



**2001-2002
Annual Report**

Tasmanian Gold Project

Beatrice / Moxon Saddle

EL 6/1998

HELD BY: AurionGold Exploration Pty Ltd

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11, April, 2002

PROSPECTS: Beatrice, Moxon Saddle, West Sedgwick

MAP SHEETS 1:100,000: Franklin (8013) and Sophia (8014)

**GEOGRAPHIC COORDS Min East: Max East:
 Min North: Max North:**

COMMODITY(s): Au, Basemetals

KEY WORDS: Central Volcanic Sequence, Tyndall Group, High sulphidation mineralisation, VHMS mineralisation, Henty Fault

Distribution:

- o AurionGold Exploration Information Centre Reference:**
- o AurionGold Exploration - Zeehan:**
- o Mineral Resources Tasmania:**

SUMMARY

This report documents exploration completed on EL 6/1998 Beatrice / Moxon Saddle during the period March 2001 to March 2002.

Only minimal exploration was completed due to the length of time required to complete the transfer of the tenement from Pasmaenco Exploration. The exploration completed consisted of a review of previous exploration in the Beatrice – West Sedgwick area and a C horizon soil sampling program at Moxon Saddle.

The Beatrice EL is due to expire on 24 April 2003. Exploration completed in the final year of tenure should critically examine the West Sedgwick area for Henty – Comstock style Au mineralisation. A two drill hole work program aimed on testing the inferred Henty Horizon in the West Sedgwick (costing ~\$165,000) is recommended.

CONTENTS

SUMMARY		i
1 INTRODUCTION		1
1.1 Location and Access		1
1.2 Topography and Vegetation		1
1.3 Tenure		1
1.4 Aims		1
1.5 Exploration Model		5
2 PREVIOUS EXPLORATION		7
3 WORK COMPLETED		12
4 RESULTS		13
4.1 Drill Core Relogging		13
4.2 Mapping		13
4.3 Geochemistry		13
4.3.1 WS002 Assays		13
4.3.2 Lithogeochemistry		13
4.3.3 Moxon Saddle Soils Survey		14
4.3.4 C-O Isotopes		14
4.4 Geophysics		
4.4.1 Western Tasmania Regional Minerals Program Data		22
5. DISCUSSION and RECOMMENDATIONS		26
6. REFERENCES		27

Figures

Figure 1	EL 6/1998 Beatrice / Moxon Saddle Location Map
Figure 2	EL 6/1998 Beatrice / Moxon Saddle Land Tenure
Figure 3	Henty Model
Figure 4	Beatrice/West Sedgwick Lithogeochemistry – Ti verses Zr
Figure 5	Beatrice/West Sedgwick Lithogeochemistry – La/Yb verses Hf
Figure 6	Moxon Saddle Soils Au Image
Figure 7	Moxon Saddle Soils Cu Image
Figure 8	Moxon Saddle Soils Pb Image
Figure 9	Moxon Saddle Soils Zn Image
Figure 10	Moxon Saddle Soils Ag Image
Figure 11	Moxon Saddle Soils As Image
Figure 12	Delta 13C verses Delta 18O plot for MRV Carbonates
Figure 13	WTRMP Helimag Data – TMI Image
Figure 14	WTRMP Helimag Data – 1VD Image
Figure 15	WTRMP Helimag Data – Radiometrics (RGB) Image

Plans

Plan 1	Red Hills Outcrop Geology
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Appendices

Appendix 1	Symbols and Codes used in Drill Logs
Appendix 2	Diamond Drill Hole Logs and Summaries
Appendix 3	Geochemical Data

1 INTRODUCTION

EL 6/1998 –Beatrice/Moxon is held and explored by Goldfields Exploration Pty Ltd (now AurionGold Exploration Pty Ltd) and is highly prospective for Henty style Au and Au rich VHMS mineralisation. The EL was initially granted to Pasmaico Exploration on 30 January 1998. In early 2002, the EL was transferred to Goldfields Exploration after a tenement exchange for EL 5/1996 – White Spur. The EL comprises two blocks (Figure 1):-

31 sq km in the Beatrice / West Sedgwick area, and
2 sq km at Moxon Saddle.

1.1 Location and Access

The Beatrice block is located approximately 2 kilometres north of Queenstown and is easily accessed from the Lake Margaret Road or by the 4WD track to the Comstock Mine. Access to the Comstock Mine is via the Mt Lyell Mine Lease currently held by Copper Mines of Tasmania. A series of cut lines provides additional access to the more remote parts of the EL.

The Moxon Saddle block is located about 3 kilometres northeast of the Henty Mine and is easily accessed via the 4WD Red Hills Track. A recently cut grid provides additional access within this area.

1.2 Topography and Vegetation

The topography of the Beatrice area is dominated Mt Sedgwick and Sedgwick Bluff which forms a high subalpine – alpine ridge in the north of this block. Elevations in this area are greater than 1000m ASL. In the south of the Beatrice area the valleys defined by the West and East Queen Rivers are at approximately 300m ASL.

The Moxon Saddle block is situated between The Gooseneck and Mt Murchison at an elevation of approximately 750m ASL.

The vegetation in both areas contains a continuum between wet sclerophyll, rainforest and alpine communities with retrograde communities in areas of high fire frequency.

1.3 Tenure

The EL comprises (Figure 2): State / Multiple Use Forest Crown Land
Mt Tyndall Regional Reserve HEC Land
Mt Murchison Regional Reserve

1.4 Aims

AurionGold's Tasmanian exploration program is targeted at the discovery of a Henty style gold mineralisation and polymetallic gold rich base metal mineral deposit in the Cambrian Mount Read Volcanics. The principal aim of the exploration program is to find additional Au resources to supplement production at the AurionGold owned Henty Mine or to define a resource that could be developed as a stand alone operation.

AurionGold's has been actively exploring the southern Mount Read Volcanics for several years and has developed an integrated exploration model for Henty and Mt Lyell style mineralisation. Such deposits are considered to represent the submarine equivalents to porphyry copper - high sulphidation - epithermal deposits. Henty style deposits form in the highest levels and margins of the system and have the best potential for gold mineralisation. The high sulphidation - porphyry copper deposits general form at a deeper level and although generally base metal rich can still host significant Au resources.

The Beatrice and Moxon Saddles areas were acquired from Pasminco Exploration for their high prospectivity for Henty style Au and Mt Lyell Cu – Au mineralisation. There is also potential to discover a Rosebery style Au rich base metal deposit at Beatrice and in the Moxon Saddle area.

Figure 1 EL 6/1998 Beatrice / Moxon Saddle Location Map

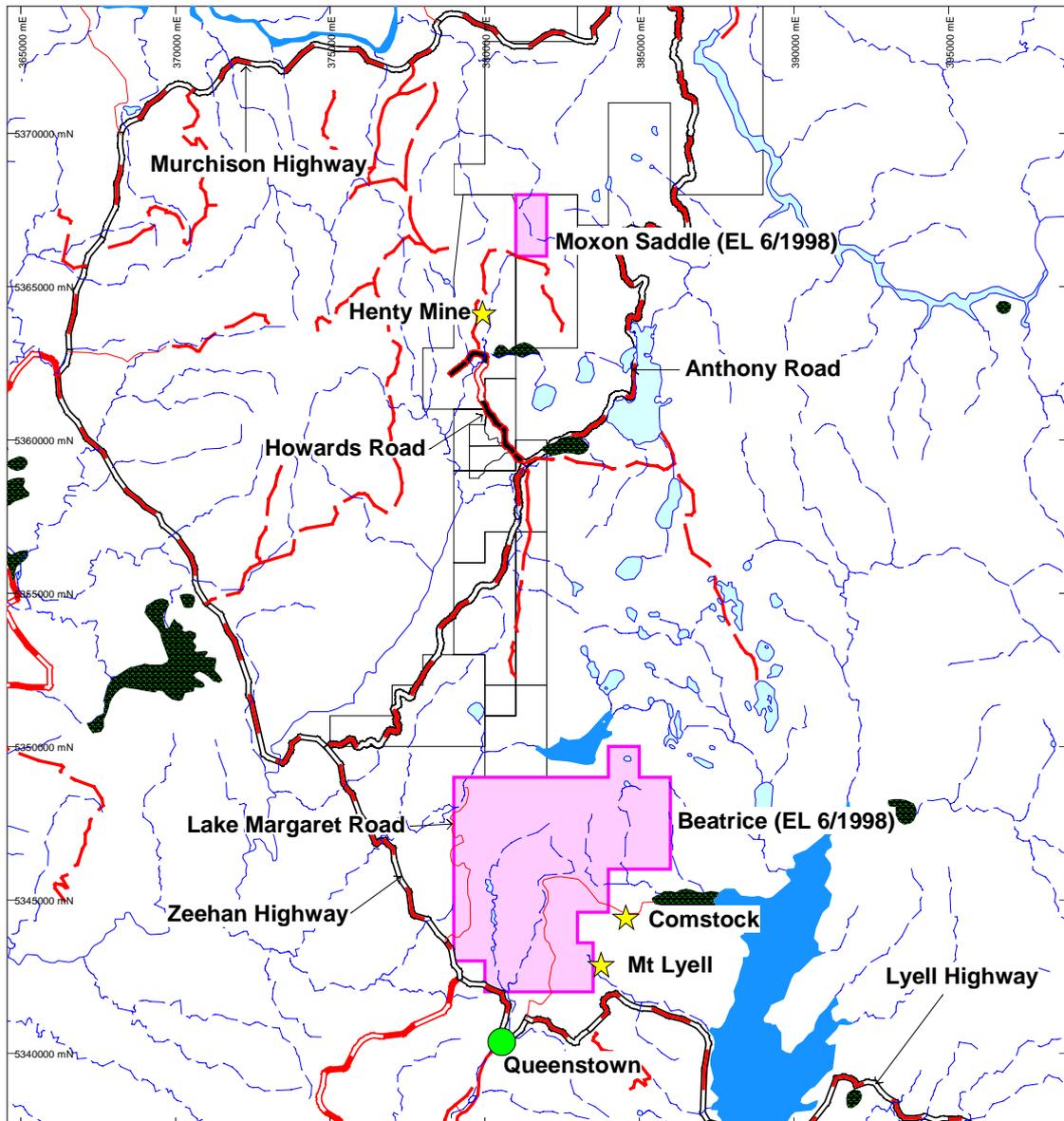
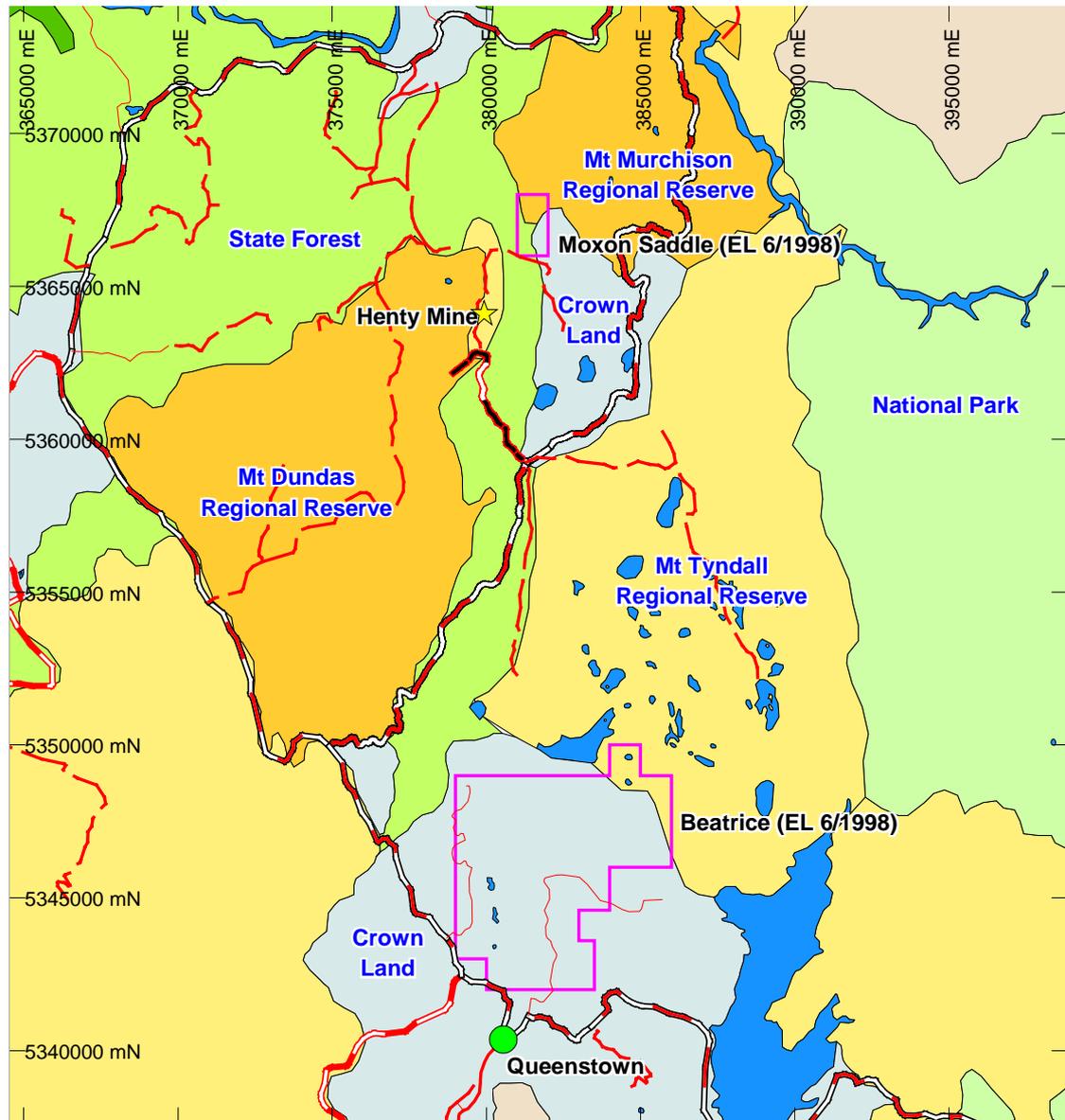


Figure 2 EL 6/1998– Beatrice / Moxon Saddle Land Tenure (Boundaries Approximate)



1.5 Exploration Model

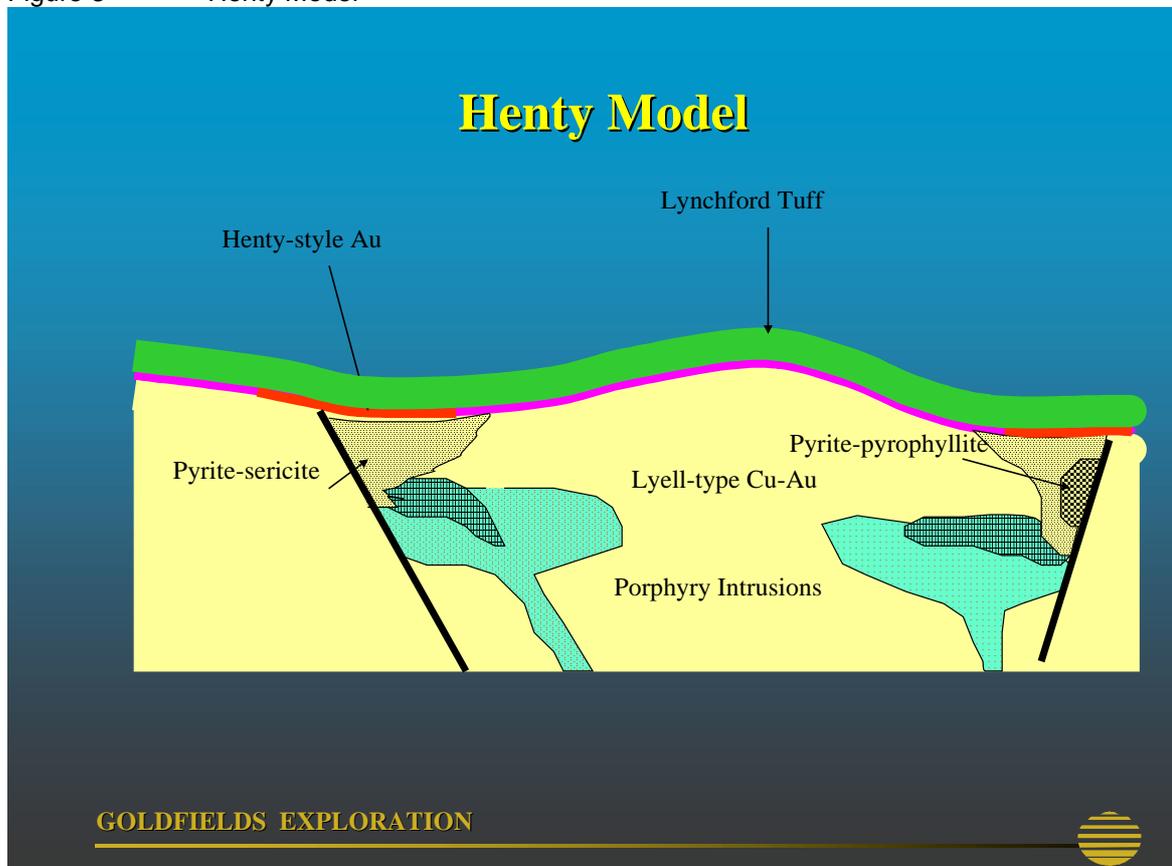
The Mount Read Volcanics are host to several world class gold rich base metal mineral deposits at Rosebery, Hellyer, Que River, Hercules, and Mount Lyell and to gold mineralisation at the Henty Mine. The Henty Mine is the only gold only producer in Western Tasmania, all the other deposits produce gold as a by-product of base metal treatment. In June 2000, the Henty Mine had an inferred Resource of 1,373,000 tonnes @ 10.3 g/t Au (452,900 ounces).

AurionGold Exploration is actively exploring the southern portion of the Mount Read Volcanics in the Henty, South Henty, Basin Lake and Red Hills areas. Exploration to date has focused on systematic drill testing the Henty Horizon, which is defined as a zone of mineralisation, alteration and carbonate developed at the contact between the basal Tyndall Group and the underlying Central Volcanic Sequence. The exploration program has been highly successful and an inferred gold resource of 731000 tonnes @ 7.6 g/t Au at Mount Julia in the south of the Henty Mine Lease has recently been delineated.

An integrated exploration model for Henty and Mt Lyell style mineralisation has been developed. Such deposits are considered to represent the submarine equivalents to porphyry copper - high sulphidation - epithermal deposits. Henty style deposits form in the highest levels and margins of the system and have the best potential for gold mineralisation. The high sulphidation - porphyry copper deposits general form at a deeper level and although generally base metal rich can still host significant Au resources.

An integrated exploration model for the genesis of Henty style Au and Mt Lyell style Cu - Au mineralisation is shown on Figure 3.

Figure 3 Henty Model



The critical components of the model are outlined below:-

A. Position underlying the Lynchford Tuff

The Lynchford Tuff (or Lynchford Formation) is the basal unit of the Tyndall Group. The dominant facies is a feldspar rich volcanoclastic sandstone with subordinate basalt, carbonate horizons and quartz feldspar phyric intrusives / lavas. It overlies and can be interbedded with dacitic pumice breccias and lavas of the Central Volcanic Sequence.

The base of the Lynchford Tuff represents a major exhalite horizon (the Henty Horizon) as indicated by mineralisation at Henty, Comstock, Lynchford, Red Hills, Howards Anomaly and Beatrice.

B. Proximity to major faults

There is a close spatial association between exhalite mineralisation at the Henty Horizons and major faults. The Henty, Howards Anomaly and Comstock deposits are located near the intersection of the Henty Horizon with the regional (N-S) Henty and Great Lyell Faults. The intersection of second order (E-W) faults with the Henty Horizon is a primary control on mineralisation at Lynchford and Comstock.

The regional (N-S) and second order (E-W) faults were active growth structures during Cambrian volcanism and mineralisation and focused the ascent of deep seated hydrothermal fluids to the inferred seafloor position at the Henty Horizon.

C. Proximity to "Suite 2" porphyries and other related rock types.

Exploration at Mt Lyell, Garfield, Basin Lake, Anthony and South Henty has highlighted the close spatial association of "Suite 2" quartz feldspar porphyry intrusives and feldspar hornblende phyric andesites. These subvolcanic intrusives and their eruptive equivalents are considered to be the source of the magmatic dominated fluids which characterise Henty and Mt Lyell type deposits (Halley, 1996, Callaghan, 1998, Street, 1999 and Williams, 2000).

They range in composition from medium to high calc-alkaline to highly evolved shoshonitic and tholeiitic compositions (Crawford, Corbett and Everard, 1992).

There is good field evidence in the Henty - South Henty area that intrusion of the Suite 2 rock types is synchronous with the deposition of the Lynchford Tuff.

D. Associated Footwall Style Alteration.

Sub-seafloor alteration in the Central Volcanic Sequence is wide spread in the southern Mount Read Volcanics and hosts mineralisation at Mt Lyell, Basin Lake, Anthony and South Henty. There are two principal types:- pyrite-sericite and pyrite-pyrophyllite. The latter forming under more acid conditions.

These alteration zones represent the feeder zones to the overlying exhalite mineralisation at the Henty Horizons or seafloor position.

Deposits of this type commonly display features that are typically associated with High Sulphidation porphyry style mineralisation (Low $\delta^{34}\text{S}$ values, pyrophyllite-kaolinite-alunite, enargite-tennantite etc). They are usually Cu rich in contrast to mineralisation forming at the overlying seafloor position, which generally have epithermal characteristics (Au and Ag rich).

2 PREVIOUS EXPLORATION

5.1 Beatrice Prospect (From Denver et al, 1999)

Work has been completed at the Beatrice Prospect by The Mt Lyell Mining and Railway Company, Goldfields, BHP and RGC in the twenty three years since discovery of the prospect.

Mount Lyell Mining and Railway Company:

1975: The first mention of the Beatrice Prospect is in the 1976 Mt Lyell Mining and Railway Company (MLMRC) Annual Report (Brophy, 1976) where stream sediment sampling and follow-up mapping and sampling in the Itat Creek area is reported.

Stream sediment samples SS43 and SS44 collected in Itat Creek assayed 1110 ppm Pb and 1130 ppm Zn and 906 ppm Pb and 780 ppm Zn respectively. One rock chip sample of black shale assayed 375 ppm Cu, 1300 ppm Pb and 3,000 ppm Zn.

1976: During the 1976/77 field season exploration by MLMRC centred on the Beatrice Prospect (Walter, 1977). 43.5 kilometres of grids were cut, the grid was mapped, 'C' horizon soil samples collected at 30m spacings and a gradient array IP survey was completed over 38 line kilometres of the grid. In January 1976 MLMRC joint ventured EL 10/69 with Getty Oil Development Company Ltd (GODL).

1977: During 1977/78 (Hutton, 1978) an extra 4 kilometres of lines were cut. The western part of the grid (lines 00N-1600N, from their western ends to approximately 400m east of Itat Creek) were -80# soil sampled and assayed for Cu, Pb, Zn, Ag and Mn. The sampling interval was 30m with intermediate 15m sampling over IP anomalies.

A major geochemical anomaly was detected between lines 08N and 16N (open to the north) that corresponded with a SW trending black shale unit and altered tuff. Best values were 510ppm Cu, 1.1% Pb, 1900 ppm Zn, 6 ppm Ag and very high Mn (up to 15.5%).

1978: During 1978-79 the above mentioned geochemistry anomaly became known as the Mt Sedgwick Anomaly Zone (MSAZ) and the entire gridded area was referred to as the Beatrice grid (Hutton, in Reid et.al 1979).

An access track was excavated into the prospect with both a western track, which required blasting (near MS-3) and an eastern track. Mineralisation was recognised in both these roads. This western track was rock chipped at 5m sampling intervals. The entire 80m assayed 80m @ 0.34% Zn, 0.22% Pb, 65 ppm Cu and 3.7 ppm Ag. The best interval assayed 5m @ 0.57% Zn, 0.63% Pb 90 ppm Cu and 9 ppm Ag. Eleven samples were collected from the eastern road. These samples averaged 1.60% Zn, 1.28% Pb, 250 ppm Cu and 6 ppm Ag. Hutton (in Reid et.al., 1979) states that these results are not representative of the entire section and that if this section was sampled methodically similar results to the western road would be achieved.

Lines 1800 and 2000N were soil sampled and the MSAZ was shown to continue giving it a strike length of +1200m and a maximum width of about 300m. By line 2000N the Zn anomaly appears to be petering out whereas the Pb anomaly is still wide and strongly anomalous.

109 rock chips were collected and assayed for Cu, Pb, Zn, Ag, Mn, \pm S, Au, Fe, Co. Only eight samples were analysed for gold and these all assayed <0.9 g/t Au. Best base metal results were:

9% Zn, 0.19% Pb, 0.07% Cu and 7 g/t Ag and
1.9% Zn, 5.7% Pb, 0.025% Cu, 12 g/t Ag and 0.5 g/t Au.

Three diamond drill holes, designed to test the MSAZ between 1400 and 1600N, were completed by Associated Diamond Drilling. DDH MS1 (329.1m) was drilled from east to west and intersected 7m @ 1.1% Pb, 1.7% Zn, 7 ppm Ag, 0.3 ppm Au from 62-69m and 2m @ 0.14% Cu, 2.7% Pb, 5.1% Zn and 22 ppm Ag from 111-113m. Bedding is steeply west

dipping and this hole therefore largely drilled down bedding. DDH MS2 (301m) was drilled from west to east and only intersected low grade mineralisation; the best intersection being 17.25m @ 0.3% Pb, 0.54% Zn and 5 ppm Ag from 62-79.25m. DDH MS3 (328m) was drilled to test beneath the good rock chip results from the western and eastern access tracks. The best intersections were 7m @ 0.4% Pb, 0.58% Zn and 4.5 ppm Ag from 111.6-118.6m and 15m @ 0.4% Pb, 0.6% Zn and 4 ppm Ag from 170-185m.

The following geophysical surveys were completed by Scintrex: EIP gradient array, Downhole three-array, Schlumberger Array, Dipole-dipole and pole-dipole surveys.

1979: During 1978-79 (Meares et al, 1980) drill holes MS4 and MS5 were completed and 1065 soil samples were collected.

DDH MS 4 (350m) was collared to test northern extensions to mineralisation encountered in MS 1 and in the road exposures. Assay results were disappointing with a best result of 6m @ 0.3% Pb, 0.7% Zn, 2.7 ppm Ag and 0.3 ppm Au from 144-150 meters. The hole was drilled to the west and, as with MS 1, it largely drilled down bedding.

Drill hole MS 5 was drilled to determine the cause of a chargeability anomaly associated with the quartz-feldspar porphyry. This hole intersected black shales at 39.6-62.4 and 105.8-139 meters. The black shales were interpreted to explain the IP anomaly and the hole was terminated. No significant mineralisation was intersected.

The eastern portion of the grid was soil sampled (east of 386000 mE) with 1065 C horizon - 80# soil samples. Samples were collected at 30m centres.

Geophysical surveys carried out on the grid during the 1978-79 field season included; Ground magnetics, Gradient array IP, Pole -dipole IP and Dipole-dipole IP.

Goldfields

1983: There was no further work done at Beatrice until 1983 when Goldfields Exploration (the exploration division of RGC and MLMRC) was required to relinquish 50% of EL 9/66. To aid this a geological review of the ground was completed (Purvis, et.al 1983). Major conclusions were that the geology at Beatrice was regarded as being similar to Red Hills and that previous drilling was not an adequate test of the MSAZ, as holes were drilled at a low angle to dip and strike (MS 1 and MS 4) or were collared underneath the shales (MS2 and MS3). Although these comments are not disputed the four holes are a reasonable test of the soil anomaly and wisdom in hindsight is always very easy.

The review team recognised two areas of potential for mineralisation:

1. Steeply dipping mineralised shale in Itat Creek,
2. Extensions of the shale and ashes-shales-ignimbrites underlying the Mt Sedgwick Porphyry to the East and West of Itat Creek.

15 rock chip samples were collected by the review team, three of these assayed >1000 ppm Zn and > 400 ppm Pb, however, all samples were below detection in gold. The validity of the original gold assays were strongly queried (note: Goldfields base metal assays also appear to be low for the Beatrice Prospect and recent work (section 6.1.2) shows unequivocally that the basemetal mineralisation may be Au-rich). No further work was done on the Beatrice Prospect and the ground containing the prospect was relinquished in by MLMRC in 1987; the area was picked up by BHP as part of EL 103/87.

BHP

1989: The Beatrice Prospect remained unexplored until 1989. BHP remapped the area, relogged drill holes MS1-MS5 and conducted a four loop UTEM survey (Wilde and Kerr 1990). No strong conductors were associated with the base metal mineralised zone on the Beatrice grid and only poorly conducting features, related to structures or lithologies, were recognised. In 1991 RGC Exploration joint ventured into the property with BHP.

RGC

1994: In 1994 the prospect was revisited by RGC Exploration (Boyd, 1994). A literature review was completed, the grid was remapped in detail and drill core was relogged. The main aim of the remapping was to determine if the black shale continued south past the limit of previous drilling. This aim is rather peculiar as it had been determined in 1978 that the black shales continued south of the known mineralisation (Reid et al., 1979). This remapping of the grid was very extensive but unfortunately the interpretation was not very rigorous. After relogging the core Boyd makes the ambitious statement "These holes have thoroughly tested the possible geological, geophysical and geochemical targets identified by the first exploration work done at Beatrice" (Boyd, 1994).

Boyd stated that "the sulfide exposed in the core is bedded within the black shale and volcanoclastic units and as such is most likely to be syn-sedimentary, thus indicating that some form of seafloor sulfide deposit has occurred at this stratigraphic level". The stratigraphic position hosting the mineralisation was shown to extend 300m to the south and a drill hole was proposed to test this position. This hole was not drilled until 1996 (see below).

Boyd (1994) did a statistical and lithological appraisal of mineralisation in rock chips and concludes that the majority of the mineralisation is within the black shales. An average of 1.62% Zn, 1.79% Pb, 620 ppm Cu and 45 ppm Ag is calculated for black shale, an average of 2.52% Zn, 0.11% Pb, 365 ppm Cu and 4 ppm Ag is calculated for bedded vitric tuff and an average of 0.34% Zn, 0.22% Pb, 65 ppm Cu and 3.7 ppm Ag is calculated for the rest. Samples were collected for sulfur isotope analysis from the drill hole MS1. $\delta^{34}\text{S}$ values for galena, sphalerite and pyrite are +15.8 - +14.9 ‰. These values are similar to the isotopic values for sulfur from the top of the Rosebery deposit ($\delta^{34}\text{S}$ +13.2 - +15.6 ‰). No lead isotope data has been collected at the prospect.

1996: In 1996 minor mapping and one diamond drillhole (MS6; 288.8m) were completed (Joyce, et.al 1997). DDH MS6 was drilled to test the black shale horizon 500m to the south of existing drilling and adjacent the Comstock Valley Fault (approximately 500m north of this structure) which was interpreted as a synvolcanic shear. No significant mineralisation was intersected, with a best assay of 2.6m @ 0.25% Zn. RGC Exploration relinquished the area in October 1997 and it was successfully tendered for by Pasminco Exploration.

5.2 West Sedgwick Prospect

The West Sedgwick area covers the western and southwestern flanks of Sedgwick Bluff (not Mt Sedgwick itself). The first exploration in the area was in 1957 when Rio Tinto Australian Exploration (RTAE) completed a TEM survey. Since this time the area has been explored by Mount Lyell Mining and Railway Company (MLMRC), Pickand Mathers and Co. International (PMI), Goldfields Exploration, BHP and RGC Exploration.

The majority of previous work has concentrated at the top of the Central Volcanic Complex around the southern end of Sedgwick Bluff, in the vicinity of Zig Zag Hill, where there are several east-west cross structures. This stratigraphy probably continues to the north but exploration efforts have been hampered by scree and glacial moraine cover.

Rio Tinto:

Rio Tinto Australian Exploration (Muceniekas, 1958) completed a EM survey and a 600m long weak anomaly centre at roughly 46900 mN, 81800 mE was identified (Zig Zag Hill anomaly). To follow up the anomaly detailed geological mapping, stream and soil geochemistry, ground magnetics and a gravity survey were completed. Minor outcrop revealed that the alteration was similar, but weaker, to the Mt Lyell field. A weak Pb in soil anomaly coincides with the EM anomaly. No further work was done until 1962 when RTAE (in joint venture with EZ Co) completed a three electrode array IP survey along 6 grid lines. There was no IP response associated with the EM anomaly and no further work was completed.

Pickand Mather and Co International (PMI)

PMI pegged the ground in 1965 as part of EL 12/65. They completed reconnaissance geology, stream sediment geochemistry and by 1967 their exploration efforts had focussed on the volcanic-conglomerate contact. A dipole-dipole survey was completed and an anomaly was identified close to the Zig Zag Hill anomaly, but, PMI concentrated their efforts on a larger anomaly located at Basin Lake (outside the current tenement). No further work was done on the area until MLMRC pegged the ground in 1971.

Mount Lyell Mining and Railway Company (MLMRC),

MLMRC held this round under EL 41/71. In their first report they make the comment "*Pickand Mathers exploration philosophy appears to have been based on the often stated, but invalid, premise that the Lyell orebodies are related genetically to the volcanic-conglomerate contact*". Their exploration focussed to the west mainly within the Yolande River Sequence. An extensive grid (East-west lines on 070° and spaced at 600'), was cut and was labelled with the MLMRC trademark Northing and Southing. From 1971-1973 exploration concentrated on mapping (Sheppard, 1972 and 1974), much of which was grid based, and the presence of the Tyndall Group (Dora Conglomerate) was first recognised. In 1973 the Lake Margaret Tram Pyrite Lens, a 10 foot wide zone of pyrite (30%) and quartz (70%) containing up to 1g/t Au, Ag to 1 g/t, Cu to 1020 ppm and very low Pb and Zn, was discovered. In the same year an IP survey was completed by Scintrex; a total of 38 anomalies were defined of which four were regarded as significant (Sheppard, 1975).

During 1974 (Sheppard, 1975) the grid was extended and soil samples were collected over the 38 anomalies at 50' centres and at 25' centres over the four major anomalies. In 1975 (Brophy and Stevens-Hoare, 1976) and 1976 (Meares, 1977) some additional grid extensions were cut and a blanket gradient array IP survey and a smaller pole-dipole survey were completed. These surveys located a 150' wide, 2000' long black shale horizon on the east flanks of Crown Hill. The Lake Margaret Tramway pyrite lens had no IP response.

During 1977 three diamond drill holes were drilled to test the Lake Margaret Tramway pyrite lens and a combined IP/geochemical anomaly on line 84S (Meares, 1978). This drilling was completed during June-September 1977 and was reported in an Appendix to the 1977 report (Meares, 1977).

DDH WS1 and WS2 tested the Lake Margaret tramway pyrite body and were collared at approximately 5345500 mN, 379200m. Hole WS1 was abandoned at 92 metres due to drilling problems. Six samples of the black shale and 36 samples of the tuff from hole WS2 (224.4m) were assayed for Cu, Pb, Zn; All results were very low. DDH WS3 (259.7m) was targeted at an area combined chargeability and Pb in soil anomaly within black shales. It was collared at approximately 5346400 mN, 380200m. Five samples were collected of the black shale unit and 12 samples of the volcanics. The black shale was anomalous in Pb (range 420-760, average 572 ppm) and Zn (range 185-1100, average 512 ppm).

In 1980-81 Mt Lyell cut an extensive grid over the Comstock Valley and completed an IP survey. Some of these lines extended across the CVC-Owen Conglomerate contact north of Zig Zag Hill. No significant chargeability anomalies were identified in the West Sedgwick area.

The review of EL 9/66 (Purvis et al., 1983) highlighted the area of the old RTAE EM anomaly as being prospective. No action was taken on this recommendation until 1985 (FitzGerald and Cartwright, 1986) when anomaly was followed-up with three lines of SIROTEM. A weak WNW anomaly parallel to the RTAE anomaly was identified and was interpreted to be a weakly conductive zone. This anomaly occurred in an area of Owen Conglomerate scree and it was tested by the drilling of WS4 (229.8m) which failed to intersect any significant mineralisation (Fitzgerald, 1987).

BHP:

The tenement was relinquished by Goldfields and pegged as EL 102/87 by BHP (Kerr and Wilde, 1989). They relocated all the previous grid data and quite unbelievably there are four grids in the West Sedgwick area and even more unbelievably they are all at different orientations (see Figure 2 from Kerr and Wilde 1989). These are the West Sedgwick grid, North Queen Grid, Mine lease AMG grid and the Comstock AMG grid.

The BHP approach was to cover areas with blanket UTEM. They cut an additional 106.7 kilometres of lines and fortunately they did not choose a fifth grid orientation. A UTEM survey was completed by Lamontagne Geophysics, and results are reported in Kerr and Wilde (1990). An early time feature in these data corresponds to the GLF. Another well defined early time anomaly extends NW from 5346000 mN, 380700 mE, to 5346800 mN, 380225 mE. This feature corresponds with the anomalous Pb/Zn soils tested by WS3. No other major anomalies were identified.

BHP also revisited the Tramway pyrite zone. The zone was described by Sheppard (1972) as a pyrite outcrop but is a pyritic quartz sericite schist. The zone is two metres wide and probably <30m strike length. Rock chips return up to 0.76 g/t Au. The drillhole that tests this zone, WS2 was not analysed for Au. MLMRC only collected six samples from the shale in WS2 and had a best result of 1.5m @ 93 ppm Cu 420 ppm Pb. BHP cut some additional samples from the shale and report a best assay of 1.4% combined Pb/Zn. BHP joint ventured EL 102/87 with RGC Exploration in November 1991.

RGC Exploration:

RGC Exploration's exploration strategy was to use mapping and geochemistry, in contrast to BHP Exploration's blanket UTEM. Their work concentrated on the SW corner of Mt Sedgwick. During 1991/92 the West Sedgwick area was mapped at 1:5000 scale, 139 rock chip samples were collected and C-horizon soil samples were collected (Halley, 1992).

During 1992/93 the core from WS4 was re-logged. It was recognised that the hole did not go through the andesite (that occurs at the top of the CVC) and the grey carbonate that was intersected from 209.1m - 210.8m was interpreted as a low temperature exhalite (Halley, 1993). WS5 was then drilled to test the volcanics near the intersection of the West Sedgwick and Great Lyell Faults. It was originally planned to lengthen WS4 however the PVC could not be removed from the hole and a new hole was collared. WS5 was abandoned at 97.9m due to the rod string breaking and WS5A was lipped of WS5 at 52m. WS5A intersected a major fault at 124m in which the hole was abandoned.

WS6 was completed at 380.8m and intersected a sequence of coarse grained hornblende-pyritic andesites to 219.6m with major faults at 121.9-123.4 and 212.6-219.6m. Beyond the second fault the Tyndall Group was intersected and was represented by a sequence of interbedded siltstones and felsic epiclastics followed by the Comstock Tuff. The Great Lyell fault was intersected at 373.0m. Core was analysed for Au, Ag, Cu Pb and Zn, but, there were no significant assay results.

During 1993-94 a series of 400m spaced holes were drilled to test the CVC-Tyndall Group contact close to the GLF. Two holes were drilled from the Mt Lyell Mine lease and WS7 was drilled from the saddle between Agglomerate Hill and Zig Zag Hill. WS7 (499.2m) intersected the CVC-Tyndall Group contact but this was unmineralised. Zones of silica-sericite-pyrite alteration were intersected from 45 to 155m and from 295 to 350m. Ninety three samples were submitted for assay (including 36, 10m core grind composite samples and 57, 1m intervals of ½ core). Assay results were disappointing with no base metals above 1000 ppm (Halley 1994). Two samples from WS7 were submitted for whole rock ¹⁸O analysis and three pyrite samples from the alteration zones were submitted for δ ³⁴S analysis. The whole rock ¹⁸O results indicated that the alteration was formed by fluids at around 200°C, which is too cool to carry significant base metals. The δ ³⁴S results indicated that the sulfides were formed from sulfate reduction and that the alteration is on the edge of a large system (the Mt Lyell

system?). The only other recorded highly enriched ^{34}S and high ^{18}O from the MRV is in the stringer envelope zone at Hellyer (Halley, 1994).

Downhole SIROTEM was completed in WS6 and WS7 and Crone 3-component pulse EM was read in WS7; No offhole conductors were identified.

During 1994-95 hole WS8 was drilled from the same site as WS7 and was designed to test the bedded pyrite unit and pyrite alteration zone intersected in hole WS7 at 200m down dip (Halley et.al 1995). This hole was drilled to 652.1m, but, failed to intersect the sulfides seen in WS7. WS8 also failed to intersect the Tyndall Group; this was explained by RGC with an oddly located flat fault, however, on relogging the hole it is apparent that much of WS8 was drilled down bedding. No further work was completed at West Sedgwick.

The Beatrice and Moxon Saddle area was acquired as EL 06/1998 by Pasminco Exploration in January 1998. The work completed by Pasminco centred on the Beatrice area with minor exploration at West Sedgwick. No work was completed at Moxon Saddle.

At the Beatrice Prospect the following exploration was completed (Denwer et al, 1999 and Denwer et al, 2000):-

Geology	1:1000 geological mapping Compilation of previous mapping Relogging of holes MS1 to MS6
Drilling	Holes MS7 to MS10 (2392.6m)
Geochemistry	580 sample mobile ion sampling program
Geophysics	4 line, 8.8 km pole-dipole IP survey 2 line, 4.0 km CSAMT survey DHEM survey of holes MS7 to MS10

3 WORK COMPLETED

The exploration completed by Goldfields Exploration on EL 6/1998 in the twelve months to March 2002 is summarised below:-

General	Gridding at Moxon Saddle
Geology	Relogging of old holes from the Beatrice and West Sedgwick area Compilation of drill hole data (Collar location, surveys etc) 1:5000 Geological mapping at Moxon Saddle
Geochemistry	11 samples from WS002 (Au, Cu, Pb, Zn, Ag, As and Bi) 18 samples from various holes (NAA suite and Ti, V, P and Zr (XRF)) C horizon soil sampling at Moxon Saddle (Au, Cu, Pb, Zn, Ag and As) 3 carbonate samples analysed for C-O isotopes
Geophysics	Reprocessing of WTRMP helimag and radiometric data

4. RESULTS

4.1 Drill Core Relogging

Twenty one diamond drill holes from the Beatrice and West Sedgwick areas were relogged to gain an understanding of the common rock types and alteration styles. The drill holes are:- MS1 to MS13 from Beatrice and WS001 to WS008 from West Sedgwick. The core for hole MS 1 to MS6 and WS001 to WS008 is held by Mineral Resources Tasmania in the Mornington Core Shed. The core for MS7 to MS13 is currently located at the Goldfields Core Shed in Zeehan. The core for drill hole WS005 was not logged however the core for this hole is currently located at the Goldfields Core Shed in Queenstown.

Codes and symbols used in the logging are documented in Appendix 1. Drill logs and summary sheets are presented in Appendix 2.

4.2 Mapping

The Moxon Saddle area was mapped at 1:5000 scale utilising the newly constructed grid (Plan 1). Outcrop within the lease is generally good with the exception of some areas of forest cover in the north of the tenement, and some glacial scree deposits in the south. Mapping codes presented on Plan 1 are explained in Appendix 1.

The Geology in the Moxon Saddle – Red Hills area is discussed in detail in Callaghan and Vicary (2000).

4.3 Geochemistry

4.3.1 WS002 assays

11 half core samples were collected from a zone of massive quartz veining in WS002. The samples were analysed by Analabs in Burnie for Au by Fire Assay and Cu, Pb, Zn, Ag, Bi and As by AAS. The results are tabulated in Appendix 3. There were no anomalous results reported.

4.3.2 Lithochemochemistry

18 half core samples were collected from various drill holes from the West Sedgwick and Beatrice area. They were analysed for Au and a suite of elements by Neutron Activation analysis and Ti, V, P and Zr by XRF. The results are tabulated in Appendix 3.

Figure 4 shows the Ti/Zr variation for the 18 samples together with additional analyses from Hope, 1999. Several distinct groups can be recognised (Tables 1a and 1b). The Central Volcanics Sequence (Ccv) can be subdivided into two subgroups based on the Ti/Zr ratio. Group 1 has a Ti/Zr value of about 4 and consists of ash volcaniclastic siltstone. Group 2 has a higher Ti/Zr value and is predominantly medium grained volcaniclastic sandstone. Black siltstone horizons (Ccv_s) have a relatively high Ti/Zr of about 17.

The quartz porphyry and andesite samples (Cp and Ca) have much lower Ti/Zr, P₂O₅/TiO₂ and P₂O₅/Zr values than similar rock types that have been assigned to Suite II (Crawford, Corbett and Everard, 1992). The range in lithochemical indices is transitional between Suite I and Suite II. Figure 5 shows a strong trend of decreasing La/Yb for the quartz porphyry and andesite samples that converges with a flattish trend displayed by the Suite I (or Ccv) samples at low La/Yb values. On the basis of the variable La/Yb ratio it is suggested that the quartz porphyry and andesite samples are felsic varieties of Suite II rock types.

Table 1a Lithogeochemical Indices – Beatrice/West Sedgwick area

	Ti/Zr(Av)	P2O5/TiO2(Av)	P2O5/Zr (Av)	La/Yb (Av)	Th/Hf (Av)
Ccv 1	4.2	0.18			
Ccv 2	6.3	0.15	1.6	13.4	2.4
Cp	9.2	0.18	2.8	27.9	6.1
Ca	14.1	0.24	5.8	19.5	3.7
Ccvs	17.6	Variable	Variable		

Table 1b Lithogeochemical Indices – Basin Lake/Anthony area

	Ti/Zr(Av)	P2O5/TiO2(Av)	P2O5/Zr (Av)	La/Yb (Av)	Th/Hf (Av)
Ccv	10.3	0.23	3.8	14.5	3.2
Cp	18	0.45	13.6	34.2	7.6
Ca	19.9	0.53	11.8	31.7	6
Ca (III)	16.5	1.14	31.7	52.9	7.2
Cb	50.9	0.28	23.3	13.8	2.9

4.3.3 Moxon Saddle Soil Survey

287 C horizon soil samples were collected by Ian Rogers from the Moxon Saddle area. They were analysed by Analabs in Burnie for Au by Fire Assay and Cu, Pb, Zn, Ag and As by AAS. Images of the data are presented in Figures 6 to 11. The results are tabulated in Appendix 3.

4.1.4 C-O Isotopes

Three carbonate samples from the Beatrice Prospect and two from Red Hills were analysed for oxygen and carbonate isotopes at the Central Science laboratory at the University of Tasmania (see Figure 12). Although the values of these samples show wide scatter, the carbonates from the Beatrice and Red Hills Prospects are more similar to carbonates from the Rosebery area than from Henty. The negative trend defined by the Beatrice samples is similar to that displayed in the Lake Newton alteration system on the South Henty EL (Street, 1999).

The results are tabulated in Table 2.

Table 2. Beatrice – Red Hills C-O Isotope Data

DEPOSIT	SAMPLE NO.	DRILL HOLE	DEPTH	MINERAL	Delta 18O	Delta 13C
BEATRICE	255596	MS10	476.5	CALCITE	11.631	-3.17
BEATRICE	255597	MS13	261.4	CALCITE	10.28	-0.056
BEATRICE	255598	MS13	449	CALCITE	11.123	-1.485
RED HILLS	255599	RH11	33.8	CALCITE	14.662	-0.127
RED HILLS	255600	RH18	363.5	CALCITE	11.339	-0.996

Figure 4 Beatrice/West Sedgwick Lithogeochemistry – Ti verses Zr

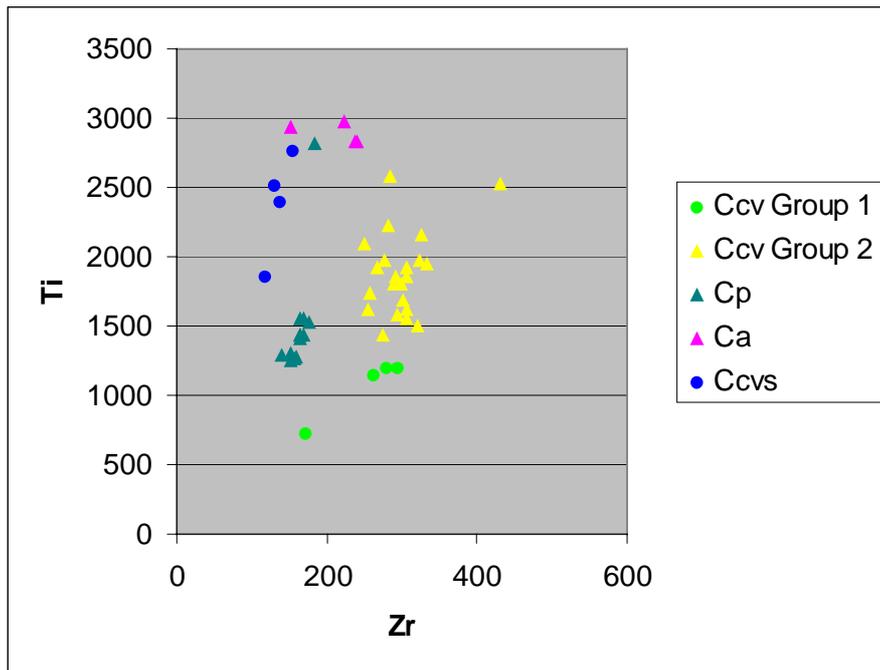


Figure 5 Beatrice/West Sedgwick Lithogeochemistry – La/Yb verses Hf

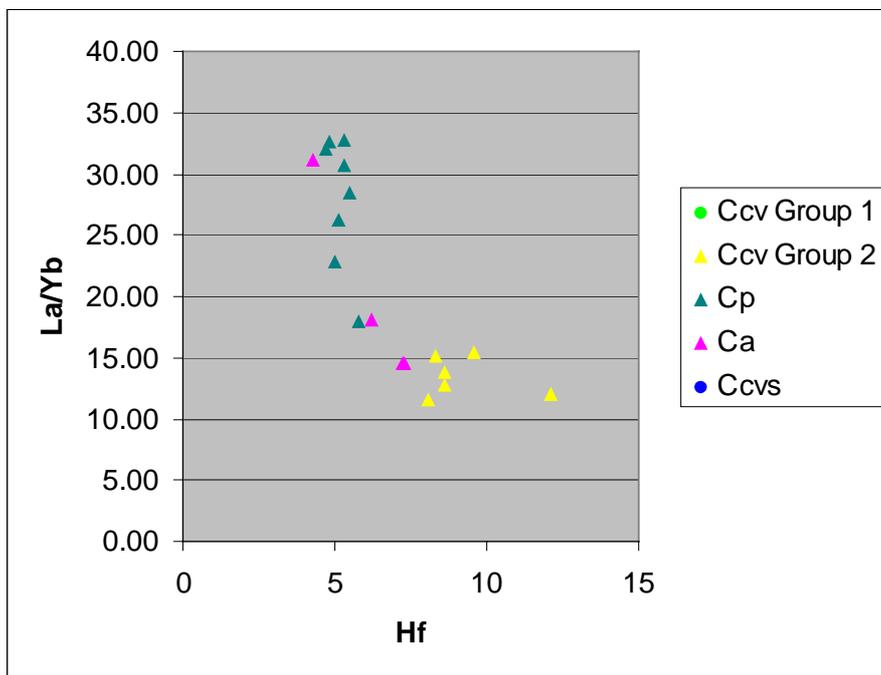


Figure 6 Moxon Saddle Soils Au Image

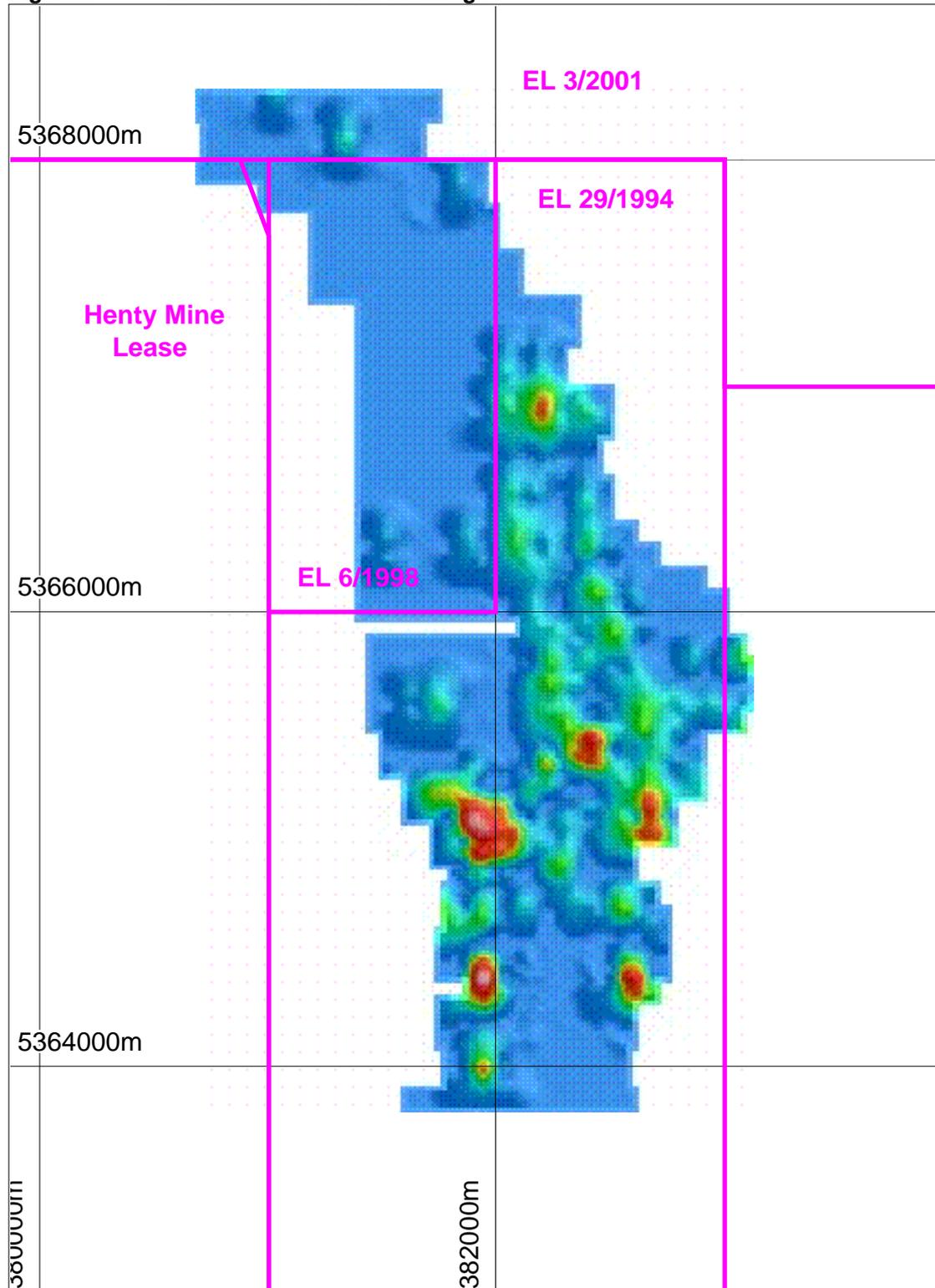


Figure 7 Moxon Saddle Soils Cu Image

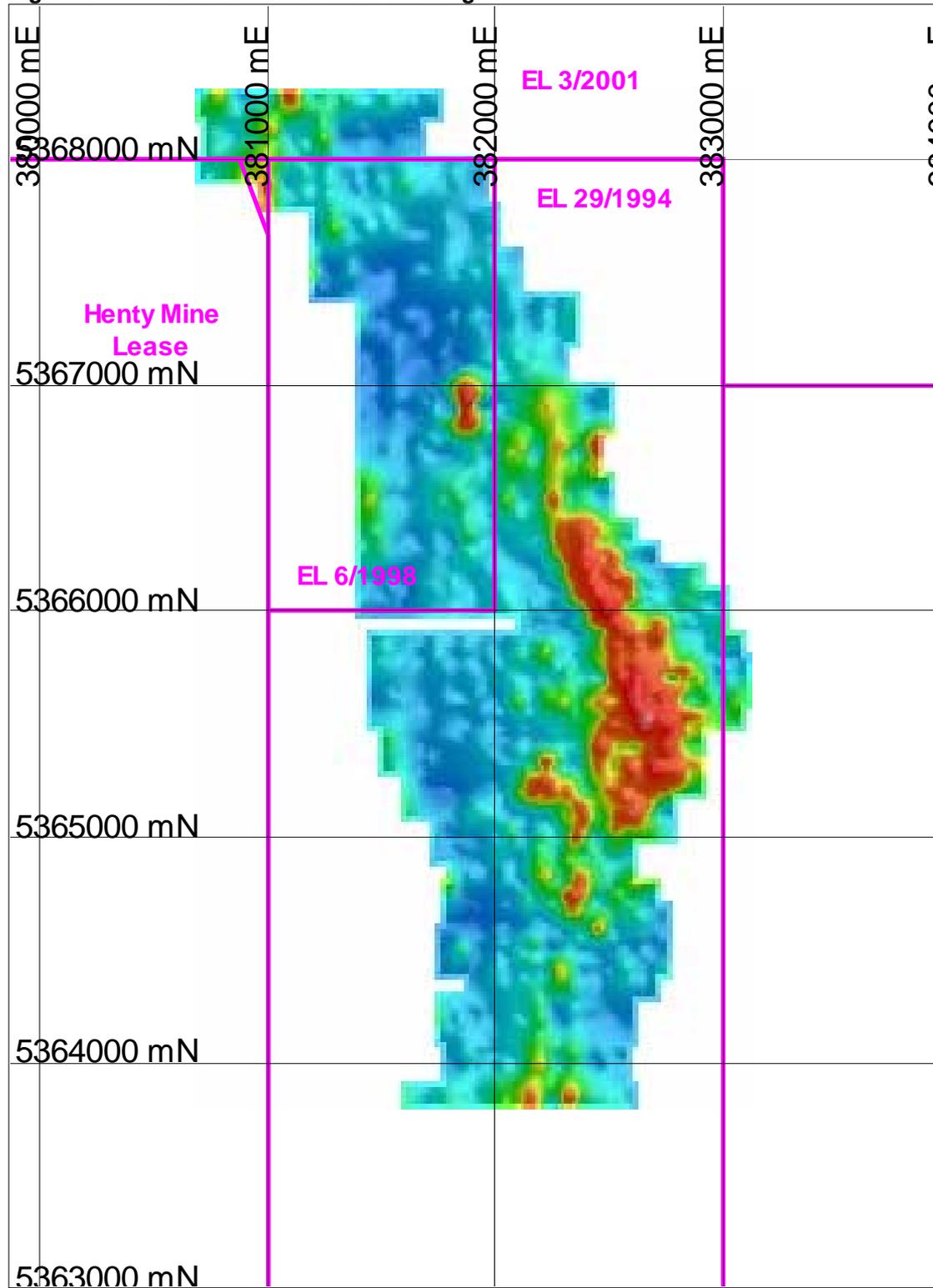


Figure 8 Moxon Saddle Soils Pb Image

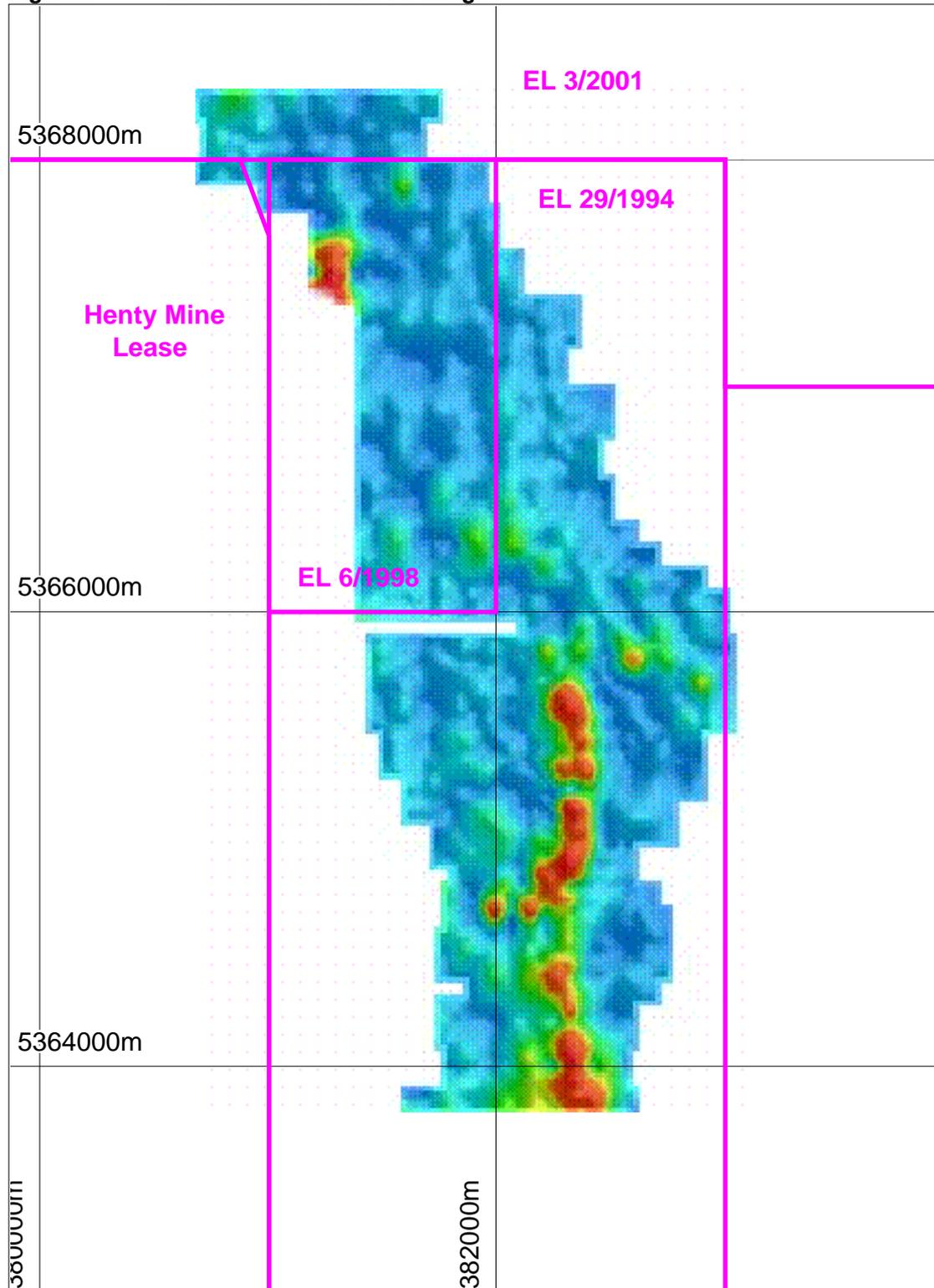


Figure 9 Moxon Saddle Soils Zn Image

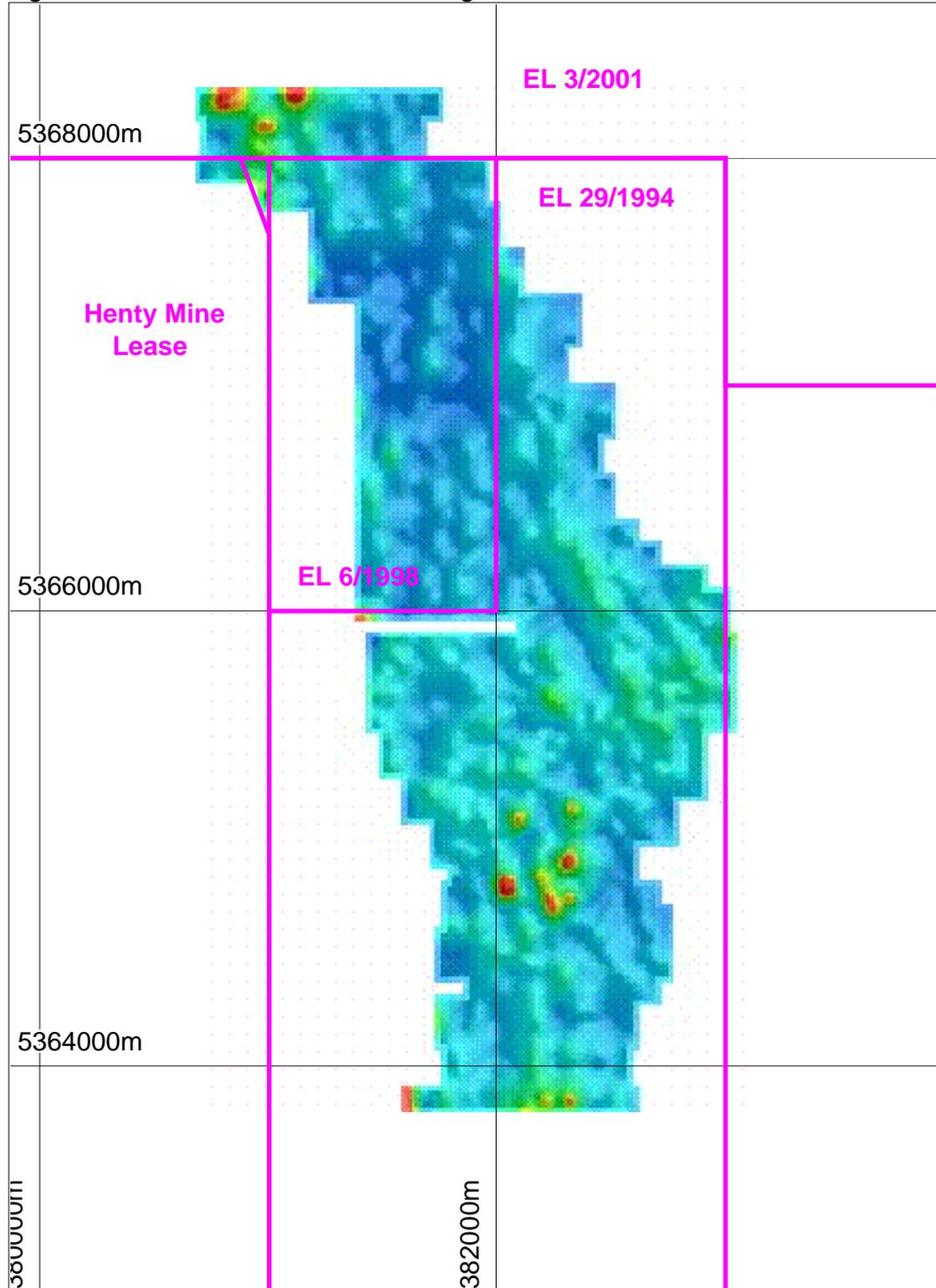


Figure 10 Moxon Saddle Soils Ag Image

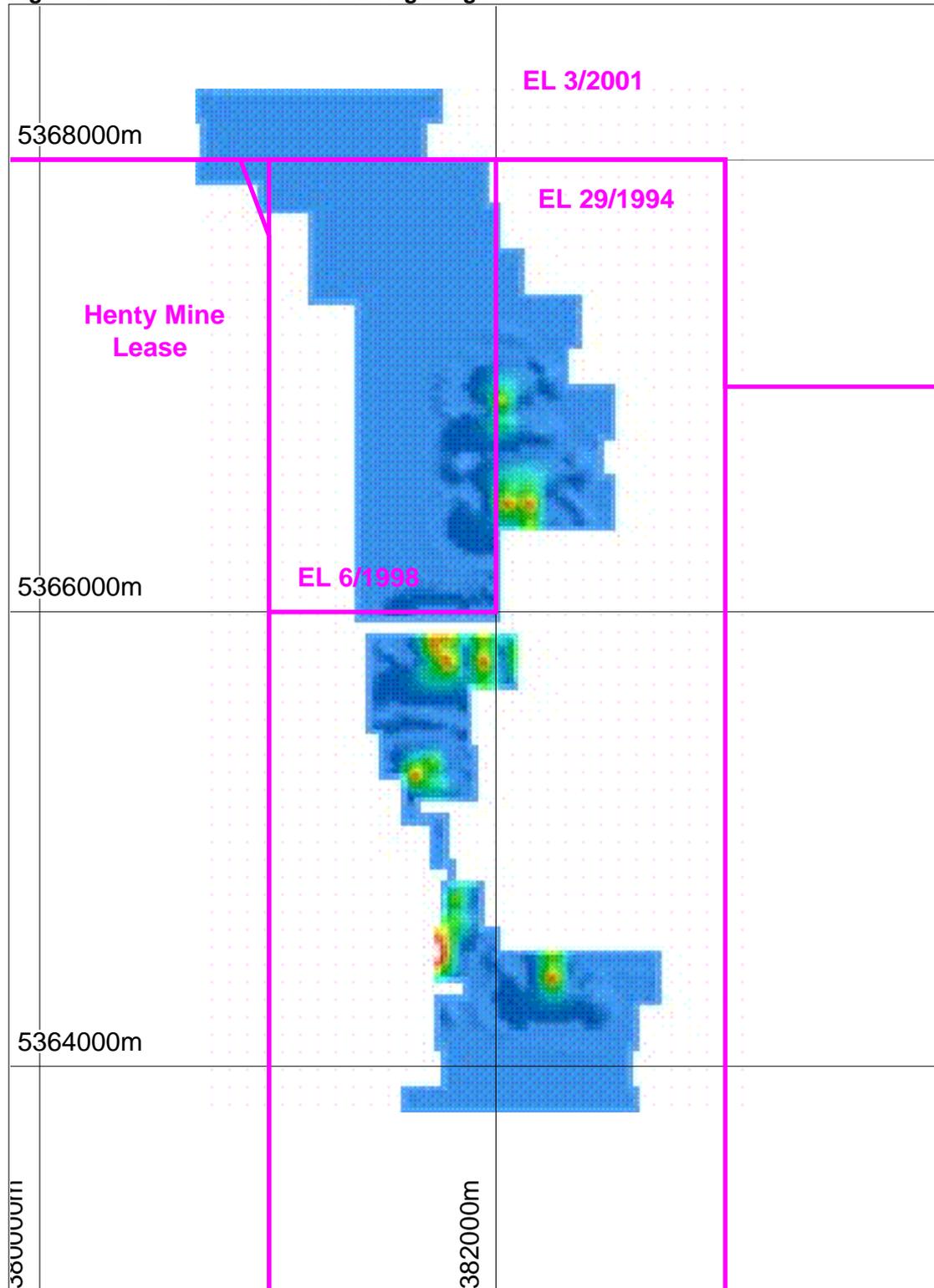


Figure 11 Moxon Saddle Soils As Image

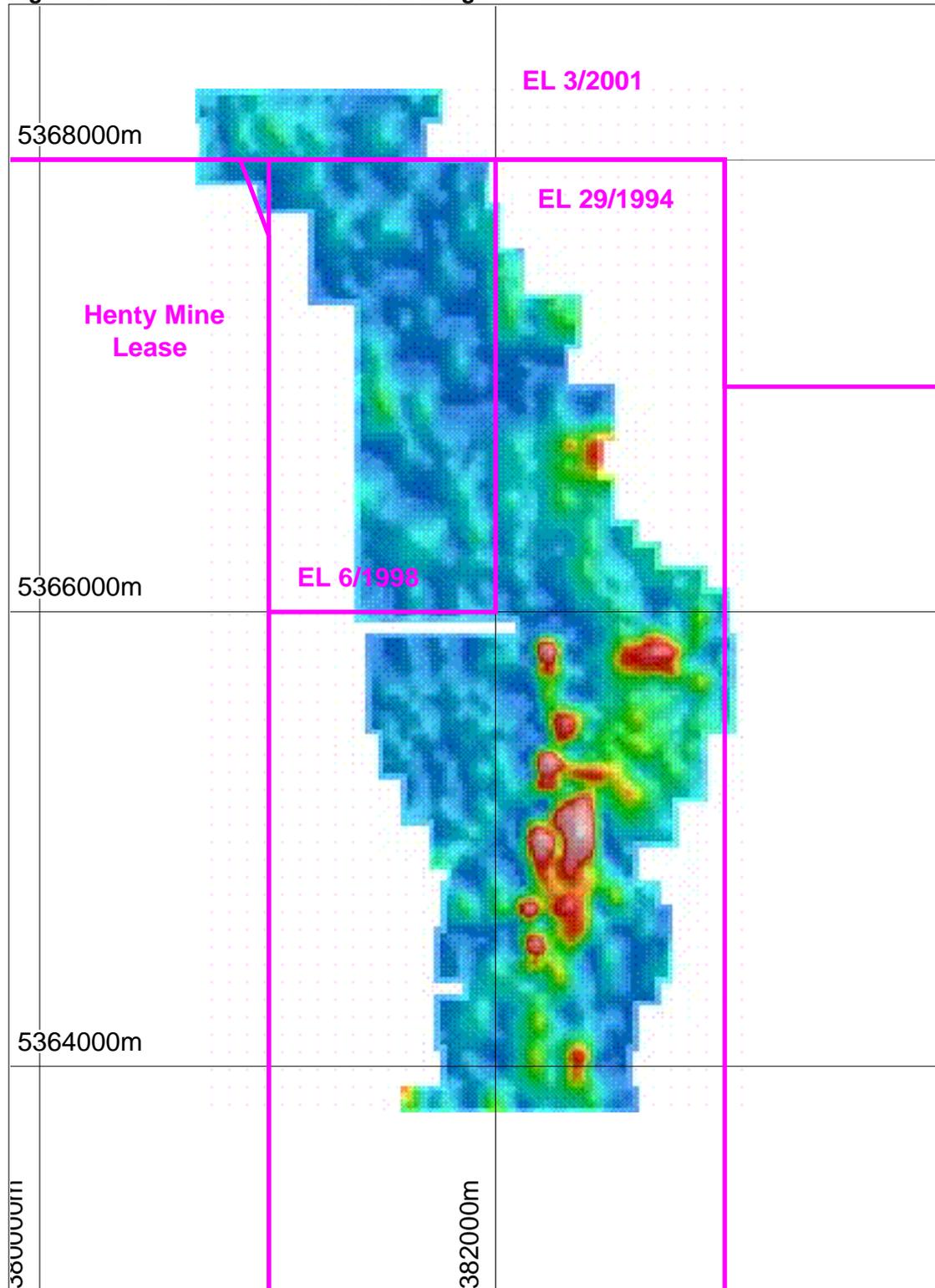
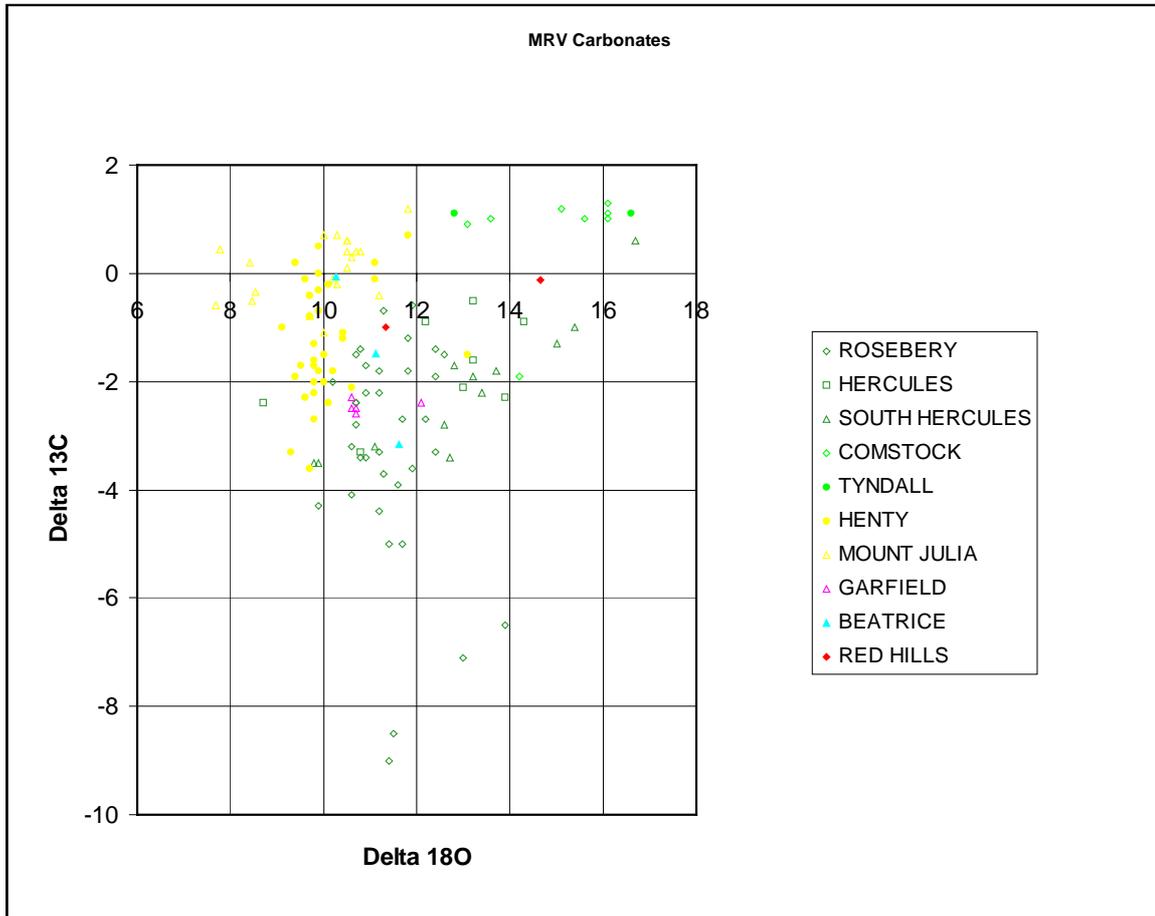


Figure 12 Delta 13C versus Delta 18O plot for MRV Carbonates



4.4 GEOPHYSICS

4.4.1 Western Tasmania Regional Minerals Program Data

The data from the Government funded Western Tasmania Regional Minerals Program Helimag survey of Western Tasmania was purchased and reprocessed by Chris Dauth as part of Goldfields ongoing regional exploration program. Data images of Total Magnetic Intensity (TMI), 1st vertical derivative (1VD) and Radiometrics (Red-Green-Blue Potassium-Thorium-Uranium) are presented in Figures 13 to 15.

Airborne EM currently being flown as part of the same program will be purchased and processed when available.

Figure 13 WTRMP Helimag Data – TMI Image

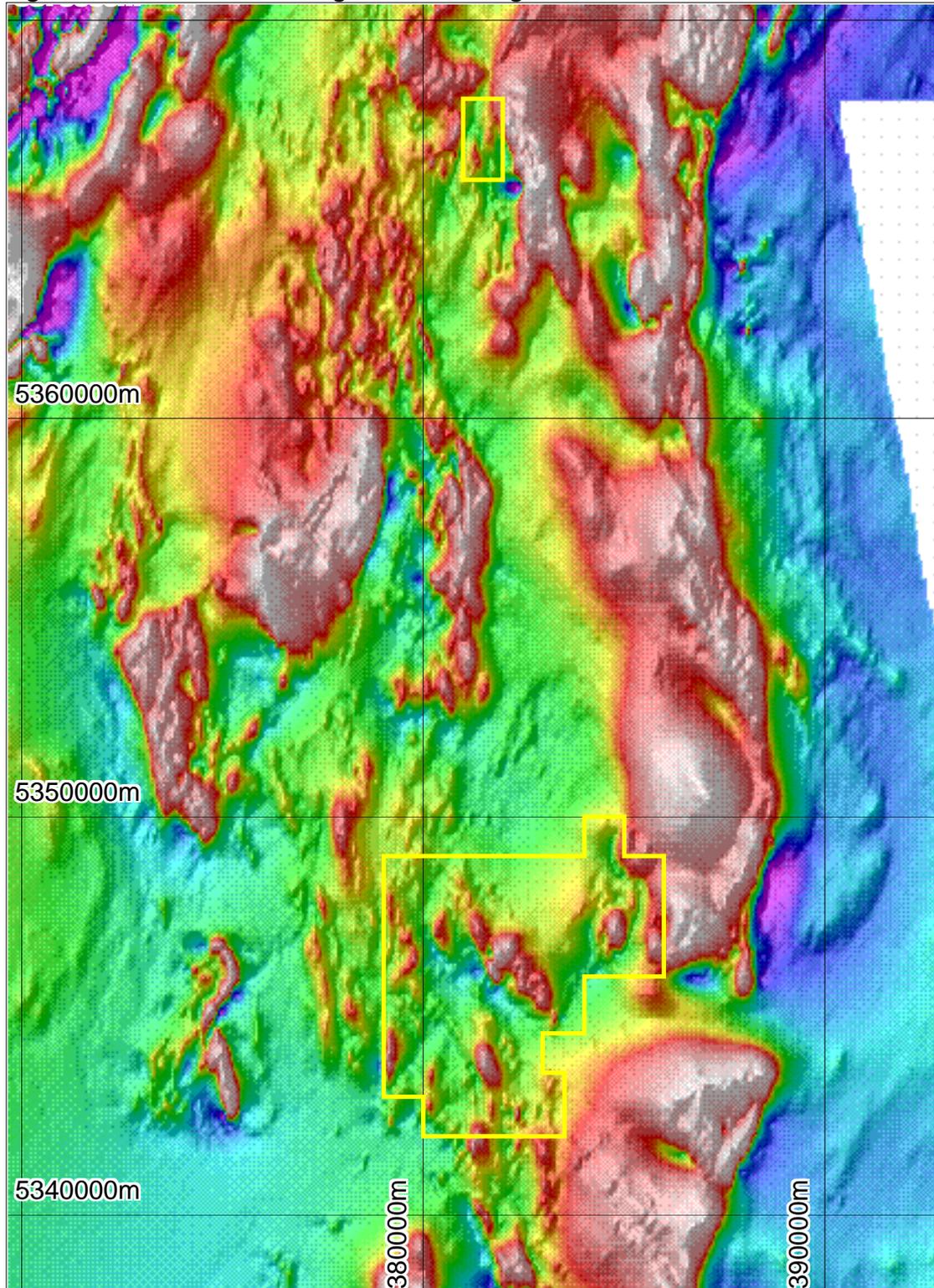


Figure 14 WTRMP Helimag Data – 1VD Image

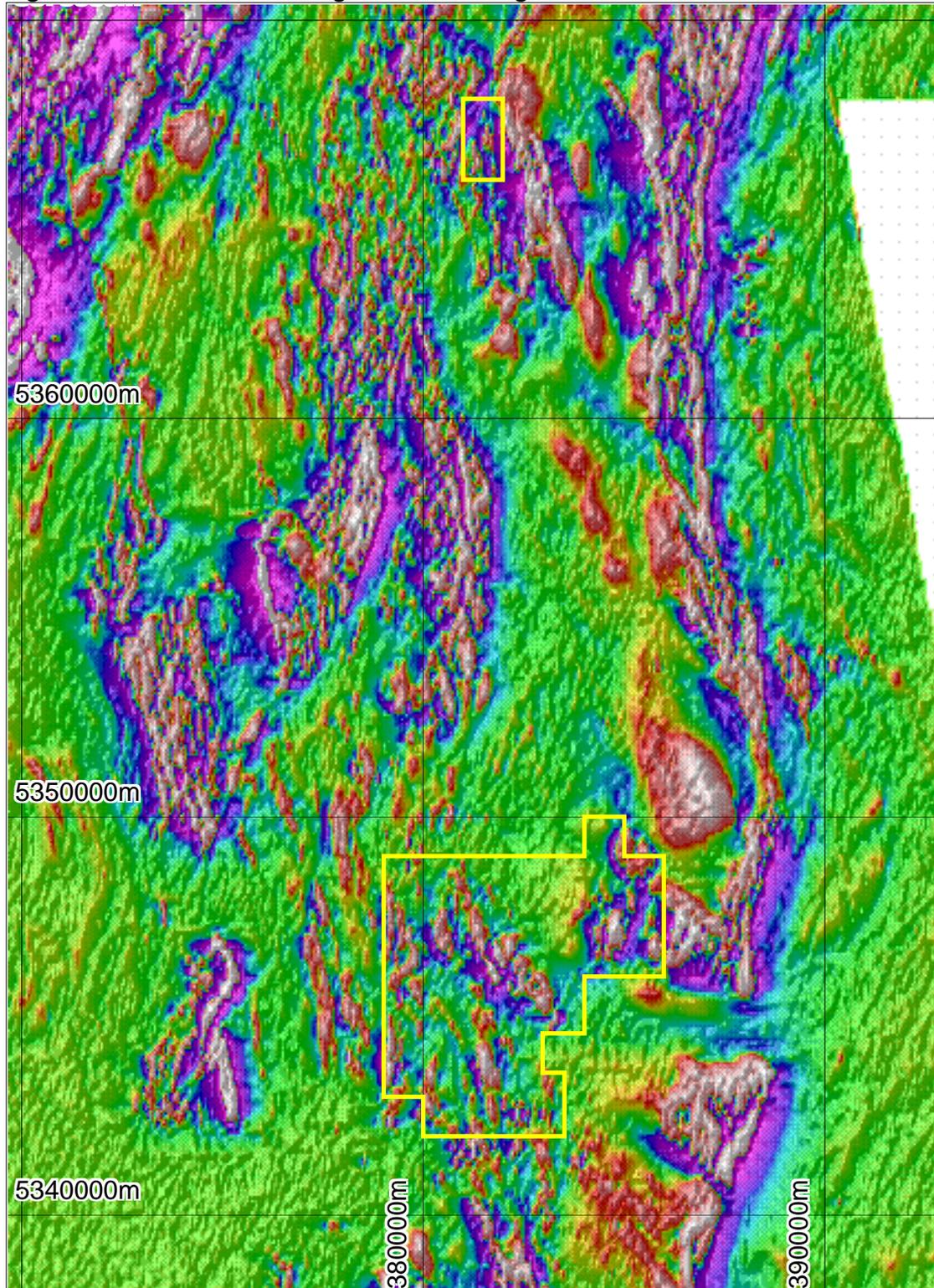
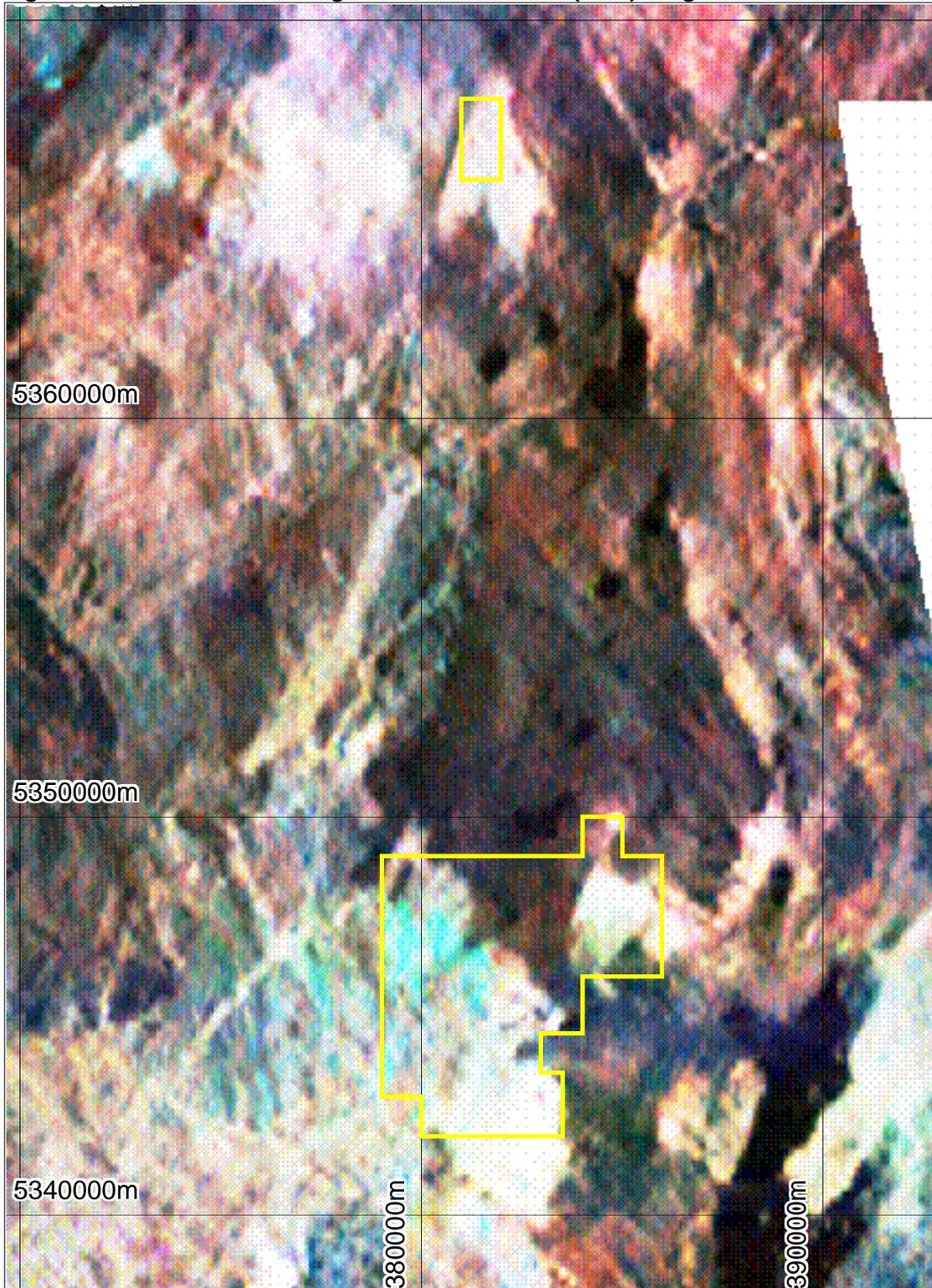


Figure 15 WTRMP Helimag Data – Radiometrics (RGB) Image



5. DISCUSSION and RECOMMENDATIONS

Only minimal exploration was completed on EL 6/1998 in the period March 2001 to March 2002. This was due to the length of time required to complete the transfer of the tenement from Pasminco Exploration. The exploration completed consisted of a review of previous exploration in the Beatrice – West Sedgwick area and a C horizon soil sampling program at Moxon Saddle.

Re-logging of old drill core from the Beatrice – West Sedgwick area has largely confirmed the geological model of previous workers. Recent drilling at the Beatrice prospect by Pasminco has shown that the Itat Creek horizon (a potential correlate of the Henty Horizon) may be directly correlated with the sequence exposed at Red Hills. Interbedded dacitic volcanoclastics, carbonate clast rich mass flows and black siltstones developed in the upper part of the Central Volcanics Sequence are broadly similar to units correlated with the Lower Tyndall Group in other parts of the Mount Read Volcanics. However, they were deposited as a deeper water distal facies compared to the Lower Tyndall Group developed at Henty and Comstock. This may highlight the Itat Creek horizon as a prospective horizon for Au rich VHMS mineralisation. However, the recent Pasminco drilling has somewhat downgraded the potential for an economic discovery at the Beatrice Prospect.

The Tyndall Group exposed in the West Sedgwick area can be directly correlated the Tyndall Group from the Henty – Comstock area. The review of previous drilling has confirmed that the Henty Horizon has been inadequately tested in the West Sedgwick area. It is recommended that future exploration should re-examine the West Sedgwick area to define targets that warrant drill testing.

The results of the C horizon soil sampling program at Moxon Saddle were disappointing and no additional exploration is planned at this prospect.

The Beatrice EL is due to expire on 24 April 2003. Exploration completed in the final year of tenure should critically examine the West Sedgwick area for Henty – Comstock style Au mineralisation. The following work program is recommended:-

Drilling	2 x 400m helicopter supported drill holes (~\$150/m)	120,000
Assays	200 samples @ \$20 each	4,000
Other	(Salaries, vehicles etc)	<u>41,000</u>
Total		\$165,000

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APPENDIX 1

Symbols and Codes used in drill logs

APPENDIX 2

Diamond Drill Hole Logs

APPENDIX 3

Geochemical Data

PLANS