

**EL 33/2010 Wanderer River  
Annual Report on Exploration Activity  
March 2012 to March 2013**

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## Table of Contents

	Page No.
<b>1.0 Summary</b>	<b>1</b>
<b>2.0 Introduction</b>	<b>2</b>
<b>2.1 Tenure</b>	<b>2</b>
<b>2.2 Location</b>	<b>2</b>
<b>2.3 Access</b>	<b>2</b>
<b>2.4 Topography and Vegetation</b>	<b>2</b>
<b>2.5 Land Use</b>	<b>2</b>
<b>2.6 Geology</b>	<b>4</b>
<b>2.7 Exploration Philosophy</b>	<b>4</b>
<b>3.0 Previous Exploration</b>	<b>5</b>
<b>4.0 Exploration Completed March 2012 to March 2013</b>	<b>6</b>
<b>5.0 Proposed work March 2013 to March 2014</b>	<b>16</b>
<b>6.0 Environmental</b>	<b>17</b>
<b>7.0 Expenditure</b>	<b>18</b>
<b>8.0 References</b>	<b>19</b>

### Figures

<b>Figure 2.1:</b>	<b>EL 33/2010 "Wanderer River" location with respect to EL 20/1996 "Elliott Bay" and road-heads at Strahan and Strathgordon (more strictly Gordon River damsite)</b>	<b>3</b>
<b>Figure 4.1:</b>	<b>Thirkell Hill belt A-horizon soil sampling and Zn results.</b>	<b>7</b>
<b>Figure 4.2:</b>	<b>Thirkell Hill belt A-horizon soil sampling and Pb results.</b>	<b>8</b>
<b>Figure 4.3:</b>	<b>Thirkell Hill belt C-horizon soil sampling and Zn results.</b>	<b>9</b>
<b>Figure 4.4:</b>	<b>Thirkell Hill belt C-horizon soil sampling and Pb results.</b>	<b>10</b>
<b>Figure 4.5:</b>	<b>Moores block C-horizon soil sampling and Zn results.</b>	<b>11</b>
<b>Figure 4.6:</b>	<b>Moores block C-horizon soil sampling and Pb results.</b>	<b>12</b>
<b>Figure 4.7:</b>	<b>C-horizon soil sampling coverage with respect to principal stratigraphic target zones.</b>	<b>13</b>
<b>Figure 4.8:</b>	<b>All drillholes to date - SMRV.</b>	<b>14</b>
<b>Figure 4.9:</b>	<b>Gradient array IP Thirkell Hill belt - chargeability.</b>	<b>15</b>

## **1.0 Summary**

Exploration of EL 33/2010 Wanderer River in the 2012/2013 reporting year focused on attempting to attract a joint venture partner to help fund exploration of the highly prospective Mt Read Volcanics within EL 33/2010 "Wanderer River" as well as in the companies EL 20/1996 "Elliott Bay" licence.

Discussions were held with Xstrata. As part of this work existing soil and gradient array IP data was digitized and images generated. Unfortunately Xstrata chose not to advance discussions and enter into a JV with Torque Mining Pty Ltd.

## **2.0 Introduction**

### **2.1 Tenure**

EL 33/2010 was granted Frontier Resources Ltd (90%) and Exploration and Management Consultants Pty. Ltd. (10%) on 29<sup>th</sup> March 2011 and transferred to Torque Mining Ltd on 4<sup>th</sup> May 2012.

### **2.2 Location**

EL 33/2010 is located very near to the remote southwestern coast of Tasmania (see Figure 1) around 40 kilometres west of Strathgordon and 80 kilometres south of Strahan.

### **2.3 Access**

Access to the area is difficult with no continuous road access to the rest of the state. The only vehicular track to the area, a rough 4WD track known as the Low Rocky Point Track commences at the southern end of Birch's Inlet off the southeastern corner of Macquarie Harbour and thus requires boat transport.

This track crosses a bridge over the Wanderer River which has been decommissioned restricting access to the southern part of the licence. Access to the northern D'Aguilar Range/Thirkell Hill window is possible via a branch track off the Low Rocky Point track however there are significant washouts to the track near the licence boundary.

Access is most commonly made by helicopter either from Strahan or Strathgordon.

### **2.4 Topography and Vegetation**

Much of the prospective country is low lying, however, Ordovician siliciclastics which stratigraphically overlie the prospective volcanics, form mountain ranges in the northern part of the licence area as well as Mt Osmund in the southern part.

The majority of the licence is covered with low standing, open coastal heath and button grass. Creek gullies and some of the areas in the western and easternmost parts have wet sclerophyll vegetation.

### **2.5 Land Use**

The Wanderer River licence area is crown land and is classified as part of the South West Conservation Area. As such it is open to mineral exploration.

The Tasmanian Government proclaimed the prospective rocks south of Macquarie Harbour to be within the Sorell Peninsula Prospectivity Zone, a recognition of the mineral potential of the area. Under this act any change in the status of the land within the zone requires the approval of both houses of the Tasmanian parliament with any affected party entitled to compensation (this does not cover any decisions of the Federal government).

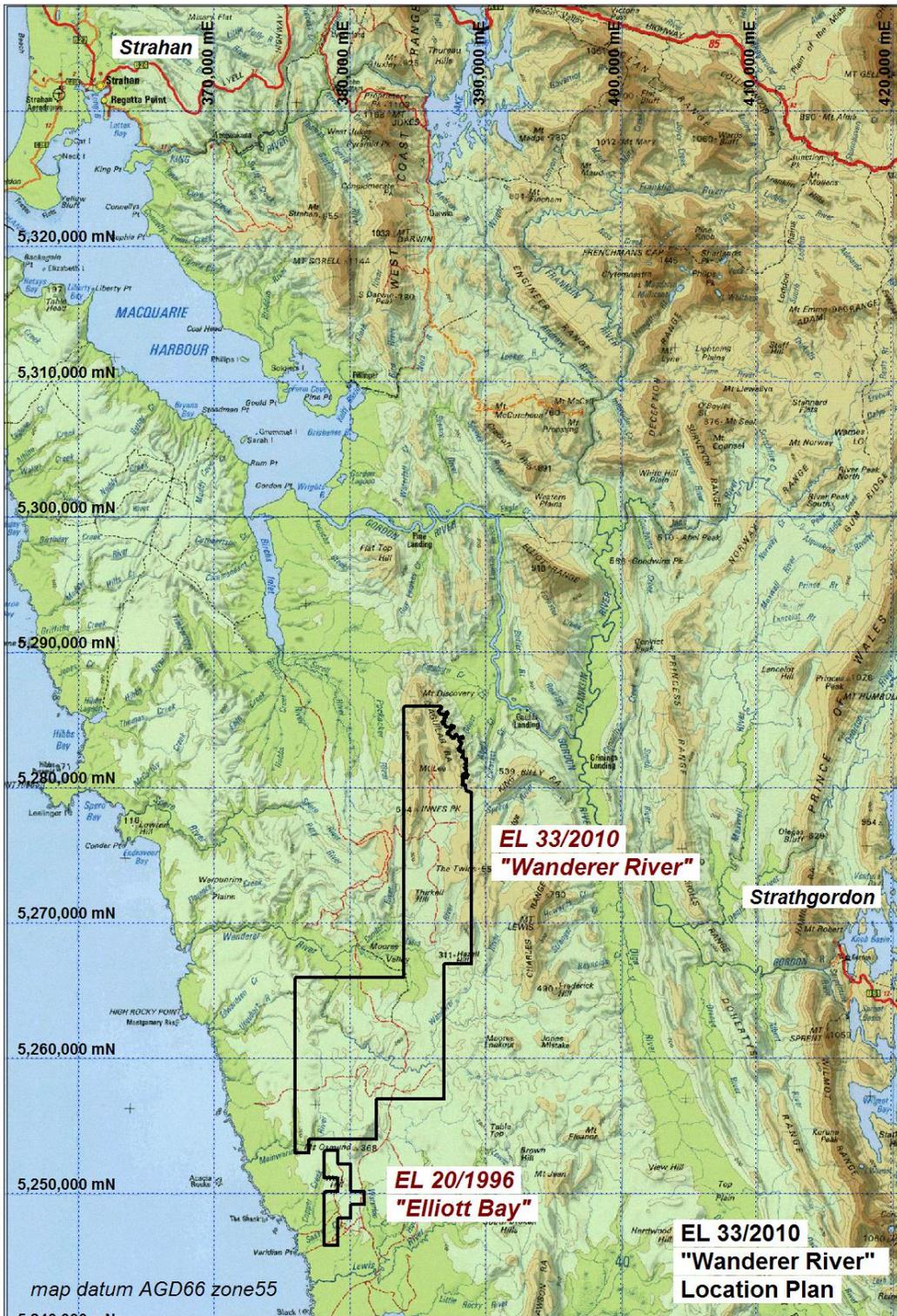


Figure 2.1: EL 33/2010 "Wanderer River" location with respect to EL 20/1996 "Elliott Bay" and road-heads at Strahan and Strathgordon (more strictly Gordon River damsite)

## **2.6 Geology**

EL 33/2010 covers a highly significant portion of the southernmost land extent of the Mt Read Volcanics. For a detailed geological description of the prospective rocks the reader is referred to Corbett (2003) though Frontier geologists do not concur with all conclusions in this paper.

Essentially the prospective Mt Read Volcanic rocks consist of felsic volcanoclastics and felsic lavas/intrusives with lesser finer sediments.

These are overlain by shales with minor interbedded felsic volcanics of the Waterloo Creek Group, in turn conformable overlain by the Ordovician siliciclastic sediments of the Denison Group.

## **2.7 Exploration Philosophy**

Frontier is exploring for base and/or precious metals. Mineralisation styles targeted are VHMS (Volcanogenic Hosted Massive Sulphides) either as seafloor precipitates or shallow subseafloor replacement, and/or hybrid VHMS/epithermal precious metal rich vein and/or replacement deposits.

### **3.0 Previous Exploration**

Previous exploration has been summarized in previous reports and will not be detailed here.

#### 4.0 Exploration Completed March 2012 to March 2013

Work completed in the reporting year has focused on compiling and digitizing existing soil geochemical data and gradient array IP data to the end of attracting a JV partner to help finance exploration.

Existing soil data from the Thirkell Hill belt has been compiled into a database and indicative plots and images generated. 1975 gradient array IP has been digitised (chargeability only) and an image generated. All work continues to enhance the largely untested potential of the targeted stratigraphic package i.e. upper felsic volcanics/basal Waterloo Creek Group shale.

Early regional surveys were shallow A-horizon with AAS analysis. A-horizon sampling in the mid-1990's were analysed by a Mineral Resources Tasmania developed method known as Huminex which analyses metals in carbon compounds. Locations of A-horizon samples and results for Zn and Pb are shown on figures 4.1 and 4.2 respectively. The three discrete grids are Huminex samples, the large broader (800m) spaced grid is the early generation A-horizon sampling.

(Beware that all soil images herein are presenting compiled raw, unlevelled data and there may be biases inherent in the sampling/analysis).

Geopeko's 1981 C-horizon sampling showed that the early generation A-horizon was significantly under-calling compared with C-horizon. Later C-horizon sampling showed generally poor correlation with Huminex results also. Locations of C-horizon samples and results for Zn and Pb are shown on figures 4.3 and 4.4 respectively.

So the reliable C-horizon soil sampling has only been done over discrete prospect areas and effectively not at all regionally. The C-horizon soil sampling which has been done is one discrete grid i.e. the D'Aguiar South alteration zone at the northern end of the belt and the Old Camp and Condor River (Viking 10-22) zones in the central western part. No C-horizon sampling has been done over the targeted stratigraphy in the southern part of the belt (see figure 4.7).

That C-horizon sampling which has been done has been largely for Cu, Pb and Zn. Developments in geochemistry have shown elements such as As, Sb and Tl to better map out alteration systems around buried massive sulphides than classic Cu, Pb and Zn. Other than very limited As analysis no such sampling has been done.

On the Moores block soil sampling is all C-horizon. Sample locations and Zn and Pb results are shown on figures 4.5 and 4.6 respectively. The strong Zn anomaly focussed on the quartz+feldspar+biotite porphyry is unexplained though anomalous geochemistry is often associated with such intrusives.

Again no sampling has been done over the upper volcanics/Waterloo Creek Group targeted stratigraphic zone. This is illustrated in figure 4.7 with the targeted stratigraphy shown as red hatch over the current soil sampling coverage.

Figure 4.8 shows the location of the limited drilling which has been done away from the Wart Hill massive sulphide deposit.

The 1975 gradient array IP chargeability profiles were digitised and a digital image generated (see figure 4.9). Unfortunately the resistivity profiles were not able to be levelled with any confidence. The chargeability data shows a broad anomalous zone on the eastern side of the belt with a sharp linear anomaly high along the western side corresponding with the Waterloo Creek Group shale.

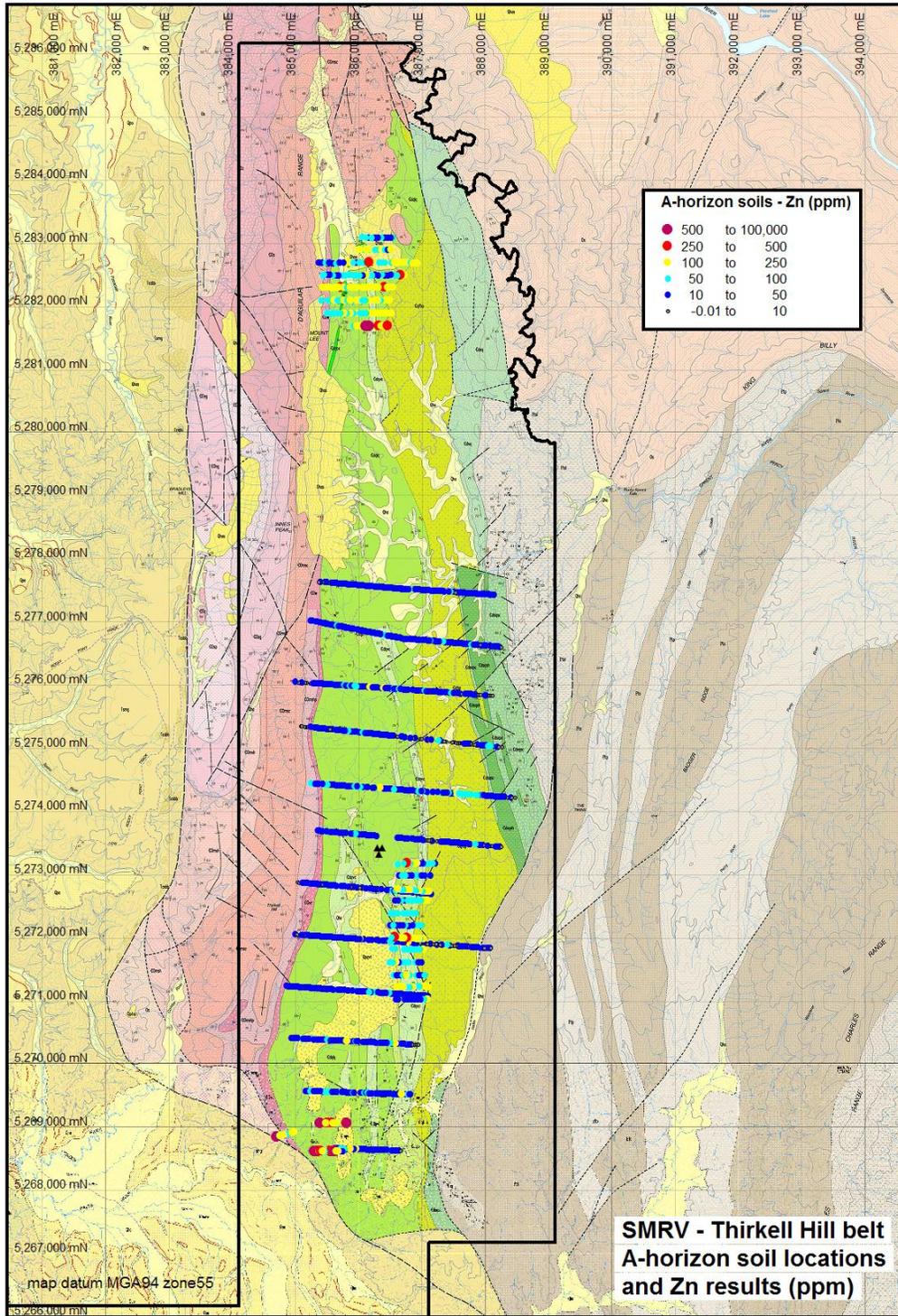


Figure 4.1: Thirkell Hill belt A-horizon soil sampling and Zn results.

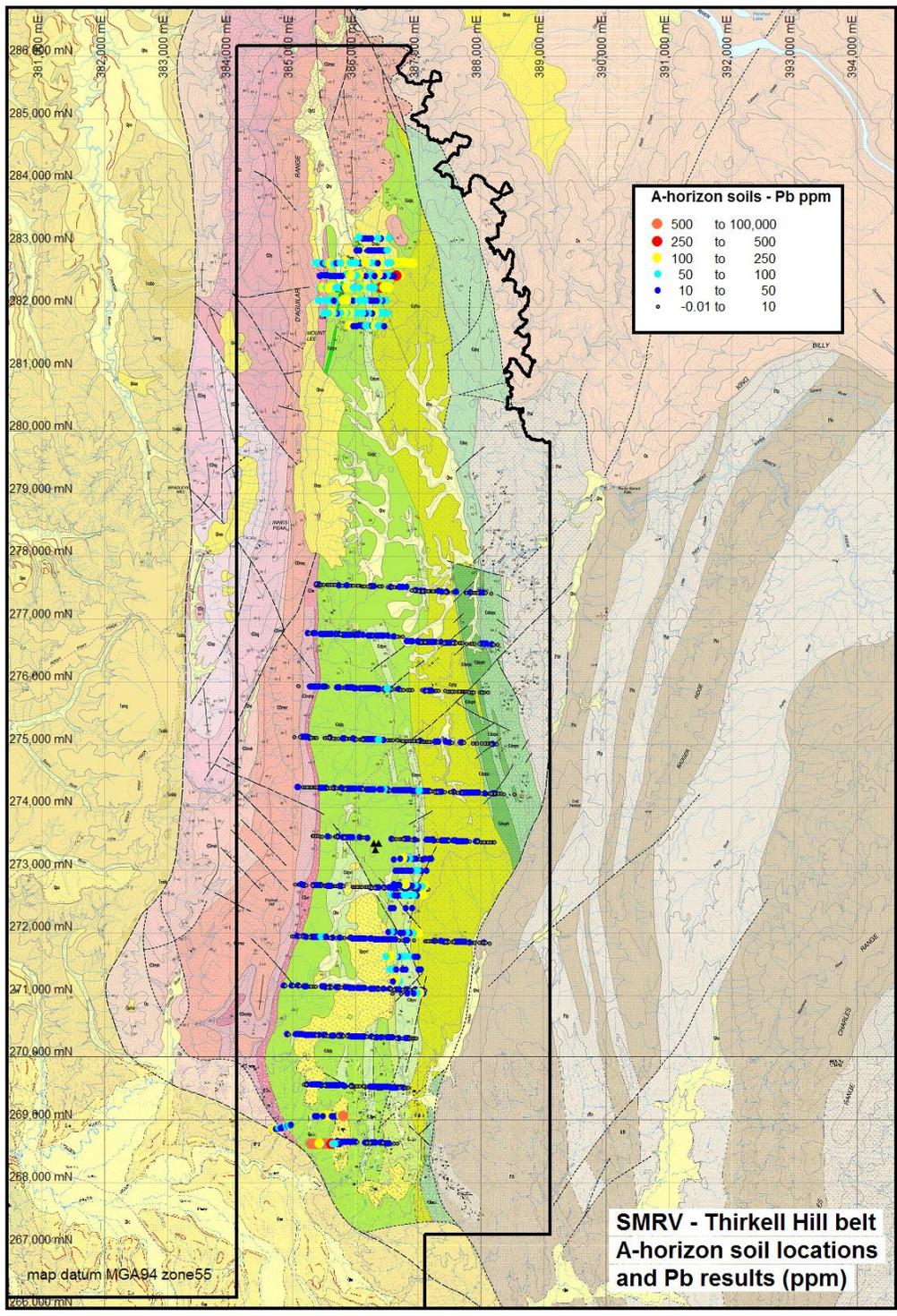


Figure 4.2: Thirkell Hill belt A-horizon soil sampling and Pb results.

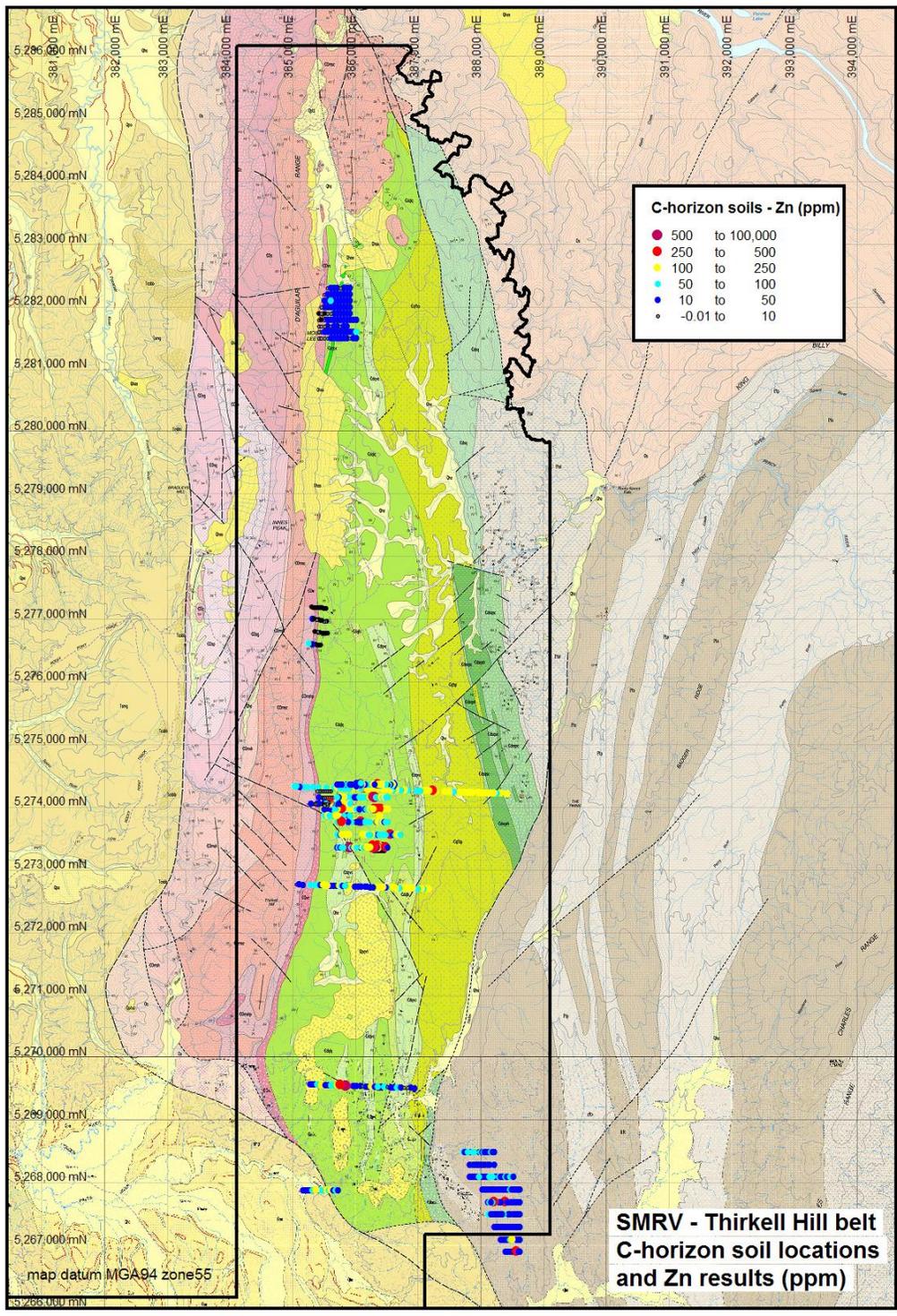


Figure 4.3: Thirkell Hill belt C-horizon soil sampling and Zn results.

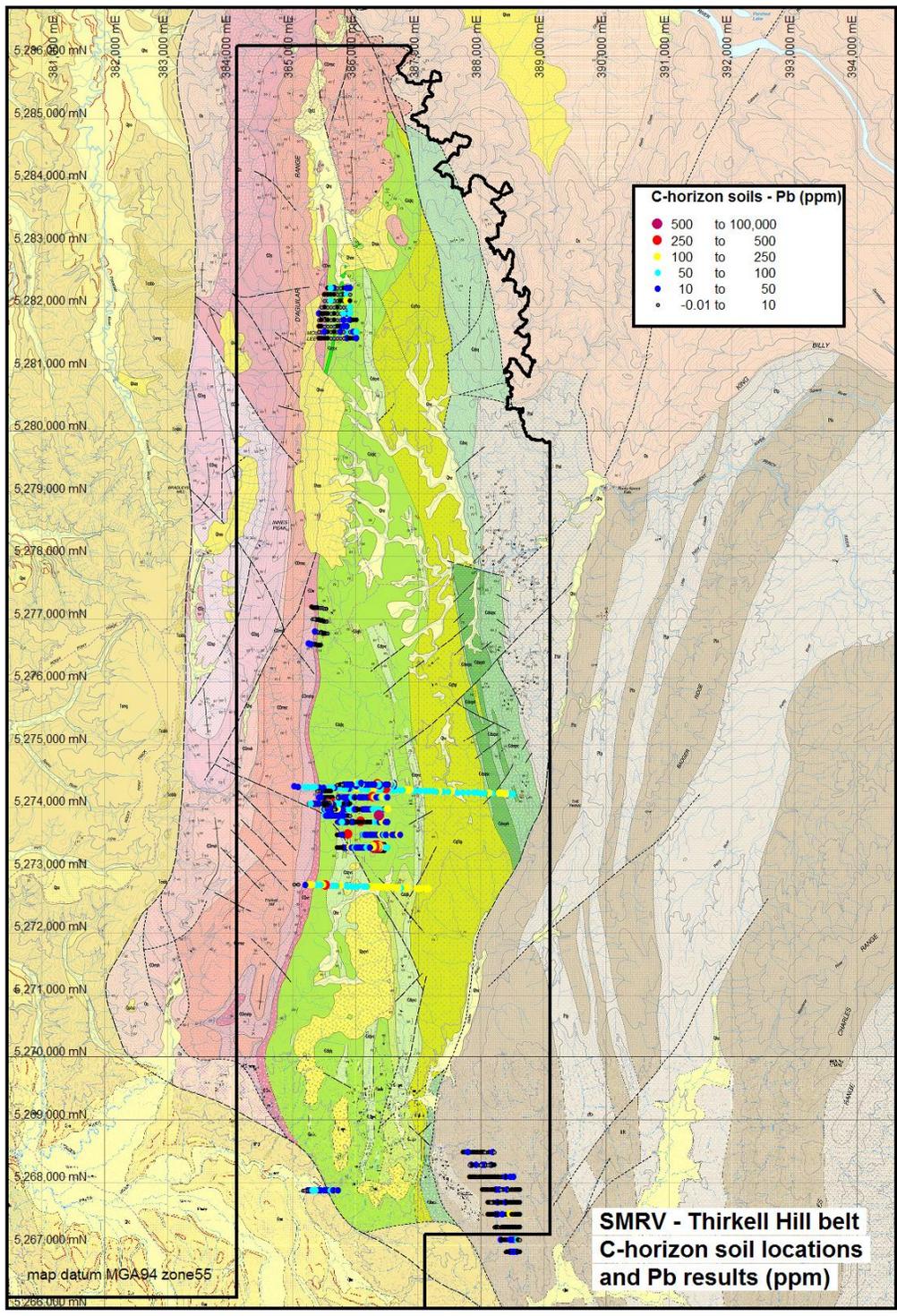


Figure 4.4: Thirkell Hill belt C-horizon soil sampling and Pb results.

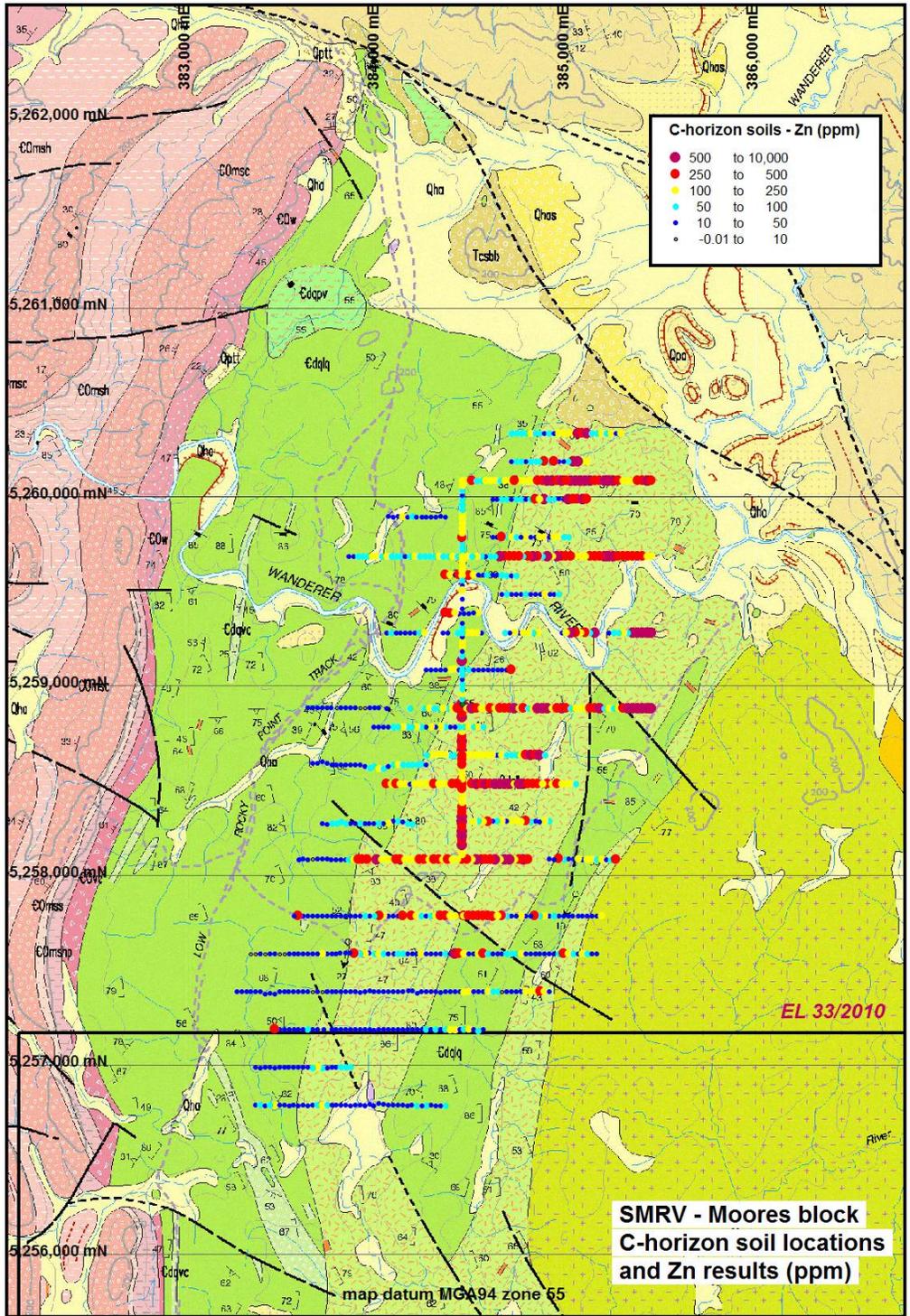


Figure 4.5: Moores block C-horizon soil sampling and Zn results.

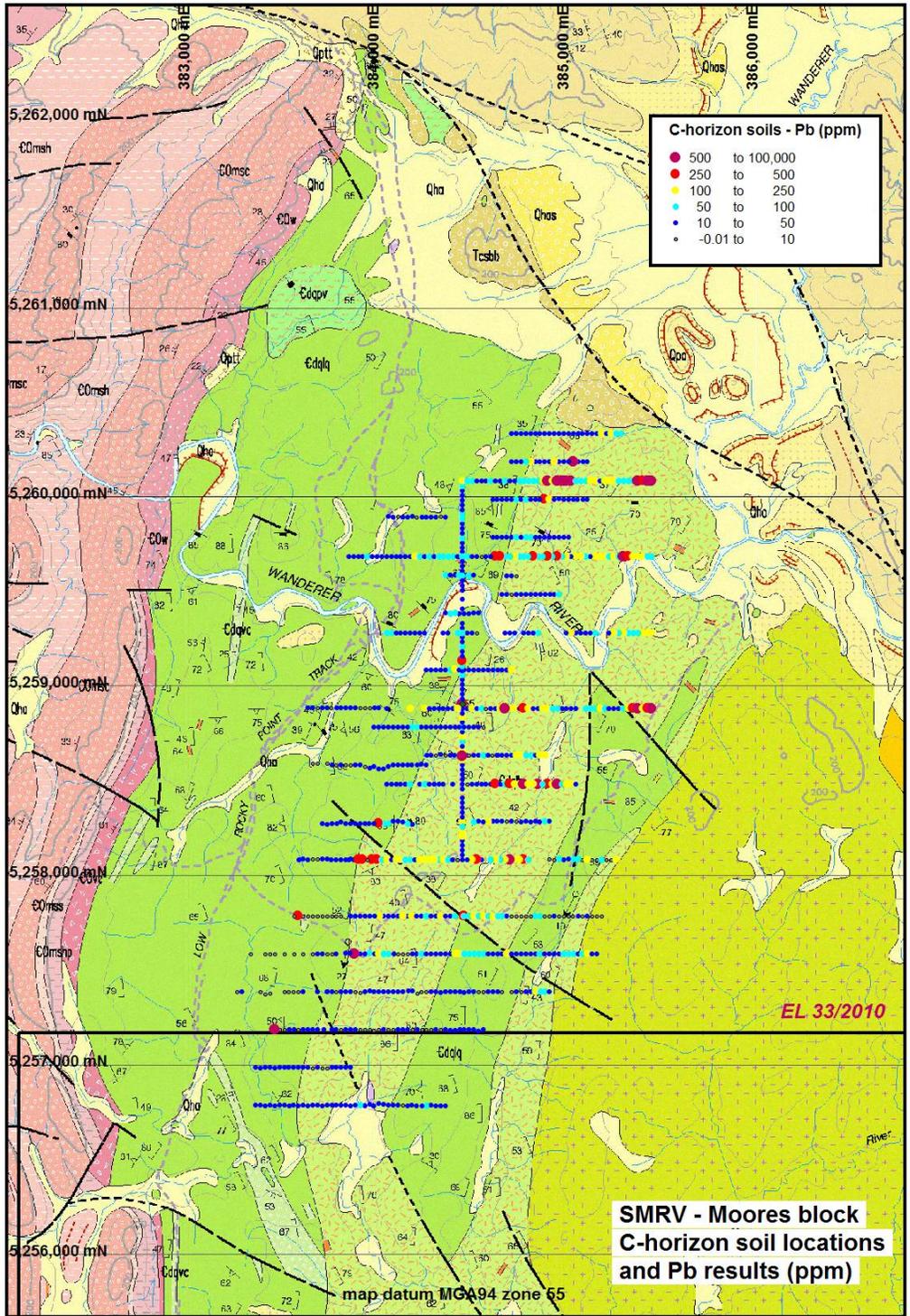


Figure 4.6: Moores block C-horizon soil sampling and Pb results.

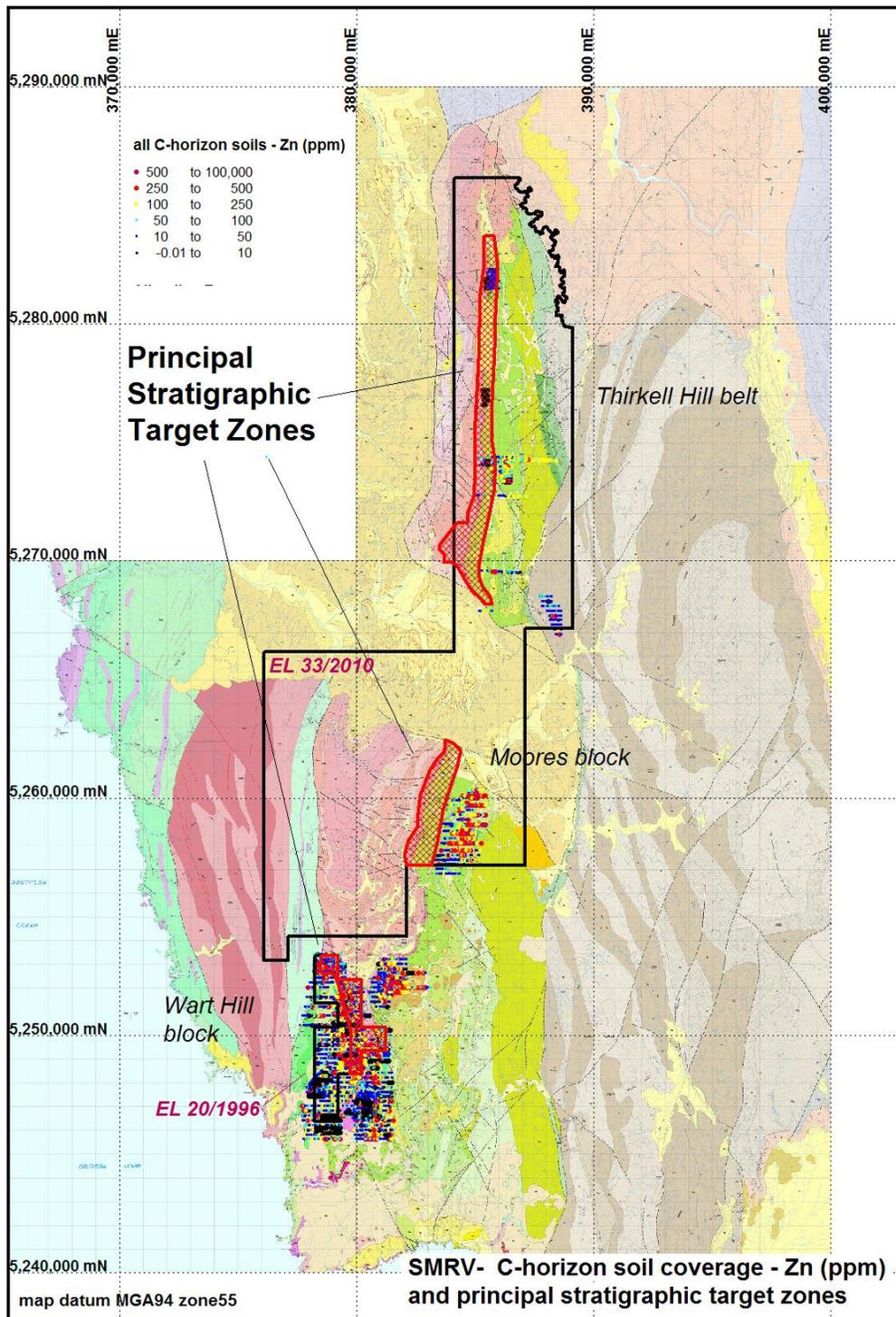


Figure 4.7: C-horizon soil sampling coverage with respect to principal stratigraphic target zones.

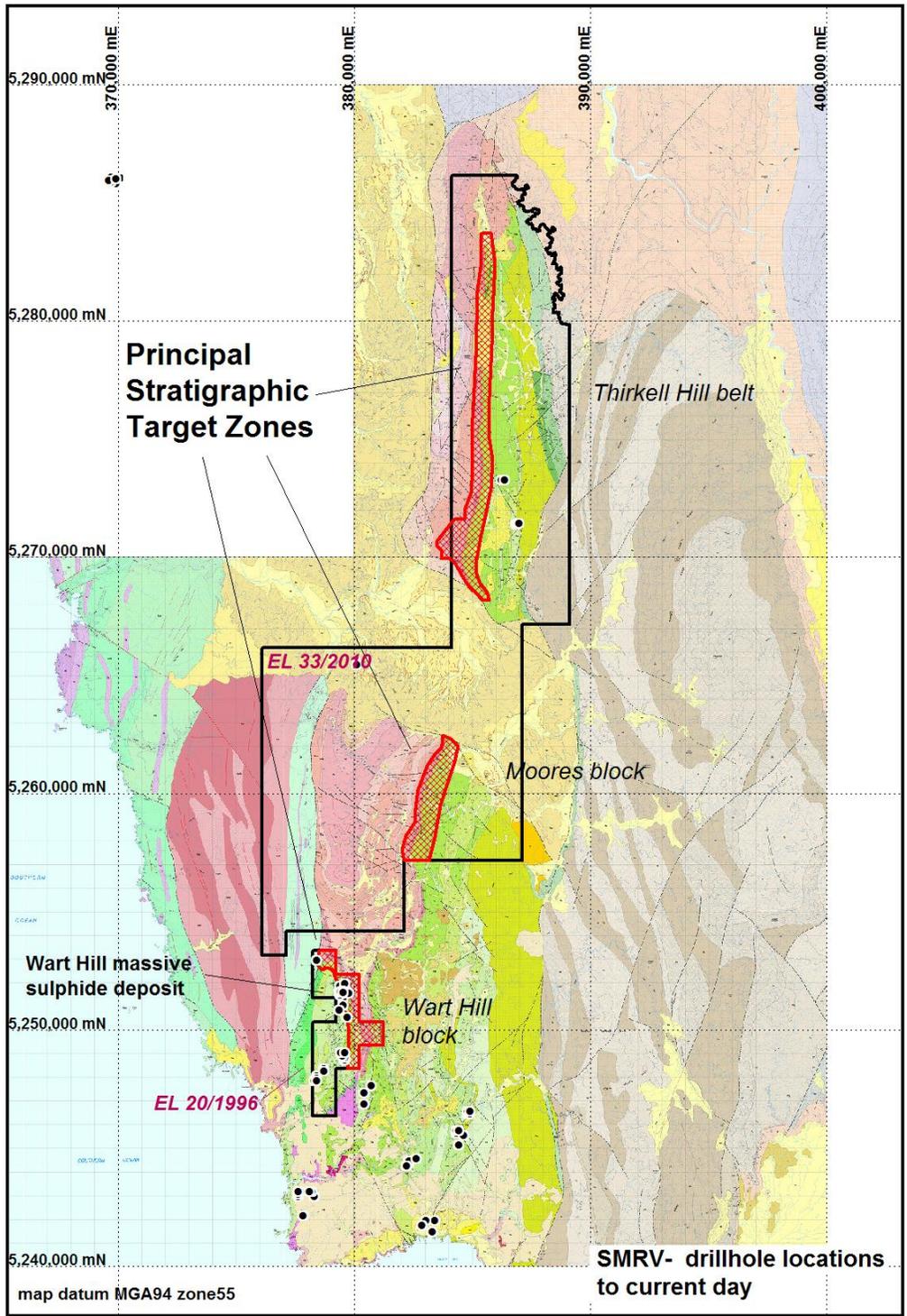


Figure 4.8: All drillholes to date - SMRV.

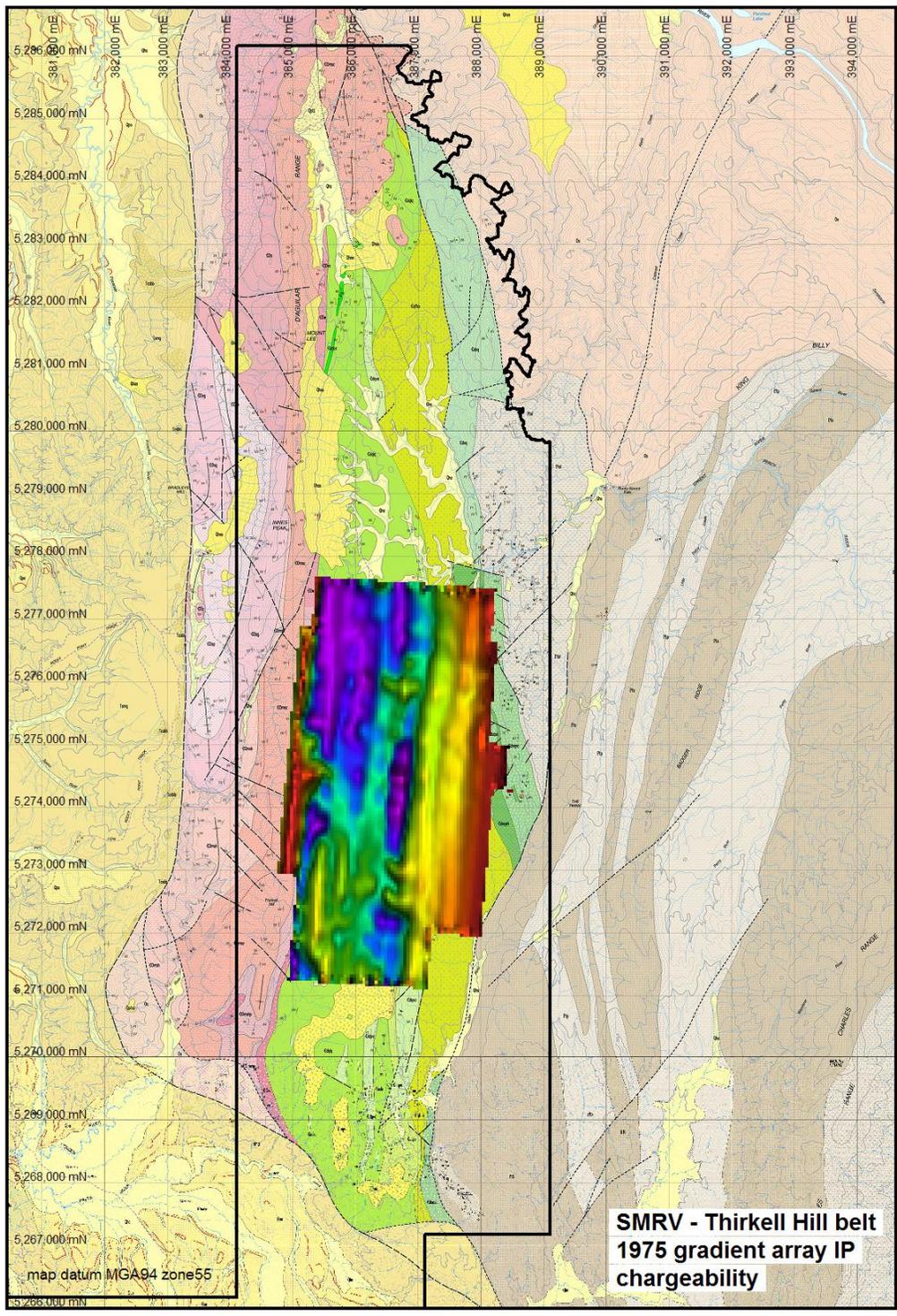


Figure 4.9: Gradient array IP Thirkell Hill belt - chargeability.

## **5.0 Proposed work March 2013 to March 2014**

Recommended work on the Wanderer River tenements in the 2013 to 2014 year may include;

- Field follow-up of anomalies generated by EM survey.
- Consideration of regional soil sampling programme targeting alteration pathfinder elements.
- Consideration of 3D IP survey.

## **6.0 Environmental**

No field work was undertaken and thus there has been no environmental impact on the licence area.

**7.0 Expenditure**

Geology:	\$13,004
Geophysics	\$37,006
Other (Rental)	\$16,517
Administration	\$1,044
Total:	\$67,572

## **8.0 References**

Corbett, K D. 2003. a review of geology and exploration in the Macquarie Harbour-Elliot Bay area South West Tasmania. *Tasmanian Geological Survey Record 2003/04*.

McGregor-Dawson, J.L. (1975) EL 9/74 Birch Inlet Annual Report on Exploration 1974/75. *Unpub. Rept. for Union Oil Development Corporation*.