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## **Short MMI Report**

### **IMX Resources - Tasmania**

The purpose of this short MMI report is to alert the client/user to potentially significant information within MMI data, and to suggest and establish significance levels for various elements and to train and assist the users in making their own interpretations of MMI data. It is based on the raw data supplied, including coordinates and is in bullet form. It is not a comprehensive report, is not based on site visitation and maybe limited in its scope and applicability as a result.

MMI is a high resolution soil geochemistry technique which aims to:

- Detach adsorbed ions from the exterior of soil particles
- Leave the substrate relatively undissolved
- Provide better signal to noise (background) ratio
- Better spatial resolution

MMI is a partial extraction technique; absolute values are less than those obtained by strong acid extraction, and do not represent an assay of the sample. The short report is based on one or more of three plotting techniques, based on the geographical spread of data. For single lines of data, multi-element histograms will be provided using Harvard Graphics software. When there is an irregular spread of data for which contour plotting is not appropriate, the data will be presented as a classed post map for each element using Surfer Software. When there is a relatively even distribution of data over a single area, isotropic kriging of raw data for a number of chosen elements will be undertaken in Surfer Software and the data presented as contoured images. Not all elements analysed will necessarily have a plot – elements will be chosen for plotting on the basis of their potential significance. It should be noted that when isotropic kriging (Surfer plots) are undertaken, extrapolation of contours outside the limits of sampling should not be relied upon.

The report format consists of a series of plots with comments beneath without specific reference to, or reliance on, background, previous history, geology, or location.

**A.W. Mann**

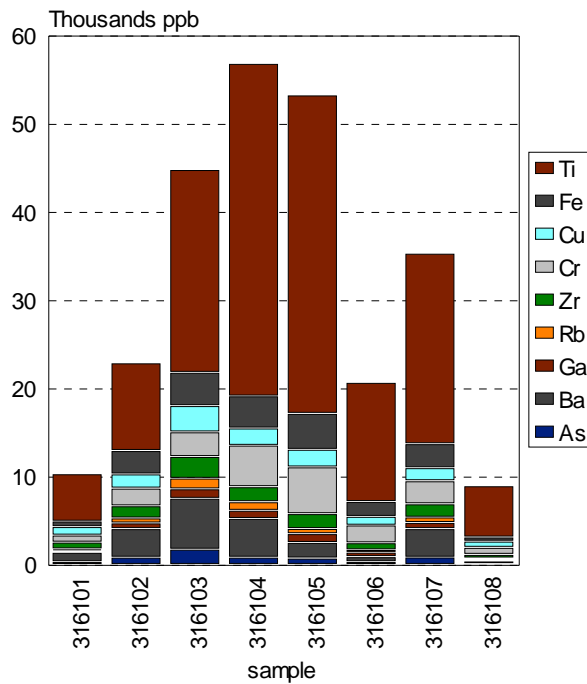
**May 2010**

## Results

- The results for four traverses are plotted in Harvard Graphics. For the first traverse, S1C13, a large number of elements have been analysed. These will be grouped, for convenience, according to various ranges –tens of thousands of ppb, thousands of ppb, hundreds of ppb (or ppm), tens of ppb (or ppm) etc. Not all elements are plotted.

## IMX Resources

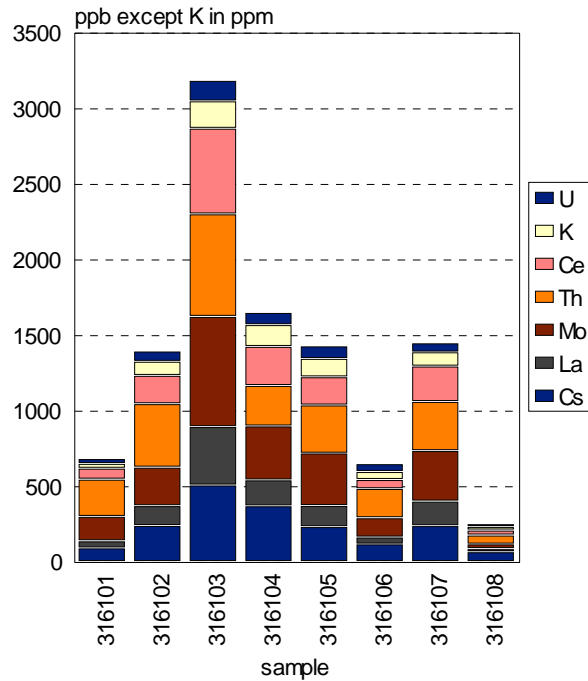
MMI for S1C13



- A number of elements on this scale show contrast from end of line to middle.
- The most significant of these is Ti.
- Cr, Zr and Ba also show high contrast.

# IMX Resources

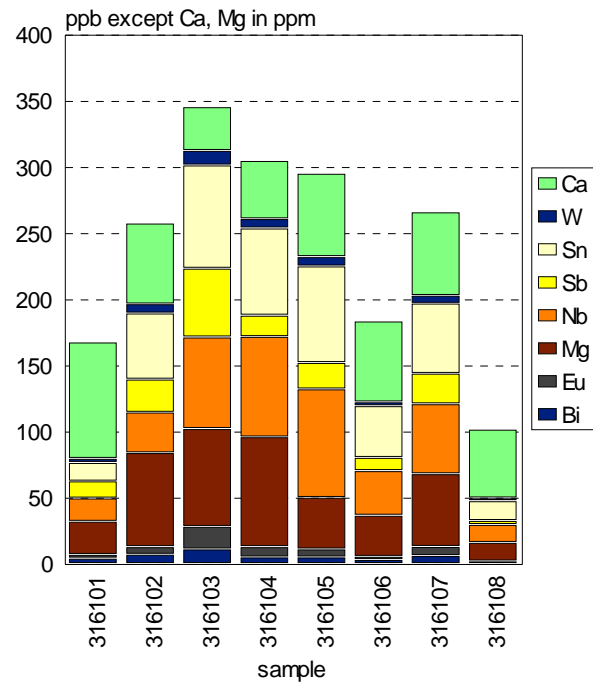
## MMI for S1C13



- A number of elements in the next range also show good contrast.
- These include U,Th, Ce, Cs and Mo.
- Ce is a proxy for most rare earth elements which show similar behaviour.
- It is a large ion, often excluded from mafic melts and therefore diagnostic of lithology (along with other large radius cations e.g. Cs, K, Th, Rb).

# IMX Resources

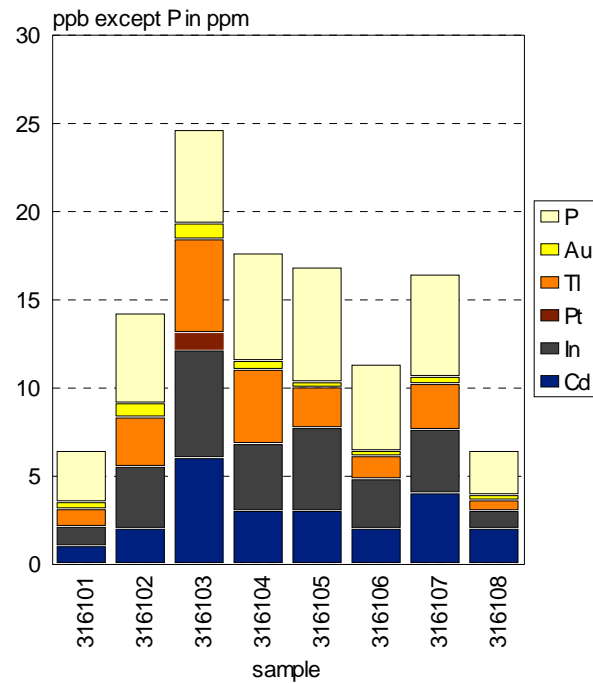
MMI for S1C13



- In this range Mg and Nb show best contrast.

# IMX Resources

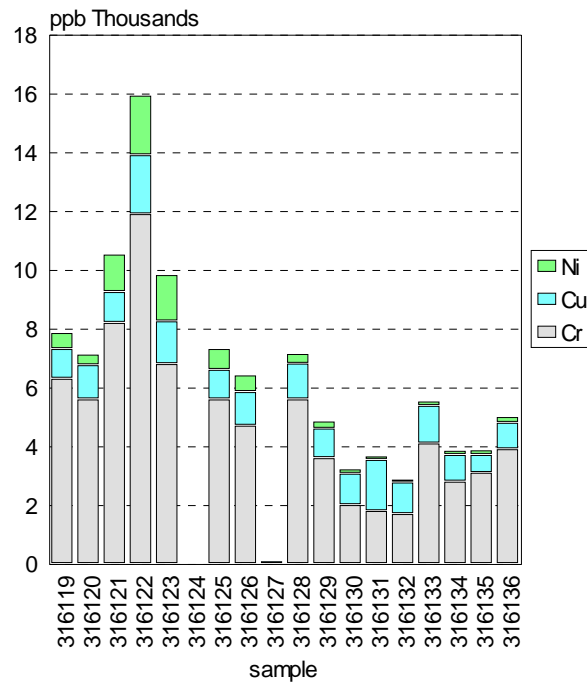
## MMI for S1C13



- In this range Cd and Tl show contrast.
- Pt has one value above background, at the point of maximum contrast for a number of elements.
- Pt is an element which rarely shows above background in MMI surveys, and when it does is significant.

## IMX Resources

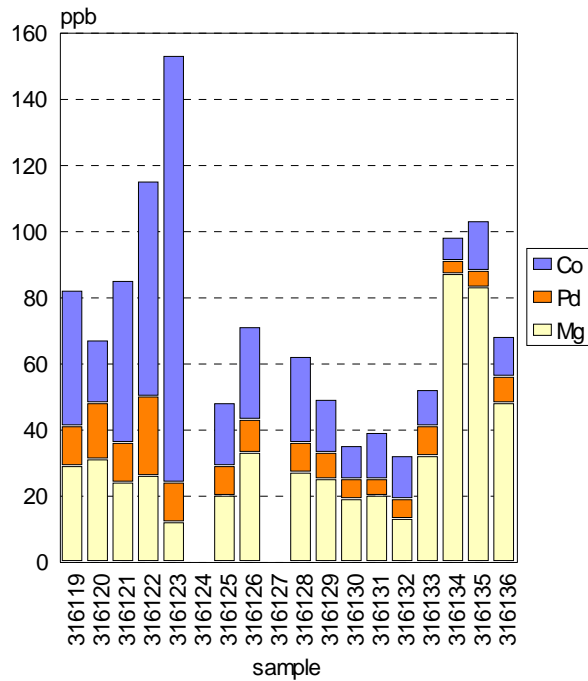
### Target S1C5



- In this case (S1C5) a limited number of elements has been chosen.
- Cr and Ni show contrast across the traverse with a maxima at sample 316122.

## IMX Resources

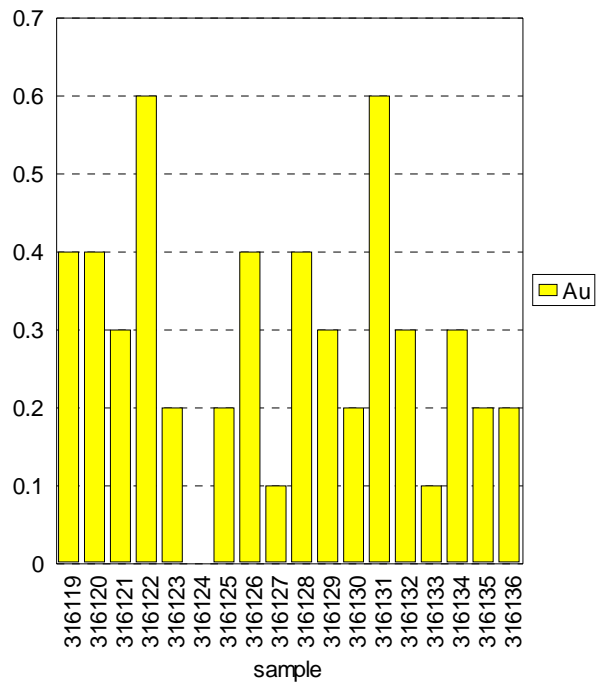
### Target S1C5



- Co shows a maximum at the neighbouring sample 316123 and also has a high value at 316122.
- Pd values are moderately high (for the MMI technique) at this end of the traverse.

## IMX Resources

### Target S1C5

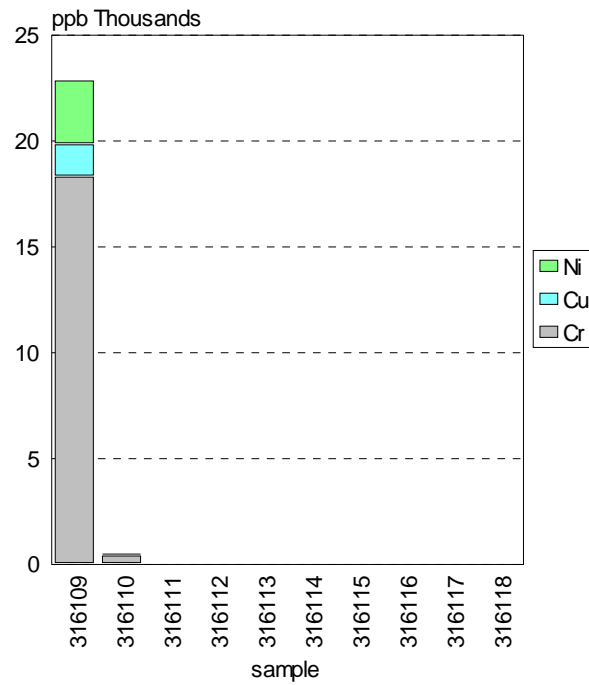


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- There are two samples with higher (0.6ppb) levels of Au.
- One of these is sample 316122.
- This level of Au is not normally considered significant, but could be so (lithologically) in this instance.



## IMX Resources

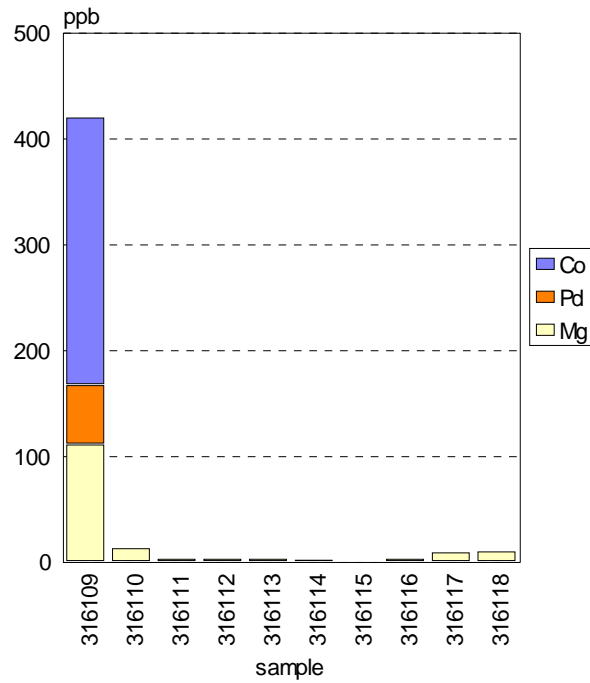
### MMI for Target S1C7



- There is a clear and distinct lithological change between samples 316110 and 316111.
- This is shown clearly in the change of contrast for Ni, Cu and Cr.

## IMX Resources

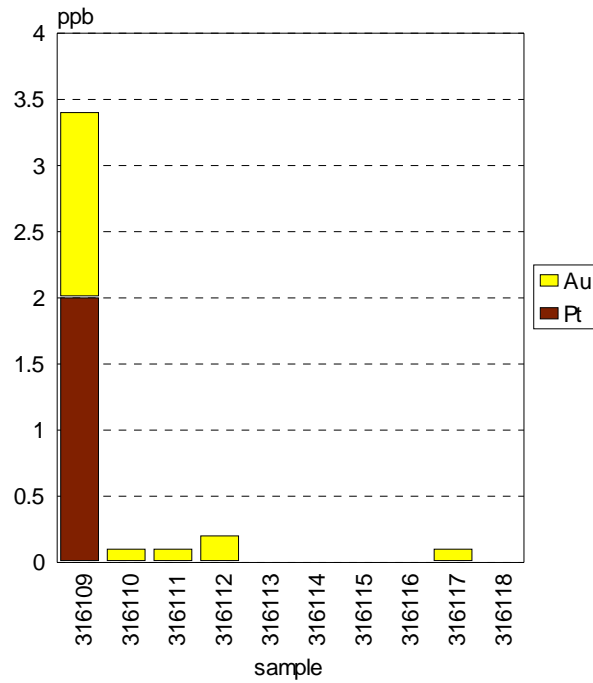
### MMI for Target S1C7



- This same lithological change is evident for the elements Co, Pd and Mg, with the change occurring at the same location.
- The levels of Pd in sample 316109 are very significant – much higher than normally occur with the MMI technique.

## IMX Resources

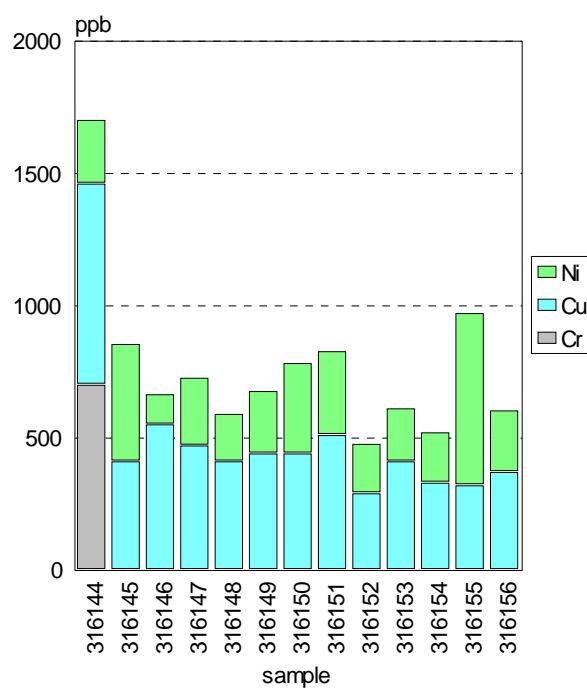
### MMI for Target S1C7



- The lithological change is also evident, at the same location for Au and Pt.
- The Pt level in sample 316109 of 2ppb is one of the highest ever recorded by the MMI technique.

## IMX Resources

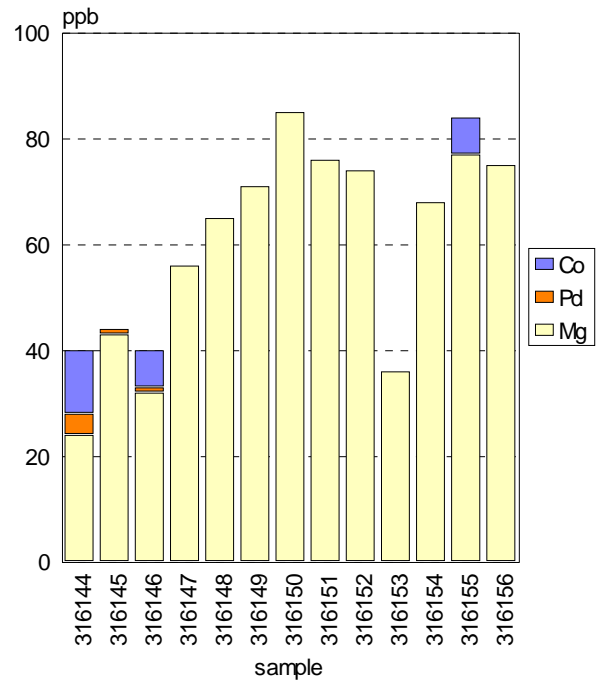
### MMI for Target VTEM



- Ni, Cu and Cr are relatively flat across this traverse.
- Levels are lower than for S1C5 and S1C7.

## IMX Resources

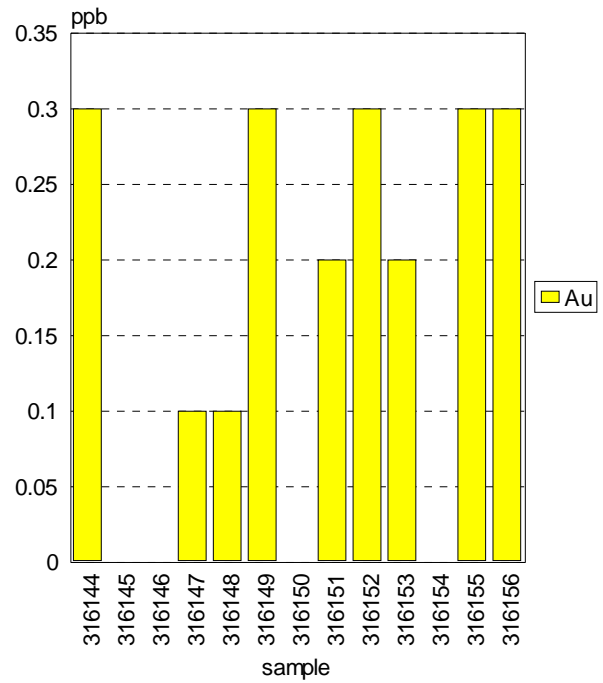
### MMI for Target VTEM



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## IMX Resources

### MMI for Target VTEM

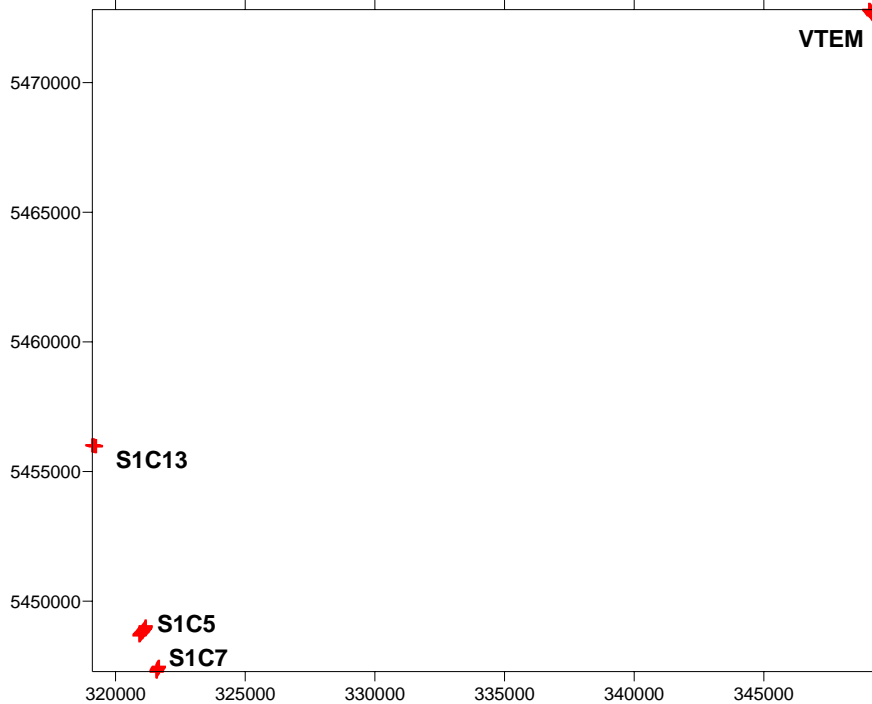


- Au is also shows little contrast across the traverse.
- Au levels are low.

## Discussion & Recommendations

The four traverses have come from a relatively large area. The VTEM anomaly is some 25km from the other three. It is not therefore appropriate to combine these into a Surfer plot. However, further MMI sampling to achieve this objective particularly around S1C5 and S1C7 to achieve this is strongly recommended, given the contrast observed in a number of elements in this survey. A more or less regular grid pattern sampling every 50m would be desirable, if possible in difficult terrain. Such a plot would provide, with the good lithological contrast shown for many elements, a very good “Inferred Geology/mineralization map for ongoing work, and in particular drill targeting.

A suggested suite should include: Ce, Rb, Nb, Cs, Mg, Cr, Ni, Cu, Co, Au, Pd, Pt, Th, U.



**IMX Resources**  
**MMI Orientation Surveys**

The VTEM anomaly from the MMI geochemistry does not appear to be as significant as the others. The combination of geophysics and MMI geochemistry is a particularly powerful one for prioritization of drilling targets and has been extensively used in Canadian diamond exploration (assessing true kimberlites) for this purpose.