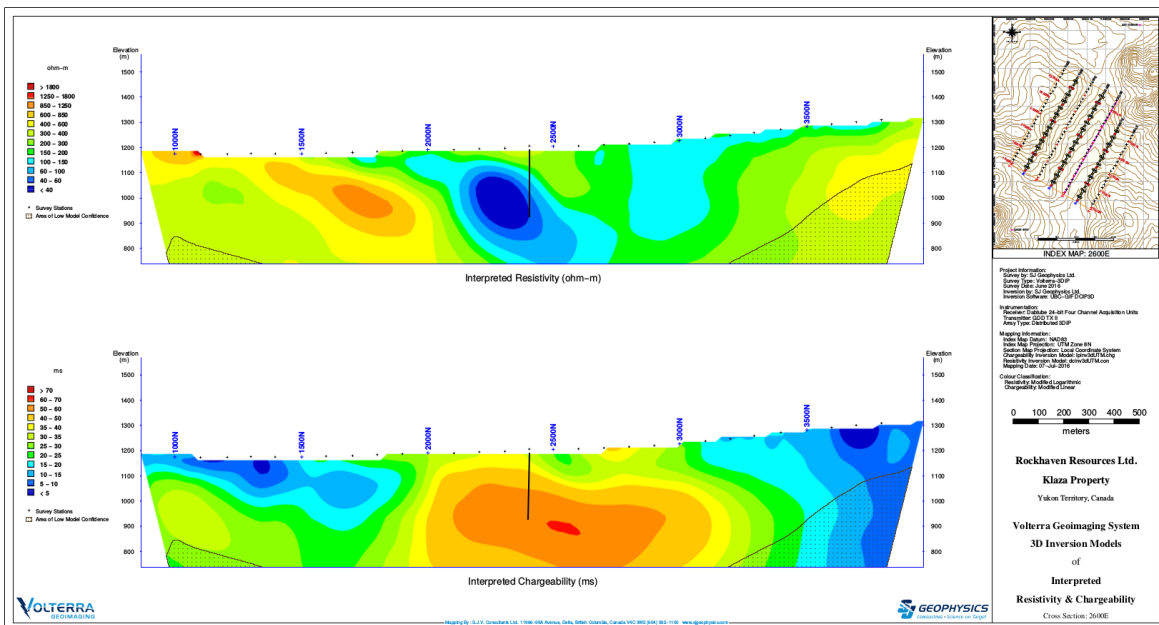


Figure 5: Section map along line 2200 E. The region of coincident resistivity low and chargeability high forms a ring-like structure which is often an indicator of a porphyry deposit and is an attractive target. Approximate drillhole suggestions are shown in black.

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Figure 6: Section map along line 2600 E. The region of resistivity low corresponding with a chargeability high is an attractive target for a porphyry system. Approximate drillhole suggestion is shown in black.

| Line  | Station | Easting (m) | Northing (m) | Elevation (m) | Depth (m) |
|-------|---------|-------------|--------------|---------------|-----------|
| 2200E | 1900N   | 383497      | 6887692      | 950           | 275       |
| 2200E | 3100N   | 384091      | 6888738      | 1100          | 150       |
| 2600E | 2400N   | 384089      | 6887935      | 1000          | 200       |

## ***Conclusion***

After completing the Volterra-3DIP survey, inverting the data, and an interpretation session, we have identified two possible ring-like structures typically associated with porphyry deposits. There appears to be a large system at the southeast corner of the property and a smaller system in the center of the grid. Rockhaven could elect to drill to test both systems. Two possible targets are shown along the section maps of lines 2200E and 2600E where there are paired low resistivity and high chargeability anomalies. The center of the porphyry systems can be bare with mineral-rich halos surrounding the highly chargeable pyrite zone. However, in this area, pyrite and gold tend to appear together. Hitting pyrite could be an indicator of being within a porphyry system.