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## **ANNUAL REPORT**

### **EXPLORATION LICENCE 27/2004**

#### **ROSSARDEN**

**November 2005**

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## **INTRODUCTION**

EL27/2004 was granted to Allstrong Investments Pty Ltd on 26 October 2004. In 2005 Minemakers Australia NL agreed to purchase Allstrong and its assets.

In turn Minemakers Australia NL is a wholly owned subsidiary of Minemakers Limited (“Minemakers”). The latter company intends to be admitted to the Australian Stock Exchange in early 2006 and will have responsibility for exploration activities within EL28/2004.

EL28/2004 is one of three (the others are 27/2004 & 29/2004) which were granted to Allstrong (Figure 1).

## **WORK DONE**

### **1. INTRODUCTION**

Allstrong and Minemakers were attracted to the area under tenure by the metal enrichment therein, as attested by the main Storey’s Creek, Aberfoyle & Royal George tungsten and tin mines as well as several smaller historic mines (Figure 2).

### **2. ALLSTRONG WORK**

Allstrong undertook the following:

- Purchase of all relevant maps and reports.
- Downloading of all reports of historic exploration from the MRT database.
- Data review and commencement of data synthesis.

### **3. MINEMAKERS’ WORK**

#### **3.1 Orientation**

Minemakers has undertaken three site visits from its Perth, Western Australia, headquarters.

The principal aims were to establish logistic, geophysical and geological familiarization, and to determine a framework for evaluation of past evaluation work and to plan future work appropriately.

#### **3.2 Economic Overview**

##### **3.2.1 General**

Minemakers aims to resume profitable mining and treatment of tungsten and tin around the old production centres and from previously discovered but unmined large deposits. It will concentrate upon open cut operations and employ modern selective mining and metallurgical practices.

##### ***Tungsten & Tin Price Overview***

After the collapse of the tin producer cartels in the early 1980s, the tin price declined. However, it rose strongly in 2003 and its future seems assured. It is generally considered that the long-term

outlook for tin is very positive as identified supplies seem less than projected demand and there is already a significant supply deficit.

Until recently, the tungsten price has been fairly stable, with China supplying most of world demand. However in 2005, that country was not able to do so and prices have increased dramatically. Minemakers has a positive view on the future tungsten price in light of world consumption growth, Western mine closures and Chinese export limitations.

### ***Australian Size Context***

This area of northeastern Tasmania is one of Australia's premier tungsten and tin mining fields and Minemakers' tenements cover all of its major hard-rock mining centres.

### ***History and Outlook***

The major mining centres in the tenement have produced about 2,000t of tin and 18,000t of tungsten oxide. At recent prices of AUD9,000/t for Sn, and AUD250/metric tonne unit of tungsten oxide (WO<sub>3</sub>), this equates to a value of over \$600M. Production spanned the interval from 1891 to 1982.

Tin quotas in the 1980s and then prolonged weak tin prices caused closure of the mines and the abandonment of the patchwork of smaller tenements which had characterized these mining fields. While Minemakers initially intends to concentrate on the old mines, from an exploration viewpoint in due course this will allow the Company to seek further deposits by modern exploration methods without the encumbrance of a fragmented landholding. Significant prospects are evident from the historical reports and plans and exploration success will lead to production longevity.

### ***Current Resources***

Further details are presented in the following discussions on the individual deposits.

- **Aberfoyle**

In a conceptual pit to a depth of 110m, a pre-JORC resource estimate of 5.5 Mt @ 0.1% Sn @ 0.06% WO<sub>3</sub> was made. This covers only a zone around the main old underground workings and Minemakers perceives considerable upside along strike and nearby. (Figure 3)

- **Lutwyche**

A pre-JORC estimate of 1.1Mt @ 0.45% tungsten and 0.45% tin is recorded. A shaft to about 400m depth accesses this deposit.

- **Royal George**

Based on historic drilling, a pre-JORC inferred resource of 1.2 Mt @ 0.34% Sn was estimated and this is open at depth and along strike. The topography again favours a future open cut operation.

- **Storey's Creek**

The Storey's Creek mine has lesser surface drilling. However, the extent of stockwork mineralization exposed at surface and indicated in historic plans of old workings and drill holes leads to strong optimism that a large resource, amenable to open-cut mining, can be defined.

## **4. PROJECT OVERVIEW AND PLANNING**

### **4.1 Storey's Creek**

Production has totalled around 1.1 Mt @ 1.09% tungsten and 0.18% tin worth over \$300M in recent price terms. The scheelite, wolfram and cassiterite are sporadically distributed in several ramifying sheeted veins averaging 1.2m in thickness. The veins constitute a mineralized zone which trends north-westerly. The veins have a fairly flat dip to the south-west. The workings were largely confined to the two thickest veins. The western (or No. 2) vein was driven on for 700m. The eastern (or No. 1) vein was about 140m long. They were 40m apart at surface but intersected at 70m below surface for a combined width of 6m. They separated again at greater depth.

It is evident to Minemakers from surface exposures and an overview of old records that there is considerable mineralized veins and stockworks whose thickness was insufficient for the historic operators. Introductory examination of old mine plans indicates a mineralization envelope about 80m thick which, with the shallow dip of the mineralization should favour the economics of an open-cut mining operation. Historic plans indicate that mineralization in the main system extends over more than 800m along strike and highlights the potential for a large open cut mine (Figure 4).

The adjacent large mineralized system at Eastern Hill will also be assessed for its potential to host a viable open cut deposit.

The metallurgy was apparently simple, employing crushing and/or grinding and gravity separation.

#### **Minemakers' Aims**

- Construct a modern database of all extract historic information.
- Complete infill drill out of a resource for an open-cut mining operation.
- Conduct necessary metallurgical testwork, including physical separation of ore-bearing quartz from country rock.
- Complete bankable feasibility study, utilizing a common milling facility for Storey's Creek and Aberfoyle.

### **4.2 Aberfoyle Mine**

Past production totaled 2.1 Mt @ 0.9% Sn and 0.3% W, worth around \$370M on recent prices. Mineralization occurs as multiple veins in a steeply dipping sheeted zone about 60m thick and 500m long. The main vein system consists of nine individual quartz veins containing coarse cassiterite or wolfram, and developed above a granite intrusion at a depth of about 300m.

The old operators were able to mine veins with a width down to 25cm. Multiple veins and stockwork material remain and, as at Storey's Creek, they will be Minemakers' immediate target (Figure 5).

An overview of old mining plans and records indicates that mineralization extends some 1200-1500m from the area of main underground production, centered around the Spier's and Brandon Shafts, to the Lutwyche Shaft area. The intervening area has been very lightly drilled and although no major reefs were intersected at shallow depth there is evidence of continuity of target stockwork mineralization. It constitutes a prime evaluation target for a large pit operation for Minemakers.

Around the Spiers Shaft, limited surface diamond drilling combined with historic records enabled a previous company to estimate an inferred resource of 5.5 Mt in a small pit to a depth of 110m at a grade of 0.1% Sn and 0.06% WO<sub>3</sub> and with a waste to ore ratio of 2.6.

The historic treatment process involved a coarse crush to about -15mm. Minemakers will test whether a finer crush of this stockpiled gravel may also yield economic returns. Retreatment of old slimes seems to hold additional promise.

About 650m north of Aberfoyle, underground development has been carried out to access the Lutwyche deposit. A shaft to about 400m depth was raise bored after horizontal development at the No. 13 level from Aberfoyle. A pre-JORC estimate of 1.1Mt @ 0.45% tungsten and 0.45% tin was made by the previous operators.(Figure 3)

### **Minemakers' Aims**

- Construct a modern GIS database of all extract historic information.
- Drill out the resource around the main workings.
- Drill test along strike of Aberfoyle, between Aberfoyle and Lutwyche and near surface at Lutwyche.
- Complete bankable feasibility study, utilizing a common milling facility for Storey's Creek and Aberfoyle.

### **4.3 Royal George Tin Deposit**

The Royal George mine produced some 1,100t of tin from 170,000t of ore at a grade of 0.65%. The historic production was from a set of parallel greisenized sulphidic granite lodes which were mined over a length of 250m and to a depth of 55m. Mining was by an open stope and then by limited underground development.

The ore was mined over widths of 5 to 20m and the lode dipped westerly at 70°.

Twenty diamond holes have been drilled into the greisens below the old workings, as shown on the long section. They indicate that the deposit has a strike length of 400m and a depth of 150m. It is open along strike and at depth. It has been reported – but not verified by Minemakers – that the northern potential strike extension of mineralization was not able to be explored or mined in the past as that area was private land and access had previously been vetoed (Figures 6 & 7).

### **Grade and Resource Considerations**

Examination of records indicates that the tailings grade 0.25% Sn which, coupled with the historic recovery of 0.65%, implies a mined grade of around 0.9%. This figure is supported by reported underground sampling of 0.75% on the No. 2 level between 1965-1971.

Diamond drilling at that time was of small diameter and gave poor recoveries. CRA undertook re-assaying of that core in 1979-1981 and derived an increase in the Sn grades by 10-50% and it considered that a grade increase of 25% was to be expected from larger diameter drilling. CRA estimated pre-JORC recoveries as an Inferred 1.2mt @ 0.34% tin including an Indicated 0.5mt @ 0.4% tin. Spectrum Mining subsequently drilled four large diameter diamond holes and three of them averaged around 0.5% tin through the greisen zone.

### **Mining Considerations**

The greisen outcropped along a ridge and the economics of a potential future open cut operation would be enhanced by the relative lessening of the waste to ore ratio afforded by that topography.

## **Minemakers' Aims**

- As the greisen is sulphidic, test for blind repetitions or extensions by electrical geophysical methods.
- Test for along-strike continuations of the greisen.
- Utilize large diameter drilling to enhance statistical grade representivity and to establish a reliable resource.
- Examine the potential to treat the tails in a modern gravity circuit.
- Test for mineralization in the hangingwall of, that is west of, the greisen as that material would be mined in an open cut operation and in sulphidic selvages adjacent to the greisens.
- Take the project to a scoping study and, if warranted, BFS with ore likely to be trucked to a centralized plant at Storey's Creek/Aberfoyle.

## **5. INDEPENDENT CONSULTING GEOLOGIST'S REPORT**

As part of its Prospectus for capital raising associated with a planned listing on the ASX, Minemakers has commissioned an independent geologist's report by Featherstone Geological Consultants Pty Ltd.

That part of its report is reproduced as follows:

### **5.1 Storey's Creek**

#### **Location**

The old Storey's Creek is located about 55km southeast of Launceston in northeast Tasmania. The township lies on the southern flank of the Ben Lomond mountain, at an altitude of 790m. It occurs on the Tasmania North East 1:250,000 map sheet and the St Pauls 1:100,000 map sheet. The Storey's Creek Mine lies 3km northwest of the Aberfoyle Mine and the associated Lutwyche Shaft mineralization that are also part of Minemakers portfolio of prospects. The Storey's Creek Mine is secured by Minemakers Exploration Licence EL27/2004. The author inspected the minesite in July 2005. The regional location of the prospect is shown on Figure 1 and its location within the Exploration Licence is shown on Figure 2.

#### **History and Past Production**

Alluvial cassiterite and mineralized veins were discovered at Gipps Creek, 6.5km to the west, in 1872 and soon after alluvial cassiterite was reported at Storey's Creek. The veins at Storey's Creek were worked for tin from 1891 until 1900 when tungsten became marketable. The mining was by small parties until 1913 when the Storey's Creek Tin Mining Syndicate took over the mine. This syndicate operated until 1928 when it became unprofitable. During this period up to 12,000 t/y of ore was raised grading between 0.75% to 1.75% tin and 0.75% to 2.0% tungsten. After a period of successful tributing the mine was taken over in 1937 by the Storey's Creek Tin Mining Company.

Once the tungsten mineral wolframite became marketable at the turn of the century the production of tungsten was greater than the production of tin. Total estimated production is 1.1Mt of ore at 1.09% tungsten oxide (WO<sub>3</sub>) and 0.18% tin (Sn). Up until 1962 recoveries were estimated at 6,300t of tungsten oxide and 1,118t of tin metal. Mining was being phased out in 1979 with the extraction of pillars and the mine was closed in 1982.

## Regional Geology

A Silurian/Devonian sedimentary succession (the Mathinna Group) has been folded and intruded by Devonian granites. After uplift and peneplanation during Carboniferous times it was unconformably overlain by Permian/Triassic sediments followed by intrusion of a 300m thick Jurassic dolerite sill. A further period of erosion then removed the post-Carboniferous stratigraphy from the area of the mines leaving the Ben Lomond massif formed of the dolerite. The Mathinna Group has only been subjected to low grade regional metamorphism. Contact metamorphic effects close to the granite are generally minor with the development of some biotite spotting within 60m of it.

## Geology

The Storey's Creek Mine is based on a NNW trending sheeted vein system that forms a zone 30-50m thick and 300m long, dipping 25°- 30° SW. While there are two main veins these are part of a group of veins with varying dips and strikes as shown in Figure 3. This figure shows these large veins that were stoped out by earlier miners. In addition to these large veins there were other smaller veins which were too small to be mined. Minemakers plans to assess the ground in the vicinity of the mine to determine if the fine veins form an economically mineable deposit.

The wolframite ( $(\text{Fe},\text{Mn})\text{WO}_4$ ) and cassiterite ( $\text{SnO}_2$ ) mineralization occurs in quartz veins hosted by Silurian/Devonian sandy shales of the Mathinna Group. In the vicinity of the mines these sediments are described as highly siliceous massive competent sub-greywackes. The Mathinna beds are closely folded along north westerly axes and pitch to the south east at about 20° at Storey's Creek. These sediments have been intruded by numerous steeply dipping basic dykes up to 1m wide at right angles to the bedding. These dykes were emplaced prior to the mineralization and are highly altered. Three abnormally flat dykes at 45° to the normal strike, known as "caunter" dykes, were subsequently refractured along their walls to allow deposition of rich veining.

A Devonian granite batholith, the Ben Lomond Granite, outcrops over an area of 130 km<sup>2</sup> in the environs of the tin mines and its emplacement generated the mineralizing fluids which deposited the veins in suitable fractures in the sediments. At the surface at Storey's Creek the granite outcrops about a kilometre west of the mine. It is a coarse grained porphyritic leucogranite similar to some of the granites forming the Blue Tier Plateau in this region. The granite has a finer grained contaminated margin indicating that it has absorbed some country rock along the contacts which cut across the bedding. In places the granite contact bulges and some of these are topped by aplite cupolas. Such a cupola is present beneath the Storey's Creek Mine at a depth of 320m and the bulges are interpreted to have developed where the mineralizing fluids left the granite.

At Storey's Creek Mine two main veins were worked. The No.1 vein strikes at 350° and dips west at 20° and the No.2 vein strikes at 335° and dips west at 37°. The veins are 40m apart at the adit level but the two merge at a depth of 70m below adit level where they are 5.5m thick. North and south of the intersection they diverge with No. 1 being 1.0m to 1.3m thick and No. 2 being 0.7m to 2.5m thick. The section of the mine shown in Figure 3 gives a simplified view. The veins are somewhat irregular along strike and branch and join in places and there is also a sheeted vein system of narrow veins. In addition to the main vein system five narrow tin-rich caunter veins run into the footwall for up to 70m three of which are along caunter dykes. The grade of the mineralization varies with the distance from the cupola and generally economic mineralization is only found between 30m and 330m above a cupola. At Storey's Creek the cupola is about 180m below surface.

The wolframite and cassiterite were usually deposited early on the walls of the veins and the mineralization extends from the surface to the full depth of the mine (200m below surface), a length of 400m – 450m down the dip of the veins, but is not wholly regularly distributed.

In the northern central part of the mine large patches of late stage sulphide mineralization occur replacing the veins at their intersection with a set of transverse joints or faults. The sulphides include galena and sphalerite with some stannite and because galena contaminates the tin concentrates these patches of sulphides were usually left as pillars.

## **Previous Exploration**

The Aberfoyle Mine operated until 1982 and Storeys Creek and other prospects in the area were held by Aberfoyle Tin NL at that time. Some minor exploration of the prospects was carried out by it but the Storeys Creek Mine was not identified as an exploration target.

## **Planned Exploration**

Minemakers plans to :

- Construct a modern database of all extant historic information.
- Complete drill assessment of a resource for open-cut extraction and conduct necessary metallurgical test work.
- Complete a bankable feasibility study, utilizing a common milling facility for Storey's Creek and Aberfoyle.
- Establish a mining and milling operation.

The budget for Storeys Creek is \$700,000 for Year 1 and \$800,000 for Year 2.

## **Summary**

Past mining operations employed conventional lode mining techniques to extract high grade ore from wide veins which could be mined without including barren wall rock which dilutes the grade. Most of this type of ore has been mined out and the mining techniques used in the past are often not economic today. Previous miners could not mine the narrower veins and, for the most part, did not bother to assess them. The highly mechanised open pit mining techniques that are being used today are able to profitably mine larger volumes of lower grade mineralization that is present in fine veins and that was not viable previously. Minemakers will research available data on this mine and nearby prospects to identify mineralization that may be suitable for assessment for open pit mining.

## **5.2 Aberfoyle – Lutwyche Tin Tungsten Mine**

### **Location**

The old Aberfoyle Mine is located about 57km southeast of Launceston in northeast Tasmania. The mine and the mine township of Rossarden (1.5km south of the mine) lie south of the Ben Lomond mountain (1,574m), on a spur, at an altitude of 670m. The locality plots on the Tasmania North East 1:250,000 map sheet and the St Pauls 1:100,000 map sheet. The associated Lutwyche Shaft lies 1km NNE of the Aberfoyle Mine and the Storey's Creek Mine lies 3km NW. All these mines are secured by Minemakers' Exploration Licence EL27/2004. The author inspected the Aberfoyle and Lutwyche minesite in July 2005.

### **History**

The low grade tin bearing veins exposed at the surface at Aberfoyle were discovered in 1916 but little work took place until 1926 when a prospecting syndicate was formed to investigate the veins at depth. Aberfoyle Tin NL took over late in 1926 and sank two shafts. One was vertical to a depth of 18m and the other was an underlay shaft following a 0.5m thick vein down to the 18m level.

In 1928 surface exploration was abandoned and an adit was driven from the west bank of the Aberfoyle Rivulet. It was designed to intersect the tin bearing veins 56m below the surface workings. This adit was driven 320m and exposed a group of veins between 274m and 318m. Although modest in size they encouraged further development and production from the mine commenced in 1931 and expanded from 1934 when the main shaft was sunk to 70m and No. 2 Level opened up.

The Aberfoyle and Storeys Creek Mines were sold to Rossarden Mines Ltd in May 1981. By the time the Aberfoyle Mine closed in 1982 the Spiers Shaft was 420m deep with fourteen levels spaced 30m – 35m apart. This shaft entered an aplite cupola at a depth of 318m. Total production is recorded as 2.1Mt at 0.91% tin (Sn), 0.28% tungsten oxide (WO<sub>3</sub>).

The Lutwyche shaft is located in an area containing tin veining and was estimated to have produced about a tonne of tin concentrate. Aberfoyle staff made a pre-JORC resource estimate of 1.1Mt at 0.45% tin and 0.45% tungsten. It was accessed by horizontal development from the No. 13 Level at Aberfoyle and a shaft was raise bored to surface before closure.

## **Regional Geology**

A Silurian/Devonian sedimentary succession (the Mathinna Group) has been folded and intruded by Devonian granites. After uplift and peneplanation during Carboniferous times it was unconformably overlain by Permian/Triassic sediments followed by intrusion of a 300m thick Jurassic dolerite sill. A further period of erosion then removed the post Carboniferous stratigraphy from the area of the mines leaving Ben Lomond formed of the dolerite. The Mathinna Group has only been subjected to low grade regional metamorphism and contact metamorphic effects close to the granite are generally minor with the development of some biotite spotting within 60m of the aplite. At Aberfoyle the sediments are tightly folded along axes striking NW with near vertical dips and gentle plunge. Cleavage is insignificant but bedding plane and axial plane faults are common and are important in the control of ore deposition.

## **Geology**

The mineralization occurs in northerly trending fissure veins with steep westerly dips, occupying a zone about 60m wide in the folded slates and siltstones. The vein swarm lies directly over the aplite cupola intersected by the main shaft and which is interpreted to be genetically connected with the mineralization. The veins extend over a strike of 500m. There are nine veins in five groups of which the 26 Vein System and the Western Vein are the most important. The vein system is shown on the cross section of the mine presented in Figure 4.

Underground, five major folds and nineteen lesser folds were recorded that form a complex small scale anticlinorium with a north westerly trend. The fold axes plunge at about 25° to the south east and the axial planes dip at 85° to the south west. This vein system extends 180m south of the Brandon Shaft as an intense swarm of narrow mineralized veins that may be amenable to open pit mining (McGushin & Keyes 1981).

There are two main groups of faults striking north and north west. The north striking faults are the most important and are known as the Aberfoyle No. 1 Fault System. It has been traced from the surface down through all levels of the mine. The total throw on these faults varies from 37m at the north end of the mine to 12m at the south end. The north west – south east faults form a small but important zone of strike faults which trends parallel to the fold axes of the Mathinna sediments (plunging gently south east) and dip steeply to the south west.

At the Lutwyche prospect two sets of tin bearing veins up to 100mm wide are reported with one group striking between 320° and 340° and dipping at 70° to the south west and the other striking between 40° and 65° and dipping 70°- 85° to the south east. The Lutwyche zone of fracturing and quartz veining can be traced 750m south east of the Aberfoyle Rivulet before it becomes covered with Permian rubble and intense quartz veining is reported 2.4km along strike to the ESE.

Tin veins are also reported from the Kookaburra Prospect between Lutwyche and Aberfoyle. At Brock's Show, about 1km NW of Rossarden, narrow tin veins and cassiterite deposited in joints were mined to a depth of 15m and produced about eight tonnes of tin and this is another prospect that Minemakers plans to investigate which could be amenable to open pit mining.

Lying 9km SW of Aberfoyle is the old Rex Hill Mine which was discovered prior to 1890 and had its main period of production from 1893-1909. The mineralization is present in greisenized granite containing a high grade quartz vein on a lode. At the surface the mineralization was identified as silver – lead but as this was mined it was found to be essentially tin accompanied by base metal sulphides. The ore was pipe like at the surface but became dyke like at the N0.3 Level (90m below surface). Details of production are sketchy but in total 20,000t of ore may have been processed with an average head grade of 2.5% Sn and grades up to 5% Sn. Recovered grades were reported at 1.3% to 1.4% Sn in 1904 but the sulphides made treatment difficult. Minemakers also plans to investigate this zone of mineralization which was only mined to 90m.

### **Previous Exploration**

Most of the exploration was concentrated on the mining leases and not reported on in detail. Exploration Licence 28/78 was originally granted to Aberfoyle Exploration Pty Ltd in April 1979 and passed to Rossarden Mines Ltd when they purchased the mines in 1981. The exploration licence was surrendered in 1982 and the work undertaken reported in Summons 1983.

### **Planned Exploration**

Minemakers plans to :

- Construct a modern GIS database of all extant historic information.
- Drill out a resource and conduct necessary metallurgical testing.
- Complete a bankable feasibility study, utilizing a common milling facility for Storey's Creek and Aberfoyle.
- Establish a mining and treatment operation.

The budget for Aberfoyle is \$700,000 in Year 1 and \$800,000 in Year 2.

### **Summary**

Past mining operations employed conventional lode mining techniques to extract high grade ore from wide veins which could be mined without including barren wall rock which dilutes the grade. Most of this type of ore has been mined out and the mining techniques used in the past are often not economic today. Previous miners could not mine the narrower veins and, for the most part, did not bother to assess them. The highly mechanised open pit mining techniques that are being used today are able to profitably mine larger volumes of lower grade mineralization that is present in fine veins and which was not viable previously. Minemakers will research available data on this mine and nearby prospects to identify mineralization that may be amenable to open pit mining.

## **5.3 The Royal George Tin Mine**

### **Location and Tenements**

The old Royal George Mine is located 17km by road east of Avoca in NE Tasmania. Its position is shown on Figure 1. The old mine is centred on 5,370,000N 574,000E on the Tasmania South East 1:250,000 map sheet and the St Pauls 1:100,000 map sheet. The prospect is secured by the southern extension of Exploration Licence EL27/2004. Featherstone was advised, but has not verified, that at depth the northern portion of the mineralization passed into ground which used to be a crown grant giving mineral rights to the owner of the land. The historic owner reputedly refused mining access to his ground during the time the mine operated. Mineral ownership has now reverted to the Crown and Minemakers will be able to explore that area. The author inspected the Royal George minesite in July 2005.

### **History**

The mineralization was discovered in the 1880s and was initially grouped with a number of mineralized outcrops in the St Paul's River valley. Only minor production took place until the Royal George Mine operated from 1911 until 1922 with production of 170,000t at 0.65% Sn containing 1,105t of tin metal. The ore was mainly mined from two underground levels and to the surface with open stopes. Two deeper levels (No.3 & No.4 Levels) were later established by the Cornwall Coal Co. in 1968 from the inclined shaft to a maximum depth of 80m below surface. In 1955 interest in the mine was sparked by the discovery of torbernite (a complex hydrous copper uranium phosphate) by an amateur mineralogist Mr W. Pitulej (MD of Ben Lomond Mining Co. Ltd.). Further work indicated that the Royal George torbernite had a sporadic distribution and the low uranium concentration was not of economic interest.

### **Regional Geology**

The country rock in the area of the Royal George Mine consists of granitic rocks which intrude Silurian to Devonian sandstones and siltstones of the Mathinna Beds. The main granite is coarse grained with porphyritic feldspar and biotite in a groundmass of quartz, feldspar, and biotite, with accessory tourmaline. This granite also exhibits other phases in some localities such as pegmatites, graphic granite, aplitic dykes, etc. An extremely hard fine grained granite is also present but shows no particular relationship to the mineralization which is present in both types of granite. The granites are assigned a Devonian age and are considered to be variants of the Ben Lomond granite.

### **Geology**

The mineralization has been introduced into the granitic rocks over a strike of 250m. The deposit is formed by a steeply dipping zone of lodes striking at 310° to 320° and dipping 75° to 82° to the SW. The lodes are variably spaced and the group narrows to the north. They are variously described as joints or fracture planes with some showing good slickensides. The zone of mineralization plunges shallowly to the north. Pneumatolytic fluids have travelled up the lodes altering the granite to greisen and introducing tin and base metal sulphides into the wall rock. This mineralization penetrates the walls of the lodes to varying extents, typically up to 1.5m wide, and the mineralized group of lodes may be up to 20m wide but not continuously mineralized over this width. Between 5-20% disseminated pyrite, sphalerite, arsenopyrite, and chalcopyrite, are present in the strongly mineralized greisen bands. Sulphides average 3% within the host granite for 30m each side of the main zone of mineralization. The cassiterite is described as fine grained and rarely visible but coarser cassiterite is reported in the higher grade zones below the old stoping.

## Previous Exploration

The discovery of torbernite at the mine in 1955 led to the drilling of one hole (55/1) by A. Ringwood in 1955 and three further holes by BHP in 1957 (BHP57/1, 2, &3). Available data on drill holes is presented in Table I. The question marks against the tin grades indicates that there was no remaining sample for CRA to re-assay at a later date.

In 1965 the Cornwall Coal Company (CCC) pegged several Mineral Leases (21year tenure) and conducted exploration until 1971 with the assistance of the Tasmanian Mines Department. From August 1966 to February 1967 Government Geologist G. Urquhart carried out surface and underground mapping and completed logging and sampling of DC holes 66CC.1 to 66CC.7 The programme was then taken over by A.J.Noldart who logged and sampled holes 66CC.8 and 66CC.9 and supervised the drilling, logging, and sampling, of holes 66CC.9, 67CC.11 to 13. CCC also deepened the inclined shaft to the No.3 and No.4 Levels where some channel sampling was carried out. Most of this drilling was EX size (21.5mm core diameter) and this small core size is reported to have led to recovery and sampling problems and anyway is not considered to be a suitable size for this style of mineralization by Featherstone. In 1970 the Mines Dept. made a pre-JORC estimate of reserves :-

Mines Department, 1970, 159,000t at 0.61% Sn.

In 1977 CRAE became interested in the deposit and entered into a joint venture with CCC in 1979 over the Royal George MLs and the surrounding EL7/78. During 1979 CRAE work comprised re-sampling and re-assaying of all old drill core and sample pulps, checking and correcting old data, compiling new data including a 3D model, and drilling of one hole to test the mineralization at depth. Metallurgical testing of a 1,200kg bulk sample from the No.4 Level was also carried out. Re-assaying gave tin values 10% -50% higher than the original Mines Dept. assays. Assaying for a number of other elements was undertaken but only silver, zinc, and copper, were considered significant. In 1979 a pre-JORC resource was estimated :-

Purvis (1979) 590,000t at 0.41% Sn, 0.21% Zn, 12 g/t Ag using a 0.25% Sn cut off .

The CRA work highlighted problems with the estimation of the tin grades which is considered by Featherstone to be primarily due to the small size of core resulting in small samples. CRA also considered that the core sizes were inadequate and their work suggested that good sampling could increase grades by 25%. However even factoring in this increase and using a 0.2% cut off gave a theoretical resource of 1.17Mt at 0.34% Sn which was considered to be too small for CRA. The CRA JV with CCC was terminated in the early 1980s.

Between March and July 1983 Amax Australia were in joint venture with CCC on EL7/78 but no work was done on Royal George.

In 1988 Spectrum Resources Ltd (Spectrum) was granted EL5/88 of 4 km<sup>2</sup> and subsequently EL27/89 of 5 km<sup>2</sup> over the Royal George workings. Part of the latter licence area is a crown grant ("Royslea" owned by Mr Alexander Gee and managed by Mr. R. & Mrs. A. Gee who also lease some of the Crown Land). In 1989 Spectrum drilled four DC holes to confirm the presence of a resource below the stoped out areas of the mine. Acknowledging previous problems due to small cores Spectrum drilled four HQ sized holes (63.5mm diameter core) through the mineralized zones during 1989 (89S1-4). Spectrum considered the results did support previous estimates but the tin price was too low at that time to warrant mounting an operation.

The best has been done to ensure that the data in the table of drill results are the most accurate available. Most of these figures have been derived from pre-metric times and conversion of figures from Imperial to Metric and from local grids to the Australian grids has produced results which are

sometimes marginally out of agreement. To complicate matters various workers have undertaken checks and corrections as they worked and new surveys and re-assaying have been done. In these cases it can be difficult to determine what has led to a particular discrepancy and which figures are most accurate.

**Table I**  
**Royal George Drilling**

Hole No.	Comment	EOH	Easting MGA(m)	Northing MGA (m)	Elevation (m)	From (m)	To (m)	Interval (m)	Grade % Tin
55/1	-43.5° to 045°	112.8			312.7	90.2	98.5	8.3	0.64 ?
BHP57/1	AX -60° to 045°	187.2	574013	5369585	308.2	147.1	155.8	8.7	0.29
					inc.	147.1	153.9	6.8	0.33
BHP57/2	AX -60° to 045°	190.1	574013	5369585	306.0	135.3	140.5	5.2	0.21 ?
					&	182.9	184.7	1.8	0.32
BHP57/3	AX -60° to 045°	155.5	574013	5390215	309.1	139.0	144.5	5.5	0.17
					inc.	139.0	142.0	3.0	0.29
66CC.1	EX -60° to 57°	43.8	573525	5368655	273.5	19.4	26.2	6.8	0.14
66CC.2	EX U/G -0° to 240°	26.8	573583	5368565	264.6	-	-	-	-
66CC.3	EX U/G -42° to 221°	28.9	573600	5368575	263.4	18.3	25.9	7.6	0.29
66CC.4	EX -60° to 057°	38.1	573536	5368624	278.3	13.7	18.3	4.6	0.25
66CC.5	EX -61° to 059°	81.7	573691	5368311	294	69.8	73.3	3.5	0.30
66CC.6	EX -60.5° to 036°	94.5	573647	5368358	295.6	80.2	84.5	4.3	0.18
					&	88.5	92.3	3.8	0.21
66CC.7	EX -60° to 049°	109.6	573615	5368408	298.2	87.4	102.1	14.7	0.39
					inc.	88.7	99.4	10.7	0.46
66CC.8	EX -60° to 059°	109.7	573585	5368461	299.9	83.1	88.8	5.7	0.24
					&	93.8	106.3	12.5	0.38
66CC.9	EX -60° to 060°	109.4	573554	5368513	295.2	79.9	104.3	24.4	0.41
					inc.	82.0	97.5	15.5	0.49
67CC.10	EX -60° to 060°	106.7	573539	5368539	291	84.1	88.4	4.27	0.40
					&	98.1	101.2	3.1	0.19
67CC.11	EX -60° to 058.5°	135	573478	5368587	278.4	111.9	117.3	5.3	0.33
67CC.12	EX -60 to 059°	155.4	573500	5368546	284.8	121.6	126.8	5.2	0.30
					&	131.9	135.3	3.5	0.21
67CC.13	EX -60° to 060°	153.9	573557	5368450	294.1	119.8	126.7	6.9	0.22
					inc	124.7	126.7	2.0	0.49
					&	132.9	138.2	5.3	0.52
79RGC.1	NQ -58° to 059°	266.4	573472	5368461	283	221	223	2	0.11
89S1	HQ -50° to 057°	127.4	573532	5368544	288.1	73.4	75.8	2.4	0.47
89S2	HQ -52° to 056°	127.4	573573	5368484	296.8	78.4	89.9	11.5	0.46
89S3	HQ -53° to 060°	120.0	573613	5368412	297.9	77.5	85.7	8.2	0.59
89S4	HQ -56° to 058°	148.5	573654	5368344	294.1	85.3	94.1	8.8	0.12

### Planned Exploration

Minemakers' aims to advance the project as follows :-

- As the greisen is sulphidic, test for blind repetitions or extensions by electrical geophysical methods.
- Test for along-strike continuations of the greisen.
- Utilize large diameter core drilling to provide reliable data on the mineralization.
- Test for mineralization in the hanging wall of the greisen as that material would be mined in an open cut operation.

- Take the project to BFS, with ore likely to be trucked to a centralized plant at Storey's Creek/Aberfoyle.

Funds allocated for Royal George are \$50,000 in Year 1 and \$200,000 in Year 2.

## **Summary**

Work to date has established the presence of a deposit containing broad zones of mineralized greisen amenable to modern mining techniques. These zones of mineralization lie below the ore that was stoped out during past operations. Unfortunately most of the core drilling on the Royal George Mine was too small to give acceptably reproducible estimates of grade. On available evidence it seems realistic to set a target resource of 1Mt at a grade between 0.4 – 0.5% Sn. The current density of drilling is also only adequate for the estimation of an Inferred Resource. Considerable infill drilling is required to properly appraise the mineralization and enable Reserves to be established.

## **FUTURE WORK**

Subject to achieving its ASX listing, Minemakers is currently aiming to undertake the following in the second year of tenure:

- Construction of a GIS database.
- Twin drilling historic holes with larger diameter holes so as to assess the volume-variance effect.
- Bulk sampling and assaying as appropriate.
- Undertaking of a scoping study.

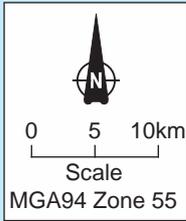
5500000mN

5500000E



**MINEMAKERS  
LIMITED**

6000000E



5450000mN

**BRIDPORT**

**Gladstone**

**SCOTTSDALE**

**EL29/2004**

**ANCHOR**

**Lilydale**

**St Helens**

**EL28/2004**

**GREAT  
PYRAMID**

**LAUNCESTON**

**Mathinna**

5400000mN

**STORYS  
CREEK**

**EL27/2004**

**St Marys**

**ABERFOYLE**

**LONGFORD**

**Avoca**

**ROYAL  
GEORGE**

**BICHENO**

5350000mN

**CAMBELLTOWN**

**Figure 1**

**Tenement Locality**

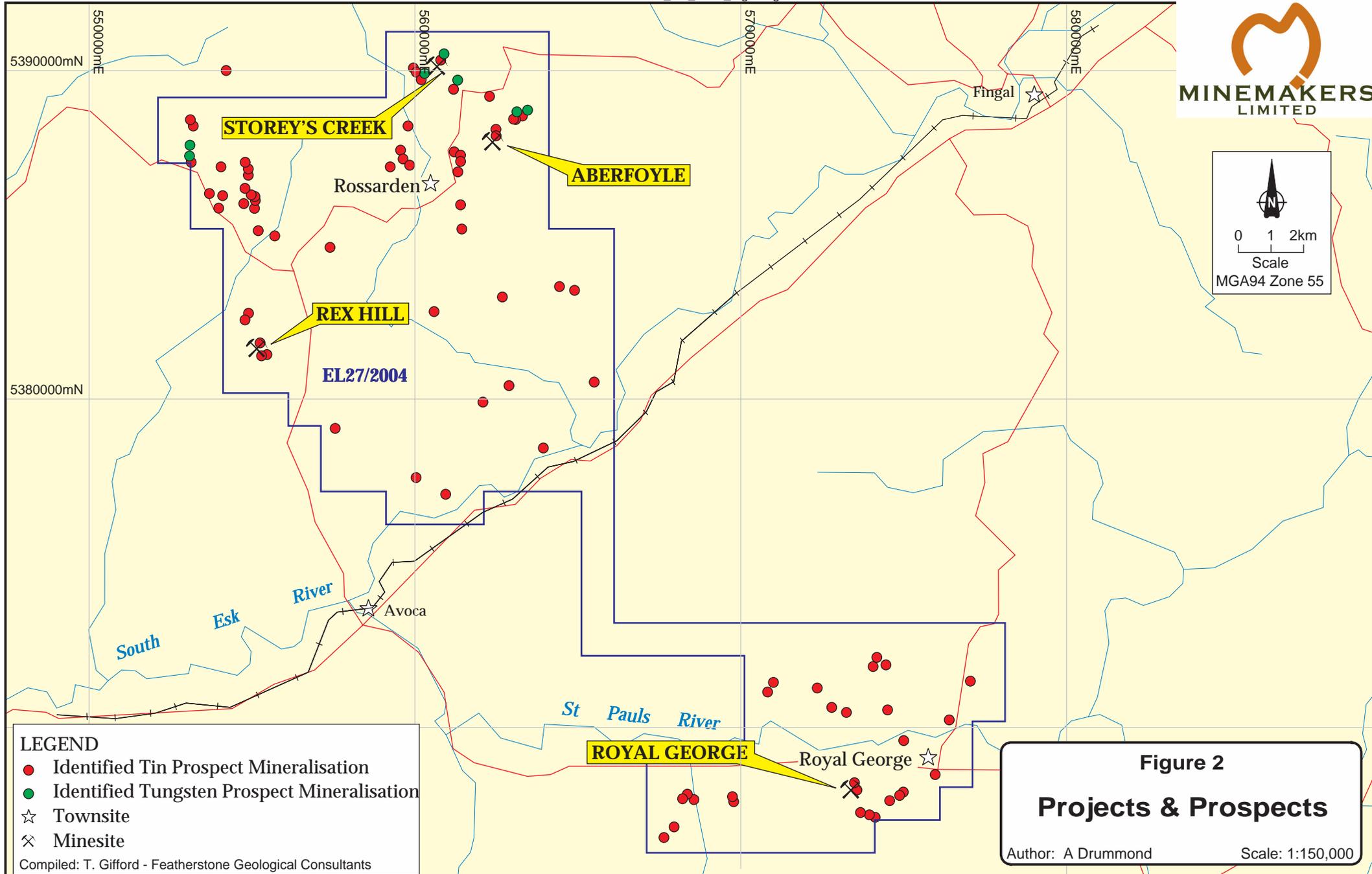
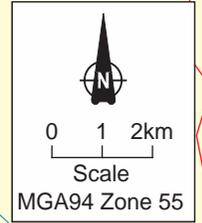
Author: A Drummond

Scale: As Shown

Drawn: CAD Resources ~ Tel: 9246 3242 ~ Fax: 9246 3202 ~ www.cadresources.com.au ~ A4 ~ CAD Reference: MM\_AR\_Ross\_F01.dgn ~ Date: Nov 2005



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**LEGEND**

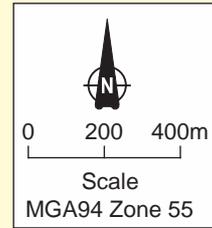
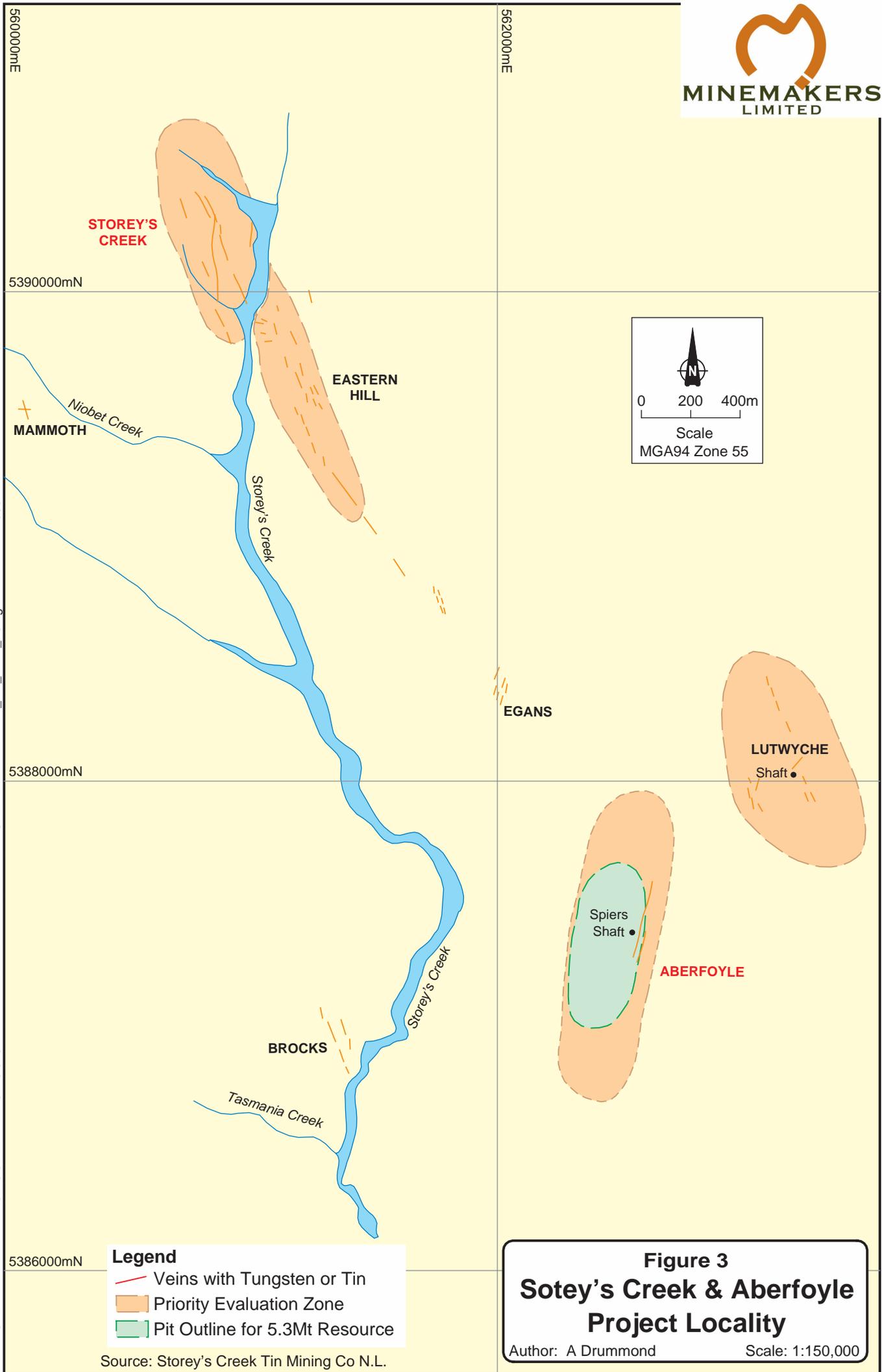
- Identified Tin Prospect Mineralisation
- Identified Tungsten Prospect Mineralisation
- ☆ Townsite
- ⌘ Minesite

Compiled: T. Gifford - Featherstone Geological Consultants

**Figure 2**  
**Projects & Prospects**  
Author: A Drummond  
Scale: 1:150,000



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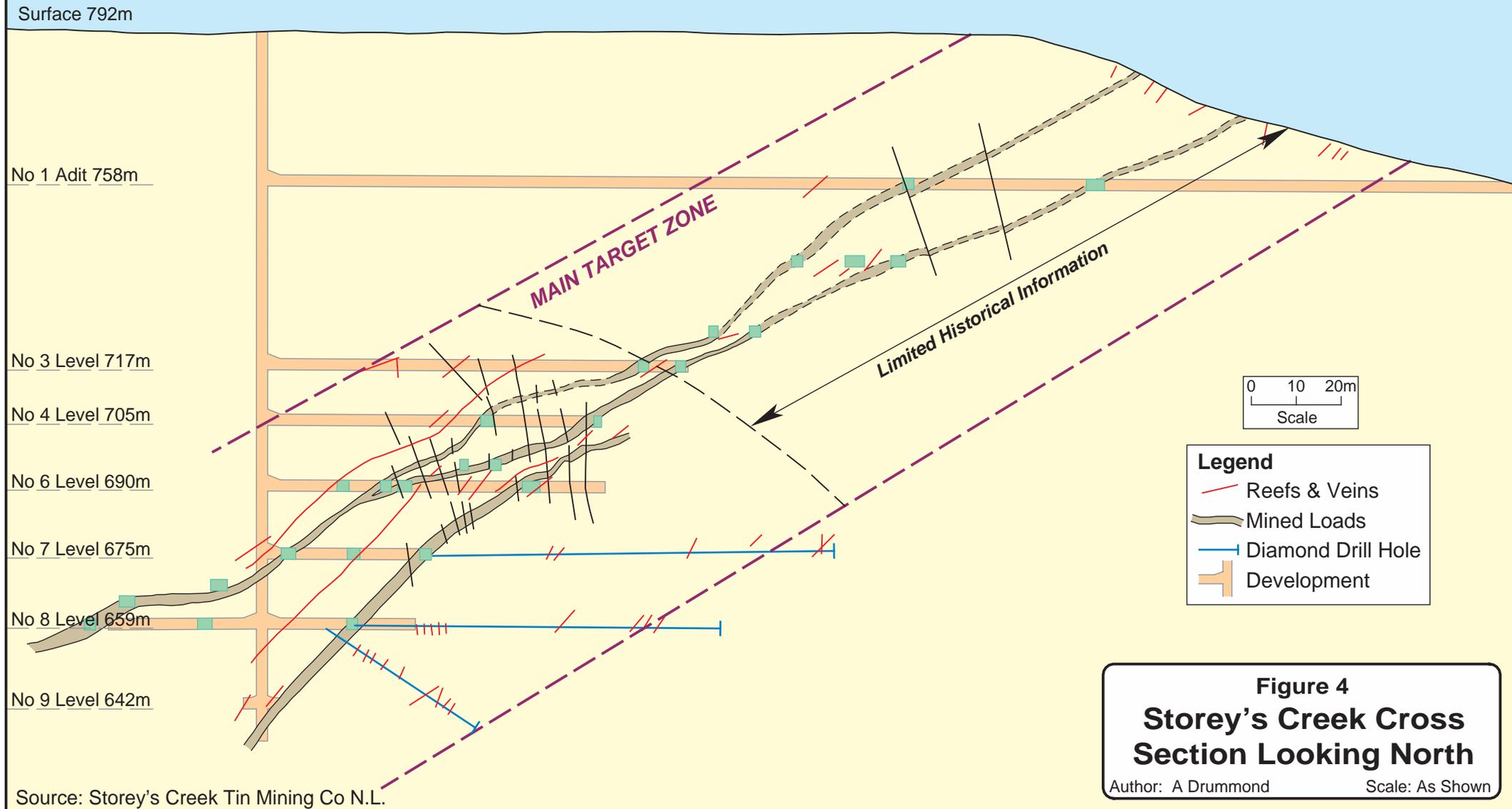
**Legend**

- Veins with Tungsten or Tin
- Priority Evaluation Zone
- Pit Outline for 5.3Mt Resource

**Figure 3**  
**Sotey's Creek & Aberfoyle**  
**Project Locality**  
Author: A Drummond      Scale: 1:150,000

Drawn: CAD Resources ~ Tel: 9246 3242 ~ Fax: 9246 3202 ~ www.cadresources.com.au ~ A4 ~ CAD Reference: 7MM\_AR\_Ross\_F0.dgn ~ Date: Nov 2005

Source: Storey's Creek Tin Mining Co N.L.



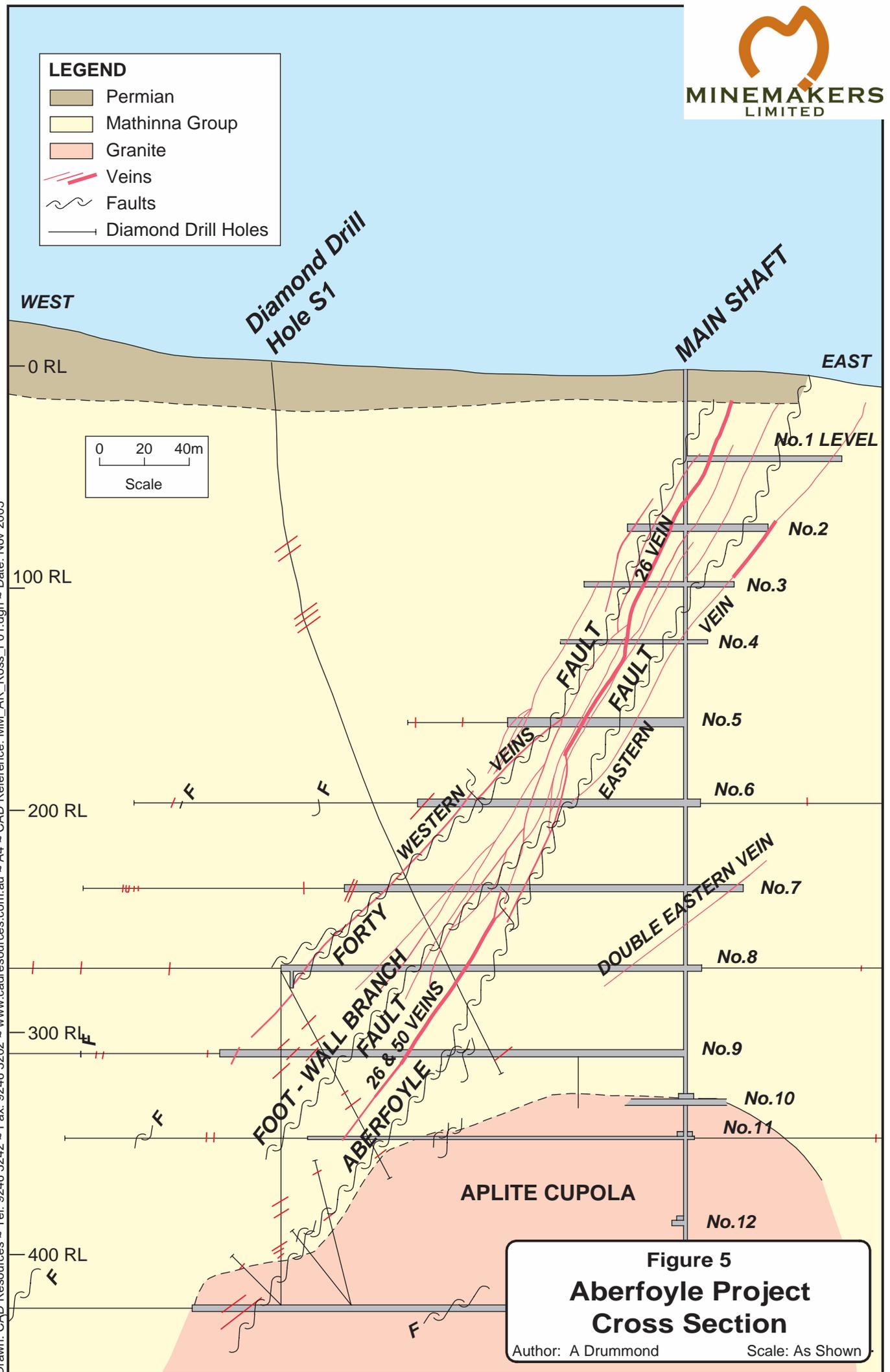
**Figure 4**  
**Storey's Creek Cross Section Looking North**  
Author: A Drummond      Scale: As Shown



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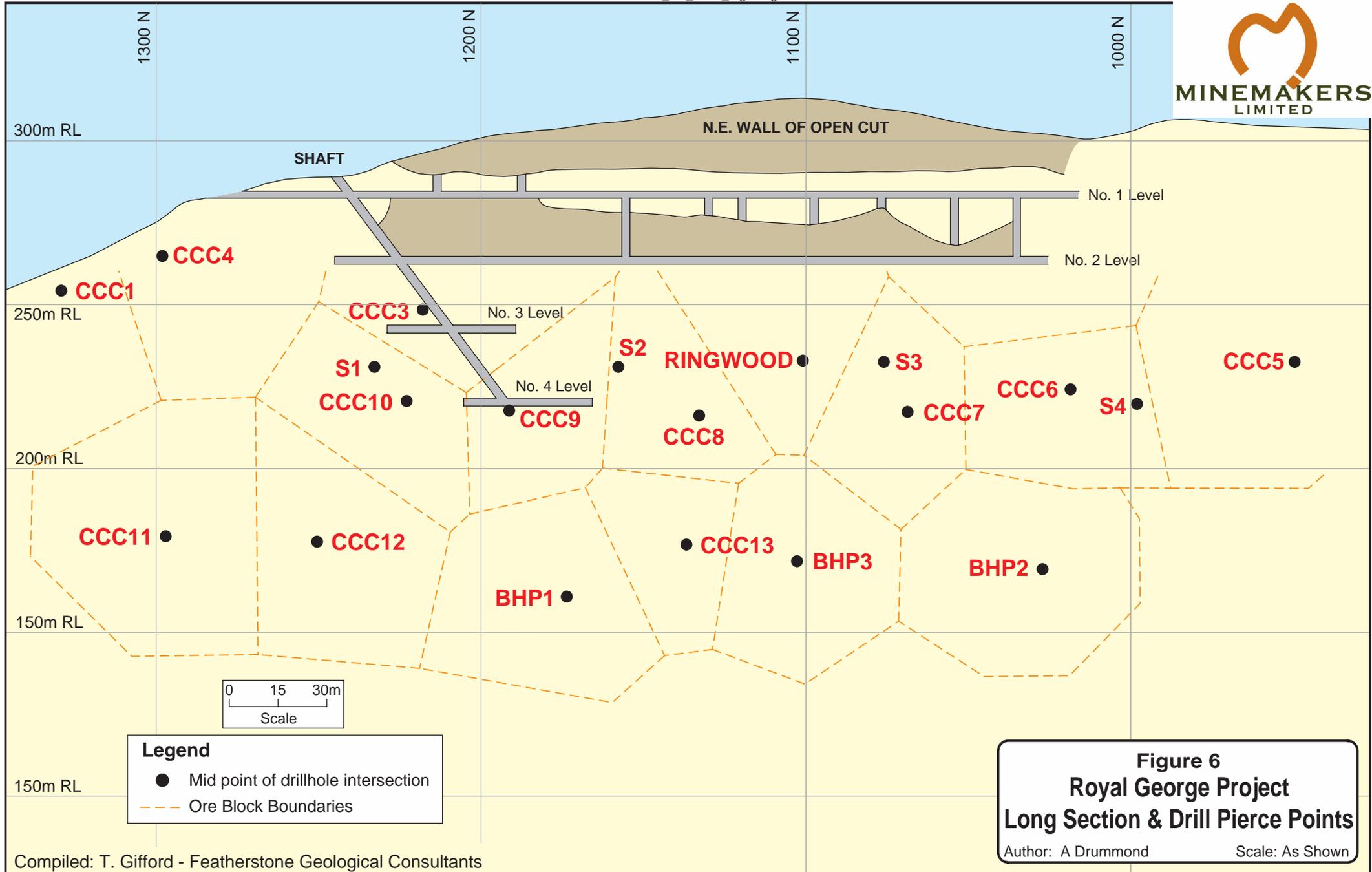
**LEGEND**

- Permian
- Mathinna Group
- Granite
- Veins
- Faults
- Diamond Drill Holes



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**Figure 5**  
**Aberfoyle Project**  
**Cross Section**  
Author: A Drummond      Scale: As Shown

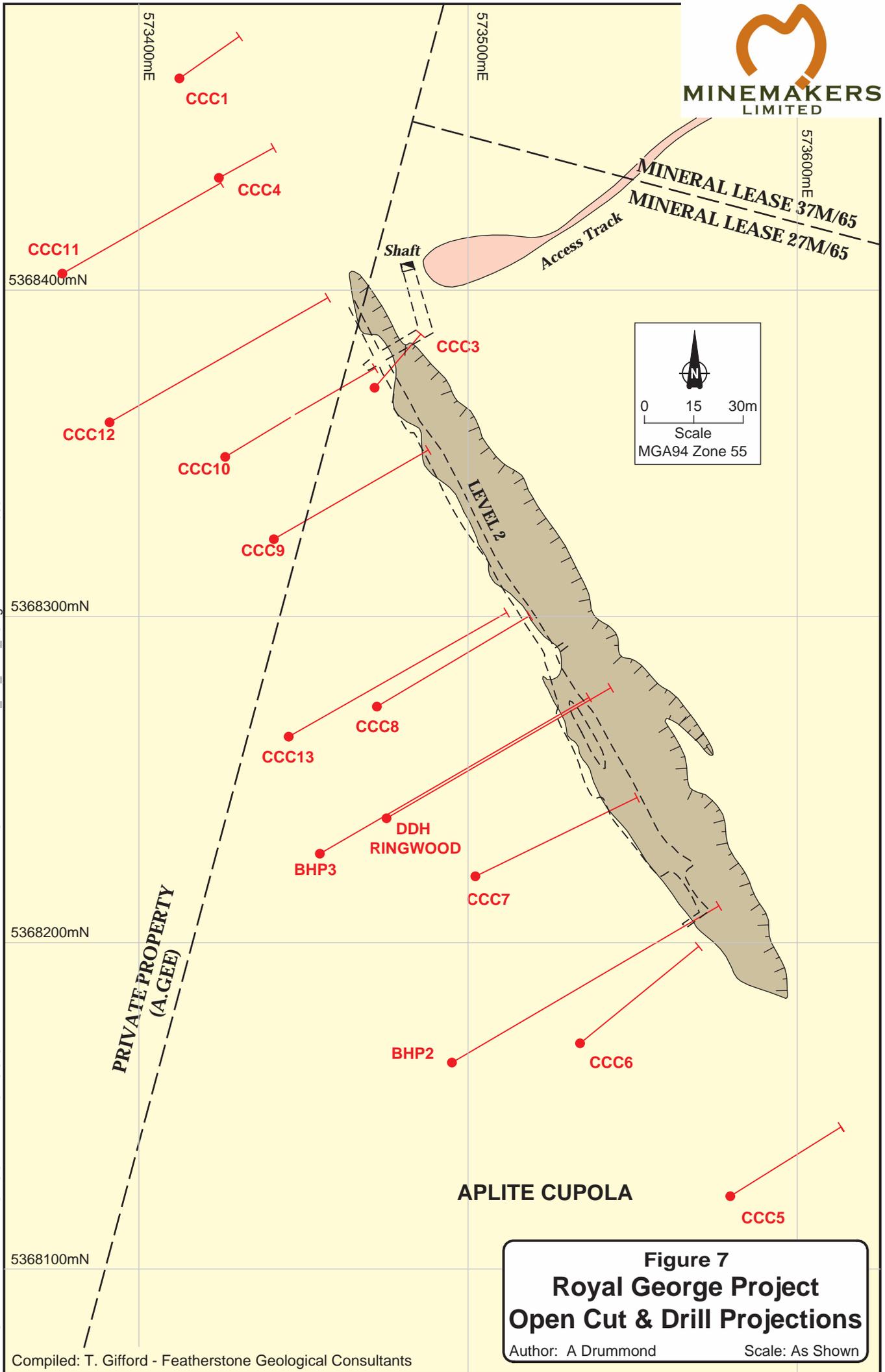


**Legend**  
● Mid point of drillhole intersection  
- - - Ore Block Boundaries

**Figure 6**  
**Royal George Project**  
**Long Section & Drill Pierce Points**  
Author: A Drummond      Scale: As Shown



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**Figure 7**  
**Royal George Project**  
**Open Cut & Drill Projections**  
 Author: A Drummond      Scale: As Shown

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11 May 2006



Ms Debra Suhr  
Mines & Resources Tasmania  
P O Box 56  
ROSNY PARK TAS 7018

Dear Debra

**Re: Annual Report, EL 27/2004**

As requested, accompanying are both paper and electronic copies of the Annual Report.

As discussed with MRT's Marcus McLenahan it is not yet possible to provide accurate GDA locations for the sections presented as Figures 4, 5 and 6 as they have all been taken from old local grids shown on plans held by MRT.

The best estimates that we can currently make are as follows:

Figure 4:	From	561 000 E	539 0400 N
	To	561 300 E	539 0700 N
Figure 5:	From	562 300 E	538 8100 N
	To	562 700 E	538 7900 N
Figure 6:	From	573 400 E	536 8500 N
	To	573 650 E	536 8130 N

Trusting that this is satisfactory.

Kind Regards,

A handwritten signature in black ink, appearing to read "Andrew Drummond".

Andrew Drummond  
Managing Director

MINERAL RESOURCES		
FILE REF:	DOC. REF:	
EL27/2004	06/02022	
22 MAY 2006		
OFFICER	FOR ACTION	FOR INFO
REG DMS		