

**Corona Minerals**

**Annual Report**

**EL21/2010**

**For Period 21 December 2011**

**to 20 December 2012**

**Tasmania**

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### List of Digital Files Accompanying this Report

EL212010\_201111\_01 Text

## **1.0 INTRODUCTION**

EL21/2010 is located east of Queenstown on the West Coast of Tasmania, directly adjacent and partially surrounding the Copper Mines of Tasmania Mt Lyell Mining Lease.

## **2.0 TENURE**

Corona Gold Ltd owns 100% of EL21/2010, which encompasses 21 km<sup>2</sup> of tenure and covers crown land, the gazetted townships of Linda and Gormanston, and minor amounts of HEC land near Lake Burbery.

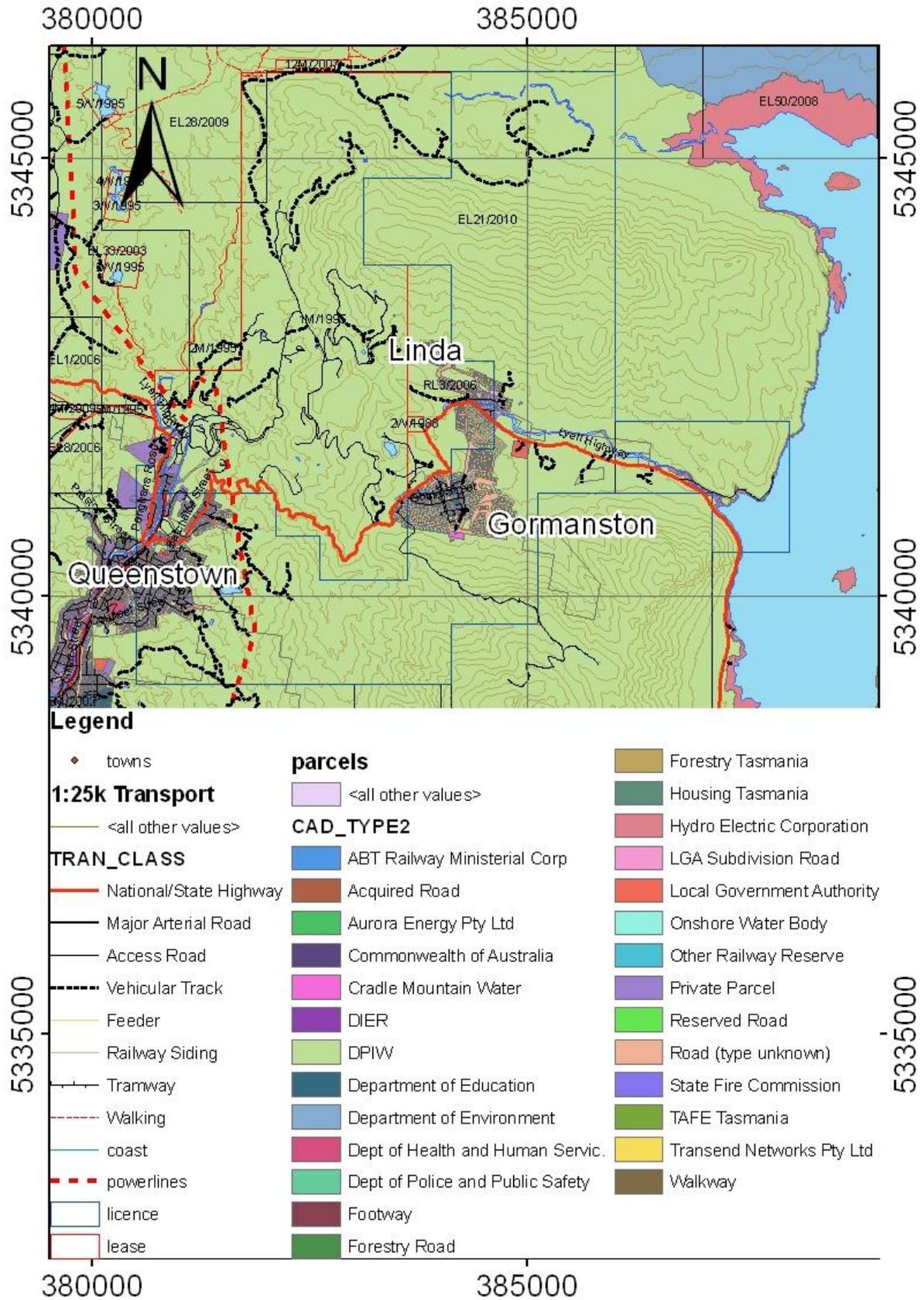


FIGURE 1: TENURE

### **3.0 ACCESS**

Access within the tenement is excellent with the Lyell Highway running through the Linda valley and serviceable 4WD roads access in the Little Owen area.

### **4.0 GEOLOGY**

The mid-late Cambrian Mount Read Volcanics (MRV) dominate the southern half of the tenement where the rocks are the direct strike extent from the Mt Lyell Mining Lease and are intensely altered in places. The volcanic succession is composed of Central Volcanic Complex (CVC) rhyolites, and Western Volcano Sedimentary (WVS) volcanoclastic. The WVS sequence, and probably CVC sequence, is host to several andesite-basalt units which appear to be contemporaneous with mineralisation throughout the MRV. Ordovician aged Owen group siliciclastic conglomerates and sandstones are found in the east of the tenement forming prominent bluffs and mountains. Ordovician Marine sequences of the Gordon group are seen in the Linda and Comstock valleys, inferred to be sitting either in half graben or synclinal positions in the valley floors. The Gordon group is mainly composed of Limestone sequences, but a unit in the Cemetary creek area of Linda Valley has the appearance of a Black Shale and is host to zinc dominated strataform or stratabound base metal mineralisation. Silurian aged Eldon group shales (? Black Shale seen in Linda Valley) and siliciclastic sandstone and siltstones overly the Gordon Group, seen intermingling with the "Black Shale" in the Linda Valley. The Linda and Comstock Valleys are mostly covered with tertiary glacial moraine, with variable thicknesses of cover.

### **5.0 MINERALISATION**

Copper-gold mineralisation is being targeted south of the Mt Lyell Mining lease. Zinc mineralisation has been outlined at Cemetary Creek by previous workers (e.g. Morrison, 1998) in the Linda Valley. Apparently strataform or stratabound in nature, the mineralisation appears to be hosted in what corona describes as a Black Shale unit occupying a synclinal core. Analogues of this mineralisation are being explored for in the Comstock valley.

### **6.0 STRUCTURE**

Predominant structure has a north west orientation, with the North Lyell fault. Several phases of folding starting in the late Cambrian, throughout the Ordovician and during the Devonian Tabberaberan orogeny have created complex structural relationships.

### **7.0 EXPLORATION PHILOSOPHY**

EL21/2010 was initially targeted for mineralisation associated with the Mount Read Volcanics. Further research indicated Zn mineralisation has been outlined in Ordovician or Silurian rocks in the Linda valley.

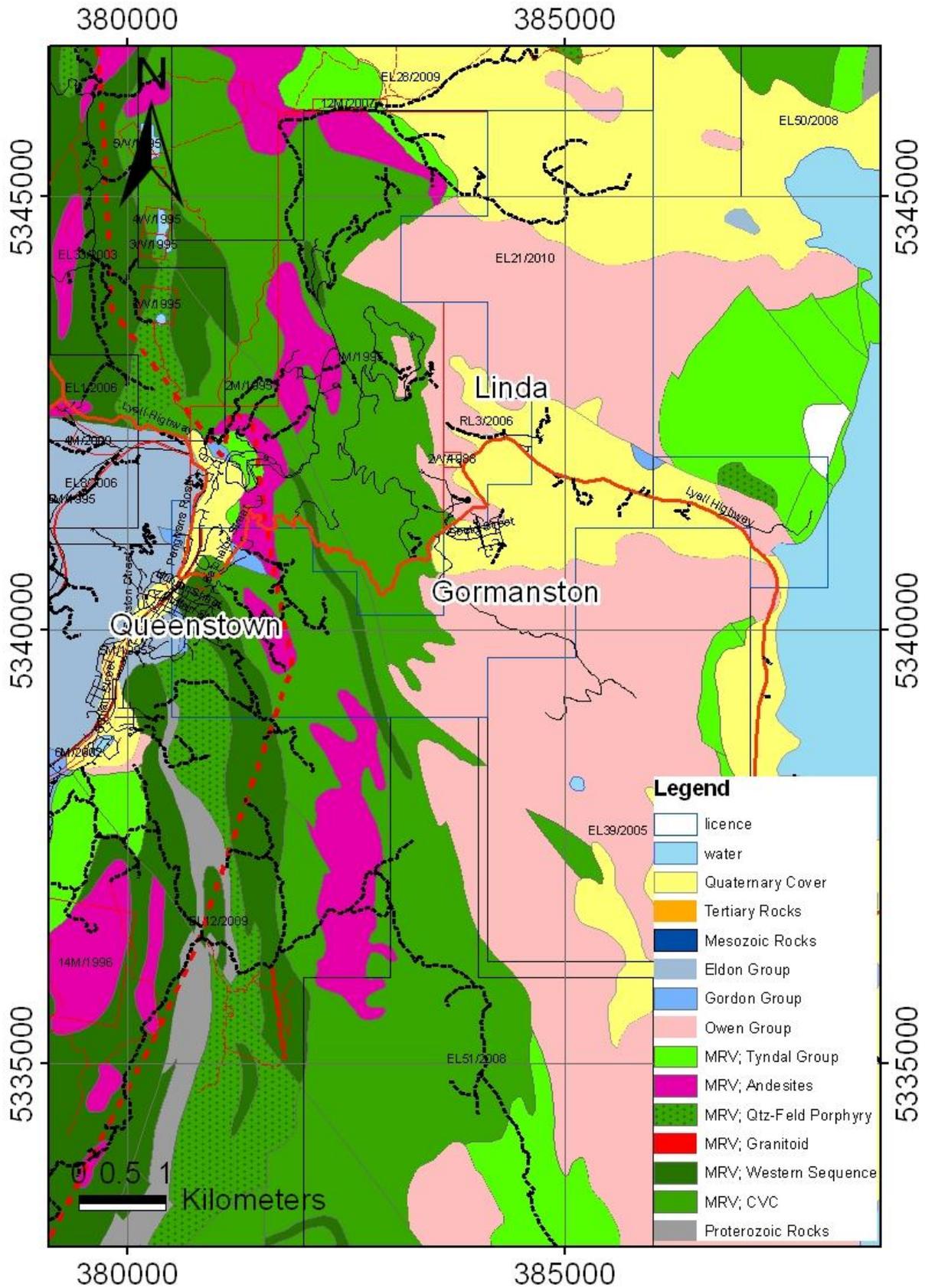


FIGURE 2: GEOLOGY

## **8.0 EXPLORATION HISTORY.**

Exploration in this area has been ongoing since the late 1800's when Mt Lyell was first discovered. A total of 11 copper prospects, 4 gold prospects and one base metals prospect occur within the area of interest and 33 recorded holes have been drilled.

The exploration history described below refers separately to two areas: the area south of the Mt Lyell mining lease, and is prospective principally for Cu-Au mineralisation; and Linda Valley which is east of the Mt Lyell ML, and is prospective principally for base metal mineralisation.

### **8.1 Exploration History of the area south of the Mt Lyell mining lease**

This area has been of interest since the discovery of the Mt Lyell mining field in the late 1890's and has seen various phases of exploration since. The principle commodities searched for here have been copper and gold of similar origin and style to the Mt Lyell deposits.

#### **8.1.1 Exploration pre 1955**

Several prospects occur in this area; those of note are Great Lyell, Little Owen, Duke Lyell and Hematite Tunnel.

Historical Exploration started in earnest in the South Mt Lyell Area when Great Lyell South was floated in 1898 with the aim of exploring leases south of the main Mt Lyell field, and exploration continued through to 1908. Between 1908 and 1960 no exploration activities are recorded on this ground.

The specific objective of Great Lyell South upon floating in 1898 was to develop a possible gold mine known as the Hematite tunnel, however after sampling from surface returned less than 1g/t Au it was concluded it was too low grade. The company was refloated in London as the Great Mt Lyell Copper Co. in 1899. The company operated in the area working on three leases until early 1903 when the company was reformed as part of the Ballarat and Lyell Mines Ltd with the objective of extending the Hematite Tunnel to intersect an auriferous reef that was later found to be devoid of gold.

Between 1900 and 1902, 230 tonnes of ore were mined in open cut at the Great Lyell workings, a shaft was developed at the bottom of the open cut. Fitzgerald (1987, after Schloesser 1901) reported that assays were up to 6% Cu. Two adits were developed in the Greta Lyell area and are reported to have raised 500 tons although no record of sale exists.

Between 1900 and 1906 20t of handpicked ore from the Duke Lyell prospect was sold by the Duke Lyell Mining Co. NL to the Queenstown Smelter, and recorded an average grade of 5%Cu, 25 g/tAg, and less than 3g/t Au (actual gold grade not recorded). Two adits had been developed on the Duke Lyell prospect at this time.

In 1906 a private syndicate from Queenstown attempted to mine the Little Owen prospect, which had been worked previously with several adits with cross-cuts and winzes being developed. No record of sale of ore from the Little Owen Mine to the Mt Lyell Smelters is available, so it may be assumed that the Queenstown syndicate were unsuccessful in their efforts.

### 8.1.2 Exploration, 1955-1970

Helicopter supported Turam E.M surveys over the Great Lyell area were carried out by Lyell E.Z exploration in 1957 (Fitzgerald, 1987). The Great Lyell area was tested by I.P surveys in 1959 (Hallop, 1960) and targets were tested by five drill-holes (GL1-5) in 1961 (after Fitzgerald, 1987, original report unavailable). The best assay in hole GL2 returned 1.5m @ 0.8% Cu within 36m @ 0.3% Cu, which tested under the Great Lyell shaft within hematitic quartz-sericite schists.

Picklands Mather conducted regional exploration in the Roaring Meg area from 1967 (Smith, 1967; Schmidt, 1967) which included stream sediment sampling, soil sampling, EM, IP, ground magnetics and the drilling of 8 diamond drill holes (only 5 reached the intended target depth:RM201-205). The best reported intersection was 1.5m @ 0.49% Cu, 9 g/t Ag in hole RM201 (collared near Hematite Tunnel but drilled away from the workings).

An S.P survey was completed over the Gormanston area in 1967 (Horvath, 1967) by Placer Exploration Ltd resulting in several small chargeable anomalies. Two diamond drill holes were completed by MLMR in 1968; G1 and G2, no report is available commentating on these drill holes.

### 8.1.3 Exploration, 1970-1980

Geological mapping by Lee (1973) recognised the Little Owen area as a significantly altered and mineralised belt and noted sulphide haloes outcropping around andesite intrusives south and west of Little Owen Spur. A grid was established over the Little Owen area in 1973 (Wells, 1974) and surveyed using I.P. and ground magnetics. A total of 69 anomalies were identified and a number of extensive I.P. zones were delineated, most prominent being the Great Lyell -Duke Lyell mineralised belt. Other zones were inferred to be related to graphic shales and areas of disseminated mineralisation around intrusive porphyritic andesites. A ten hole diamond drilling program was recommended by Brophy (1975) to test the I.P. anomalies, but wasn't carried due to financial restrictions.

### 8.1.4 Exploration, 1980-1990

Hermann (1986) mapped the Little Owen-Great Lyell area in detail, renewing interest in Cu-Au mineralisation. Fitzgerald (1987) trench sampled the Little Owen adits assaying for gold and base metals, and recognised a significant anomalous gold zone roughly 16m wide (true width) with the best trench sample returning 5.7m (true width) @ 6.2 g/t Au, with 2m samples returning up to 20 g/t Au, from the upper adit. Assay results for gold weren't as strong in the lower adit (38m below the upper adit) with the best results returning 2.1g/t over 2m. Diamond drilling of two holes (LO1 and LO2) was undertaken to test for gold mineralisation underneath the workings. LO1 tested mineralisation 50m below and along strike to the north west of the upper adit and intersected 14m @ 0.13g/t Au. LO2 tested mineralisation 50m below and along strike to the southeast of the upper adit and intersected 21m @ 0.3 g/t Au.

### 8.1.5 Exploration, 1990-2000

No work was carried out on the area due south of Queenstown during this period due to companies focusing on other areas e.g. Garfield.

### 8.1.6 Exploration, 2000-2010

Very little work was completed until 2003 due to financial issues at Mt Lyell. A CSAMT survey conducted by CMT staff on the MT Lyell mining Lease and EL52/1994 extended south of the Mt Lyell ML and covered a small part of the proposed exploration area (Godsall, 2004). A moderate anomaly was recorded in the area of the Copper estates prospect.

Copper Strike Ltd took over the ground from CMT in 2006 until 2009. They drilled two diamond drill holes (Gorm1 and LOS1) both holes were unsuccessful and recorded no significant mineralisation, it is not clear how they were targeting these holes (Eadie, 2009).

## **8.2 Exploration history of the Linda Valley Area**

The Linda Valley area was party to the very first geological expedition in to that general region, lead by C. Gould in 1862. Exploration has continued sporadically to the present day. Gold was sought after principally, and base metal enrichment was discovered during the mid 1990's.

### **8.2.1 Exploration pre 1955**

Despite Gould and his party camped in the Linda Valley for 12 days they found neither alluvial gold nor the Mt Lyell Mineralisation (Blainey, 2000). The first gold panned was in 1883 by the McDonough Brothers and Karlson, who panned it from Cooney's Creek and discovered the Gossan over the Iron Blow (Blainey, 2000). Only one historical hard rock prospect occurs in this area; McDowells PA, a small open cut and underground gold working. Dates and production figures have not been located for the working.

### **8.2.2 Exploration, 1955-1970**

Exploration conducted in the area was either focused north in the Comstock Valley area or in the retention Lease in the west until the mid 1980's when Goldfields Exploration Pty Ltd assessed the McDowells PA prospect.

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### **8.2.4 Exploration, 1980-1990**

Goldfields Exploration Pty Ltd drilled on hole under McDowells PA in 1985 as part of a larger exploration program much of which was conducted outside of the proposed tenement boundary. The drill hole (G14A) did not intersect any gold mineralisation, although it did intersect 80m @ 0.15% Zn (Beddows, 1985).

### **8.2.5 Exploration, 1990-2000**

Until 1994 no further work was conducted inside the proposed tenement area, with most work being concentrated north in the Comstock Valley, and west on the Copper Clay deposits which is now held under a retention license. CMT renewed interest in the area from 1994 working the Copper Clay deposits and the Chamouni Zinc prospect. Outcropping sulphides in the Cemetery Creek area were assessed and a costean returned 10m @ 1% Zn. This was followed up with two RC drill holes (Morrison, 1996) which intersected 13m @ 1.7% Zn and 12m @ 2.4% Zn. CMT conducted a CSAMT line over the Chamouni Zinc prospect in 1998 (Morrison, 1998), which generated a strong chargeable anomaly at 75m depth modelled as being a massive sulphide horizon within the Ordovician limestone. This anomaly was tested by an RC drill hole with a Diamond tail, but did not explain the CSAMT anomaly as no significant sulphide was intercepted. Limestone karst was intercepted however, and this, along with some lead isotope work lead to the theory that the Chamouni Zinc prospect may be an analogue for Irish Style lead-zinc-silver deposits.

### **8.2.6 Exploration, 2000-2010**

CMT held the ground in this area until 2006 But no work was conducted between 1998 and 2003 due to financial difficulties. During the 2003 field season work was resumed however, and an IP traverse was conducted on the Chamonix Zinc prospect, over the same area where the CSAMT traverse was conducted (Godsall, 2004).

Three further CSAMT lines were conducted over the Chamouni prospect in 2006 along with ground magnetic traverses, and diamond drilling of one hole testing the CSAMT anomalies, and one hole testing the two RC holes which intersect moderate zinc grades near Cemetery Creek in 1996 (Hill, 2006). The hole testing the CSAMT anomaly intersected graphitic stylolites, which were deemed to be the cause of the chargeability high. The hole testing the zinc mineralisation at Cemetery Creek intersected various vugs and cavities below the zinc mineralisation. No further work was recommended in the Chamouni Cemetery Creek area, the ground was relinquished, and no work has been done there since.

### **9.0 PREVIOUS WORK COMPLETED BY CORONA**

A helicopter supported VTEM and aeromagnetic survey was conducted in the previous reporting period. Large conductive bodies have been outlined within the Linda and Comstock Valleys. Geochemical sampling has confirmed widespread zinc anomalism within the Linda Valley.



## **10.0 WORK COMPLETED IN THE CURRENT REPORTING PERIOD**

The focus this reporting period was on compiling and digitising previous exploration data within the Chamonix Zinc Prospect with a view to assessing past results in conjunction with the VTEM data.

The map below shows some correlations between MMI geochem undertaken by CMT in the late 90's and the differential of the b-field VTEM response. Both of these anomalies align with the mapped (and predicted) black shale unit which is seen to be carrying sphalerite in the cemetery creek outcrop.

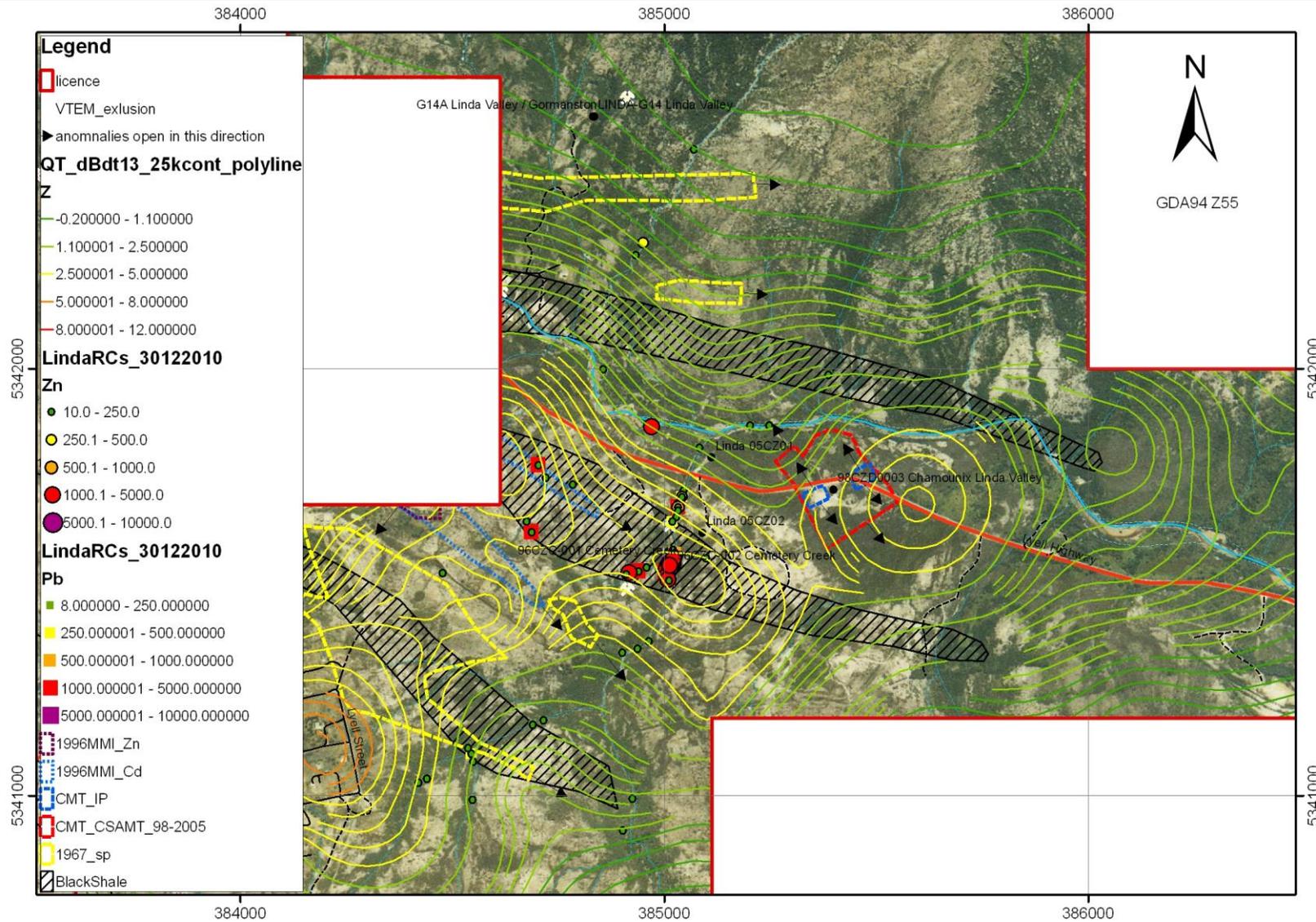


FIGURE 4: Anomaly compilation within Linda Valley

**11.0 DISCUSSION/CONCLUSION**

Exploration by Corona to date within EL21/2010 has delineated two broad conductive bodies within the Linda and Comstock valleys and the confirmation of widespread base metal anomalism in the Linda Valley. Efforts have been made to understand the conductive bodies within the Chamonix Zinc Prospect (Linda Valley) and they seem to be coincident with historical geochemical and geophysical anomalies and the mapped mineralised black shale unit.

**12.0 ENVIRONMENT**

No environmental disturbance occurred during the reporting period

**13.0 EXPENDITURE****Table 1: Expenditure for the period**

ITEM	Cost		
Salaries and wages	\$8,371.80		
Accommodation	\$1,748.50		
Consumables	\$33.00		
Stationary/Telephone	\$78.55		
Travel/Fuel	\$196.54		
Sub Total	\$10,428.39		
Administration @ 10%	\$1,042.84		
		Total	\$11,471.23

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