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ALLSTATE EXPLORATIONS NL

SALISBURY HILL EL 20/94  
ANNUAL REPORT  
1999/2000

MINERAL RESOURCES		
FILE REF	EL20/94 Pt 2	
21 SEP 2000		
DOC	FOR	FOR
OFF	ACTION	INFO
See folio 27		



EL20/1994

Annual report - EL 20/1994 - Salisbury Hill - 1999/2000

Allstate Explorations NL  
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Plate 1:	Cover: Photograph shows green (fuchsite) clay alteration of sandstones in southwest cross-cut of Candle Shaft
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EL 20/94 lies (see figure 1) less than 1 kilometre south from the Beaconsfield Gold Mine and is current until 28<sup>th</sup> October 2004 at which time full relinquishment is required.

Exploration by the BMJV in the area is principally targeting the Tasmania Reef model of a northeast striking reef hosted in the Cabbage Tree Hill thrust. Almost all known gold mineralisation in the district is found within this thrust slice.

EL 20/94 covers 8.5 kilometres of the total 11.5 kilometres of the strike of this thrust slice exposed and thus it occupies a very significant position regarding future reserves for the BMJV.

Geologically the area contains a number of favourable structural settings for gold mineralisation with the Johnson Creek Fault zone near the Salisbury goldfield the most significant of these.

Serpentinite + dolomite + magnetite alteration of ultramafic volcanics in the footwall to the Cabbage Tree Hill thrust and associated splays is associated with both the Tasmania Reef and gold mineralisation at Salisbury and may provide a vector, in the form of higher resolution magnetics data, to favourable cross-structures with gold mineralisation.

Modern exploration has been largely based on soil sampling with much of the licence now covered, although most of the central most prospective rocks not yet <sup>been</sup> sampled. The limited drilling to date has been largely ineffectual. The following exploration is carefully planned to maximise the information (hence diamond drilling) gained regarding the prospects being tested. This information will allow the prospects to be screened.

Work proposed for the next two years consists of:

- Continuing gridded soil sampling over the full strike length of the Cabbage Tree Hill thrust slice (~1300 soil samples). These sites should also be sampled for MMI type soil samples.
- A high resolution helimagnetics survey to allow the detail apparent on the coarse fixed wing survey to <sup>be</sup> refined.
- 2550 metres of diamond drilling and 2800 metres RC drilling on the following prospects:

Salisbury goldfield; 1000 metres diamond, 800 metres RC  
Johnson Creek Fault; 700 metres diamond, 900 metres RC  
Salisbury Hill Road; 300 metres diamond, 400 metres RC  
Wings West South; 350 metres diamond  
Wings West North; 800 metres RC  
Derwent Adit; 200 metres diamond, 400 metres RC

Total drilling metreage is 2550 metres of diamond drilling in 9 holes and 3300 metres RC in 30 holes. The total cost of the two year programme is of the order of \$500,000.

The prioritised first year programme includes the helimagnetics and completion of C-horizon soil sampling. It also includes drilling of the Johnson Creek Fault and two of the diamond holes on the Salisbury goldfield, a total of 1,500m. Estimated cost for the 2001 programme is \$200,000 plus salaries.

## **2.0 INTRODUCTION**

### **2.1 LOCATION AND ACCESS**

EL 20/94 lies to the south of the township of Beaconsfield 40 kilometres northwest of Launceston on the western side of the Tamar River near Tasmania's central north coast (see figure 1). Access to the EL is by bitumen road from Launceston. Access within the EL is generally good with a number of bitumen roads and numerous gravel roads crossing the licence area.

### **2.2 TENURE**

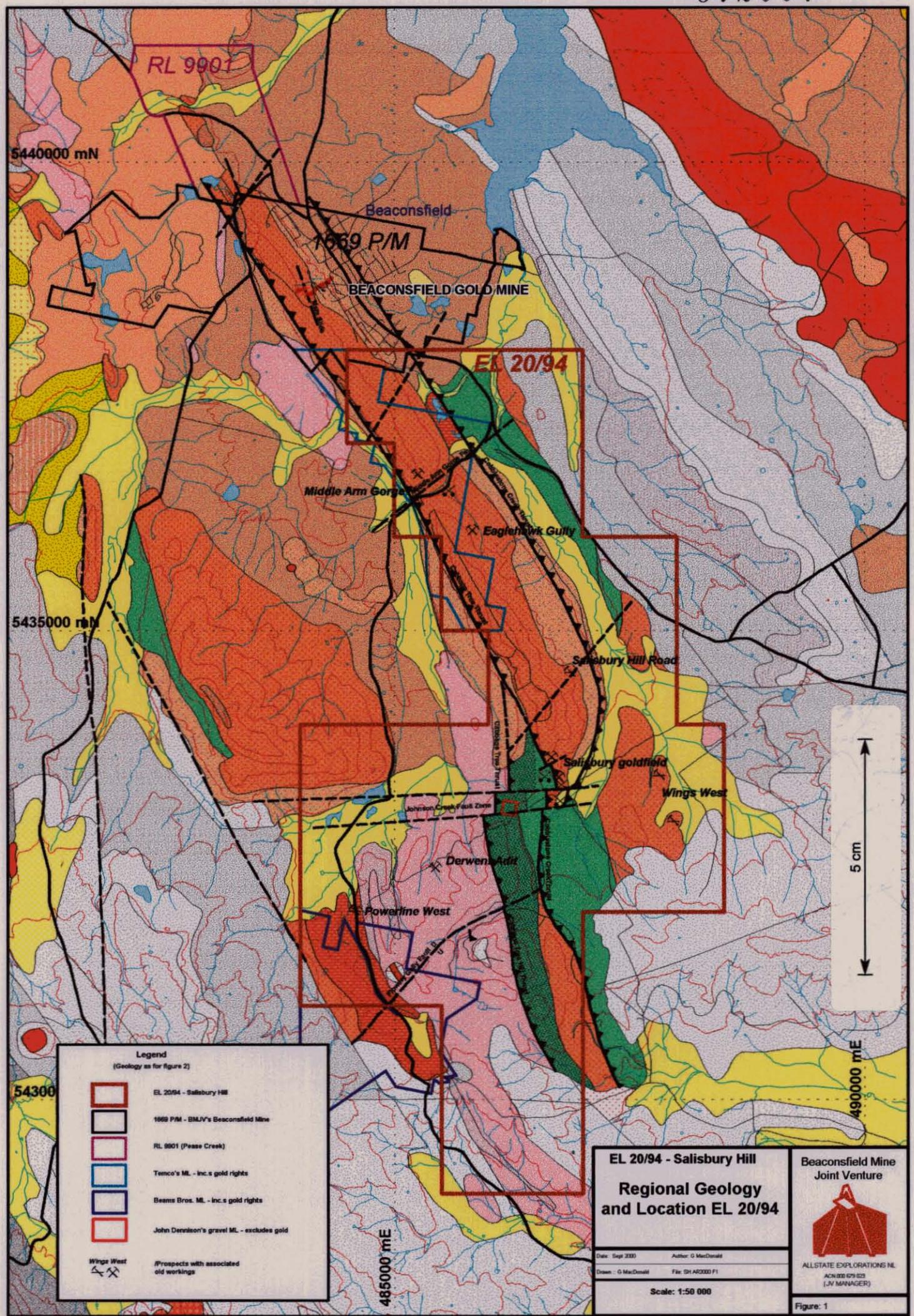
The licence was granted to Allstate Prospecting Pty Ltd and is held on behalf of the Beaconsfield Mine Joint Venture which operates the Beaconsfield Gold Mine. The original licence covered 45 skm of which slightly more than 5 skm was excluded by pre-existing mining leases. 19 skm was relinquished on 28<sup>th</sup> October, 1999 as required by statute and approximately 21 skm was retained. The licence is due for final relinquishment on 28<sup>th</sup> October 2004.

### **2.3 TOPOGRAPHY, VEGETATION AND LAND USE**

The topography is dominated by the ridge line of Salisbury Hill (and the southern end of Cabbage Tree Hill) with lower lying flat country on either side in the northern half of the licence, becoming generally more hilly in the south.

Most of the licence area retained is covered by dry sclerophyll vegetation on the slopes becoming more of a wet sclerophyll community in the gullies and on shaded slopes.

The land is largely used for agriculture or forestry. Forestry is practiced on the hillier ground and hence is more common over the favourable rocks.



**Legend**  
(Geology as for figure 2)

- EL 20/94 - Salisbury Hill
- 1659 P/M - BMLV's Beaconsfield Mine
- RL 9901 (Pease Creek)
- Temco's ML - Inc.s gold rights
- Beams Bros. ML - Inc.s gold rights
- John Derrison's gravel ML - excludes gold

Wings West  
 (Prospects with associated old workings)

**EL 20/94 - Salisbury Hill**  
**Regional Geology and Location EL 20/94**

Date: Sept 2000 Author: G MacDonnell  
 Drawn: G MacDonnell File: SHAR2000.F1

Scale: 1:50 000

**Beaconsfield Mine Joint Venture**

ALLSTATE EXPLORATIONS NL  
 ACN188 679 823  
 (JV MANAGER)

Figure: 1

Exploration is largely empirically driven and is based upon the known styles of gold mineralisation within the district. The principal target model is the Tasmania Reef at the Beaconsfield Gold Mine.

The Tasmania Reef is a structurally hosted mesothermal quartz + ankerite + sulphide (pyrite + arsenopyrite > chalcopyrite) vein. The reef strikes in a northeasterly direction and dips moderately to the southeast. It is hosted by a northeast trending structure which cross-cuts the northwest striking, northeast dipping Cambrian-Ordovician sediments of the Dundas and Denison Groups cropping out on Cabbage Tree Hill. Previously the reef was thought to only 'make' in the conglomerates, grits, sandstones and calcareous sandstones and siltstones of the Salisbury Hill and Eaglehawk Gully Formations. However, recent development in the mine as well as historical records indicate that significant gold mineralisation occurs along strike in both the stratigraphically overlying Flowery Gully Limestone and underlying Blythe's Creek Formation.

Whilst the role of the bounding thrusts and in particular the underlying Cabbage Tree Hill thrust has been recognized previously, it was thought that the host rocks were very important in focusing gold mineralisation. However, in light of these recent developments and the fact that almost all gold mineralisation in the area is found within the Cabbage Tree Hill thrust slice, it is now considered that the particular setting within the Cabbage Tree Hill thrust slice is also significant.

It is likely that both relative ductility and chemistry have exercised some control over the deposition of gold. A strong correlation between high arsenic levels in the Reef and in the Eaglehawk Gully Formation argues for some form of chemical control, whilst the lack of significant mineralisation within the Flowery Gully Limestone argues for some structural control.

The structure within which the Tasmania Reef lies has undergone an apparent dextral movement of around 40 metres though there is also evidence for a dip slip component to this displacement. The deformation responsible for the formation of the Tasmania Reef is the Middle Devonian Tabberraberran Orogeny during which the Tasmania Reef structure opened under a roughly northeast/southwest principal stress regime, probably concurrently with thrusting.

Other examples of northeast to east-northeast striking reefs are known from the mine (North Reef and South Reef) and the general area (North Tasmania and Pease Creek Reefs). The Lefroy goldfield, across the Tamar River, is also characterized by a northwest en-echelon pattern of parallel northeast to east-northeast trending reefs though in this case the host rocks are shales, siltstones and sandstones of the Mathinna Group.

The principal fluid conduit for mineralisation is almost certainly the Cabbage Tree Hill thrust. The rocks adjacent to this structure show localised evidence of alteration (serpentinite ± dolomite ± magnetite) by fluids consistent with a gold bearing mesothermal fluid. The other occurrences of significant gold mineralisation in the area are located in proximity to this thrust fault.

Mineralisation in the Moonlight-cum-Wonder workings is interpreted as occupying the axial plane of a north-northwest striking syncline whose orientation is consistent with

that seen in gentle folding mapped in the Beaconsfield Gold Mine. The folding and mineralisation is considered to have formed during thrusting.

Auriferous veining at the Salisbury goldfield dips shallowly to moderately steeply to the west-southwest and is located in the sandstones, grits and minor conglomerates of the in the hangingwall to a thrust contact with underlying serpentinised and dolomitised ultramafics. This veining is also proximal to an east-northeast to northeast trending fault zone, the Johnson Creek Fault Zone, which may also be mineralized.

Conceptually, given the northeast/southwest principal stress field under which thrusting and mineralisation took place, other structural settings favourable to hosting gold mineralisation may be envisaged.

Exploration is influenced by the fact that the Salisbury Hill and Eaglehawk Gully Formation rocks in the Cabbage Tree Hill slice have either been picked over comprehensively by early prospectors or are under shallow cover rocks. Exploration must therefore be deeper looking, either to get beneath the area worked by the prospectors or to look beneath the cover rocks. The most obvious form of exploration for Tasmania Reef analogs would be to drill a continuous fence(s) of overlapping holes along the full strike length of the Cabbage Tree Hill slice. The expense this would entail means that some form of focussing is required.

In areas of outcrop, soil geochemistry may be of assistance in locating sub-cropping mineralisation. Pathfinder elements are likely to be more useful than the less mobile gold. Arsenic is particularly mobile and may create a relatively broad geochemically anomalous halo around a mineralised structure. However, some care must be taken as recent drilling of arsenic soil anomalies suggests that some anomalies may be the product of quite recent hydro-geomorphic processes. Newer soil sampling methods such as Mobile Metal Ion, developed specifically for soil developed on cover rocks, are considered necessary adjuncts to classical C-horizon sampling

Although the favourable host rocks are only weakly magnetic in part, high resolution magnetics (airborne or ground based surveys) is perhaps the only tool available to help in recognising structure beneath cover. Some success has been achieved in the limited amount of magnetic surveying undertaken in the area to date.

The principle role for geological mapping is to locate structures which may host gold mineralisation.

## 4.1 INTRODUCTION

The history of exploration over the area covered by EL 20/94 reads very similarly to that of other goldfields within Tasmania and on the mainland with two main phases and an intervening minor phase. The initial phase of exploration was that of the gold rushes of the latter part of the Nineteenth Century. This period had died out by the early part of last century with a very minor revival during the depression in the early 1930's by men desperate for some form of income. Following the Second World War the state government became proactive in encouraging mining in the state with its own drilling team testing many of the dormant mines in the state. This team was responsible for the DDH's S1 and S2 drilled beneath old workings at the Salisbury goldfield (see location on figure 2) from 1970 to 1973 in order to test reported occurrences of nickel sulphides (Thureau, 1883).

Modern, industry driven exploration had commenced in 1965 with work by BHP looking for iron deposits predominantly associated with the Anderson's Creek Ultramafic Complex to the west. However, BHP did drill 13 RAB holes on three sections along the Salisbury Hill Rd which provide information regarding the bedrock geology in this area (Anon., 1965). Gold specific exploration however, did not start until 1980 when AMAX commenced work on AP 6/80.

## 4.2 EARLIEST EXPLORATION – 1877 TO 1914

William Dally first discovered gold in the Beaconsfield district in 1877 with the discovery of the Tasmania Reef on Cabbage Tree Hill. As with most other newly discovered goldfields in Australia during this period prospectors quickly scoured the surrounding area for further occurrences of gold, either in alluvial (initially) or hard rock (later) form. Records of this work are poor to non-existent with early newspaper reports (The Examiner) and a few government reports (Thureau, 1883, Twelvetrees, 1903) the only sources of information.

Although a quite comprehensive set of newspaper clippings from The Examiner from this period has been compiled for the Tasmania Reef, no such work has been done for the workings within EL 20/94. A long list of workings and their periods of activity displayed in the Beaconsfield Museum must have been derived from such a search and continuing this in a search for references is warranted and would certainly turn up much detail. However, much has been inferred from the old workings.

Early prospectors would have initially panned the creeks looking for accumulations of alluvial gold as well as the entry points for this alluvial gold into the creeks. They then loamed the soil up slope adjacent to this entry point until the soil no longer contained gold. Here exploratory trenches were dug, often along the contour but also perpendicular to the known strike of other veining found in the area. Quartz veins encountered in this trenching, as well as that floating on the surface, were dollied and panned with favourable veins further investigated by prospecting shafts, often underlay shafts following the dip of the vein. The Beaconsfield area shows the evidence of such working in a number of areas.

Within EL 20/94 alluvial gold was found in Middle Arm Creek, at least up to its confluence with Eaglehawk Gully (and into Eaglehawk Gully itself), and probably slightly further upstream to where the Rising Sun (hard rock) workings were dug. Alluvial gold was also found in Salisbury Creek, again at least as far upstream as the area of alluvial workings just south of the Powerline Track. Alluvial gold may also have been found in the creek draining the catchment in which the Derwent Adit workings are located.

#### 4.2.1 Salisbury Goldfield

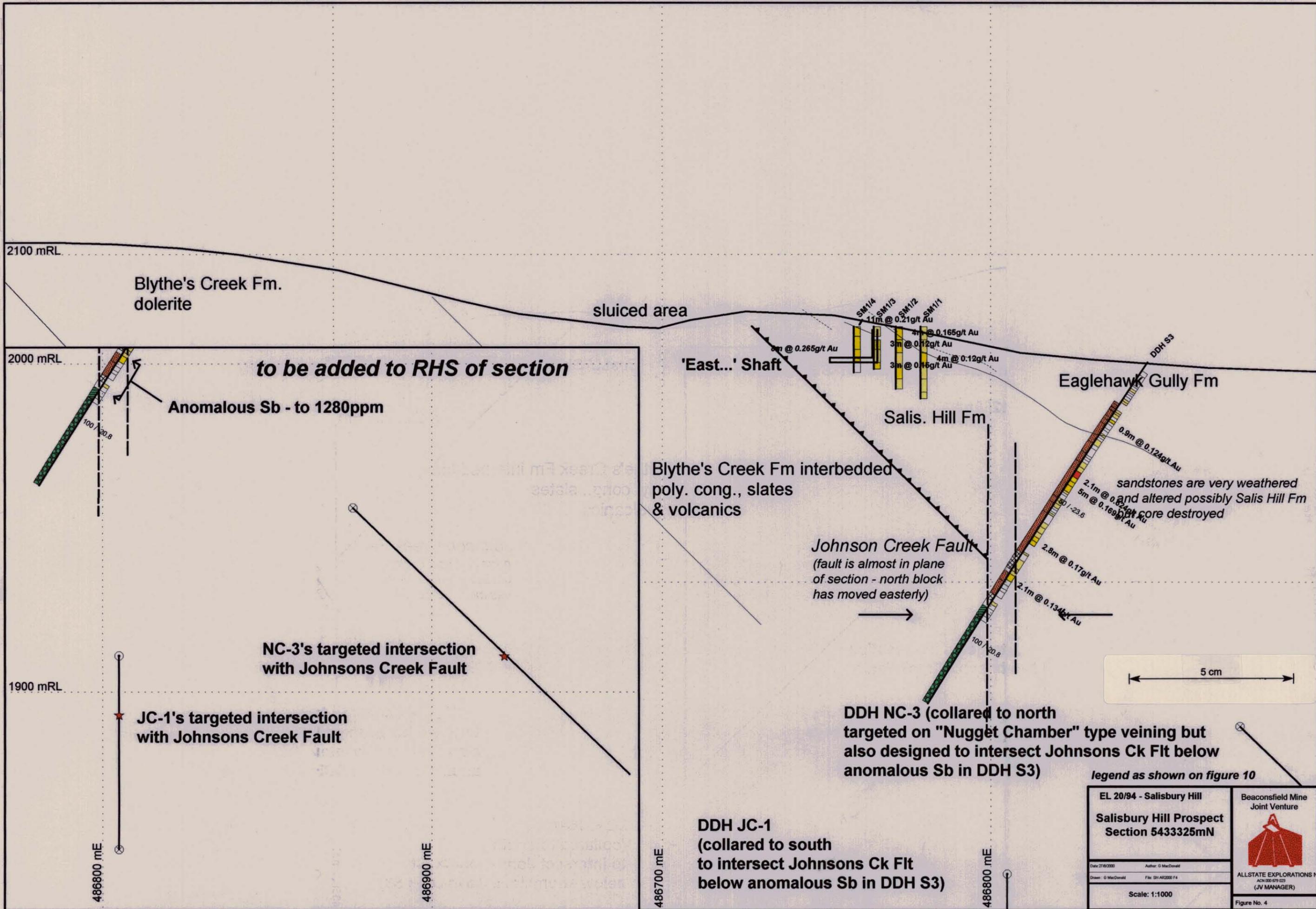
The Salisbury Goldfield's initial period of activity is believed to have only lasted around two years from 1878-1880.

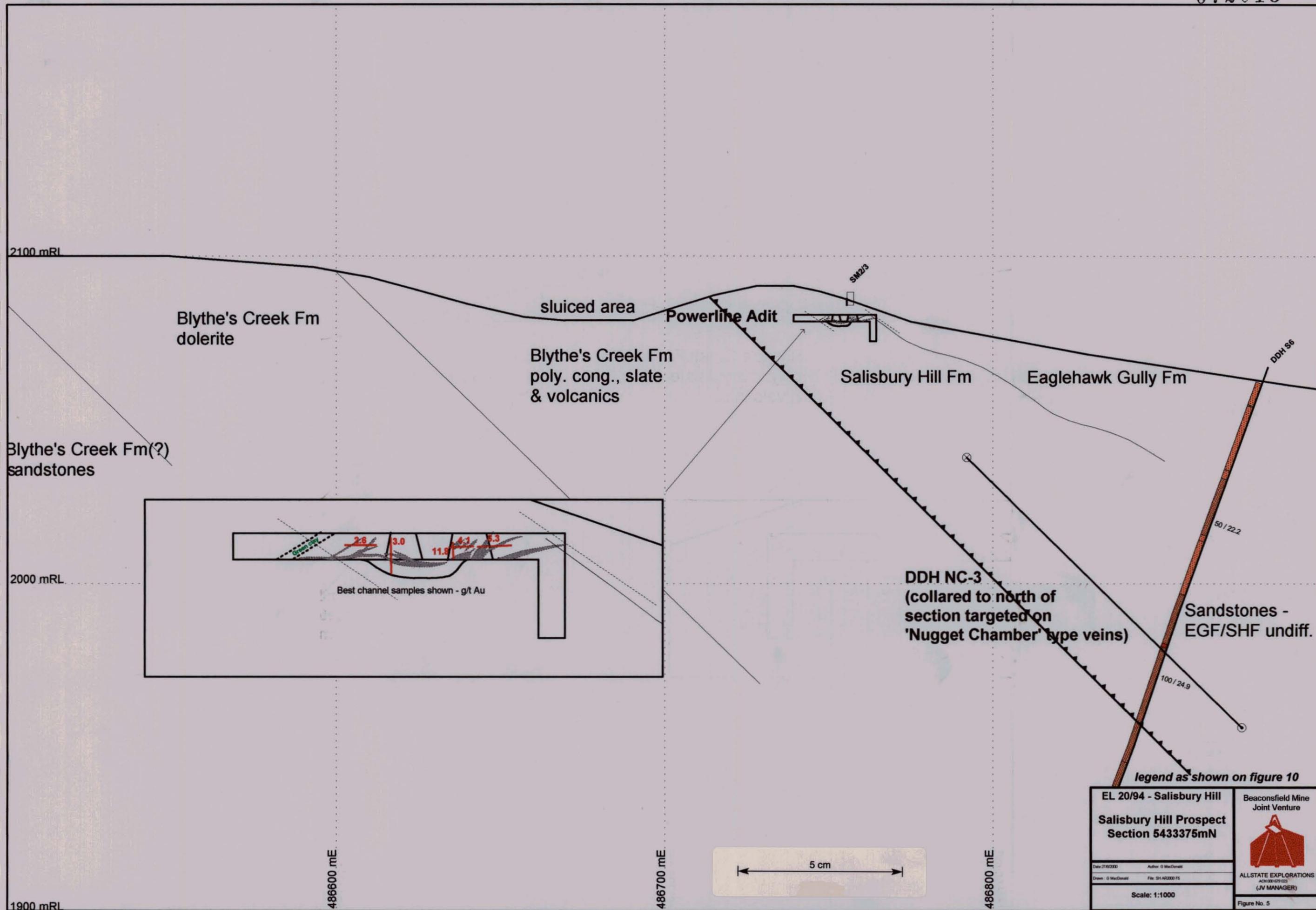
Twelvetrees (1903) refers to *"the old days (when) a good deal of gold was recovered from the detritus of the range (Salisbury) ... phenomenal patches were met with ... they appear to be along the line of a lode formation, and were, some of them, worked about 20 years ago"*. The area he describes is clearly the spur that runs northward from the Powerline Adit (see figure 3 for location) to the peak near Jed's Shaft (newly ascribed name). He refers to the *"south end of the spur (where) a bare rock face is exposed, from which the Salisbury Hydraulic Association washed the superficial detritus some years ago"*. This is the open cut at the mouth of the Powerline Adit. Immediately west of this is an area of disturbance showing evidence of sluicing both in the nature of the disturbances and the presence of old water races leading to its edge from the southwest (see figure 3).

The township of Salisbury was located to the south of Salisbury Creek (as shown on figure 2), the creek banks again showing signs of sluicing as well as another race leading to its western side. It is considered that these three areas of alluvial workings (shown on figure 3) date from this early period.

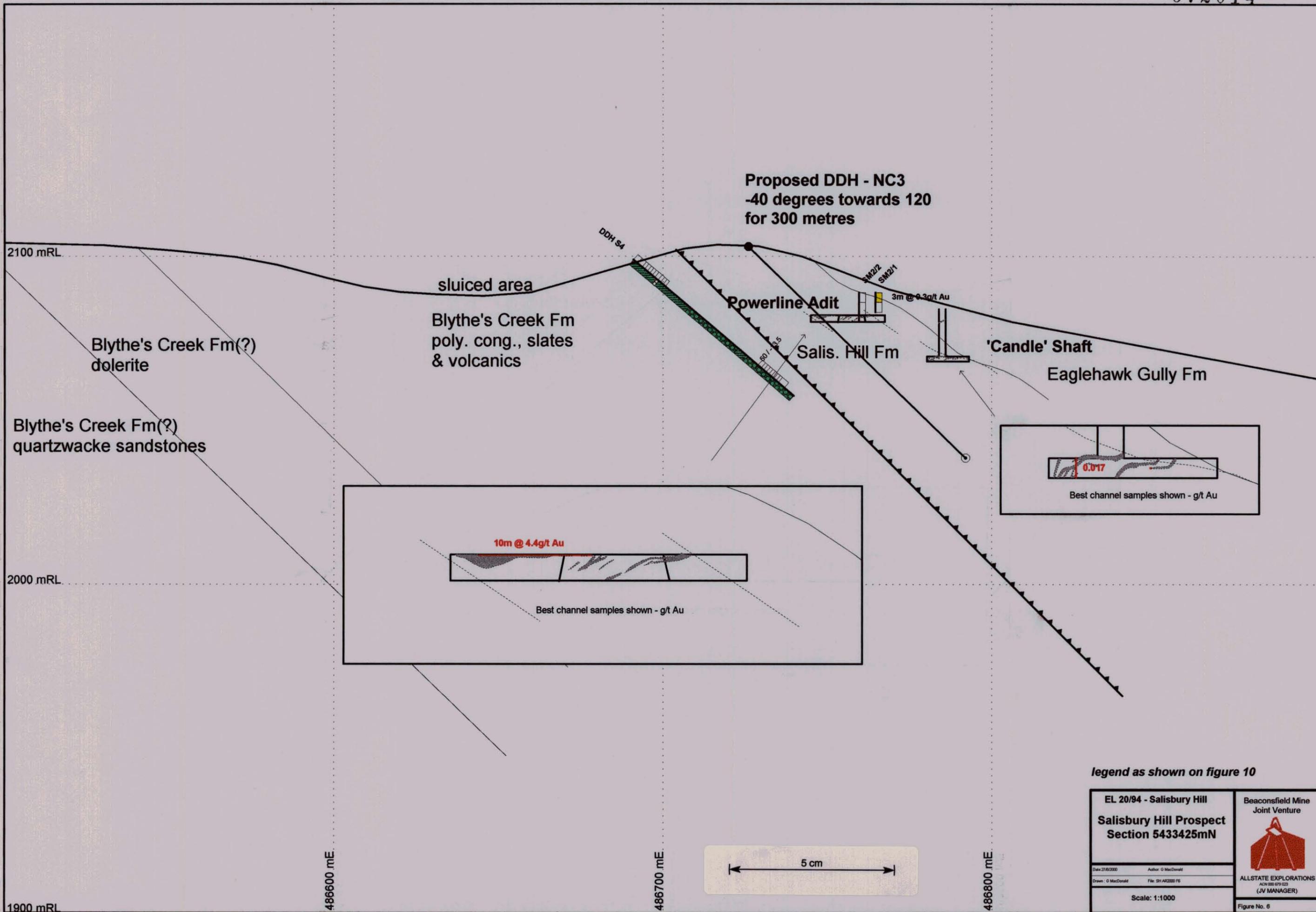
Hardrock gold was reportedly discovered on Blue Hills (Salisbury Hill is also known as the Blue Tier) by Yates in April 1878, although the source of this information is unknown. The reef is reported to have been 5 feet thick. The precise location of this reef is unknown but it is suspected to be at the Salisbury goldfield. Some hard rock mining must have taken place during this early period. Thureau (1883) describes *"partly abandoned mines thereabouts"* (Salisbury). He also describes the then active Victoria Gold Mining Company's 1200' tunnel (and refers to its mining manager Mr Campbell), which by Twelvetrees (1903) time *"is now quite inaccessible"*. Thureau (1883) does not refer to any other mines active in the area but includes a sketch showing a *"flat quartz reef"* in the Blue Tier Gold Mining Company's tunnel, which is probably the Powerline Adit.

Twelvetrees (1903) states that *"only two companies, the Duchess of York and the Salisbury were at work when I visited the tier"*. He describes in some detail the activity of these two mines in the period of probably around ten years preceding his visit, referring to assistance



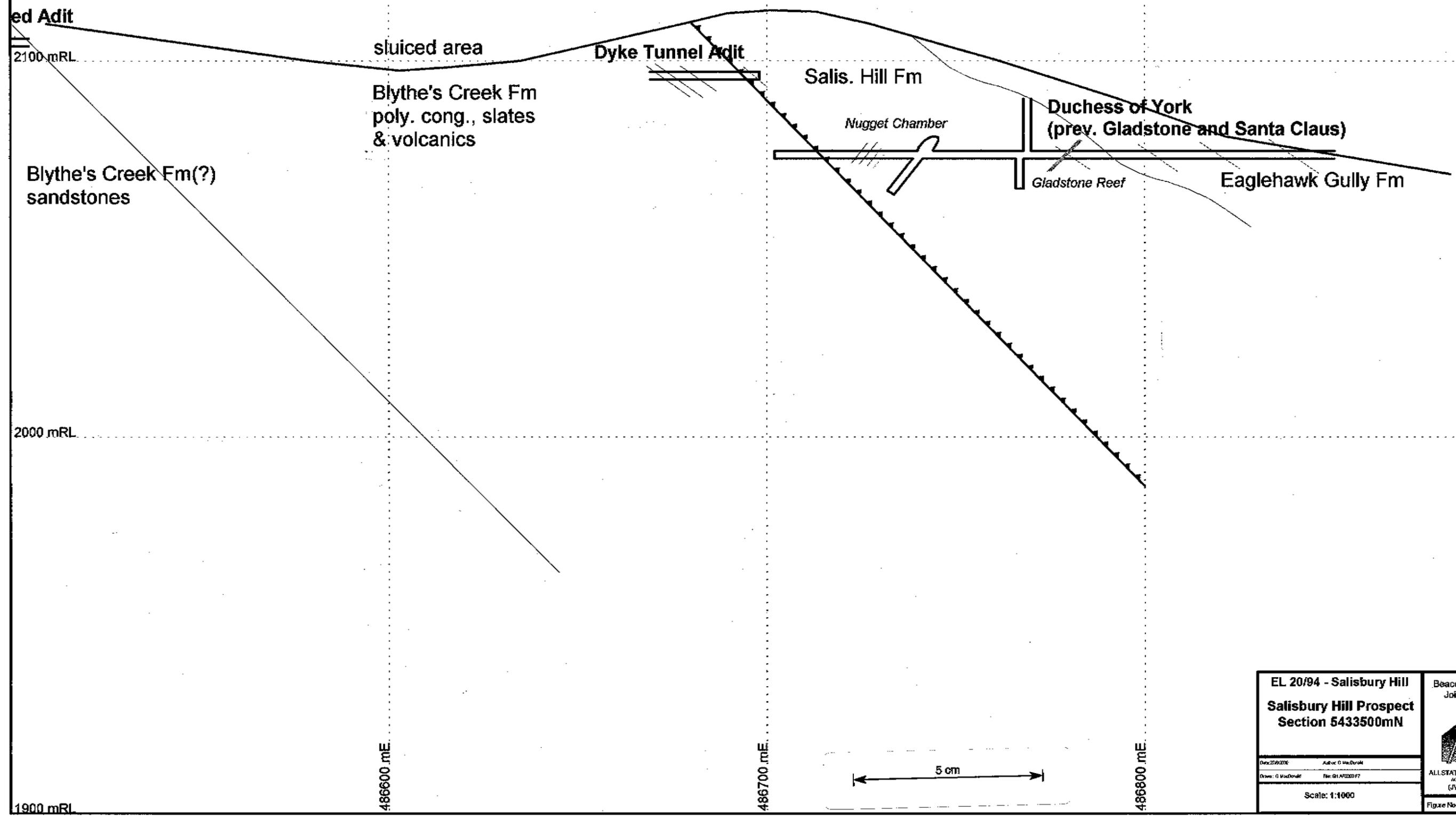


EL 20/94 - Salisbury Hill		Beaconsfield Mine Joint Venture
Salisbury Hill Prospect Section 5433375mN		
Date: 27/6/2000	Author: G MacDonnell	ALLSTATE EXPLORATIONS N ACN: 000 679 023 (JV MANAGER)
Drawn: G MacDonnell	File: SH AR2000 F5	
Scale: 1:1000		Figure No. 5

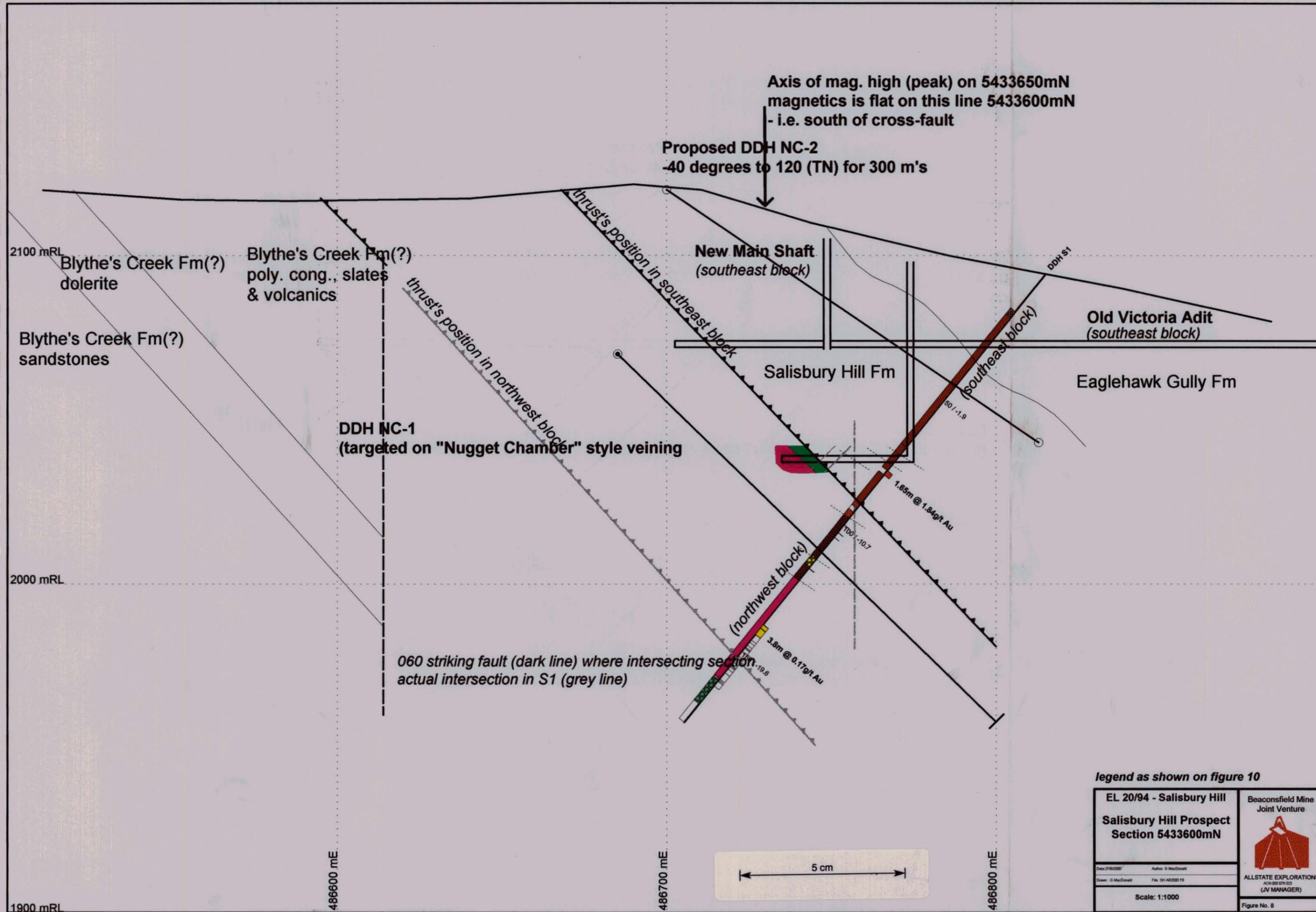


legend as shown on figure 10

<p>EL 20/94 - Salisbury Hill</p> <p><b>Salisbury Hill Prospect</b></p> <p>Section 5433425mN</p>		<p>Beaconsfield Mine Joint Venture</p>  <p>ALLSTATE EXPLORATIONS N ACN 000 079 020 (JV MANAGER)</p>
<p>Date: 27/6/2000 Author: G MacDonald</p> <p>Drawn: G MacDonald File: SH1 AR2000 F6</p> <p>Scale: 1:1000</p>		
		<p>Figure No. 6</p>

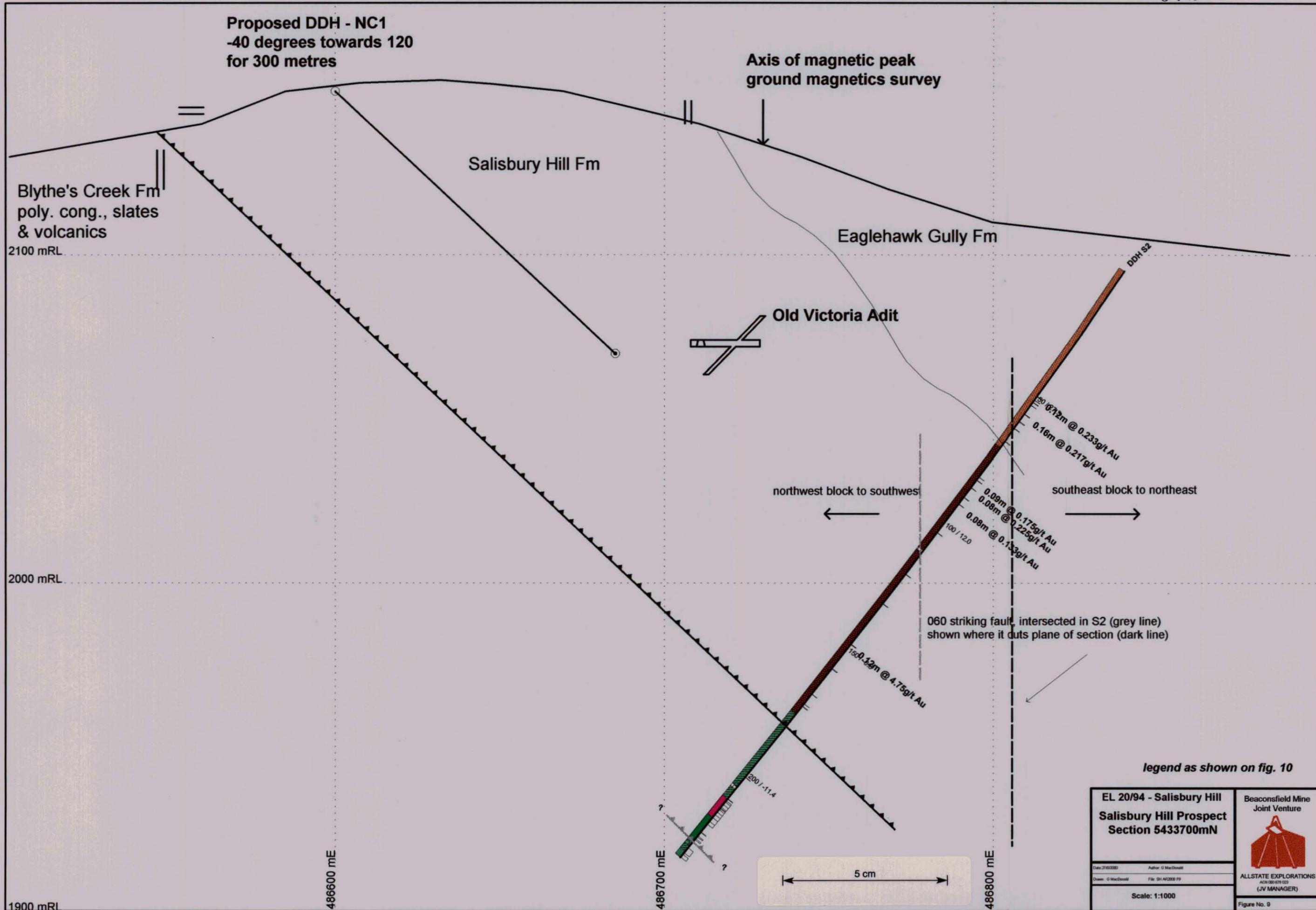


<b>EL 20/94 - Salisbury Hill</b>		Beaconsfield Mine Joint Venture 
<b>Salisbury Hill Prospect Section 5433500mN</b>		
<small>Drawn: G MacDonell</small>	<small>Author: G MacDonell</small>	<small>ALLSTATE EXPLORATIONS ACQUISITION (JV MANAGER)</small>
<small>Drawn: G MacDonell</small>	<small>File: 91A0200.F7</small>	
Scale: 1:1000		Figure No. 7



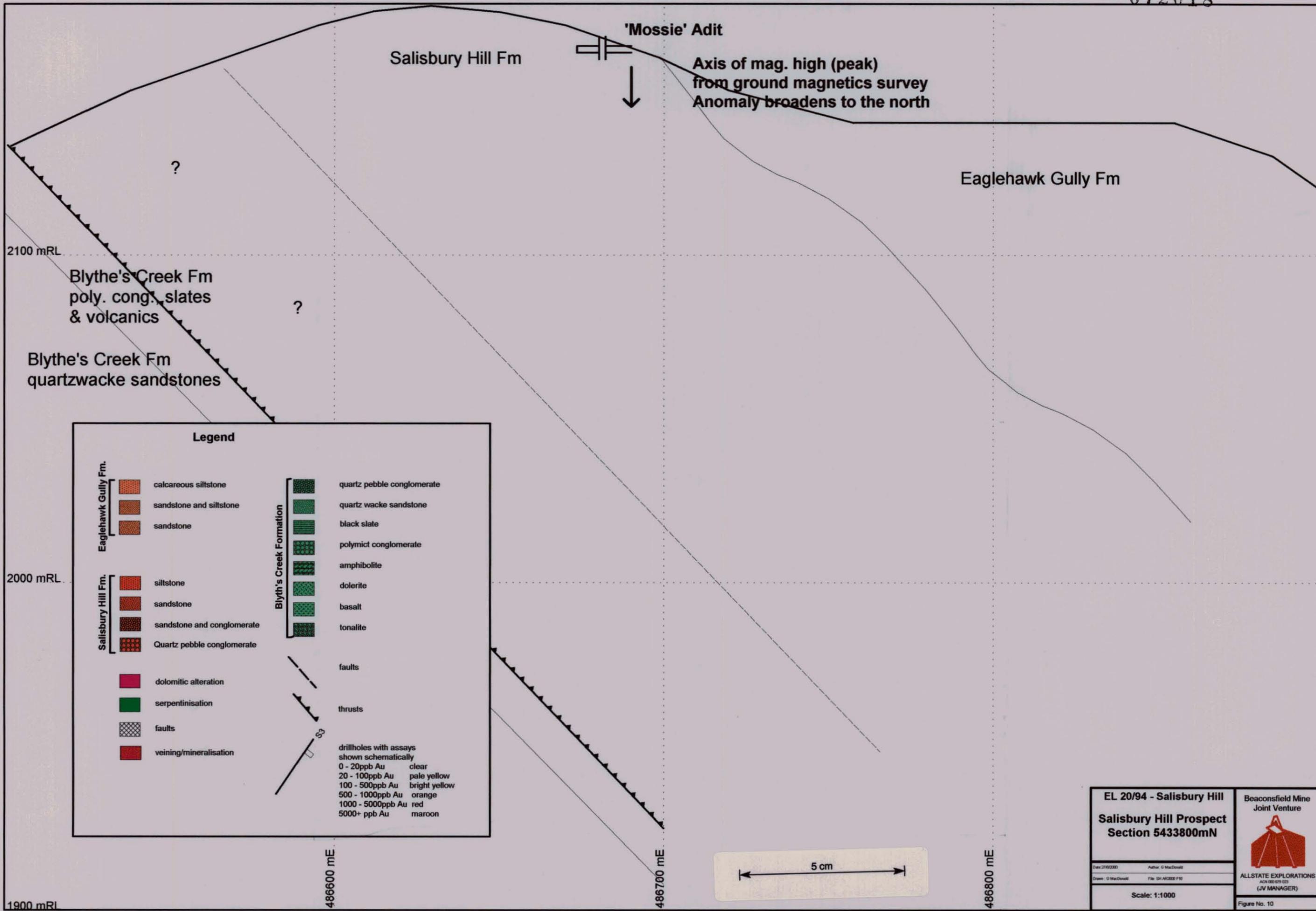
legend as shown on figure 10

<b>EL 20/94 - Salisbury Hill</b>		<b>Beaconsfield Mine Joint Venture</b> 
<b>Salisbury Hill Prospect Section 5433600mN</b>		
<small>Drawn: O MacDonald</small>	<small>Author: O MacDonald</small>	<small>ALLSTATE EXPLORATIONS PTY LTD (JV MANAGER)</small>
<small>Drawn: O MacDonald</small>	<small>File: SH1 AR00001.FB</small>	
<b>Scale: 1:1000</b>		<b>Figure No. 8</b>



legend as shown on fig. 10

<b>EL 20/94 - Salisbury Hill</b> <b>Salisbury Hill Prospect</b> <b>Section 5433700mN</b>		 Beaconsfield Mine Joint Venture
Date: 2/10/2000 Drawn: G MacDonell	Author: G MacDonell File: S1 AF2000 PP	
Scale: 1:1000		ALLSTATE EXPLORATIONS N (JV MANAGER)
		Figure No. 9



Legend

<b>Eaglehawk Gully Fm.</b>	calcareous siltstone	quartz pebble conglomerate
	sandstone and siltstone	quartz wacke sandstone
	sandstone	black slate
<b>Salisbury Hill Fm.</b>	siltstone	polymict conglomerate
	sandstone	amphibolite
	sandstone and conglomerate	dolerite
	Quartz pebble conglomerate	basalt
	tonalite	
	dolomitic alteration	
	serpentinitisation	
	faults	
	veining/mineralisation	
	faults	
	thrusts	
	drillholes with assays shown schematically	
	0 - 20ppb Au	clear
	20 - 100ppb Au	pale yellow
	100 - 500ppb Au	bright yellow
	500 - 1000ppb Au	orange
	1000 - 5000ppb Au	red
	5000+ ppb Au	maroon

<b>EL 20/94 - Salisbury Hill</b>		<b>Beaconsfield Mine Joint Venture</b>
<b>Salisbury Hill Prospect Section 5433800mN</b>		
Drawn: G MacDonell	Author: G MacDonell	
Drawn: G MacDonell	File: SH AF000 F10	
Scale: 1:1000		ALLSTATE EXPLORATIONS ACN 90 679 023 (JV MANAGER)
		Figure No. 10

given by a Mr H. Masters in detailing some work in the old Victoria Adit from the period 1894-96.

An old mining survey plan (Sorell, 1895a) obtained recently from Mr Ron Gregory also shows development in the old Victoria Adit. The plan is dated 1894. Another plan (Sorell, 1895b - similarly obtained) shows the Duchess of York tunnel with a drive along the Gladstone Reef. A third plan (Burrows, 1902) shows new development at the end of the Duchess of York tunnel. These plans support Twelvetrees (1903) descriptions of workings.

#### 4.2.1.1. Duchess of York

The following discussion draws almost solely from Twelvetrees (1903). The Duchess of York mine consists of the Duchess of York tunnel, previously the old Gladstone tunnel and subsequently renamed the Santa Claus tunnel and the New Main Shaft (see figure 3 and Section 5433500N in figure 7).

The tunnel was driven in a westerly direction from the east side of the spur through moderately north-east dipping sandstones of the Eaglehawk Gully Formation (Upper Transition beds). About 70 metres in, the adit struck the Gladstone Reef, *"a reef of favourable-looking, yellow stained, laminated quartz ... its width is 3'6"*. It strikes northwesterly, dipping to the southwest but *"carries only traces of gold"*. *"Some years ago it was driven upon north-west (for 70'-80') and a winze another 20' along the adit was sunk about 20' deep to intersect the reef but does not appear to have done so. Between this winze and a cross-cut to the northwest are some west dipping white quartz veins 3"-4" thick. Just beyond the northwest cross-cut "the main tunnel cross-cuts a hard body of bluish chalcedonic quartz of somewhat opaline look, with an irregularly distributed greenish stain (fuchsite produced from oxidising chromite) and impregnated with iron pyrites (assaying 1dwt/ton Au (or 1.53g/t) and the pyrites a little Ni). Immediately on its western side it is succeeded by gossanous and cellular quartz with nickel or chrome-stained clay seams and a cement of iron oxide ... (which) continues to the end of the tunnel, 30 feet beyond the nickeliferous quartz"*.

*"The drive north-west to the nugget chamber follows the eastern boundary of this iron stained siliceous formation and the chamber is excavated in it ... the nugget chamber is a small excavation 10 feet high, in which a clay or pug seam yielded 60 ozs of gold, generally blackened with manganese. Since then, however, no more gold was found. The discovery caused a stir and a search was made for a lode by sinking a winze on the underlay (it is never stated as to what the dip or 'underlay' of this seam was) of this formation for about 50 feet. The seams of pug, as it went down, at first yielded 1.5 dwt (2.3g/t) per dish and afterwards barely prospects. A few tons from the winze*

were sluiced and between 0.5lb and 1lb of pyrites obtained which assayed 21 and 28 oz of gold per ton (642g/t and 857g/t Au respectively) of sulphide”.

*“The drive was continued 100 feet further north-west and then turned west and driven 50 feet across a bed of slate and conglomerate veined with quartz and impregnated with pyrites. These strata have the character of country near to and mineralised by an adjacent lode. I took samples 3 feet apart, for the whole 50 feet of cross-cutting and these when assayed ... yielded only traces of gold.”* The belt is known in the mine reports by the name of the pyrites lode. Channel samples taken by AMAX in 1982 concur with these low grades (Hamlyn, 1982).

The new Main Shaft is reported by Twelvetrees (1903) as having been stopped at 40 feet for “financial reasons”.

Twelvetrees (1903) concludes his discussion of the Duchess of York mine by making “a tolerably safe guess” about the origin and nature of the nugget chamber. He believes that there are three “distinct (geological) periods or epochs” involved in its formation and continues to state: *“Firstly the sedimentary beds of sandstone and slate were laid down; secondly, an intrusion of the rock, which is now serpentine, took place. I do not find any solid mass of serpentine in the Duchess of York but the chrome and nickel and magnesian clay suggest that the nugget formation is a decomposed survival of it or has been affected by its existence close by. There is probably a continuation of the serpentine from the Salisbury tunnel and the nugget formation is along this line. I believe the serpentine intrusion to be anterior to the deposition of gold. Thirdly, the quartz reef epoch ensued, which veined the Blue Tier and Cabbage Tree Hill strata with auriferous lodes. Where the veins pass through sedimentary strata (slates, sandstones, and conglomerates) the gold deposits are of the ordinary nature but when they either pass into serpentine or along the boundary-line of serpentine at its contact with other rocks, they put on an unusual appearance. The quartz becomes chalcedonic, being a mixture of crystalline and hydrous silica and both wall-rocks (serpentine and sedimentary rocks) are saturated with it to an extent which renders them barely recognizable. In this way two separate formations may be blended into one at the contact and carry minerals of two distinct periods, viz., the nickel and chrome of the older period, and the gold and arsenical pyrites of the quartz reef period. I interpret the occurrence at the Duchess of York in this sense”.*

Recent mapping in both the Powerline Adit and ‘Candle Shaft’ has located similarly appearing chalcedonic quartz with a greenish stain. Clays seams associated with this style of

alteration dip towards the southwest, often in the footwall to similarly oriented ferruginous auriferous quartz. The green stain can be seen from assays of this clay to have elevated nickel and chromium.

#### 4.2.1.2 Powerline Adit

As noted earlier the Powerline Adit was driven by the Salisbury Hydraulic Association on the succession of moderately south-west dipping quartz veins seen in the northern face of the open cut. Twelvetrees (1903) samples returned 10' @ 3dwt 6grs gold per ton (3m @ 4.97g/t Au) and 21' @ 1dwt 22grs per ton (6.4m @ 2.93g/t Au) which confirmed statements to Twelvetrees that *"3 dwts per ton (4.59g/t Au) were obtained from the tunnel 23 years ago."* Twelvetrees (1903) also refers to a shaft *"sunk at the southern end of the hill 80 feet, and 60 feet driven from it, and that a foot of stone cut assayed only a trace of gold in the quartz and 2.5 dwts (3.83g/t Au) in the pyrites"*. This may be the shaft adjacent to the eastern side of the Powerline open cut but the depth quoted here is markedly greater. (See figure 3 and sections 5433375N in figure 5 and 5433524N in figure 6).

The open cut (the product of sluicing operations by the Salisbury Hydraulic Association) was sampled by a Mr Austin Allom with Twelvetrees (1903) reporting his results as follows (his inverted commas): *"On west side, for a width of 27 feet, 1 dwt. 7grs. Gold per ton (8.2 metres @ 1.98g/t Au)"*. *"On east side, for a width of 33 feet, 2dwts. 22grs. Gold per ton (10 metres @ 4.46g/t Au)"*. These results are of a higher tenor than those obtained by BMJV's channel samples in 1997/98 (see discussion later).

#### 4.2.1.3 Salisbury Mine

Again this description of the workings draws almost solely from Twelvetrees (1903). The Salisbury Gold Mining Company Limited held this section in 1903 with the mine consisting of the then inaccessible old Victoria tunnel and the new shaft, sunk to 200' in depth from the bottom of which a cross-cut extends 330' to the north-west. (See figure 3 and sections 5433500N in figure 7 and 5433600N in figure 8).

The cross-cut from the base of the new shaft is in sandstone (which description best matches the Eaglehawk Gully Formation rocks) to 280' where it passes into a body, 25' wide, of serpentine. The rest of the cross-cut is in a reddish siliceous dolomite. An 18" thick, west dipping quartz-pyrite vein is intersected at 260' in the cross-cut, the concentrates of which reportedly assayed 3 ozs 13 dwts per ton (113g/t Au) with another sample 18 dwts per ton (27.54g/t Au). Twelvetrees (1903) sample of the same assayed 3 dwts 6 grs Au per ton

(4.97g/t Au) of pyrites and 2 ozs 12 dwts 6 grs Ag per ton (79.9g/t Au) of pyrites. Another pyritic vein was cut just before the drive entered the serpentine.

Twelvetrees (1903) considered the serpentine body to be a dyke. However, this is difficult to imagine as the ultramafic rocks underlying the sandstones are older with the contact between the two units an unconformity (or at the least a stratigraphic contact).

Details of the old Victoria tunnel are given by Thureau (1883). The tunnel is described as heading west for 605' then north for around 595'. "*The first portion of the tunnel from its mouth passes through alluvial clays and decomposed sandstones ... of a calciform character (consistent with the Eaglehawk Gully Formation)*". His following description is somewhat confusing and is reproduced here largely in full.

*"The whole occurrence of gold presents some very remarkable features which deserve to be recorded. The country, it appears, consist of sandstones, slates, and a bed containing a deep black soft clay, locally termed 'pug'. Another local term comprises the 'slides'. I have come to the conclusion, with the sandstones, after examination that these so-called slides are, as there is no displacement, 'altered shales', and with sandstones, most probably belong to the carbonaceous era, as evidenced by their general lithological character and mode of occurrence. The whole formation strikes east by west, and dips to the south. At nearly right angles with that dip across the joints traverse the beds, which are also intersected by nearly vertical joints. It is only at the intersection of these vertical joints with the 'slides', so-called as the soft decomposed slates have a very dark and greasy appearance, that 'nests' of bunches of auriferous matrix have been found to occur."*

It is not clear as to what he is calling the east-west striking, south dipping 'formation'. The first part of the text implies that it is bedding but he contradicts this by stating that the beds are nearly at right angles to this dip. The interpretation of the formation as a fault makes more sense. He continues to state.

*"A curious geological feature obtains in this tunnel i.e. the eastern strata consists, up to a certain point of light coloured calcareous sandstones (Eaglehawk Gully Formation) dipping southeast; a short distance beyond that point, at low angles, the dip is nearly in the reverse direction, and the country at once changes into very dense coloured (what colour? – reddish? greenish?) and greatly contorted metamorphosed (serpentinised?) strata. This appears to be due to the occurrence of a dyke of intrusive rock, quartzose, feldspathic, and apparently porphyritic. This dyke, I have found to be in*

*itself metalliferous as it contains in the joints 'millerite' or 'sulphuret of nickel'.*

It is this reported occurrence of nickel sulphides which was targeted by the Mines Department's drillholes S1 and S2. Given the reported westerly dip it is quite remarkable that the Mines Department holes were drilled as angled holes towards the west. No such porphyritic dyke was intersected although S1 intersected a broad zone of yellowish grey to moderately reddish brown variably silicified dolomite while S2 intersected a shorter interval of serpentinite with two zones of silicified dolomite with gradational contacts between the two alteration types. Both intersections contain magnetite in part (MacDonald, 1998). Both intersections lie at the moderately to strongly sheared contact between underlying polymict conglomerate (of at least partly ultramafic derivation) and overlying sandstones (S1) and siltstones (S2) suggesting alteration of the stratigraphically underlying ultramafic bearing rock by fluids focused up the shear. It is hard to completely dismiss the description of Thureau (1883) in which he suggests the porphyritic rock is an intrusive. Feldspar porphyritic rocks are mapped up dip from the ends of these drill holes on the low hill to the west.

It is believed that Thureau (1883) is seeing a zone of strong greenish clay, southwest dipping, adjacent to a zone of stratabound and therefore northeast dipping, serpentinisation of an originally ultramafic rock (coherent or clastic). However, this interpretation is not supported by Twelvetrees (1903) description of the serpentinite in the cross-cut of the Salisbury Gold Mining Companies new shaft as having a "*vertical lamination*".

The dump at the entrance of this tunnel contains the puggy black slate and quartz sandstones referred to by Thureau (1883), although the sandstones are quite pyritic and have a greenish tinge. A distinctive siliceous rock with strong foliation anastomosing around now leached vugs is also found on the dump. A rock with very similar appearance is found on Hinds Hill along the contact with the Anderson's Creek Ultramafic Complex which is interpreted to be the product of the leaching of a strongly foliated partly silicified serpentinite, the serpentinite having leached out leaving the silica.

Sorell (1895a) shows the drive north to have three 'old drive's cross-cutting the main tunnel. Moving northwards along the main tunnel these old drive's trend northeasterly, north-northeasterly and broadly easterly. The first of these is shown as having a winze at one end and a rise at the other. Presumably something of interest was obtained in this northeast trending cross-cut to warrant this work.

The northernmost of these cross-cuts has some penciled detail nearby with the words 'shoot' recognizable. The penciled workings are suggestive of stoping of a north striking, west dipping vein.

The significance of the serpentinite and dolomite is not of academic interest. Deep drill hole intersections of the Cabbage Tree Hill thrust in the Beaconsfield Gold Mine show the adjacent rocks to have been similarly altered. As noted earlier, such alteration is quite consistent with the passage of fluids responsible for the formation of the Tasmania Reef. The presence of such alteration must be seen as favourable for the presence of nearby gold mineralisation as stated by Twelvetrees (1903). (See above).

#### 4.2.2 Middle Arm Gorge/Eaglehawk Gully

Thureau (1883) makes the earliest mention of mining in this part of the licence. He refers to the Rising Sun Gold Mining Company's mine "*located just above the Gorge (Middle Arm Creek Gorge) at the south end of the Cabbage Tree Range*" which has added to the "*variety of valuable metalliferous deposits in the district ... by the discovery of both copper (assays of around 26% Cu) and a little silver*" in a lode described as a "*very strong one*". It is this mine's main adit in which a man was gassed (CO<sub>2</sub>) in recent years leading to it being closed off. A number of smaller diggings can be seen on either side of Middle Arm Creek in the vicinity.

Mapping in Eaglehawk Gully uncovered a number of adits and shafts, around 800 metres south of Middle Arm Gorge. The vintage of these is uncertain (see below).

### 4.3 ACTIVITY IN THE 1930'S DEPRESSION

Anecdotal evidence indicates that during the 1930's depression a number of men worked the alluvial deposits in Eaglehawk Gully. A small jar of alluvial gold held by the Grubb Shaft museum was won from this area at this time.

The only official reports of activity during this time are those of Nye (1931 and 1934) who apparently (his reporting is somewhat unclear) refers to two areas of workings in this area. Nye (1931) describes the operations of Messrs. Best and Tuskin on "*the south-east side of Middle Arm Creek and the Flowery Gully Road where it enters the gorge along the creek*". He describes the driving of an adit (275' long at the time of his visit) in a southwesterly direction from the west side of the gully in order to cut the source of the gold shed into Eaglehawk Gully and found on the ridge above the adit. While there are a number of shafts and trenches at this northern end of Salisbury Hill (west of Eaglehawk Gully) it is more probable that the workings referred to are those located around 800 metres to the south-southeast up Eaglehawk Gully.

Nye (1931) also reports that "*it is also stated that an adit was driven from Middle Arm Creek in a general southeasterly direction on a reef*". This adit

may correspond to the collapsed workings located just beneath the Flowery Gully Road, adjacent to the Middle Arm Creek.

Nye (1934) reports on the mining operations at the north end of Blue Tier by two miners employed by a Beaconsfield syndicate. This party reads very similarly to that of Nye (1931) who refers to work being carried out by a "party of two, who receive sustenance and explosives from a syndicate". However, the principle working described here is an adit driven "in a general east-northeast direction from the western fall of the Blue Tier". The adit was 219' long at the time of Nye's visit. The intention again was to locate the source of detrital gold in Eaglehawk Gully and to also intersect the gold bearing ferruginous 'formations' explored/mined in the small shafts and numerous trenches. One such formation is reported to strike 120 degrees magnetic and the other is conformable to bedding. The description of conglomerates in the workings means that the ridge on which these workings are located is that west of Eaglehawk Gully. Numerous workings fitting this description are located on this ridge at its northern end. Any adit driven here would have been destroyed by TEMCO's mining operations along the western side of this ridge.

#### 4.4 MODERN EXPLORATION

Modern exploration commenced in the early 1970's with the drilling of DDH's S1 and S2 by the Mines Department in order to test the reported occurrence by Thureau (1883) of nickel sulphide minerals in the old Victoria tunnel. Although not targeted on, nor assayed for gold, these holes were later reassayed in part for gold by AMAX (Hamlyn, 1982) and more recently by the BMJV (MacDonald, 1998).

##### 4.4.1 1980-82 - AMAX

AMAX were granted Authority to Prospect 6/80 (later converted to EL 39/81) in 1980 (Poltock, 1980). Their initial focus was to be soil sampling and geological mapping around the Salisbury goldfield. Some 10.8 km of gridline were established, mostly at 100 metre spacings (the southern four lines at 200 metres), with the grid extending from around 5432200mN to 5434100mN. Hand auger samples were collected at depths of up to 1 metre every 20 metres. The -80# fraction was assayed for Cu, Pb, Zn, Ni, Cr and Au using AAS and As using XRF. The detection limit for Au was 0.05ppm.

Poltock (1980) stated that "results are difficult to interpret due to the extent of transported soils (scree and alluvium) and the fact that no single horizon was sampled. Arsenic is taken as the best indicator of gold mineralisation".

A number of anomalies were located with the strongest, As (to 1000ppm), associated with the old Salisbury goldfield workings around the southern end of the spur, open ended to the south. Poltock (1980) reported two adjacent samples assaying 2.7 and 3.0 ppm Au, however, "these samples have been taken in fine alluvial sands and gravels which overly organic clays of probably Tertiary age". It is this same area from which three bulk samples of alluvial/eluvial quartz float were

collected in the course of this year's work and which assayed up to 1.43g/t Au (see discussion later).

Poltock (1980) noted that anomalous Cr and Ni are generally in association and correspond to either the basic/ultrabasic Cambrian conglomerate or quartz sulphide gold veining in the old workings. Anomalous Cu, Pb and Zn, whilst erratic, generally correspond to the zone of anomalous As, Cr and Ni.

Most other anomalies generally coincide with the line of old workings or scree derived from this area on the western side of the ridge line. There are also a number of intriguing anomalies. The 175ppm As 0.1ppm Au spot anomaly on line 17N at 240E (486675mE 5433945mN) whilst probably from scree derived from up slope, also corresponds to an analogous setting to that mineralisation in the Powerline Adit in one of the empirical models discussed earlier. The 310ppm As anomaly, with associated elevated Cu, Pb, Zn and Ni on the eastern end of line 12N near the old shaft at the corner of Salisbury Hill Rd and the Powerline Track, may also correspond to a significant structural position (interpreted trend of the Cobblestone Creek Thrust) although it is possibly derived from alluvium. Anomalous Cr on the eastern end of line 14N may lend support to the structural interpretation.

Poltock (1980) noted that the anomalous values on the southern end of the grid are from the area mapped by Gulline (1981) as diorite. Elevated base metal values probably simply reflect the elevated background levels of such metals in mafic rocks although it is intriguing that the anomaly, though weakening, has a north-northwest trend.

A ground magnetic survey was also conducted over most of the grid lines (Poltock, 1980). This was conducted in order to help map the Cambrian Ordovician contact, define zones of major faulting and trace the extent of the serpentinite dolomite association.

The survey was not successful in satisfying the first two reasons. Poltock (1980) stated that this is *"probably due to the fact that the Cambrian is composed of siltstones which doesn't provide enough contrast with the Ordovician quartzites and that the Ordovician exists as a relatively thin veneer over the underlying Cambrian. However the serpentinite zone appears to be well outlined"*.

Two anomalous zones were recorded. The northern zone over the line of old workings is due to the serpentinite. This northwest trending anomaly *"becomes wider and with reduced gradient to the north probably indicating increased depth. The trend is cut off sharply on (line) 13N"* (Poltock, 1980).

The second anomaly on the southern part of the grid *"is probably related to the diorite suite and NNW trending thrust faulting"* (Poltock, 1980). The anomaly actually lies west of the area mapped by Gulline (1981) as diorite (though only some 50 metres) and trends northwards on adjacent lines 0N and 2N with the peak on line 4N offset

to the west. The position of these anomalies corresponds quite well with that of the anomalous base metal soil geochemistry described above. This is unusual as the rocks beneath the 4N zone are quite clearly the sandstones along the ridge.

Poltock (1980) recommended extensive sampling of the old workings of the Salisbury goldfield, including opening the Duchess of York and old Victoria adits. If results warranted, further soil sampling was recommended to be done by deeper bedrock augering. Regionally he recommended a stream sampling programme and if there was an association between gold and serpentinite (one which he must have had some faith in as the survey was conducted) a regional aeromagnetic survey should be flown.

Hamlyn (1982) reported attempts to re-open the Duchess of York and old Victoria adits as essentially unsuccessful with the Duchess of York opened at the portal only to find another collapse 43 metres in. The old Victoria adit was unable to be opened due to the hardness of the rock at the portal.

Both the Dyke Tunnel and Powerline Adits were thoroughly sampled with channel samples taken both horizontally and vertically along all exposed walls and backs at 2 metre spacings in the Powerline Adit, and 2 metre long horizontal channel samples along the southern wall of the Dyke Tunnel Adit. The Dyke Tunnel samples all returned <0.03g/t Au (supporting Twelvetees (1903) report). However 25% of the Powerline Adit samples were >1g/t with highest values 11.83, 11.75, 8.92, 7.00, 4.52, 4.00, 3.58, 3.09 and 3.08 g/t Au. Quotable composites, albeit horizontal along sub-horizontal veining, include 7m @ 4.37 g/t Au and 5m @ 4.35g/t Au.

Sections of DDH's S1 and S2 were reassayed for a range of elements including gold. Best assays of 0.12m @ 4.75g/t Au in S2 and a number of other short intervals of ~0.2 g/t Au in S2 are from narrow quartz ± sulphide veins, usually hosted within conglomeratic (Lower Transition beds type) rocks. Hamlyn (1982) referred to the problems caused by deep alluvial and scree cover on the flanks of Salisbury Hill (possibly up to 40 metres thick in places) making soil sampling a relatively ineffectual exploration tool in these areas. He stated that "*sampling in areas of greatest potential would probably be most effectively achieved by short diamond drill holes and in areas of continuing interest, pattern drilling programmes would ultimately be initiated*".

#### **4.4.2 1985 - Gold Fields Exploration Pty Ltd**

The next period of activity was undertaken in 1985 by Gold Fields Exploration Pty Ltd who included the Salisbury Hill area within an extended EL 17/73, the licence that contained the Tasmania Reef at Beaconsfield (Pease, 1984). Its work consisted of more substantial work on the Salisbury goldfield as well as a regional stream sediment sampling and aeromagnetic survey over the whole of the licence area.

At Salisbury initial work consisted of extending the AMAX grid to the south in order to close off open ended anomalies from the AMAX work. 392 soil samples were collected at 20 metre spacings by power auger to reportedly greater depths than that achieved by AMAX (Pease, 1984). Samples were again sieved and the -80# fraction assayed for As alone with samples from the two anomalous zones defined assayed for Au. Gold Fields Exploration Pty Ltd also infilled the two anomalous zones defined by this work and resampled the AMAX grid in these two areas (Pease, 1984).

The northern anomalous zone corresponds to the Salisbury goldfield workings on the southern end of the spur. Arsenic values up to 970 ppm and three samples directly over the old workings returned 0.4 to 0.7 ppm Au (Pease, 1984).

The southern zone called the Johnson Creek Fault anomaly was defined on the northern slopes of a low hill in the central southern part of the grid. Arsenic values, while up to 2200ppm were patchy and all Au results were below the detection limit of 0.01ppm Au (Pease, 1984).

Four diamond drillholes were planned to test these two zones. Due to poor results from DDH S5 targeted on the Johnson Creek Fault anomaly three holes were drilled into the Salisbury goldfield anomaly (Pease, 1984).

DDH's S3 (124.1m) and S6 (146.5m) were targeted on easterly dipping (?) veins in the Ordovician sequence beneath the Salisbury goldfield anomaly (the current author is not aware of such veining at the Salisbury goldfield). DDH S4 (64.5m) was targeted on westerly dipping veins in the Ordovician sequence beneath the Salisbury goldfield anomaly but remained in the slates and polymict conglomerate which underlie the targeted Ordovician rocks (Pease, 1984). None of the holes therefore, adequately tested the dominant southwesterly dipping vein set.

DDH S3 passed though Eaglehawk Gully Formation sandstones, across a fault zone and then straight into Cambrian slates and polymict conglomerate (Blyth's Creek Formation). This fault zone is most probably one of the major faults of the Johnson Creek Fault zone. All core was lost from this fault zone but it does not appear to be hosting a reef at this point. DDH S6 stayed in Eaglehawk Gully Formation sandstones throughout.

The sandstones intersected in DDH S3 above the Cambrian slates and polymict conglomerate were whole core sampled for Au, As, Sb, Cu, Pb, Zn and Fe. Au is anomalous for most of the interval though only peaking at 0.62g/t Au. As and Sb are anomalous throughout the sandstones but are most highly anomalous between the two zones of core loss interpreted as fault zones with peak As 3100ppm and Sb 1280ppm. Fe shows a similar pattern to As and Sb, reflecting the limonite-goethite recorded throughout the sandstones peaking at 24.3%. The sandstones are also weakly anomalous for Cu, Pb and Zn

with maximum values 315ppm Cu, 450ppm Pb and 1700ppm Zn. Pease (1984) interprets the Sb anomalism from sampling of this hole as "*indicating the presence of an auriferous zone either laterally or vertically distanced from the main workings*". At the time of reporting by Pease (1984), DDH S6 had not been assayed and it is believed that this work was never done.

DDH S5 (150.7m) was targeted on the Johnson Creek Fault anomaly but intersected a sequence of slates and polymict conglomerate and minor quartz pebble conglomerates considered to be from the Cambrian sequence. Intriguingly a small body of reddish dolomite was intersected in this hole. The hole was drilled towards 030 (TN) and thus possibly at a low angle to east to northeast striking faults which host the more economically significant mineralisation targeted. Although not assayed for the whole length of the hole, the three long intervals (including the dolomite intersection) that were cut and assayed (for Au, As, Sb, Cu, Pb, Zn and Fe) were not anomalous for any of these elements. Maximum arsenic values were 85, 35 and 30ppm, insufficient to explain the 2200ppm anomaly targeted in the drilling. However, the hole does appear to have passed beneath the anomaly.

Pease (1984) concludes that "*the possibility of transcurrent E-W faults and the strength and components (As and Sb) of the geochemical anomaly suggest the potential for a 'Tasmania Reef' style structure exists at Salisbury*".

#### 4.4.3 1988 – H.J. Stacpoole and J. Miedecke

In 1988 Messers Stacpoole and Miedecke entered into an agreement with BHP, holders of a mining lease over the area (since reduced – see Temco ML on figure 1) to explore for gold on Consolidated Mineral lease 145M/79 (after it was discovered that the prospect did not actually lie on the Beaconsfield Gold Mine project's ground) (Stacpoole and Miedecke, 1988)

Exploration reportedly consisted of the creation of a small 50m x 50m grid over the southern end of the spur, costeaning across the southern end of the spur with sampling and assaying (reportedly) of the costeans before filling them in, and the drilling of 7 RAB holes for 108 metres on two traverses, one just south of the Powerline Adit, the other line above the Powerline Adit itself (Stacpoole and Miedecke, 1988). Details regarding this work are scanty with no assays or locations for any costean samples and no logs or surveyed locations for the holes. The holes were sampled and assayed on a composite basis (Stacpoole and Miedecke, 1988).

Recent work has located the collars of some of these holes although they are yet to be identified or surveyed. One of the holes can be seen penetrating the backs of the Powerline Adit near its southern end where it opens out. However, their approximate locations can be estimated from the location of the tracks from which they were drilled. The holes were reasonably well planned but were much too short to test the

southwest dipping vein set apparently targeted, the deepest hole being SM1/1 at 22 metres. Samples were composited over 3 to 5 metres. The four holes drilled above the Powerline Adit were all weakly anomalous in Au with 4m @ 0.12g/t in SM1/1, 4m @ 0.165g/t in SM1/2, 3m @ 0.15 and 3m @ 0.12g/t in SM1/3 and 11m @ 0.21g/t in SM1/4 (see figures 5 and 6). On the southern traverse the only significant anomaly was 3m @ 0.3g/t in SM2/1 with all other samples <0.01g/t Au (Stacpoole and Miedecke, 1988).

#### 4.4.4 1989 - Beaconsfield Gold Mines Limited

Exploration by Beaconsfield Gold Mines Limited in the period 1987 to 1989 was regionally focused with a BLEG stream sediment sampling programme and fixed wing aeromagnetics survey. Both surveys included the current licence area in their coverage (Hicks, 1989).

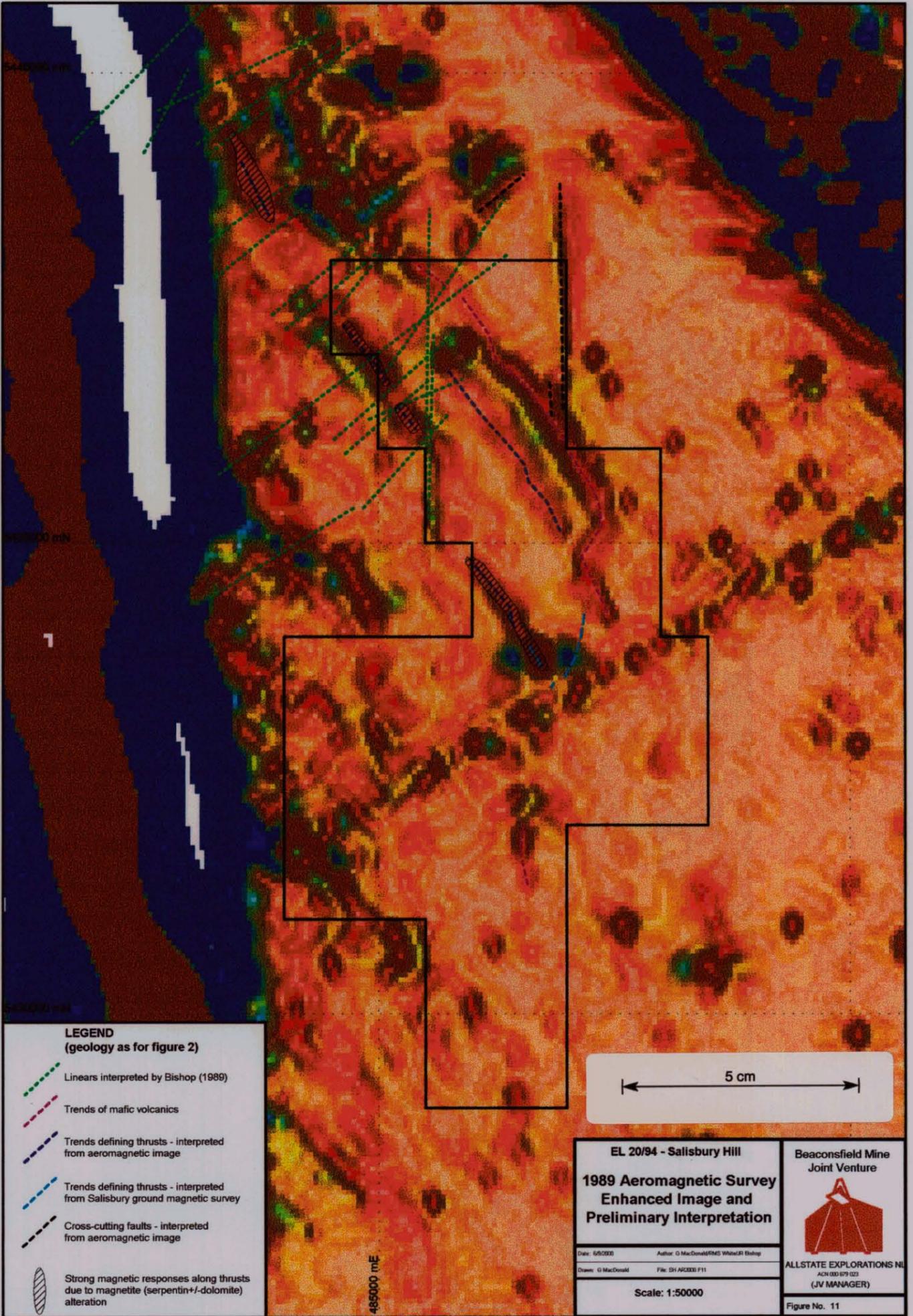
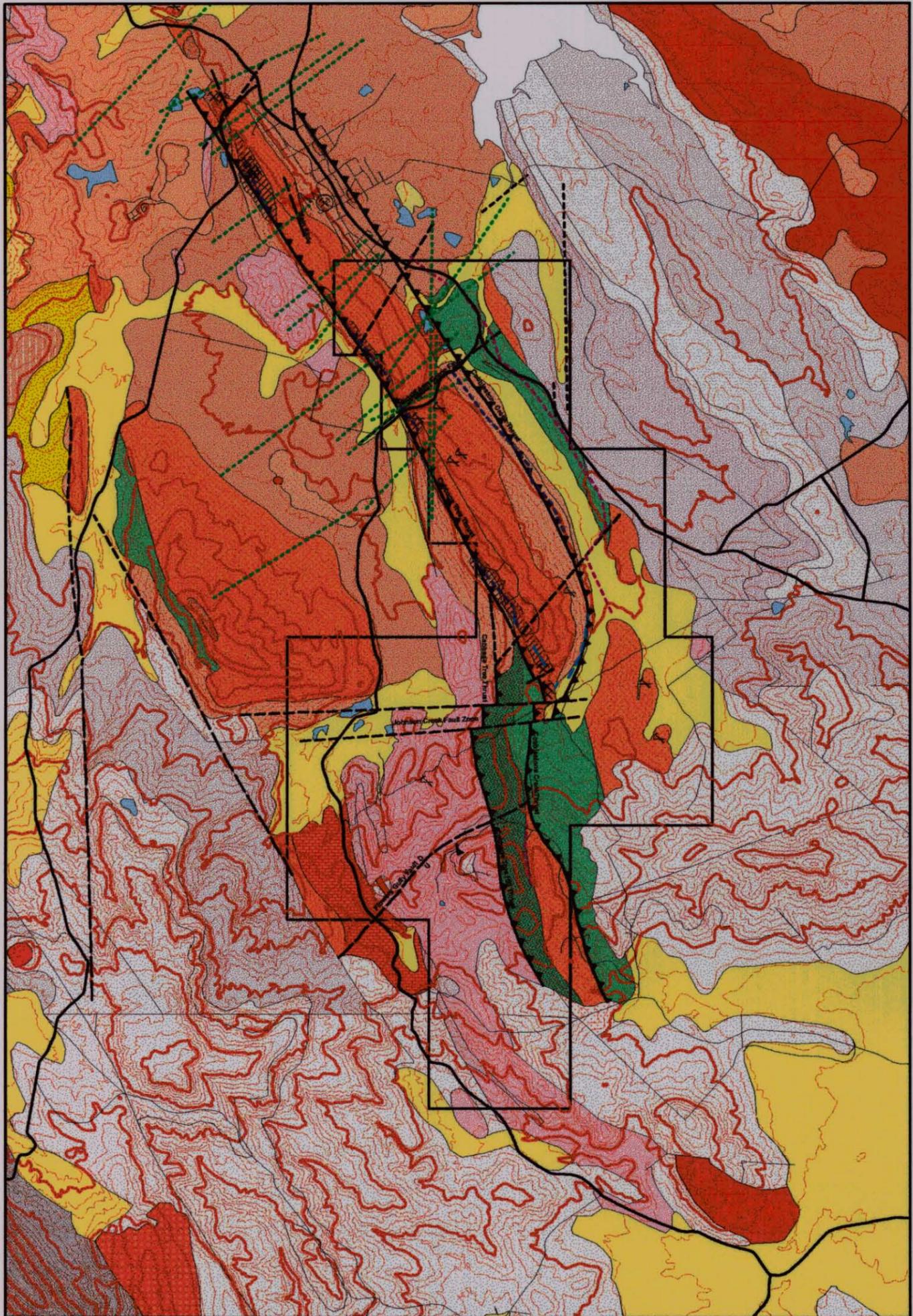
The stream sediment survey located a number of Au anomalies (taken herein as values >1ppb Au) within the licence area. As expected the creek draining Eaglehawk Gully and Middle Arm Creek below its confluence with the former creek are both anomalous in gold (3.25 and 2.15ppb Au respectively) although Middle Arm Creek and its tributaries just west of Middle Arm Gorge are not. Similarly Salisbury Creek is anomalous in gold downstream of the Salisbury goldfield (23.0, 7.9 and 2.95ppb Au) but not upstream. However, one of the strongest anomalies is that from the creek draining the Derwent Adit workings (and soil anomaly discussed later) at 18.7ppb Au.

The other two anomalies defined from the survey are from small intermittent creeks/gullies draining the eastern side of Salisbury Hill. The northern of these two anomalies (1.3ppb Au) is in an area yet to be gridded (and therefore not yet mapped or sampled). The southern one (3.3ppb Au) is from the creek draining the Salisbury Hill Rd soil anomaly discussed later.

Interestingly the highest Pb and Zn results (195 and 230ppm respectively) come from the creek draining the Flowery Gully Limestone just next to the recently defined Powerline West soil anomaly (see later) supporting the potential for this unit to host carbonated hosted (Mississippi style) base metal mineralisation.

The aeromagnetic survey was flown by Austirex in 1988 on 150 metre east-west spaced flight lines (with tie lines every 500 metres) at a nominal ground clearance of 100m. Radiometrics data was also collected during the survey. The survey is therefore of reasonable quality though still more of a regional survey than the helimagnetic survey flown by BMJV over the Beaconsfield area.

The raw magnetics data is dominated by the response from the Andersons Creek Ultramafic Complex to the west of the region. Bishop (1989) processed the data to considerable degree to remove this influence and produced images on which he defined a series of linears. More recently the data was reprocessed by White (pers. comm.) but the work was not completed. His processed and enhanced image which



**LEGEND**  
(geology as for figure 2)

- Linears interpreted by Bishop (1989)
- Trends of mafic volcanics
- Trends defining thrusts - interpreted from aeromagnetic image
- Trends defining thrusts - interpreted from Salisbury ground magnetic survey
- Cross-cutting faults - interpreted from aeromagnetic image
- Strong magnetic responses along thrusts due to magnetite (serpentin+/-dolomite) alteration

5 cm

EL 20/94 - Salisbury Hill		 Beaconsfield Mine Joint Venture
<b>1989 Aeromagnetic Survey          Enhanced Image and          Preliminary Interpretation</b>		
Date: 6/5/2000	Author: G MacDonalDMS White/RI Bishop	ALLSTATE EXPLORATIONS NI ACH 000 679 023 (JV MANAGER)
Drawn: G MacDonalD	File: SH AR0001 P11	
Scale: 1:50000		Figure No. 11

485000 mE

shows the most resolution of magnetic features is included as figure 11. The interpretation of Bishop (1989) is shown on this figure, but a number of other features and structures are also apparent.

#### 4.4.5 1997-99 – Beaconsfield Mine Joint Venture

In the 1996/97 reporting year a new grid was cut over the Salisbury goldfield at 50 metre line spacings and oriented AMG east-west. A high resolution ground magnetics survey was conducted over the grid using a new generation continuous sampling magnetometer. While no advanced processing of this data was undertaken the survey essentially showed the same features as those recorded by AMAX in the 1980 survey with a pronounced peak at 486730mE 5433750mN trending north-northwestwards and broadening, suggesting the source is becoming deeper. Magnetic susceptibility work by MacDonald (1998) on DDH's S1 and S2, which pass beneath this anomaly, show it to be due to the magnetite associated with the serpentinite  $\pm$  dolomite alteration intersected towards the ends of the holes.

The image produced in Hills (1997) shows two other subtle features of some interest. On the northern edge around 486400mE 5434250mN a new anomaly can be seen developing. This position corresponds with the interpreted trend of a thrust fault and suggests that the thrust is altered (serpentinite-magnetite) in this position. This anomaly can be seen on White (1998) Mlrrgrad image of the Austirex fixed wing aeromagnetic data trending north-northwesterly for at least 700 metres.

The other feature of interest is the north-northeast trending, slightly arcuate magnetic high which runs down the eastern side of the grid, corresponding in part with the Salisbury Hill Rd (northern part of the trend) but running west of the road at the southern end. This anomaly corresponds with the position of the Cobblestone Creek Thrust as interpreted by Gee and Legge (1971). It also corresponds with the anomalous As, Cu, Pb, Zn, Ni and Cr from the AMAX 1980 soil sampling (Poltock, 1980).

A programme of soil sampling was undertaken along ridge lines throughout the licence in 1997. Samples were collected every 40 metres from shallow depths and assayed for Au and As. Initially reported results contained a number of anomalies. However, 2 years later, Analabs admitted that the results were incorrectly adjusted and consequently spurious. The work involved in rectifying this error was conducted by Analabs to its own account and is detailed in MacDonald (1999). The corrected set of data revealed fewer anomalies with the Bulls Road anomaly in particular being deleted. However, the southern end of the spur over the Salisbury goldfield remained anomalous in both gold and arsenic (see discussion later).

Work in 1997/98 reporting year consisted of regional mapping and rock sampling (52 samples with potential for gold mineralisation were collected and assayed as part of this work). It also involved the relogging and limited sampling of DDH's S1, S2, S4, S5 and S6 (DDH

S3 had previously been whole core sampled apart from the strongly sheared slated and polymict conglomerate at the very end of the hole and thus was not available for logging). S1 and S2 were also logged for magnetic susceptibility. 22 channel samples (for 29.4 metres) were collected from the batters of the Powerline Adit's open cut. Samples collected from the limonitic sandstones on the western side of the open cut all assayed <0.1g/t Au apart from one sample of 1.8m @ 3.24g/t Au. Samples from the more haematitic eastern side (with outcropping sub-horizontal quartz) were more anomalous but only returned up to 1.0m @ 0.64g/t Au. The east-west striking fault exposed in the northwestern corner of the open cut does not contain any gold.

Much attention was placed on resolving some of the stratigraphic and structural problems in the region with both lithogeochemical and petrological work undertaken on volcanics (and some sediments). This work confirmed the correlation between the mafic volcanics located on dumps at the Salisbury goldfield, mafic volcanics located further south around the area mapped as 'diorite' by Gulline (1981) and the West Tamar Highway basalt (the 'keratophyre' of Green, 1959). The work also recognized the significance of the Eaglehawk Gully basalt as being an at least partly extrusive flow (with peperitic textures and hyaloclastically derived detritus).

Work in 1998/99 reporting year was driven by the requirement that 50% of the licence be relinquished at the end of the reporting year. To this end those areas considered to have the greatest potential and therefore certain be retained received little attention with almost all work carried out on those areas considered to have either untested or empirically lower potential. A total of 104 kilometres of grid line were established on a 100 metre spacing with lines oriented 330 degrees (TN). All grid lines were mapped and rock and soil sampled. In total 269 rock samples were collected and assayed of which 15 were from old workings at Eaglehawk Gully (see below) and 2062 C-horizon soil samples were collected on a initial 100m x 50m pattern with infill to 25m x 25m in areas showing anomalous responses. All samples were assayed for Au (to 1ppb), As, Cu, Pb and Zn. As part of this work previous soil sample results were compiled into a single data set. This latter work uncovered the spurious results from the 1997 ridge top soil sampling programme which were subsequently corrected by Analabs

The mapping work located old workings at the Wings West and Derwent Adit prospects (discussed below). Rock samples collected from the Wings West prospect assayed up to 0.198, 0.041, 0.032 and 0.027g/t Au.

A number of anomalies were define by the soil sampling, with the most significant being those defined at the Wings West (north and south zones) prospect, on the Powerline West grid (western end as well as around the Derwent adit workings) and on the Salisbury Hill Road grid. All of the more significantly anomalous zones were retained and have received follow-up work either in the 1998/99 or 1999/2000 years.

The old workings in Eaglehawk Gully, located during the 1997/98 year, were accessed, mapped and sampled. The lower adit returned a channel sample of 7 metres @ 0.055g/t Au including 2 metres @ 0.145g/t Au across a steeply southwest dipping shear zone with bunches of ferruginous quartz. Grab samples of the quartz assayed up to 0.748, 0.561, 0.324 and 0.241g/t Au.

A further 55 samples, many from EL 20/94, were added to the sedimentary trace element lithogeochemical database in the 1998/99 year.

## 5.0 GEOLOGY

### 5.1 INTRODUCTION

The geology of the Beaconsfield region has been described in previous reporting (MacDonald, 1998 & 1999) and will not be discussed in detail other than to say that there have been considerable advances made in its understanding. This situation has come about largely through the work of BMJV and JV Partner's geologists in collaboration with MRT geologists who are actively mapping in the region. Much of the advance has come about from the exposure made possible by reopening of the Beaconsfield Gold Mine but it has also benefited from the associated drilling and general activity on exploration licences in the region together with a recent focus on the regional picture by MRT. This improved knowledge base now allows exploration activity to be deliberate and focussed.

Hard-rock gold mineralisation was introduced structurally during the Middle Devonian Tabberrabberran Orogeny at the same time as gold mineralisation elsewhere in Tasmania's northeast and at many of the Victorian gold deposits. The Tasmania Reef, currently the focus of mining activity in the Beaconsfield Gold Mine, is the largest single reef of this age in Australia with a pre-mining resource of 2 million oz's of gold at grades over 20g/t Au. The pre-Carboniferous rocks of the region are thus the focus of exploration activity.

The Beaconsfield region occupies a significant part of the state, being the only place where the pre-Carboniferous rocks from the eastern Tasmanian and western Tasmanian terranes can be seen in juxtaposition. They crop out in a series of imbricate thrust slices of which the Cabbage Tree Hill slice is one. The structural setting of the region in the hangingwall to the leading edge of this Middle Devonian, southwesterly directed thrusting event has certainly played a major role in the location of the Tasmania Reef and associated gold mineralisation in the area.

The Cabbage Tree Hill slice is around 700-800 metres in thickness and is bounded to the west by the Cabbage Tree Thrust and to the east by the Cobblestone Creek Thrust. Both thrusts are north-northwest striking and moderately to steeply northeast dipping, i.e. essentially sub-parallel to the strike and dip of bedding. Almost all the gold mineralisation in the district is hosted within Cabbage Tree Hill slice.

### 5.2 GEOLOGY OF THE LICENCE AREA

#### 5.2.1 Stratigraphy

The pre-Carboniferous rocks within the central part of EL 20/94 are from the Cabbage Tree Hill slice with those in the eastern part of the licence from the Cobblestone Creek slice and those in the western part from the Peaked Hill slice.

The geology of the northern part of the licence is essentially the same as that of the area in the immediate vicinity of the Beaconsfield Gold Mine, less than 1 kilometre to the north along strike from EL 20/94's northern boundary. As one travels south through the licence there are

increasing departures from this similarity, both in stratigraphy and structure and to some degree styles of mineralisation.

The oldest rocks within the Cabbage Tree Hill slice in the northern part of the licence are the slates, siltstones, limestones and occasional minor quartz pebble conglomerate bands of the Blythe's Creek Formation of unknown thickness due to its base being truncated by the Cabbage Tree Hill thrust.

The Blythe's Creek Formation is overlain, probably disconformably, by the quartz pebble rich Cabbage Tree Conglomerate with a thickness of around 50 metres in the north near the Beaconsfield Gold Mine. This unit in turn is overlain by the quartz grits, sandstones and quartz pebble conglomerates of the Salisbury Hill Formation (informally the Lower Transition beds) with a total thickness around 120 metres in the north.

The Salisbury Hill Formation is overlain conformably by the variably calcareous siltstones and sandstones of the Eaglehawk Gully Formation (informally the Upper Transition beds) with a thickness around 200 metres in the north. The Eaglehawk Gully Formation is in turn conformably overlain by the Flowery Gully Limestone with a thickness around 170 metres in the north. The uppermost unit of the Cabbage Tree Hill slice is the black shale of the Corn Hill Beds having a minimum thickness of 30 metres and being truncated at the top by the Cobblestone Creek thrust.

Historically the Tasmania Reef was only considered to 'make' in the Transition beds (both upper and lower), however, recent developments in the Beaconsfield Gold Mine show it to extend into the Flowery Gully Limestone to the northeast and the Blythe's Creek Formation to the southwest.

Towards the south of the licence the Blythe's Creek Formation within the Cabbage Tree Hill slice includes black slates, mafic and ultramafic volcanics of tholeiitic character amphibolitised in part as well as a distinctive polymict conglomerate. Clasts in the conglomerate include rocks derived from these mafic and ultramafic volcanics as well as clasts of limestone, siltstone, sandstone, quartzite and chert. It may also include the quartzose sandstones that outcrop along the ridge to the southwest of the Salisbury goldfield although this interpretation remains uncertain (see discussion below).

The Cabbage Tree Conglomerate and the Salisbury Hill Formation appear to thin to the south becoming better sorted with pebbly units becoming more discrete. The Eaglehawk Gully Formation does not appear to thin but is offset by the Johnson Creek Fault Zone and is not seen with certainty until the southern part of the licence around Bulls Road. In the Middle Arm Gorge the Eaglehawk Gully Formation contains an intercalated, at least partly extrusive basalt, the Eaglehawk Gully basalt, of transitional/alkaline character. It has an apparent thickness of 20 metres.

The Flowery Gully Limestone and Corn Hill Beds do not crop out with certainty in the southern part of the licence.

The Cobblestone Creek slice to the east of the Cabbage Tree Hill slice contains a greater thickness of Blythe's Creek Formation with rocks including black slates, variably calcareous greywacke and quartzwacke siltstones and sandstones, limestone and the polymict conglomerate as well as a tholeiitic volcanic unit. Drilling east of Beaconsfield has revealed that the sequence is probably moderately tightly folded.

Further south the Blythe's Creek Formation outcrops more poorly and is less well understood. Mafic volcanics, amphibolite and tonalite towards the southern part of the licence and outcropping greywacke sandstones and foliated slates and siltstones are arguably from the Cobblestone Creek slice and not the Cabbage Tree Hill slice. The position of the Cobblestone Creek Thrust in this area is not clear.

The overlying Salisbury Hill Formation is probably represented in this slice by the gritty sandstones which outcrop on Lightwood Hill in the northeast corner of the licence and the broad ridge which lies to the southeast of the Salisbury goldfield and contains the Wings West prospect. The Eaglehawk Gully Formation possibly does not outcrop in this slice.

The Peaked Hill slice to the west of the Cabbage Tree Hill slice contains a thick interval of Corn Hill Beds, a sequence of turbiditic (in part) slates, siltstones and sandstones correlated with the Mathinna Beds east of the Tamar River. The Corn Hill Beds contain the Derwent Adit prospect. The Corn Hill Beds contain two lenses of massive quartz sandstone at or near the base and overlie, probably unconformably, the Flowery Gully Limestone. The Powerline West prospect is located over Flowery Gully Limestone rocks. The oldest rocks in this slice are the sandstones of the Eaglehawk Gully Formation which outcrop along Smiths and Others Road and on Peaked Hill on the western side of the licence.

The pre-Carboniferous rocks along the southwestern, southern and eastern edges of the licence and in two discrete locations in the Powerline West area are unconformably overlain by a shallowly northeast dipping sequence of limestone, mudstone and sandstone of Permo-Triassic age. Minor Jurassic dolerite outcrops on a hill above the Powerline West anomaly.

Recent scree cover obscures bedrock geology along the sides of Salisbury Hill and sands and gravels of Tertiary age and/or alluvium of Quaternary age infill the valleys.

### **5.2.2 Structure and Mineralisation**

The pre-Carboniferous rocks in the Beaconsfield region were deformed by the Middle Tabberaberran Orogeny that saw the eastern Tasmanian terrane thrust over the western Tasmanian terrane in a southwesterly direction. This deformation event produced the north-northwest

striking, northeast dipping thrust faults which bound the individual thrust slices. At the same time the deformation event produced the northeast to east-northeast striking wrench faults which host the Tasmania Reef, South Reef, North Reef, North Tasmania Reef and Pease Creek Reefs as well as a number of smaller mineralized faults in the area. It also produced the slightly later north-northeast striking Main Slide which offsets the Tasmania Reef in a dextral sense at its western end. Numerous north-northwest to north-northeast striking small-scale faults mapped by Keele (in Hills, 1997) in the Temco Quarry are of this later generation.

The steeply east-northeast dipping cleavage developed in more ductile lithologies in the district dates from the Tabberabberan Orogeny.

The thrust faults are considered to have played a major role in focusing fluids from depth. The hydrothermal fluids responsible for gold mineralisation in the region are considered to have been deep-seated metamorphic fluids produced by the devolatilisation of metamorphic rocks at depth (Taheri and Bottrill, 1994). Mafic-ultramafic complexes, with their characteristically elevated background gold levels, like the Andersons Creek Ultramafic Complex to the west of the licence would have provided an ideal source for such fluids.

Almost all gold mineralisation in the district is hosted by the Cabbage Tree Hill slice which is bounded to the west by the Cabbage Tree Hill thrust and to the east by the Cobblestone Creek thrust. Deep drilling within the Beaconsfield Gold Mine shows the Cabbage Tree Thrust to be associated with serpentinite, dolomite/magnesite and magnetite alteration, the product of CO<sub>2</sub> bearing water channeled up the thrust. Hydrothermal fluids of this type are consistent with those responsible for many mesothermal gold deposits (Ashley and Brownlow, 1993). While other thrusts in the district may have acted to channel such gold bearing CO<sub>2</sub> rich fluids from depth, only the Cabbage Tree Thrust has a proven pedigree.

Similar alteration is described for ultramafic rocks adjacent to gold mineralisation at Salisbury (Bottrill, 1998). The paragenesis here appears to be, a precursor of ultramafic rich clastic, altered by hydration to serpentinite and talc, then altered by CO<sub>2</sub> a bearing hydrothermal fluid to a dolomite and magnesite carbonate assemblage with probably associated magnetite + haematite alteration of primary chromite clasts in the ultramafic precursor.

The alteration style is similar to that described from serpentinite belts such as the Great Serpentinite Belt, New England (Ashley and Brownlow, 1993) who described bodies of ferroan magnesite (carbonate) + quartz ± fuchsite ± chlorite ± dolomite ± sulphide with anomalous gold but associated with hard rock mesothermal gold mineralisation. These... *"Fluids are interpreted to be responsible for the formation of widespread structurally controlled mesothermal Au (+ Sb) deposits throughout the southern New England Orogen"* (Ashley and Brownlow, 1993).

While other thrusts in the district may have acted to channel such gold bearing CO<sub>2</sub> rich fluids from depth. Similar, but at least locally not as intense, carbonate alteration of the also occasionally magnetic Cobblestone Creek Thrust fault is described overprinting ultramafic clasts in the rocks in the immediate footwall to this thrust just east of the mine.

The magnetite alteration associated with these thrusts allows their approximate position to be mapped by magnetic surveys (both airborne and ground surveys). The trace of the Cabbage Tree Hill thrust can be seen on the aeromagnetic image produced herein as figure 11.

The alteration of the chromite to magnetite is significant. Magnetic highs along the thrust are probably due to this magnetite alteration. While alteration needs an ultramafic precursor, which may itself be discontinuous along the fault, the location of the highs may recognize zones of hydrothermal alteration of the type known from the Tasmania Reef and Salisbury goldfield, as well as elsewhere in the world, to be associated with mesothermal gold mineralisation. The gold bearing ankeritic carbonate veins which cross-cut an earlier quartz rich phase in the Tasmania Reef may be associated directly with these fluids.

The magnetic high and associated dolomitic alteration of serpentinised ultramafic volcanics at Salisbury appear to be truncated by a northeast trending strike fault, suggesting, but not conclusively, some contemporaneity between the alteration and a potential Tasmania Reef analog. This alteration zone is discussed later in detail.

Of potentially great significance is the fact that two of the three strongest magnetic zones along this thrust are adjacent to the two main goldfields in the region. The northernmost of these two zones runs along the Cabbage Tree Thrust from just south of the Tasmania Reef, up past the Moonlight-cum-Wonder line of workings, to the North Tasmania Mine where the zone becomes obscured by the heavy response from the ultramafic body to the west. The southernmost zone passes along the immediate western side of the Salisbury goldfield.

The third zone lies either side of Middle Arm Gorge (though mostly on its northern side). To date only relatively minor gold mineralisation is known from this latter zone though the presence of stream sediment anomalies (both recent BLEG surveys and historical alluvial workings) in Middle Arm Creek and Eaglehawk Gully, and the numerous old workings (including the Rising Sun mine) in the vicinity support this association.

The thrusting event also produced open parasitic folding seen on a large scale in the Beaconsfield Gold Mine as steepening and shallowing of bedding dip as well as the smaller scale S folds mapped in some of the mine development. The tighter folding interpreted for the rocks of the Cobblestone Creek slice is consistent with that expected from this thrusting event. Sub-horizontal bedding seen in an old working at Salisbury is also consistent with this style of folding.

The tighter folding seen in the wedge of Salisbury Hill Formation rocks between the Second Slide and the Cabbage Tree Thrust to the northwest of the mine is also a product of this deformation event. The Moonlight-cum-Wonder line of workings, which trend north-northwesterly, are exploiting gold mineralisation focused into the axial plane of this syncline.

The only significant fold recognized within EL 20/94 is the north striking anticline in slates and siltstones of the Corn Hill Beds that passes through the creek crossed by Bulls Road at around 485650mE. This fold lies in the footwall to an intraformational thrust mapped just to the east. Significantly the old workings, quartz blow and associated Au, As and Cu soil anomalies at the Derwent Adit prospect lie along the trend of this anticline. This relationship between anticlines in slate belts, is quite a classic association with many Victorian deposits, including the Bendigo goldfield, occupying the fold hinge of such anticlines.

Apart from auriferous veins occupying the east-northeast to northeast striking wrench faults (Tasmania Reef type) and those occupying north-northwest striking fold hinges and fold axial planes (Moonlight-cum-Wonder type), a third set of gold bearing veins occur in the district and are of particular significance at the Salisbury goldfield. These veins dip towards the west-southwest with dips ranging from sub-horizontal to moderately steep. Veins of this generation are seen in a number of the access drives to the Tasmania Reef in the Beaconsfield Gold Mine where they are represented by veins of yellow ankerite up to 20mm in thickness.

At the Salisbury goldfield it is these veins that have been exploited in most of the old workings with the Powerline Adit the best example. At Salisbury these veins are highly ferruginous quartz veins of up to 0.5 metres in thickness. The strong oxidation obscures the earlier mineralogy but they are considered to have originally been quartz-ankerite-sulphide veins. Grades of up to 12g/t Au have been assayed from samples collected in recent exploration. Twelvetrees (1903) argues that such veins are gold mineralised adjacent to the bodies of dolomite and serpentinite (he interpreted as the product of igneous intrusion). Sandstones in the footwall of these veins are strongly altered to green clays. Bottrill (1998) describes these clays as kaolinite, with fuchsite giving the green colour. The genesis of this alteration is probably hydrothermal. (See cover photograph).

The orientation of these tensional veins is consistent with that expected from the southwesterly directed thrusting event and to date these veins have only be seen in the hangingwall to thrusts and then only where more competent sandstones, grits and conglomerates have been thrust over more ductile rocks.

Post-Permian normal faulting, associated with the breakup of Gondawana and responsible for the formation of the grabens such as the Tamar Graben, has not played any role in mineralisation but may

have offset mineralized structures and/or favourable rock types, possibly reactivating earlier faults.

### 5.3 SALISBURY GOLDFIELD

Since much of the focus of both historical and recent exploration/mining has been on this goldfield its geology will be discussed in more detail.

The Salisbury goldfield lies at the southern end of the Salisbury Hill – Cabbage Tree Hill strike ridge at the point where it is offset by the Johnson Creek Fault zone. The latter is an east-northeast striking zone of at least two interpreted major faults giving a total displacement of around 250 to 300 metres in a dextral sense.

The strike of bedding and faulting swings more southerly than east-southeasterly suggesting dragging of rocks by this fault. Bedding where mapped generally dips moderately to shallowly easterly.

The oldest rocks mapped in the area are interpreted to be the quartz sandstones which subcrop on the low ridge in the western part of the Salisbury magnetics grid. These rocks also form the ridgeline further to the southwest and have been interpreted as a basal unit within the Blythe's Creek Formation. Overlying these sandstones is a unit of interbedded black slate and polymict ultramafic clast bearing conglomerate around 120 metres thick which includes a body of coherent dolerite near or at its base. The ultramafic rocks have altered in part to serpentinite initially with subsequent dolomitisation.

The upper contact of these rocks with the overlying rocks, is always a reverse fault or thrust where seen. The thrust, which is intersected in the end of the Dyke Tunnel Adit, is a splay off the Cabbage Tree Hill thrust (the latter which must pass west of the ridge of Blythe's Creek Formation sandstones).

South of the Johnson Creek Fault the Formation includes the black slates and greywacke sandstones and the area of tonalite and amphibolite float. This area is yet to be grid mapped.

The rocks in the hangingwall of the Dyke Tunnel thrust is a unit of quartz grits, sandstones and pebbly conglomerates of the Salisbury Hill Formation, least 65 metres thick. The exact thickness of this latter unit is unclear due to faulting. There is some suggestion it is thinning and becoming better sorted. A unit of finely bedded mudstone-siltstone seen in the backs to the Powerline Adit and Candle Shaft may be intercalated with these coarser grained rocks though it is interpreted as Eaglehawk Gully Formation at this stage.

Much of the eastern slopes of the hill contain float of sandstones and siltstones typical of the Eaglehawk Gully Formation.

It is the rocks of the Salisbury Hill Formation which are seen to contain west-southwest dipping auriferous quartz vein set. Alteration in the ultramafics has been shown to be only rarely weakly auriferous to date.

Apart from the dyke tunnel thrust there are a number of other faults of significance. The principal of these is the Johnson Creek Fault zone. DDH S3 intersected one of the faults within this zone passing from Eaglehawk Gully Formation sandstones into black slate and polymict conglomerate. The

location of another fault from this zone can be inferred from the offset of the low ridge of Salisbury Hill Formation sandstones and pebbly conglomerates and the pronounced dragging of bedding in the sandstones in the first 75 metres of the South Powerline Adit. A fault seen in the northwestern corner of the Powerline Adit open cut is part of this zone.

A northeast trending fault passes through DDH's S1 and S2 and the old workings in the Old Victoria Tunnel. The throw on this fault is interpreted to be sinistral. The fault marks the southern boundary of the magnetic high. Another northeasterly striking fault is interpreted from the aeromagnetics image further north.

Alteration and mineralisation styles at the Salisbury Goldfield have been referred to earlier in the text.

**6.1 INTRODUCTION**

Exploration in the earlier part of the 1999-2000 reporting year was limited by the requirement to focus energy, attention and finances on the newly developing Beaconsfield Gold Mine. In spite of this a significant amount of work was completed in the year. Some of this work is currently ongoing and so this report details the current state of play. In particular gridded soil sampling and mapping is continuing over the area north and south of the Salisbury goldfield and so conclusions and priorities made herein may require some revision.

**6.2 GRIDDING/BASELINES**

New baseline pegs were surveyed for the northern and southern extensions of the Salisbury Hill grid using a Trimble real time differential GPS. Accuracy is estimated to be  $\pm 2$  metre based upon the accuracy of the equipment ( $\pm 1$  metre) and the level of accuracy accepted in placing the peg ( $\pm 1$  metre). Real time differential surveying allowed pegs to be placed on 'baselines' which utilised tracks, clearings etc. The northern grid pegs are at 100 metre spacings. Pegs were placed at 50 metre intervals for the baseline that runs along line 486700mE to the south of the Salisbury gold field. The baseline (486100mE) along the ridge further southwest of this line was surveyed by tape and compass off a GPS surveyed point on the Powerline Track. Pegs on this line were placed at 100 metre intervals.

**6.3 SOIL SAMPLING****6.3.1 Introduction**

Soil samples were collected from the B/C-horizon using a manual 4" Jarrod tree planting/post hole auger by Jed Walker (BMJV's field technician).

In EL 20/94 the soil profile is usually topped by a 0.1-0.3 metre thick layer of humic A-horizon material. This overlies a leached sandy B-horizon, particularly in soil profiles developed over quartz sandstones. The thickness of this horizon varies with a number of auger holes still in this material at 0.8 metres depth. This does not appear to affect the soil response as good As and Au values have been obtained from samples of this material in this and previous years' surveys. The C-horizon is a yellowish orange to dark yellowish orange clayey material with increasing coherent rock fragments with depth. Most soil samples were collected from 0.2 to 0.5 metres depth.

All soil samples were dried (generally naturally) and sieved through a 3mm sieve. Representative rock fragments in the +3mm fraction were taken and collected in chip trays. The -3mm fraction was rebagged and assayed by ANALABS Burnie for Au (to a 1ppb detection limit), As (to 1ppm), Cu, Pb and Zn. Considerable time and care was taken by ANALABS in cleaning the sample preparation circuit prior to preparing the soil samples and the authors are quite confident that those

anomalies defined by the soil sampling are genuine and not a product of contamination in the laboratory.

### 6.3.2 Salisbury Magnetism Grid

366 C-horizon soil samples were collected on the Salisbury ground magnetism grid at spacings of 25 metres along all lines of this 50 metre spaced grid. Samples were processed in the manner described above and assayed for Au (to 1ppb) and As (to 1ppm).

Sample locations are listed in appendix 1 with results in appendix 1 and 3 and shown on figure 13.

The sampling has defined a number of anomalies with two zones of sufficient character to require drill testing (discussed later).

The most strongly anomalous Au assay of 52ppb came from the area of sluicing just west of the spur at the south end of Salisbury Hill and is not likely to be an in-situ sample. Values of 11 and 9ppb Au from the spur itself however, support the ridge top sampling results of 12, 47 and 125ppb Au collected from this area, corresponding with the numerous small trenches and pits which run up this ridge. It is this trend of pockets of high grade gold mineralisation which is referred to by Twelvetrees (1903). Much of the grade is probably the product of secondary near surface enrichment of the west-southwest shallowly dipping vein set worked in the Powerline Adit. It has not yet given encouragement of bulking up to a near surface lower grade deposit, nor examples of veining of sufficient width and consistent grade to warrant modern underground mining. However, to date the area is structurally poorly understood and given the proximity to the Johnson Creek Fault there is still considerable potential for east-northeast to northeast trending reefs as well as larger east-southwest dipping veining. The processing and enhancement of the Salisbury ground magnetism data as well as the procurement of new high resolution helimagnetic data over the full length of the ridgeline recommended later would aid in this work.

However, the area already requires drill testing for its setting with the serpentinite/dolomite/magnetite alteration, nugget chamber and the anomalous channel samples in old workings giving enough cause for this drilling.

Other anomalous values of 11, 5, 5, 5, 5 and 5ppb Au on the eastern slopes of the hill are possibly shedding from the spur although they may be discrete in-situ anomalies. The Old Victoria Tunnel passes beneath some of these sample sites and no veining of significance is reported from this tunnel (in the area underlying the anomalies).

Of interest is the anomalous Zn (92 ppm) on the eastern end of line 5434150mN and the weakly anomalous As on the eastern end of line 5433500mN. Anomalous Cu, Pb, Zn, Ni and Cr values along a similar trend were obtained by AMAX's soil sampling in the area. These anomalies correspond broadly with trend of Salisbury Hill Road. At

their southern end they are associated with the collapsed shaft with black slate on its mullock heap as well as the subtle magnetic trend discussed later. They may reflect either proximity to the Cobblestone Creek Thrust, interpreted to be mapped by the magnetic trend. Alternatively they may reflect a mafic volcanic bedrock. Drilling is recommended to test this anomaly.

The most significant results come from the second zone which requires drilling. This is located along the ridgeline near the peak of the hill with two Au anomalous samples (80 and 46ppb Au) supported by anomalous As (up to 80ppm), Cu (to 13ppm), and Pb (to 80ppm) along the ridge for much of its length from 5433825mN to 5434100mN. The steep western slope below these anomalies also returned anomalous Au and As values which may either be in-situ anomalies or possibly shedding from the anomalous zones up-slope. This latter anomalous zone is associated with numerous trenches. These old workings support the potential of this zone.

This area is poorly structurally understood and there is potential for northeast to east-northeast trending faulting as well as shallowly west-southwest dipping veining. Definition of these structures would be greatly aided by processing and enhancement of the ground magnetics data as well as the recommended helimagnetics survey.

While the magnetics work should precede this drilling, ultimately at least a fence of RC holes will be required to test for more subtle unrecognizable structures associated with these.

High Zn values (193 and 154ppm) towards the western end of line 5434050mN coincide with the anomalous magnetic response recorded in the ground magnetic survey.

Soil sampling will be continued northwards from line 5434250mN (northernmost line sampled to date). However, these anomalies are of sufficient character to warrant either a continuous fence of holes or discrete holes targeted at the peak values.

While not yet assayed soil samples along lines south of the magnetics grid are expected to show anomalous Cu and Zn (from the AMAX data) consistent with the trend of the Johnson Creek Fault. A recommendation is made to drill this structure regardless but the AMAX soils (and expected BMJV results) will support this.

### 6.3.3 MMI Trial

Due to concerns about the thickness of recent scree cover and the likelihood that classical C-horizon soil sampling may be in part ineffectual in areas with such cover, it was considered that a Mobile Metal Ion soil survey may be more effective.

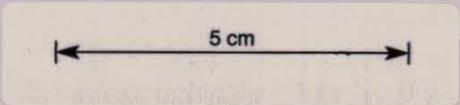
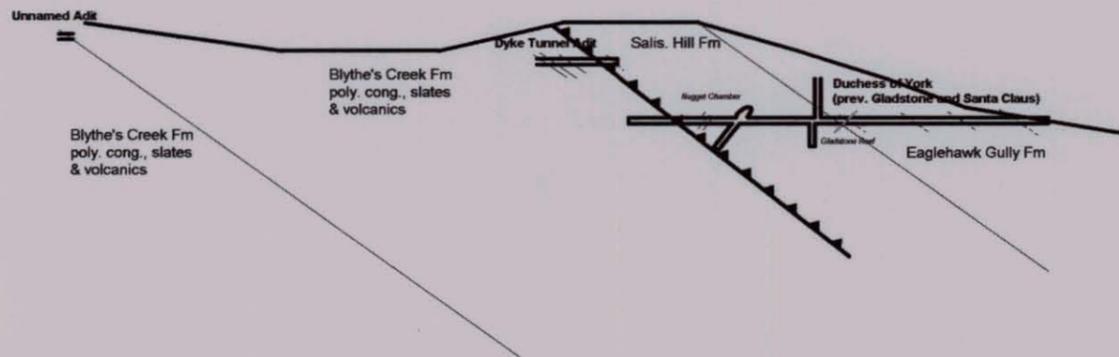
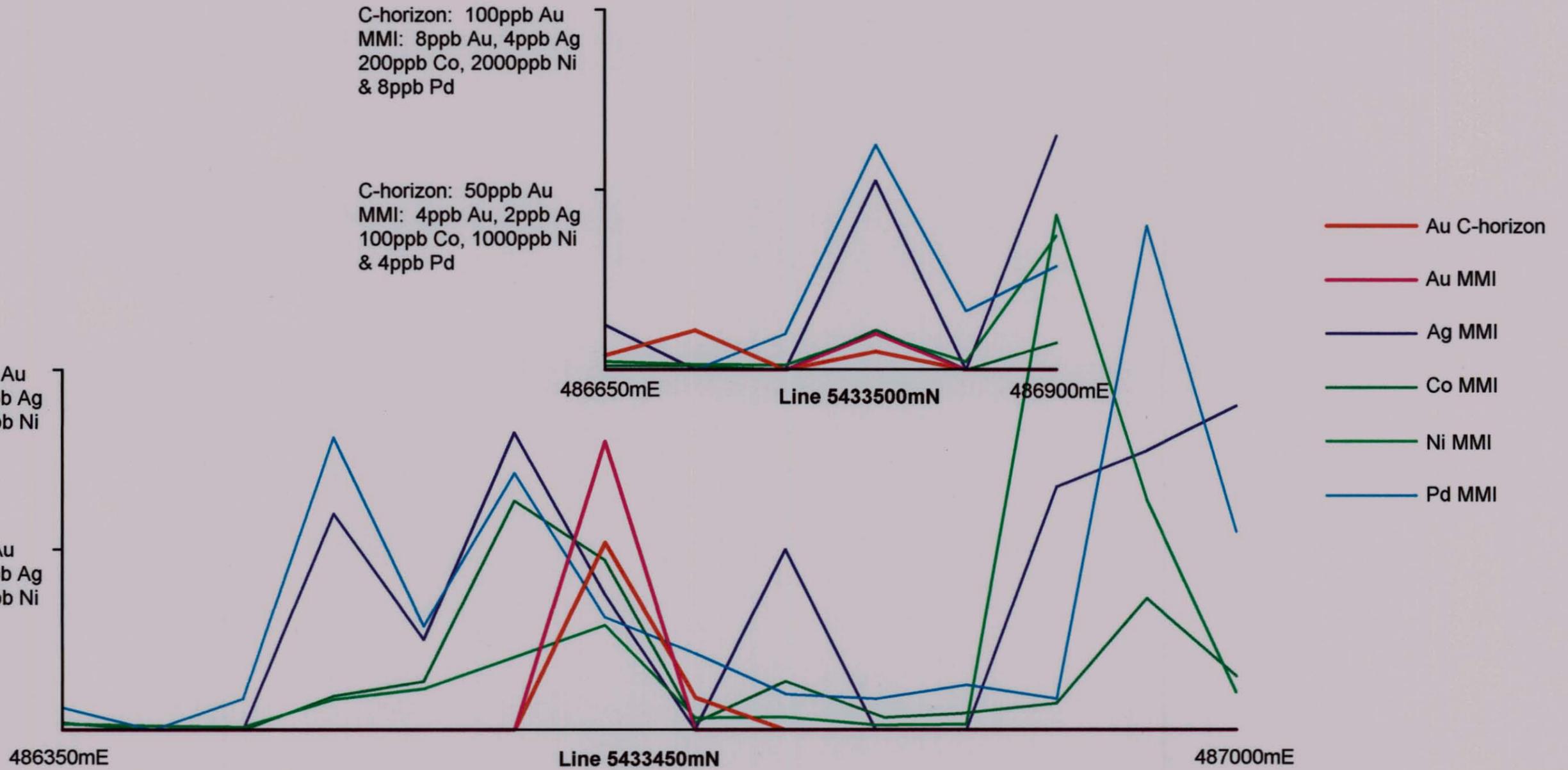
Mobile Metal Ion soil sampling is a relatively new technology based upon the premise that metal cations, including  $Au^{+}$ , are essentially upwardly mobile in the groundwater and become affixed to the negatively charged extremities of clay particles. The technology is

C-horizon: 100ppb Au  
MMI: 8ppb Au, 4ppb Ag  
200ppb Co, 2000ppb Ni  
& 8ppb Pd

C-horizon: 50ppb Au  
MMI: 4ppb Au, 2ppb Ag  
100ppb Co, 1000ppb Ni  
& 4ppb Pd

C-horizon: 100ppb Au  
MMI: 8ppb Au, 4ppb Ag  
200ppb Co, 2000ppb Ni  
& 8ppb Pd

C-horizon: 50ppb Au  
MMI: 4ppb Au, 2ppb Ag  
100ppb Co, 1000ppb Ni  
& 4ppb Pd



EL 20/94 - Salisbury Hill		Beaconsfield Mine Joint Venture
Results of MMI Trial Survey		
Date: 7/02/00	Author: G MacDonell	ALLSTATE EXPLORATIONS NI ACN 006 679 823 (JV MANAGER)
Drawn: G MacDonell	File: SH1A0200.F14	
Scale: 1:2500 (Workings and horizontal for Graph)		Figure No. 14

essentially based around the digestive chemical removing these ions without actually pulverizing the sample. Although no current mines have been discovered using this technology, it has been successful in actual exploration in locating gold mineralisation and a discovery is possibly not far off.

Samples are collected from a consistent depth (we were quoted 0.2 metres) and stored in a sealed plastic bag and not dried.

Although the MMI technique was discovered and patented by Wamtech Pty Ltd, a number of laboratories have developed their own digests. Analabs offered to run 20 samples as a free trial of the MMI method, which they utilize under licence from Wamtech.

In anticipation of a positive trial, samples of the type required for such a survey were collected from most C-horizon sample sites (MMI sampling commenced after some C-horizon samples had been collected with five grid lines remaining unsampled). This added little to the time and cost of the original C-horizon survey as the MMI samples were simply taken from the upper part of the C-horizon auger holes.

20 samples from lines 5433450mN (14 samples) and 5433500mN (6 samples) across the old workings at Salisbury were submitted for analysis.

The chemist (Analabs, Welshpool, W.A) was not happy with the sample quality and remarked "*MMI leach produced solutions with substantial suspended matter (colloids? clays?) and organic remains which made analysis difficult in attempting to recover clear liquor for analysis. Detection limits have been elevated x2 on these samples as a result of these difficulties. The M146 (Cu, Pb, Zn, Cd) Suite was not processed as analysis is time sensitive and at least 3 days of pre-read settling time was required*".

In spite of these difficulties a preliminary report was produced (in appendix 3) with analysis for Au, Ag, Co, Ni and Pd. These results are summarized in figure 14.

The figure shows anomalous Au in the MMI samples corresponding with two of the three anomalous C-horizon results although to a lower tenor. Anomalous Co, Ni and Pd, included as part of the Au suite, show anomalous responses for that part of line 5433450mN which overlies the area mapped as containing ultramafic/mafic rocks as might be expected. The strongest anomalies for these elements comes from the eastern end of the line, corresponding with the anomalous zone defined by AMAX sampling and the subtle magnetic trend from the ground magnetic survey interpreted to be the Cobblestone Creek Thrust. Line 5433500mN was not sampled far enough east or west to allow any similar interpretation to be made.

The results of this trial survey should be seen as inconclusive, particularly given the problems with sample quality. However, they do show that MMI can see underlying gold mineralisation similar to C-

horizon sampling. A larger trial over adjacent lines to see if MMI produces a more coherent contourable anomaly than the often spiky data produced by C-horizon sampling is recommended. However, the method is seen as an adjunct and not an alternative to classical C-horizon sampling.

#### 6.3.4 Salisbury Hill Road

Three anomalous gold values of 14, 8 and 3 ppb Au collected from 15100mN, 15050mN and 15000mN (respectively) on line 10700mE to the west of Salisbury Hill Rd in the 1998/99 year were followed up with infill sampling to give a density of 50 metres x 25 metres. Results are listed in appendices 1 and 3 and illustrated in figure 15. As results are up to 85, 43 and 43ppm, Cu to 11ppm, Pb to 61ppm and Zn to 56ppm. The only two Au results above detection were 4 and 3ppb Au.

The anomaly trends northeasterly and corresponds to line of small pits and the ironstone float and outcrop which assayed up to 15ppb Au, 160ppm As, 188ppm Pb and 440ppm Zn. The anomaly also corresponds to a linear magnetic high which may be due to alteration along a northeast striking fault. As such the results are very interesting and should be drill tested

#### 6.3.5 Powerline West Infill

The strongest base metal anomaly defined by the 1998/99 years soil sampling is located on lines 7300mE and 7400mE on the western end of the Powerline West grid with up to 430, 250, 107 and 105 ppm Zn, 388, 125 and 107 ppm Pb, 60 ppm Cu and 43, 30 and 25 ppm As returned from these soil samples. None of these soils are anomalous for Au although a rock sample of ironstone from ~7400mE 13975mN assayed 24 ppb Au and 48 ppm As.

The grid was infilled to a 50 metre x 25 metre pattern with a further 35 samples collected by Jed Walker in the manner described above. Results are listed in appendices 1 and 3 and illustrated in figure 16.

The results confirm and enhance the anomaly with up to 572, 491, 226 and 199ppm Zn, 828, 480, 397 and 166ppm Pb, 34, 33, 33 and 27ppm Cu, 41, 36, 34 and 33ppm As though again all Au results were <1ppb

The anomalous values correspond to the Flowery Gully Limestone and not the basal quartz sandstone of the Corn Hill Beds as reported previously (MacDonald, 1999).

The results indicate that the limestone in the area has potential for carbonate hosted base metal sulphide mineralisation. While no work is proposed on this prospect in the next reporting year due to the clear prioritization of gold, future exploration is justified

A concerted effort was made during the year to sample all exposed rock in the immediate area of the southerly spur at the Salisbury goldfield in the vicinity of the nugget chamber and the Powerline Adit in order to determine whether there is a low grade deposit hosted within the weathered ferruginous and narrow west-southwest dipping veins. Where feasible these samples were channel samples or bulk samples. To this end a total of 151 samples were collected and assayed (for Au and As) in the reporting year, made up of 53 grab rock samples, 172 metres of channel samples and 7 bulk samples.

None of the samples collected returned ore grade assays. Particularly disappointing were the channels and grab samples taken from examples of ferruginous favourable looking shallow southwest dipping quartz veins sampled from the 'Candle' Shaft, the Shaft immediately east of the Powerline Adit open cut and the outcrop in the open cut itself. Perhaps the only encouraging results came from the samples taken from the collapsed workings adjacent to the Powerline Track suggesting that these rocks may be more proximal to a significantly mineralised structure.

Six grab samples (217020 - 217026) of moderately southwest dipping tensional quartz veins were sampled from the 'Mosquito' Adit (at 486690mE 5433790mN). Sample locations, results and geology are shown on figure 17 (section of Mosquito Adit). All results were low with the best Au 5ppb (all others were <1ppb Au) and the best As 27ppm.

The shaft immediately east of the Powerline Adit open cut was inspected and sampled with 18 metres of horizontal channel samples (217028 - 217034 & 217037 - 217038)) and two grab samples (217035 & 217036) collected. Sample locations and results are shown on figure 18. The longer westerly cross-cut returned 13 metres @ 0.075g/t Au including 2 metres @ 0.486g/t Au while the shorter northwesterly cross-cut returned 5 metres @ 0.050g/t Au. The two grab samples of strongly ferruginous and favourable looking quartz assayed only 0.163 and 0.054g/t Au.

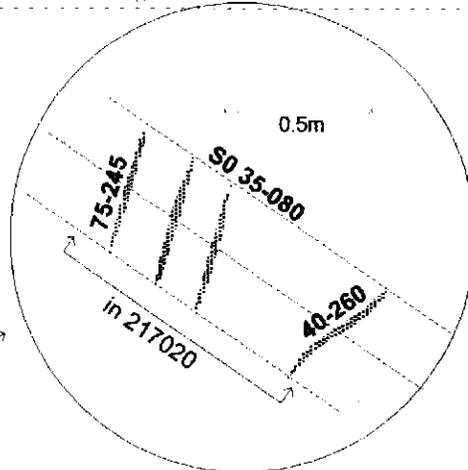
The 'Candle' Shaft was inspected, mapped and sampled with 6 metres of horizontal channel samples (217040 - 217042), a total of 30.8 metres of vertical channel samples (217043 - 217047; 217050 - 217058 & 217060 - 217067) and a further 4 rock samples (217039, 217048, 217049 & 217059) collected. Sample locations and results and geology are shown in figure 19. Results from this sampling were quite disappointing with the best assays 0.219, 0.168, 0.131, 0.093 and 0.089g/t Au with arsenic generally more elevated 1600, 675, 665, 510 and 305ppm. The better gold and arsenic values were returned from the samples taken from the southwestern cross-cut, closer to the basal thrust and associated with the strongest development of green clay.

The collapsed workings on the northern edge of the Powerline clearing (south of the Powerline Adit) were sampled with 12.7 metres of vertical channel samples (217068 - 217071 & 217090 - 217093) and 6 grab samples (217087 - 217089 & 217094 - 217096) collected. Sample locations and results are shown on figure 20. Most samples returned anomalous gold values with the best channel samples 1 metre @ 0.966g/t Au, 1 metre @ 0.635g/t, 0.5 metres

672050

Mullock of sandstones  
and minor pebbly conglomerate

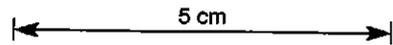
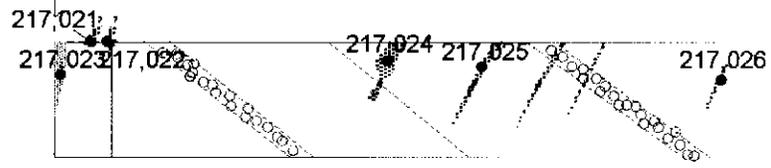
5433800 mN



217020; 5ppb Au  
with all others 217021  
to 217026 assaying  
<1ppb Au

collapse

?



486675 mE

5433780 mN

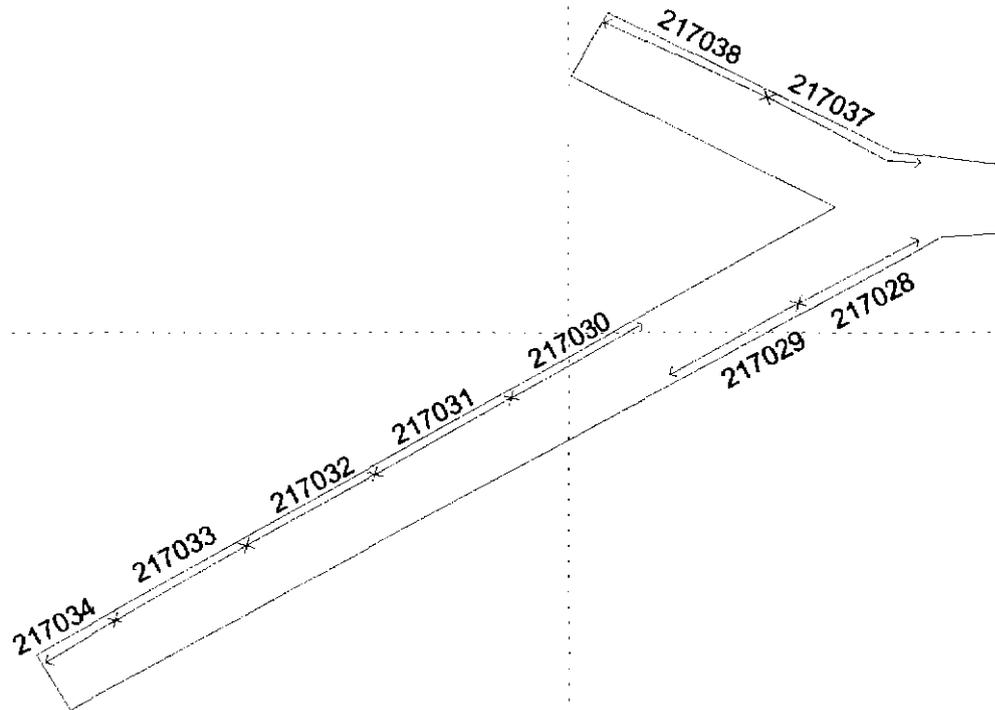
EL 20/94 - Salisbury Hill		Beaconsfield Mine Joint Venture
<b>'Mosquito' Adit Geology, Sample Locations and Results</b>		
Date: 22/6/2000	Author: G MacDonnell	
Drawn: C MacDonnell	File: SH142000.F17	
Scale: 1:100		ALLSTATE EXPLORATIONS ACQUICENT PARTNERS (JV MANAGER)
Figure No. 17		

5433340 mN

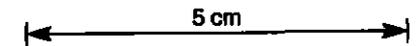
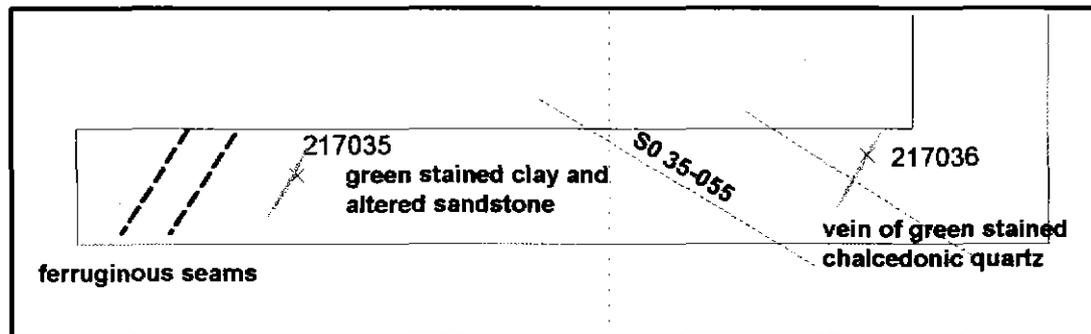
5433330 mN

486750 mE

486760 mE



- 217028; 57ppb Au 210ppm As
- 217029; 53ppb Au 140ppm As
- 217030; 264ppb Au 165ppm As
- 217031; 156ppb Au 155ppm As
- 217032; 78ppb Au 370ppm As
- 217033; 36ppb Au 125ppm As
- 217034; 165ppb Au 235ppm As
- 217035; 163ppb Au 115ppm As
- 217036; 54ppb Au 55ppm As
- 217037; 51ppb Au 150ppm As
- 217038; 48ppb Au 145ppm As



672051

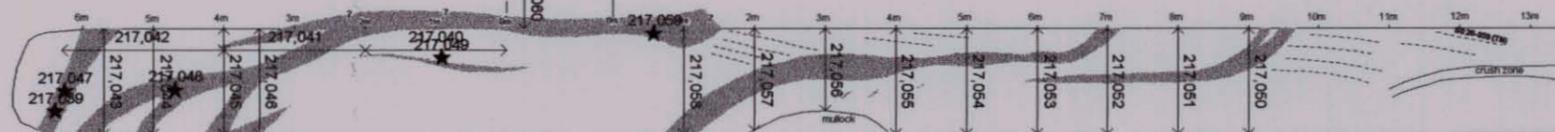
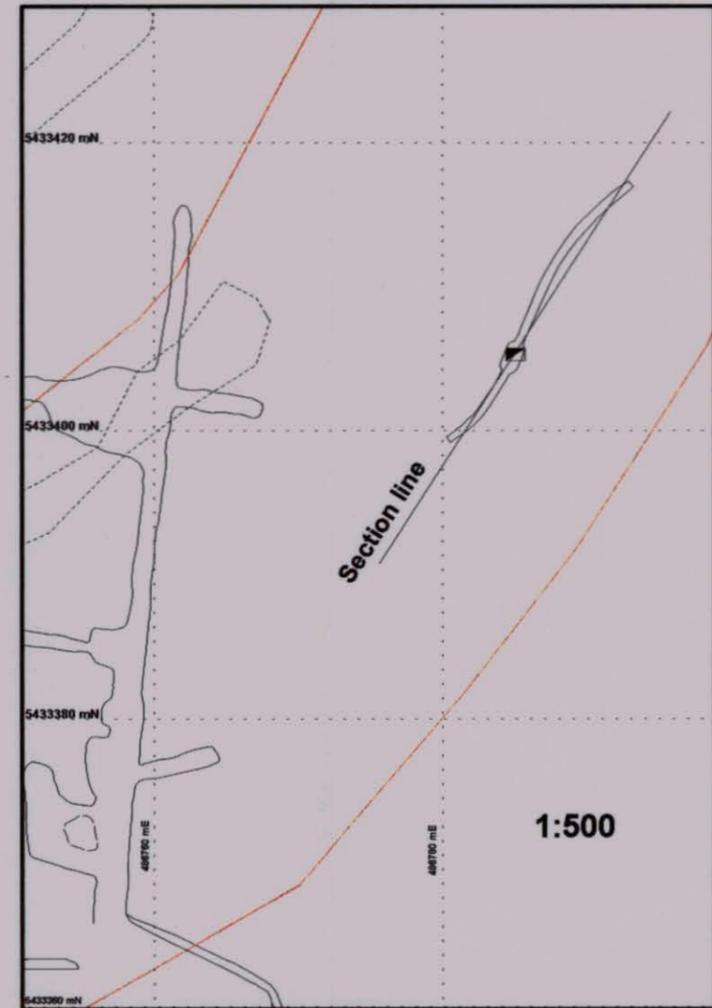
<b>EL 20/94 - Salisbury Hill</b>		<b>Beaconsfield Mine Joint Venture</b>	
<b>Shaft East of Powerline Adit Open Cut Sample Locations and Results</b>			
<small>Date: 7/9/2008</small>	<small>Author: G MacDonell</small>	<b>ALLSTATE EXPLORATIONS NL</b>	
<small>Drawn: G MacDonell</small>	<small>File: SH 482008 F10</small>	<small>ACM 0000000102 (JV MANAGER)</small>	
<b>Scale: 1:100</b>		<b>Figure No. 18</b>	

2080 mRL

2070 mRL

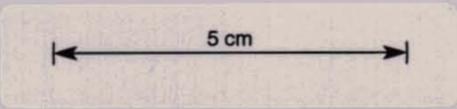
Nb: A number of smaller shallowly southwest dipping veins were sampled in the channel sampling up the shaft but are not recorded

- 217060; 9ppb Au 65ppm As
- 217061; 14ppb Au 85ppm As
- 217062; 10ppb Au 55ppm As
- 217063; 14ppb Au 55ppm As
- 217064; 32ppb Au 32ppm As
- 217065; 6ppb Au 7ppm As
- 217066; 8ppb Au 18ppm As
- 217067; 19ppb Au 29ppm As



- 217039; 219ppb Au 305ppm As
- 217040; 60ppb Au 1600ppm As
- 217041; 89ppb Au 765ppm As
- 217042; 73ppb Au 235ppm As
- 217043; 93ppb Au 280ppm As
- 217044; 68ppb Au 255ppm As
- 217045; 65ppb Au 220ppm As
- 217046; 131ppb Au 510ppm As
- 217047; 168ppb Au 265ppm As
- 217048; 78ppb Au 665ppm As
- 217049; 12ppb Au 28ppm As

- 217055; 2ppb Au 1ppm As
- 217056; <1ppb Au 14ppm As
- 217057; <1ppb Au 25ppm As
- 217058; 20ppb Au 55ppm As
- 217050; 7ppb Au 70ppm As
- 217051; 6ppb Au 10ppm As
- 217052; 12ppb Au 12ppm As
- 217053; 9ppb Au 10ppm As
- 217054; 12ppb Au 7ppm As

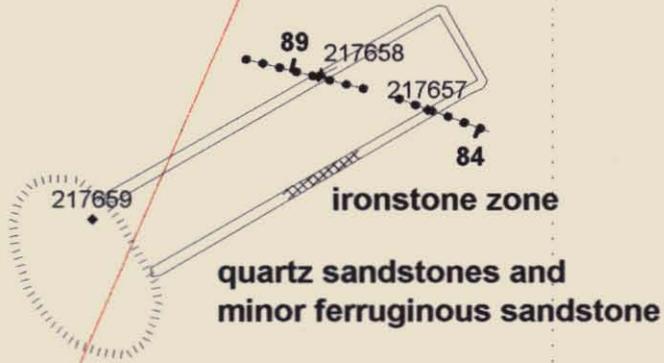


2060 mRL

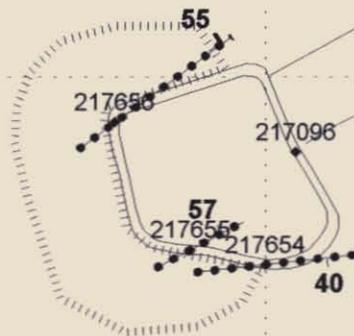
EL 20/94 - Salisbury Hill		Beaconsfield Mine Joint Venture
<b>'Candle' Shaft Geology and Sample Locations and Results</b>		
<small>Date: 21/03/00</small>	<small>Author: G MacDonell</small>	 ALLSTATE EXPLORATIONS ACN 050 619 020 (JV MANAGER)
<small>Drawn: G MacDonell</small>	<small>File: SH AP2000 F19</small>	
Scale: 1:100		
		Figure No. 19

217096;	0.008g/t Au,	1ppm As
217654;	0.001g/t Au,	7ppm As
217655;	0.001g/t Au,	5ppm As
217656;	<0.001g/t Au,	18ppm As
217657;	0.011g/t Au,	5ppm As
217658;	0.002g/t Au,	<1ppm As
217659;	0.008g/t Au,	18ppm As

5434140 mN

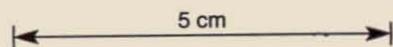


5434130 mN



5434120 mN

486630 mE



<p>EL 20/94 - Salisbury Hill                  'Jed's' Shaft                  Geology, Sample                  Locations and Results</p>		<p>Beaconsfield Mine                  Joint Venture</p> 
<p>Date: 2/8/00</p>	<p>Author: G MacDonell</p>	<p>ALLSTATE EXPLORATIONS                  ACN 000 679 023                  (JV MANAGER)</p>
<p>Drawn: G MacDonell</p>	<p>File: SH AC2000 F21</p>	
<p>Scale: 1:100</p>		<p>Figure No. 21</p>

@ 0.714 and 2.4 metres @ 0.444g/t Au and best grab samples 0.662, 0.284 and 0.225g/t Au.

The bank on the southern edge of the Powerline Adit open cut was sampled with 14 metres of horizontal channel samples (217072 – 217073 7 217077 – 217081), 2.1 metres of vertical channels samples (217075 & 217076) and a single grab sample (217074) collected. Sample locations and results are shown on figure 20. The bank looks to have been a recent excavation cutting into both scree and bed rock. Samples 217072 to 217077 are probably bedrock whilst 217078 to 217081 are all probably samples of scree. The horizontal bedrock channel samples returned 8 metres @ 0.15g/t Au with the vertical channel samples 1.1 metre @ 0.178g/t Au and 1 metres @ 0.254g/t Au. The three samples collected across the face of the mullock returned 6 metres @ 0.203g/t Au.

Four channel horizontal samples (217661 – 217664) of outcropping moderately southwest dipping veins were taken from the large block exposed in the Powerline Adit open cut. Sample locations and results are shown on figure 20. The 4.7 metres of horizontal channel samples across this very ferruginous face with southwest dipping quartz vein only assayed 0.103g/t Au (best was 1.5 metres @ 0.214g/t Au).

7 samples (217096 & 217654 – 217659) were collected from the Jed's Shaft and box-cut located at 5434130mN 486630mE on the ridge (see figure 21). The best assay was 0.011g/t Au.

4 bulk samples (217097 – 217100) were collected from the stockpile that occupies much of the eastern side of the Powerline Adit open cut. Their locations are shown on figure 21. These nominally 20kg samples assayed 1.117, 1.118, 0.252 and 0.169g/t Au, giving an average assay of 0.664g/t Au.

3 bulk samples (nominally 5kg each) of quartz float collected over the area south of the Powerline Track which had been worked over in the early days for alluvial gold (217665 – 217667) assayed 1.34, 1.43 and 0.117g/t Au, averaging 0.962g/t Au.

Most exposed banks and sides of filled costeans in the Salisbury Hill goldfield were sampled with a total of 139 metres of channel samples (217601 – 217635) collected (see figure 20). These returned almost invariably low results with the best 2 metres @ 0.027, 2 metres @ 0.027 and 2 metres @ 0.024g/t Au.

Finally a total of 27 discrete grab samples (217082 – 217086, 217636 – 217653, 217660 & 217668 – 217670), of assorted quartz float and/or small channel samples were collected from the Salisbury magnetics grid. Most sample locations and results are shown on figure 3 or 20. The best of these is 217083 which is a 1.5 metre channel sample from a small pit on the spur which assayed 0.122g/t Au. The adjacent channel samples (vertical) assayed 0.5 metres @ 0.082g/t Au and 1 metre @ 0.077g/t Au. Two collections of quartz float from the quartz floaters on Daakes paddock on the ends of line 5434050mN assayed 0.042g/t and 0.002g/t Au.

### 6.5.1 Introduction

The remainder of the Salisbury magnetics grid was mapped as well as the accessible old workings located in this work.

### 6.5.2 Salisbury Hill Magnetism Grid

The results of mapping on the Salisbury magnetism grid are summarized in figure 3. The mapping revealed a number of features worth mentioning.

Firstly, the ridge line along which most workings (trenches, pits and occasional shafts, is largely underlain by pebbly and gritty rocks of the Salisbury Hill Formation. The eastern slopes are characterized by occasional floaters of bedded finer grained sandstones and siltstones while the steepness of the western slopes means that most rock has traveled from further up the slope making mapping difficult.

A belt of mafic volcanics, typically dolerite like with plagioclase crystal of around 1mm diameter runs down the western side of the sluiced area west of the spur. The quartz sandstones on the ridge west of this mafic volcanic unit are similar in appearance to the Salisbury Hill Formation sandstones but closer inspection suggests that they may contain lithic fragments and/or feldspars though this requires petrological work to confirm. At this stage these rocks have been assigned to the Blythe's Creek Formation although this interpretation is arguable.

Sub-cropping foliated slatey siltstone towards the western ends of lines 5433400mN and 5433350mN are mapped as Corn Hill Beds, placing the Cabbage Tree Hill thrust just east of this subcrop.

However, most of the useful geology has been gained from mapping those old workings located in this programme.

### 6.5.3 Old Workings

Accessible old workings mapped in this years programme consist of the 'Candle Shaft', 'Mosquito' Adit, 'Jed's Shaft' and the Shaft immediately east of the Powerline Adit open cut. In addition to this an airshaft over the Duchess of York was located and inspected but mapping was not practicable at the time due to an injury to the author. That work may be carried out in the coming year.

The mapping is presented in figures 'Candle' Shaft, 'Mosquito' Adit, 'Jed's' Shaft and Shaft immediately east of the Powerline Adit open cut.

The 'Candle' Shaft (so named because an old candle was found in it) and the Shaft immediately east of the Powerline Adit open cut, have many similarities with the Powerline Adit itself, hence the disappointment with the assays returned from the channel and grab samples collected. Similar veins in the Powerline Adit assay up to 12g/t Au. The two new workings mapped both contain shallowly southwest dipping ferruginous pitted quartz veins with an underlying zone of

green clay and/or green stained quartz containing small dark grains of chromite. The 'Candle' Shaft contains sub-horizontally dipping well bedded siltstones at its northeastern end of the same type (and unit) as that in the backs and east wall of the Powerline Adit near its southern end. Whilst the sandstones could be altered Salisbury Hill Formation rocks, the siltstones are much more typical of Eaglehawk Gully Formation rocks.

## 7.0 EXPENDITURE

672057

### 7.1 1999-2000 EXPENDITURE

Contractors	\$Nil
Assaying	\$8,959
Exploration Geologist	\$32,355
Drafting	\$2,065
Consumables	\$1,987
Management	\$2,941
Labour	\$23,531
<b>Total</b>	<b>\$71,838</b>

### 7.2 FUTURE EXPENDITURE

A costed programme of work covering the next two years is outlined in Section 8 of this report. It is anticipated the programme will cost in the order of \$500,000 to complete with \$200,000 expenditure scheduled for next year. Cost do not include G.S.T.

## 8.1 INTRODUCTION

EL 20/94 expires in September 2004 leaving a total of 4 years in which to explore this licence before it is compulsorily relinquished.

As noted earlier the licence covers 8.5 kilometres of strike length of the total 11.5 kilometres of strike length of the Cabbage Tree Thrust slice exposed. It is expected that any future resource adding to the life of the Beaconsfield Gold Mine JV will come from this thrust slice. For this reason exploration on EL 20/94 should not be viewed as speculative grassroots exploration. Over the next four years the full strike length should be explored. Short of drilling a single continuous overlapping fence of drillholes (for a total cost of at around \$1.5 – 2.0 million), this exploration needs to be focused. Two elements of the following works programme will allow the drilling to be focused. A number of targets for drilling have been defined by work to date.

Costs are based upon \$100 per metre for diamond drilling, \$50 per metre for RC drilling, \$18 per sample for C-horizon sampling and \$22 per sample MMI sampling.

The proposed work programme for the coming two years (summarised on figure 12) should consist of:

*Gridding, soil sampling and mapping (see figure 12)*

- Completion of soil sampling and gridding over the remainder of the Cabbage Tree Hill thrust slice. 1300 soil samples will be collected and assayed for Au, As, Cu, Pb and Zn in this work. At each sample site a separate MMI type soil sample should be collected once the actual to horizon to sample has been clarified. Total cost (excluding collection) for C-horizon sampling is \$23,400 and MMI \$28,600 (total \$52,000).

*Magnetic regional and Salisbury ground magnetics*

- The existing rounds magnetic data should be further processed and interpreted (Bob White is recommended for this work again. Cost ~\$3,000.
- A high resolution helimagnetic survey should be flown over the licence and interpreted to allow focusing of drilling. Cost \$30,000.

*Salisbury Hill Prospect drilling (location on figs 2 & 12, summarised in figs 3 & 13)*

- The Johnson Creek Fault zone should be drill tested. Two discrete diamond drill holes totaling 700 metres are recommended with a further 900 metres of targeted RC drilling to follow-up results. Cost \$70,000 for diamond drilling and \$45,000 for RC, totaling \$105,000.
- The shallow southwest dipping vein set should be tested at depth in the region of the Nugget Chamber, Powerline Adit, strongest magnetic alteration and the cross-cutting structures partly explored in the Old Victoria Adit, to see if there is a discrete high grade body in this favourable structural setting. This drilling should be target specific diamond drillholes.

Targeting of these holes would benefit greatly from modeling the structural data (intersections, bedding planes etc.) in SURPAC. 3 holes for 1000 metres. Total cost \$100,000.

- Ridgeline soil anomaly drill tested with either a continuous fence of holes or more discrete drilling. 8 holes for 800 metres RC are recommended for this work. Cost is \$40,000.
- The Zn anomaly on the western end of the Salisbury magnetics grid should be tested with a single shallow diamond hole for 100 metres. Cost \$10,000.

*Wings West prospect (location on figs 2 & 12, summarised in figure 22)*

- Wings West South, single diamond drill hole, 350 metres. Cost \$35,000.
- Wings West North, 8 RC holes for 800 metres. Cost \$40,000.

*Salisbury Hill Road anomaly (location on figs 2 & 12, summarised in figure 15)*

- The Salisbury Hill Road anomaly, single diamond drill hole of around 250 – 300 metres. Cost \$30,000.
- Favourable results should be followed up with RC drilling (4 RC holes for 400 metres). Cost \$20,000

*Derwent Adit (location on figs 2 & 12, summarised in figure 23)*

- The soil grid should be infilled to 25m x 25m (~170 samples) over the Derwent Adit prospect. Cost \$3,060.
- The Derwent Adit prospect should be drill tested. Whilst infill soil sampling will help refine targets, such targets already exist and should be allowed for in budgeting in the coming year. At this stage a single diamond drill hole for 180 to 200 metres is proposed to test the southern anomaly and a fence of 4 RC holes for 400 metres to test the northern zone. Cost \$20 000 for diamond and \$20 000 for RC.

The total cost of the two years programme is therefore of the order of \$500,000. The first year programme will include the gridding, soil sampling (collecting both sample types but only assaying C-horizon samples), magnetics (Salisbury ground magnetics interpretation and new helimagnetics survey). It also includes drilling of the two Johnson Creek Fault holes and two of the three holes proposed for the "Nugget Chamber" type of veining.

Total cost of this first year of the programme is of the order of \$200,000.

## 8.2 FURTHER GRIDDING AND SOIL SAMPLING

The two methods of use in locating mesothermal gold bearing quartz reefs at depth are soil sampling and magnetics followed with drilling. The methods must be used in conjunction. C-horizon soil sampling in Tasmania produces spotty anomalies which do not contour.

In spite of the difficulties expected (and sometimes encountered) in C-horizon soil sampling for discrete quartz reefs in country with relatively high erosion rates (and thus less time for which halos of anomalous gold and pathfinder

elements to develop around such discrete deposits), soil sampling to date has been successful in locating a number of prospects. Most of these have associated old workings indicating that the prospects (largely yet to be drill tested) were of sufficient interest for early prospectors. The Salisbury prospect with its associated anomalous gold, arsenic and other pathfinder elements in soil sampling, is argument enough that such soil sampling is warranted.

To this end the remainder of the strike length of the Cabbage Tree Hill slice must be gridded, soil sampled and mapped in detail. Baselines for most of this strike length have already been established (see figure 12) and the work can be carried by BMJV employees (though the contracting team used in the 1998/99 year would complete this work more quickly, and therefore ultimately more cheaply).

A total of 1300 soil samples at 50 metre spacings on the 100 metre spaced AMG east-west grid lines is warranted (though ideally gridding and sampling would be on a 50m x 25m pattern) with infill in anomalous areas to 25 metres x 25 metres. The locations for this work is shown on figure 12.

In addition to this C-horizon soil sampling, it is considered worthwhile to collect the MMI samples from each site and submit these for assay once the problems with the horizon sampled are resolved. This method has been specifically developed for those areas with younger cover such as the scree which masks the bedrock over parts of Salisbury Hill. The subtle (in comparison with the C-horizon anomaly) anomaly over known mineralisation at Salisbury obtained from the orientation survey (see figure 14) should not be taken to indicate that this 'extra' sampling method is not required since the samples used caused problems for the digest.

## 8.2 HELIMAGNETIC SURVEY

As discussed earlier, the only geophysical method which may help in focusing drilling is magnetics. The 1989 fixed-wing survey clearly shows (see figure 11) the efficacy of such surveys in helping define the location of structures which may host mineralisation as well as the zones of magnetite (serpentinite  $\pm$  dolomite) alteration along thrusts. The fixed wing data is only of moderate resolution with a nominal ground clearance of 100 metres and flight line spacing of 150 metres. The high resolution helimagnetic survey undertaken over the Beaconsfield area in 1998 on line spacing of 50 metres and ground clearance of 50 metres shows considerable detail, defining quite subtle structures (see figure 11).

If the drilling budget is limited such that systematic drilling of overlapping holes along the Cabbage Tree Hill slice is not a possibility in the remaining 5 years of the licence, a high resolution helimagnetic survey is necessary to help focus this drilling.

The survey could be confined to the central corridor over the Cabbage Tree Hill thrust slice but extending flight lines eastwards and westwards to cover all prospective pre-Carboniferous rocks within the licence would be charged at a lower incremental price per kilometer.

Aside from this work, the existing Salisbury ground magnetics data should be processed, enhanced and interpreted. This work, as well as similar work on the helimagnetics data should be carried out by Bob White.

#### 8.4 DRILLING

While soil sampling and mapping is ongoing and a recommendation is made later for a high resolution helimagnetics survey to allow targeting of drilling, exploration to date has defined a number of prospects which are ready for drilling. The Salisbury prospect has known gold mineralisation and the prospects of good intersections are quite real. The other three prospects are more exploratory at this stage but all have enough features to justify their drilling.

##### 8.4.1 Salisbury prospect

The Salisbury goldfield is the most significant other goldfield in the Beaconsfield region. While results from rock and channel sampling this year have been disappointing, previous work has identified that the prospect has the best potential for a significant discovery in EL 20/94. (See figure 13 as well as figures 3 to 10)

No work is specifically recommended on a bulk tonnage low grade deposit model for the main spur as channel samples were disappointing. The drill holes proposed for the magnetics high/alteration discussed below will partly test this model anyway.

The prospect was subject to considerable activity in the latter part of Nineteenth Century. Initially this work targeted the alluvial/eluvial gold apparently shedding from the spur. This work was followed-up with the discovery of small but high grade pockets of gold with the nugget chamber typical of the style. Examples of this mineralisation can be seen in the Powerline Adit where individual samples have assayed up to 12g/t Au and channel samples up to 5 metres @ 4.35g/t Au and 7 metres @ 4.37g/t Au.

*"Nugget Chamber" type west-southwest dipping veins and dolomite + magnetite alteration*

Most of the hard rock gold mineralisation (eg Powerline Adit, "Nugget Chamber") known from the Salisbury goldfield is of this type.

The discovery of the nugget chamber and its free milling gold in a near surface pocket adjacent to alteration consistent with the serpentinite + dolomite alteration was described earlier. Presumably other examples of high grade near surface pockets, influenced the style of mining activity to the extent that deeper exploratory workings were generally not undertaken. There has not been any significant modern exploration for deeper reefs of the same style. In particular the drilling to date has been quite poorly planned and ineffectual. DDH's S1, S2, S3 and S6 were drilled in a westerly direction, essentially parallel to both the shallowly southwest dipping vein set targeted by the early miners, and also the orientation of structures of the same style and generation as the 2 million ounce Tasmania Reef.

There is a strong possibility that a reef of the west-southwest dipping type may open up into a large and high grade reef or there may be zones of stacked reefs. Regardless of all of these models, there is a considerable amount of gold around this part of the ridge to justify exploratory drilling for other structurally favourable settings into which these gold rich fluids may have passed.

This target model at Salisbury incorporates that proposed by Twelvetees who argues that the shallowly southwest dipping vein set are mineralized when proximal to serpentinite  $\pm$  dolomite bodies. There is a strong logic to this as the dolomitic alteration in particular is considered to be the product of CO<sub>2</sub> bearing fluids of the type commonly responsible for mesothermal gold mineralisation. In order to test this model, holes need to be drilled in an broadly easterly orientation at a low angle, passing down the Ordovician rocks (Salisbury Hill Formation predominantly), near to their basal faulted contact with the underlying Blythe's Creek Formation. If the dolomite + magnetite association is being tested then these holes should be drilled in that part of the ridge where the ground magnetic survey indicates the strongest magnetism i.e. alteration.

Two of the three drill holes are also planned to partly test for northeast striking structures.

The northernmost hole (NC-1) should be drilled in an east-southeasterly direction in order to pass near to the zone of strongest alteration on section 533700mN and the northeast striking fault intersected by DDH's S1 and S2 (see figures 3, 9 and 13). The hole should be collared at 486600mE 5433700mN and drilled towards 120° (TN) at -40° for 300 metres.

The central hole (NC-2) should be drilled in a east-northeast orientation down the favourable stratigraphic/structural zone north of the nugget chamber (see figures 3, 8 and 13) but again passing near to the cross-structure. The hole should be collared at 486700mE 5433585mN and drilled towards 060° (TN) at -40° for 300 metres.

The third hole should be drilled in an east-southeasterly direction from just above the Powerline Adit in order to to pass down the favourable stratigraphic/structural zone (see figure 3, 4, 5 and 13) and pass close to the Johnson Creek Fault. The hole should be collared at 486726mE 5433440mN and drilled towards 120° (TN) at -40° for 400 metres.

#### *Johnson Creek Fault*

The prospect lie along a major structural corridor, the Johnson Creek Fault zone, which offsets the Cabbage Tree Hill thrust slice by at least 200 metres in a dextral sense. The location of this fault immediately to the south of the Salisbury goldfield is considered to have played a role in focusing gold mineralizing fluids. Only DDH S3 appears to have intersected one of the main faults in this zone with complete core loss in two zone areas of interest (see figures 3 and 4). S3 is anomalous in Au throughout much of the hole with the mineralisation in altered

sandstones. Anomalous Sb (to 1280ppm) is focused between these two zones of core loss. The other fault interpreted to constitute this fault zone has not been intersected in drilling but is interpreted to run parallel to the DDH S3 fault but around 200 metres further. Its presence is inferred by the truncation of the unit of sandstones and pebbly conglomerates which outcrop on the small ridge above the South Powerline Adit. Regionally anomalous moderately southeasterly dipping bedding is interpreted to be due to dragging along this fault. The trend of this structure has not yet been gridded or soil sampled in the BMJV's programme (see figure 3).

Anomalous Sb is to be expected in the upper parts of mesothermal gold mineralisation. The structure should be drill tested below this zone of anomalous Sb with an oriented diamond drill hole targeted such that it meets the fault where the northerly block is the lowermost part of the Eaglehawk Gully Formation. This hole (JCF-1) is shown on figures 3 and 4 and should be collared at around 486805mE 5433175mN and drilled towards the north at  $-50^\circ$  for 300 metres.

BMJV's exploration has been based largely upon soil sampling and rock sampling and mapping of old workings. To date this soil sampling has only been partly extended south across this fault zone. Completion of this soil sampling work is strongly recommended (see above).

However, regardless of the results of such sampling the significance of this structural corridor should be tested with drilling in the following year. Soil sampling is a relatively cheap method for focusing drilling but given the relatively narrow and discrete nature of mesothermal quartz reefs such soil sampling cannot be always expected to pick up a response from such a reef.

Target definition in this area would be greatly benefited by a higher resolution magnetics data set (as much as the high voltage power line allows).

A second drill hole (JCF-2) should be drilled from the top of the ridge at 486130mE 5432950mN for 400 metres at  $-40^\circ$  towards  $030^\circ$  (TN) in order to intersect the fault where it cross-cuts the sandstones interpreted at this stage as Blythe's Creek Formation rocks. Improved knowledge and encouragement from this drilling will probably require follow-up by a number of traverses of RC drill holes to test the fault in its shallow position.

A total of 700 metres of diamond and 900 metres RC are proposed for this work.

*Ridgeline anomalous trend (see figures 3 and 13)*

The soil sampling which has been undertaken has defined a zone of anomalous Au and As with supporting base metals along the ridge line from 5433800mN to 5434100mN. Holes angled at 60 degrees to true north will adequately test both northeast striking sub-vertical veins and shallowly southwest dipping veins. If the section from 5433700mN to

5433800mN is added then this drilling, in conjunction with the northerly cross-cut on the Old Victoria Adit will serve to have traversed all of the country from this cross-cut (at 5433600mN) to 5434100mN. Adding the holes proposed from the spur discussed above will provide almost complete coverage of drilling and/or old workings from the south end of the spur to 5434100mN, a length of around 750 metres. The drilling proposed comprises a fence of 8 overlapping RC holes for 800 metres. This proposed drilling is illustrated on figure 13.

*Zinc anomaly western end 5434050mN.*

This anomaly lies above the northwestern anomaly in the Salisbury magnetics survey. This target should be drill tested as it will provide information regarding this targeting concept. Drilling should only require a relatively shallow diamond drill hole sufficient to penetrate the scree cover and cross the interpreted thrust.

The proposed hole location is shown on figures 3 and 13, though targeting of this drill hole would benefit from the magnetics work.

#### **8.4.2 Wings West Prospect**

No further work was undertaken on the Wings West prospect in the 1999/2000 reporting year and the following description is largely taken from MacDonald (1999). The prospect is summarized in figure 22.

The Wings West prospect lies in the eastern part of the licence and was so named as it lies to the west of Wings Flats. The prospect was defined by gold and arsenic anomalous soil and rock samples associated with old workings revealed by mapping. The prospect lies over quartz sandstones and grits considered to be from the Salisbury Hill Formation in the Cobblestone Creek slice.

The Wings West anomaly is broken up into two discrete anomalies. They are separated by alluvium but also display some differing characteristics.

*Wings West South*

The Wings West South anomaly is defined by anomalous Au, As and Zn with Au up to 18, 9, 7, 5 and 5 ppb, As to 54, 44 and 30ppm and Zn up to 84, 71, 64 and 51 ppm. The anomalous soils are scattered but occur over a reasonably coherent zone approximately 300m x 150m, oriented in a northeast direction. The bounds of this zone are defined to a large degree by alluvial cover to the northeast, northwest and southeast. This zone contains a number of old workings in the form of trenches and shallow pits/shafts.

A number of anomalous rocks were collected from this zone with 198, 41, 32 and 27 ppb the best gold values, 225 ppm the best arsenic and 0.6% the best zinc value. These anomalous rocks are all ironstone with samples taken from the old workings of chromite veined quartz returning low assays other than for Cr. Intriguingly the quartz has the chalcedonic character recognized by Twelvetrees (1903) (at the nearby

Salisbury goldfield) as being associated with auriferous veining at Salisbury. There is some suggestion that the old workings around which the chromite bearing quartz are found are newer with the workings around which ironstone samples were collected being older.

The southern edge of the prospect area overlies an aeromagnetic high recognizable on the Mlrrgrad image reproduced as figure 11. As such the prospect bears some similarities to the alteration and mineralisation at Salisbury. Drilling is warranted immediately at this prospect. Due to the style of mineralisation and alteration at Wings West South, at least some of this drilling should be diamond drilling with the remainder accomplished with RC drilling. A single diamond drill hole of around 350 metres is proposed and targeted on the soil and rock anomaly and old workings but also extending into the source of the magnetic high. Locations of this proposed drilling are shown on figure 22.

#### *Wings West North*

The Wings West North anomaly corresponds to a zone of abundant quartz float along a gentle northeast trending hill between two open gullies with sandy alluvium. The anomaly is defined by anomalous Au and/or As in soils with Au up to 15, 13, 12, 8, 8 and 7 ppb and As up to 27 and 25 ppm. The dimensions of this spotty but reasonably coherent zone are 300m x 150m with the anomaly bounded to the northeast, southeast and northwest by alluvium. It is separated from the Wings West South zone to the south by 150 to 200 metres of alluvial cover. The best rock collected from this northern zone returned 7 ppb Au. This sample is again ironstone with the numerous samples of quartz assayed low.

Although there are no old workings associated with this anomaly programme of drilling is certainly warranted at the Wings West North prospect. This work could be carried out adequately with 8 RC holes for 800 metres drilled as two pairs of scissor holes and a fence of four overlapping holes.

### **8.4.3 Derwent Adit prospect**

Mapping in the 1997/98 and 1998/99 years located a number of collapsed adits and shallow shafts along the eastern banks of a creek called Derwent Adit Creek after one of the adits (probably the northern one nearest the Powerline Track just south of the Powerline Track). This, northern, Derwent Adit must have been quite substantial judging by the amount of mullock on the single tiphead which extends into Derwent Adit Creek. The mullock is predominantly dark grey shale with lesser quartzwacke sandstone. There is only a minor amount of quartz veining on the tiphead with assays reported in 1998 low in gold.

The more northerly of the two shafts is ~5 metres deep with a small cross-cut westwards at the base. A considerable amount of mullock around the shaft collar consists predominantly of a vitreous quartz with a significant amount of pyrolusite although there is also possibly some specular haematite present. Samples of the mullock as well as a sample

from the mouth of the cross-cut are anomalous in copper and zinc with assays up to 328 ppm Cu and 218 ppm Zn though gold values are low.

The slope along the western side of Derwent Adit Creek is characterised by a considerable amount of quartz float being one of only two areas within the Corn Hill Beds with such abundant quartz float. The old workings have been driven into this slope beneath the area of anomalous quartz float.

The Derwent Adit Creek recorded one of the most strongly anomalous responses from the 1989 BLEG stream sediment sampling programme (Hicks, 1989) (see figure 23a). Other anomalous results from this survey would have located the Salisbury and Eaglehawk Gully prospects if such were not already known.

The zone of old workings and abundant quartz float also along strike of the anticline and associated intraformational thrust mapped near the western end of Bulls Road. Such a structural setting is considered favourable for slate belt style deposits.

Soil sampling in 1998/99 located anomalous soil samples with Cu 118ppm, As to 21ppm, Au in soils to 4ppb in two locations. The northern 4ppb Au anomaly corresponds with a low saddle between two gentle hills. The Johnson Creek Fault zone is interpreted to pass through or near to this saddle.

The prospect is summarized in figure 23.

Prior to drilling the gridded soil sampling over this prospect should be infilled to a 25m x 25m pattern (around 170 samples). Ideally the helimagnetic survey will have been flown and interpreted by this stage also. However, at this stage a drilling programme can still be proposed.

The southern 4ppb Au high should be tested with an oriented diamond drill hole, drilled in an easterly direction (this hole might be improved by drilling it southwesterly) direction for around 180 to 200 metres in order to cross-cut the anticlines/thrusts trend. The fence of 4 holes for 400 metres planned for the northern 4ppb anomaly is oriented north-south in order to cross-cut the interpreted trend of the Johnson Creek Fault zone.

#### **8.4.4 Salisbury Hill Rd prospect**

The Salisbury Hill Road prospect lies on the western side of Salisbury Hill Road to the northeast of the Salisbury magnetics grid. The prospect is summarized in figure 15. The area was initially gridded during the 1998/99 programme as it lies on the edge of an AMG square kilometre which is largely occupied by alluvium and was considered a candidate for relinquishment in 1999 (hence the limited extent of gridding undertaken at this time). One of the few anomalous BLEG stream sediment samples collected during the 1989 programme was collected from the dry gully draining this zone (see figure 15a).

Mapping revealed that the anomalous soils collected during the initial gridding are associated with outcropping ironstone and some small pits

dug on this ironstone. Follow-up gridding and rock sampling confirmed the original anomalous results.

Such ironstone is possibly the product of hydro-geomorphic origin and may not have any depth extent, however, it is equally possible that the ironstone is a capping to an underlying mineralized structure. The northeast trend of the zone suggests that the latter model is a strong possibility and requires drill testing. An oriented diamond hole should be the initial drilling in order to test whether the zone is underlain by a structure and is not a shallow hydro-geomorphic effect. Due to problems with core loss with such diamond drilling this diamond hole should ideally be supplemented with at least a pair of RC holes to give better geochemical sampling of the zone.

The diamond drill hole (for 250 – 300 metres) has been targeted beneath the ironstone outcrop towards its southwestern extent. Follow-up RC holes (Two pairs of scissor holes for 400 metres) will be targeted after the diamond hole results are known. Locations of the proposed diamond holes are shown on figure 15.

## 9.0 REFERENCES

- Anon., 1965. Report to Tasmanian Mines Department on Exploration Licences 3/65 and 14/65. BHP Minerals.
- Ashley, P.M. and Brownlow, J.W., 1993. Silica-carbonate alteration zones in the Great Serpentine Belt, southern New England Orogen: their nature and significance. NEO '93 Conference Proceedings.
- Bishop, J.R., 1988. Interpretation of the Beaconsfield aeromagnetic survey (EL 7/88) for Beaconsfield Gold Mines Ltd. Mitre Geophysics. Unpublished.
- Bottrill, R.S., 1998. Mineralogical/Petrological Investigations: Beaconsfield Mine. An unpublished report for Beaconsfield Mine JV.
- Burrows, I., 1902. Tracing of Duchess of York Gold Mine. Plan 25':1".
- Gee, R.D., and Legge, P.J., 1971. Geological atlas 1:63,360 series, sheet 30 (8215N), Beaconsfield. *Department of Mines, Tasmania*.
- Green, D.H., 1959. Geology of the Beaconsfield region, including the Anderson's Creek Ultrabasic Complex, *Records of the Queen Victoria Museum, Launceston*, New Series No 10.
- Gulline, A.B., 1981. Geological atlas 1:63,360 series, sheet 38 (8215S), Frankford. Explanatory Report. *Department of Mines, Tasmania*.
- Hamlyn, D.A., 1982. EL 17/73. Beaconsfield geology and exploration. AMAX [TCR 82-1681].
- Hicks, J.D., 1989. EL 7/88. Exploration report for the period October 1987 to January 1989. Beaconsfield Gold Mines Limited. [TCR 89-3011].
- Hills, P.B., 1982. The geology of the Lower and Middle Palaeozoic rocks of Flowery Gully, Northern Tasmania. BSc (Hons) Thesis. University of Tasmania.
- Hills, P.B., 1997. EL 20/94 Annual Report 1996/97. Beaconsfield Mine JV.
- MacDonald, G., 1998. EL 20/94 Annual Report 1997/98. Beaconsfield Mine JV.
- MacDonald, G., 1999. EL 20/94 Annual Report 1998/99. Beaconsfield Mine JV.
- Nye, P.B. 1931. Report on operations of Messers Best and Tuskin, Beaconsfield. Unpublished Report Tas. Mines Dept.
- Nye, P.B., 1934. Report on prospect at north end of Blue Tier, Beaconsfield. Unpublished Report Tas. Mines Dept.
- Pease, C.D.F., 1984. EL 17/73. Progress report on exploration of the Salisbury Hill area, Tasmania. [TCR 84-2311].
- Poltock, R.A., 1980. Gold exploration – Salisbury grid, A.P. 6/80, Beaconsfield Tasmania. Unpublished report for AMAX.
- Stacpoole, H.J. and Miedecke, J., 1988. Consolidated Mining Lease 145M/79. Report on Exploration Programme for the Period January – June 1988.
- Sorell, J.A., 1895a. Salisbury Goldfield. Plan of tunnel from actual survey made in 1894.
- Sorell, J.A., 1895b. Salisbury Goldfield. Plan 25':1".

Thureau, G. Report of the future prospects as regards productiveness and permanency of the Beaconsfield and Salisbury mining districts. *House of Assembly Paper, Tasmania 51.*

Twelvetrees, W.H., 1903. Report of the mineral resources of Beaconsfield and Salisbury. *Tasmania Dept. Mines Report.* 62pp.

**APPENDIX 1**  
**SOIL SAMPLE LEDGER**

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Soil sample ledger

Appendix 1: Soil Sample Ledger

Atstate Explorations NL  
Mooloolah, G.

Table with columns: Sample Number, Area/baseline, Collected, AMG Northing, AMG Easting, 330 Grid North(mN), 330 Grid East(mE), Sample Depth, Au, Au(R), Au (ave), As, Cu, Pb, Zn, Soil description (G Walker). The table contains 280 rows of data, each representing a soil sample with its specific coordinates, depth, and chemical analysis results.

672072

Sample Number	Area/baseline	Collected	AMG Northing	AMG Easting	330 Grid North(mN)	330 Grid East(mE)	Sample Depth	Au	Au(R)	Au (ave)	As	Cu	Pb	Zn	Soil description (G Walker)
217296	Salisbury Hill Magnetics grid	Jed Walker 2000	5433550	486850			0.3	<1	-	<1	10	3	7	8	red/brown
217297	Salisbury Hill Magnetics grid	Jed Walker 2000	5433550	486800			0.7	<1	-	<1	11	3	14	7	yellow/brown
217298	Salisbury Hill Magnetics grid	Jed Walker 2000	5433550	486750			0.6	<1	-	<1	1	4	18	13	yellow/brown
217299	Salisbury Hill Magnetics grid	Jed Walker 2000	5433550	486700			0.5	<1	-	<1	8	2	<3	3	grey gravel
217300	Salisbury Hill Magnetics grid	Jed Walker 2000	5433550	486650			0.3	<1	-	<1	5	2	3	4	grey gravel
217301	Salisbury Hill Magnetics grid	Jed Walker 2000	5433550	486600			0.7	<1	<1	<1	12	3	5	11	dark yellow
217302	Salisbury Hill Magnetics grid	Jed Walker 2000	5433550	486550			0.3	<1	-	<1	1	3	<3	6	pale yellow
217303	Salisbury Hill Magnetics grid	Jed Walker 2000	5433550	486500			0.4	<1	-	<1	6	5	5	7	yellow
217304	Salisbury Hill Magnetics grid	Jed Walker 2000	5433550	486450			0.4	<1	<1	<1	5	3	5	8	yellow
217305	Salisbury Hill Magnetics grid	Jed Walker 2000	5433550	486400			0.5	<1	-	<1	2	4	24	9	yellow
217306	Salisbury Hill Magnetics grid	Jed Walker 2000	5433550	486340			0.3	<1	-	<1	6	3	34	13	dark yellow
217307	Salisbury Hill Magnetics grid	Jed Walker 2000	5433550	486300			0.3	<1	<1	<1	1	2	6	5	fine grey gravel
217308	Salisbury Hill Magnetics grid	Jed Walker 2000	5433550	486250			0.3	<1	-	<1	4	3	32	14	dark yellow
217309	Salisbury Hill Magnetics grid	Jed Walker 2000	5433540	486200			0.3	<1	-	<1	5	3	15	13	dark yellow
217310	Salisbury Hill Magnetics grid	Jed Walker 2000	5433550	486150			0.6	<1	-	<1	3	3	13	12	dark yellow
217311	Salisbury Hill Magnetics grid	Jed Walker 2000	5433550	486100			0.4	<1	-	<1	1	2	18	12	yellow
217312	Salisbury Hill Magnetics grid	Jed Walker 2000	5433550	486050			0.5	<1	-	<1	12	3	17	14	yellow
217313	Salisbury Hill Magnetics grid	Jed Walker 2000	5433500	487000			0.3	5	-	5	36	5	34	34	red/brown
217314	Salisbury Hill Magnetics grid	Jed Walker 2000	5433500	486950			0.7	5	-	5	39	6	16	15	yellow/grey
217315	Salisbury Hill Magnetics grid	Jed Walker 2000	5433500	486900			0.4	<1	-	<1	7	3	9	11	yellow brown
217316	Salisbury Hill Magnetics grid	Jed Walker 2000	5433500	486850			0.5	<1	-	<1	16	3	11	10	dark yellow
217317	Salisbury Hill Magnetics grid	Jed Walker 2000	5433500	486800			0.3	5	-	5	6	3	7	10	yellow
217318	Salisbury Hill Magnetics grid	Jed Walker 2000	5433500	486750			0.4	<1	-	<1	11	2	31	12	yellow
217319	Salisbury Hill Magnetics grid	Jed Walker 2000	5433500	486700			0.4	10	12	11	3	3	16	77	yellow
217320	Salisbury Hill Magnetics grid	Jed Walker 2000	5433490	486650			0.5	4	-	4	130	8	8	84	red/yellow
217321	Salisbury Hill Magnetics grid	Jed Walker 2000	5433500	486600			0.5	<1	-	<1	7	15	10	32	yellow
217322	Salisbury Hill Magnetics grid	Jed Walker 2000	5433500	486550			0.4	<1	-	<1	1	3	7	12	pale yellow fine soil
217323	Salisbury Hill Magnetics grid	Jed Walker 2000	5433500	486500			0.4	<1	<1	<1	2	3	11	15	yellow
217324	Salisbury Hill Magnetics grid	Jed Walker 2000	5433500	486450			0.6	<1	-	<1	<2	2	4	7	yellow
217325	Salisbury Hill Magnetics grid	Jed Walker 2000	5433500	486392			0.4	<1	-	<1	4	3	25	12	yellow
217326	Salisbury Hill Magnetics grid	Jed Walker 2000	5433500	486350			0.4	<1	<1	<1	5	4	17	10	yellow
217327	Salisbury Hill Magnetics grid	Jed Walker 2000	5433500	486300			0.5	<1	-	<1	<2	<2	11	9	pale orange fine clay
217328	Salisbury Hill Magnetics grid	Jed Walker 2000	5433500	486250			0.4	<1	-	<1	2	2	8	9	pale orange fine clay
217329	Salisbury Hill Magnetics grid	Jed Walker 2000	5433500	486200			0.4	<1	-	<1	1	2	6	7	yellow
217330	Salisbury Hill Magnetics grid	Jed Walker 2000	5433480	486150			0.4	<1	-	<1	6	2	7	11	yellow
217331	Salisbury Hill Magnetics grid	Jed Walker 2000	5433500	486100			0.5	<1	<1	<1	5	2	6	7	yellow/brown
217332	Salisbury Hill Magnetics grid	Jed Walker 2000	5433500	486050			0.8	<1	-	<1	4	5	15	12	mottled grey/brown
217333	Salisbury Hill Magnetics grid	Jed Walker 2000	5433450	487000			0.4	<1	-	<1	9	3	18	36	yellow
217334	Salisbury Hill Magnetics grid	Jed Walker 2000	5433450	486950			0.4	<1	-	<1	7	3	17	19	yellow
217335	Salisbury Hill Magnetics grid	Jed Walker 2000	5433450	486900			0.5	<1	-	<1	9	2	10	14	yellow/brown
217336	Salisbury Hill Magnetics grid	Jed Walker 2000	5433450	486850			0.5	<1	-	<1	6	4	6	8	red/brown
217337	Salisbury Hill Magnetics grid	Jed Walker 2000	5433450	486800			0.6	<1	-	<1	6	2	11	9	yellow
217338	Salisbury Hill Magnetics grid	Jed Walker 2000	5433450	486750			0.4	<1	-	<1	38	5	31	49	orange
217339	Salisbury Hill Magnetics grid	Jed Walker 2000	5433450	486700			0.5	9	-	9	11	2	29	9	orange
217340	Salisbury Hill Magnetics grid	Jed Walker 2000	5433450	486650			0.5	57	46	52	48	5	10	16	yellow
217341	Salisbury Hill Magnetics grid	Jed Walker 2000	5433450	486600			0.3	<1	-	<1	3	3	3	8	yellow
217342	Salisbury Hill Magnetics grid	Jed Walker 2000	5433450	486550			0.4	<1	-	<1	7	2	5	6	pale yellow fine soil
217343	Salisbury Hill Magnetics grid	Jed Walker 2000	5433450	486500			0.3	<1	-	<1	11	2	6	7	yellow
217344	Salisbury Hill Magnetics grid	Jed Walker 2000	5433450	486450			0.4	<1	-	<1	1	2	<3	10	yellow
217345	Salisbury Hill Magnetics grid	Jed Walker 2000	5433450	486400			0.6	<1	-	<1	6	2	19	10	yellow
217346	Salisbury Hill Magnetics grid	Jed Walker 2000	5433450	486350			0.4	<1	-	<1	6	4	22	9	yellow
217347	Salisbury Hill Magnetics grid	Jed Walker 2000	5433450	486300			0.4	<1	-	<1	4	7	28	18	yellow
217348	Salisbury Hill Magnetics grid	Jed Walker 2000	5433450	486250			0.3	<1	<1	<1	6	7	28	15	yellow
217349	Salisbury Hill Magnetics grid	Jed Walker 2000	5433450	486200			0.4	<1	-	<1	5	5	23	15	yellow
217350	Salisbury Hill Magnetics grid	Jed Walker 2000	5433450	486150			0.5	<1	-	<1	1	4	22	16	yellow
217351	Salisbury Hill Magnetics grid	Jed Walker 2000	5433450	486100			0.3	<1	<1	<1	4	4	25	19	yellow
217352	Salisbury Hill Magnetics grid	Jed Walker 2000	5433450	486050			0.6	<1	-	<1	7	4	24	15	brown clay
217353	Salisbury Hill Magnetics grid	Jed Walker 2000	5434050	487200			0.5	<1	-	<1	3	3	10	38	brown
217354	Salisbury Hill Magnetics grid	Jed Walker 2000	5434050	487150			0.6	<1	-	<1	<1	4	10	37	brown
217355	Salisbury Hill Magnetics grid	Jed Walker 2000	5434050	487100			0.5	<1	-	<1	1	3	12	42	brown
217356	Salisbury Hill Magnetics grid	Jed Walker 2000	5434050	487050			0.4	<1	<1	<1	<1	2	14	43	red/brown
217357	Salisbury Hill Magnetics grid	Jed Walker 2000	5434050	487000			0.4	<1	-	<1	<1	2	6	31	red/brown
217358	Salisbury Hill Magnetics grid	Jed Walker 2000	5434050	486950			0.5	<1	-	<1	<1	3	6	33	red/brown
217359	Salisbury Hill Magnetics grid	Jed Walker 2000	5434050	486900			0.5	<1	-	<1	2	2	10	33	red/brown
217360	Salisbury Hill Magnetics grid	Jed Walker 2000	5434050	486850			0.4	<1	<1	<1	<1	4	<3	31	yellow
217361	Salisbury Hill Magnetics grid	Jed Walker 2000	5434050	486800			0.4	<1	-	<1	<1	2	11	30	yellow
217362	Salisbury Hill Magnetics grid	Jed Walker 2000	5434050	486750			0.4	<1	<1	<1	1	<2	7	33	yellow
217363	Salisbury Hill Magnetics grid	Jed Walker 2000	5434050	486700			0.5	<1	-	<1	<1	2	5	38	pale yellow
217364	Salisbury Hill Magnetics grid	Jed Walker 2000	5434050	486650			0.1	<1	-	<1	1	3	47	40	brown
217365	Salisbury Hill Magnetics grid	Jed Walker 2000	5434050	486600			0.5	44	48	46	8	3	40	37	yellow
217366	Salisbury Hill Magnetics grid	Jed Walker 2000	5434050	486550			0.7	<1	-	<1	2	5	4	32	grey gravel
217367	Salisbury Hill Magnetics grid	Jed Walker 2000	5434050	486500			0.4	<1	-	<1	8	8	12	32	yellow
217368	Salisbury Hill Magnetics grid	Jed Walker 2000	5434050	486450			0.3	<1	-	<1	<1	3	6	29	yellow
217369	Salisbury Hill Magnetics grid	Jed Walker 2000	5434050	486400			0.5	<1	-	<1	<1	3	4	28	yellow
217370	Salisbury Hill Magnetics grid	Jed Walker 2000	5434050	486350			0.4	<1	-	<1	<1	2	7	193	grey gravel
217371	Salisbury Hill Magnetics grid	Jed Walker 2000	5434050	486300			0.5	<1	-	<1	<1	<2	8	154	pale yellow
217372	Salisbury Hill Magnetics grid	Jed Walker 2000	5434050	486250			0.5	<1	-	<1	1	5	10	89	yellow
217373	Salisbury Hill Magnetics grid	Jed Walker 2000	5434050	486200			0.4	<1	-	<1	1	3	<3	58	pale yellow
217374	Salisbury Hill Magnetics grid	Jed Walker 2000	5434100	487200			0.5	<1	-	<1	<1	3	8	47	yellow
217375	Salisbury Hill Magnetics grid	Jed Walker 2000	5434100	487150			0.3	<1	<1	<1	1	2	10	42	yellow/brown
217376	Salisbury Hill Magnetics grid	Jed Walker 2000	5434100	487100			0.5	<1	-	<1	<1	2	14	42	yellow/brown
217377	Salisbury Hill Magnetics grid	Jed Walker 2000	5434100	487050			0.5	<1	-	<1	3	<2	13	38	yellow/brown
217378	Salisbury Hill Magnetics grid	Jed Walker 2000	5434100	487000			0.6	<1	-	<1	7	2	18	34	pale yellow
217379	Salisbury Hill Magnetics grid	Jed Walker 2000	5434100	486950			0.5	<1	-	<1	2	<2	12	29	yellow
217380	Salisbury Hill Magnetics grid	Jed Walker 2000	5434100	486900			0.3	<1	-	<1	3	<2	8	30	yellow
217381	Salisbury Hill Magnetics grid	Jed Walker 2000	5434100	486850			0.7	<1	-	<1	<1	2	10	34	yellow/brown
217382	Salisbury Hill Magnetics grid	Jed Walker 2000	5434100	486800			0.7	<1	<1	<1	<1	<2	4	35	yellow/brown
217383	Salisbury Hill Magnetics grid	Jed Walker 2000	5434100	486750			0.4	<1	-	<1	3	<2	5	36	yellow
217384	Salisbury Hill Magnetics grid	Jed Walker 2000	5434100	486700			0.3	<1	-	<1	<1	3	10	35	yellow
217385	Salisbury Hill Magnetics grid	Jed Walker 2000	5434100	486650			0.3	<1	-	<1	4	3	36	84	red/yellow
217386	Salisbury Hill Magnetics grid	Jed Walker 2000	5434100	486600			0								

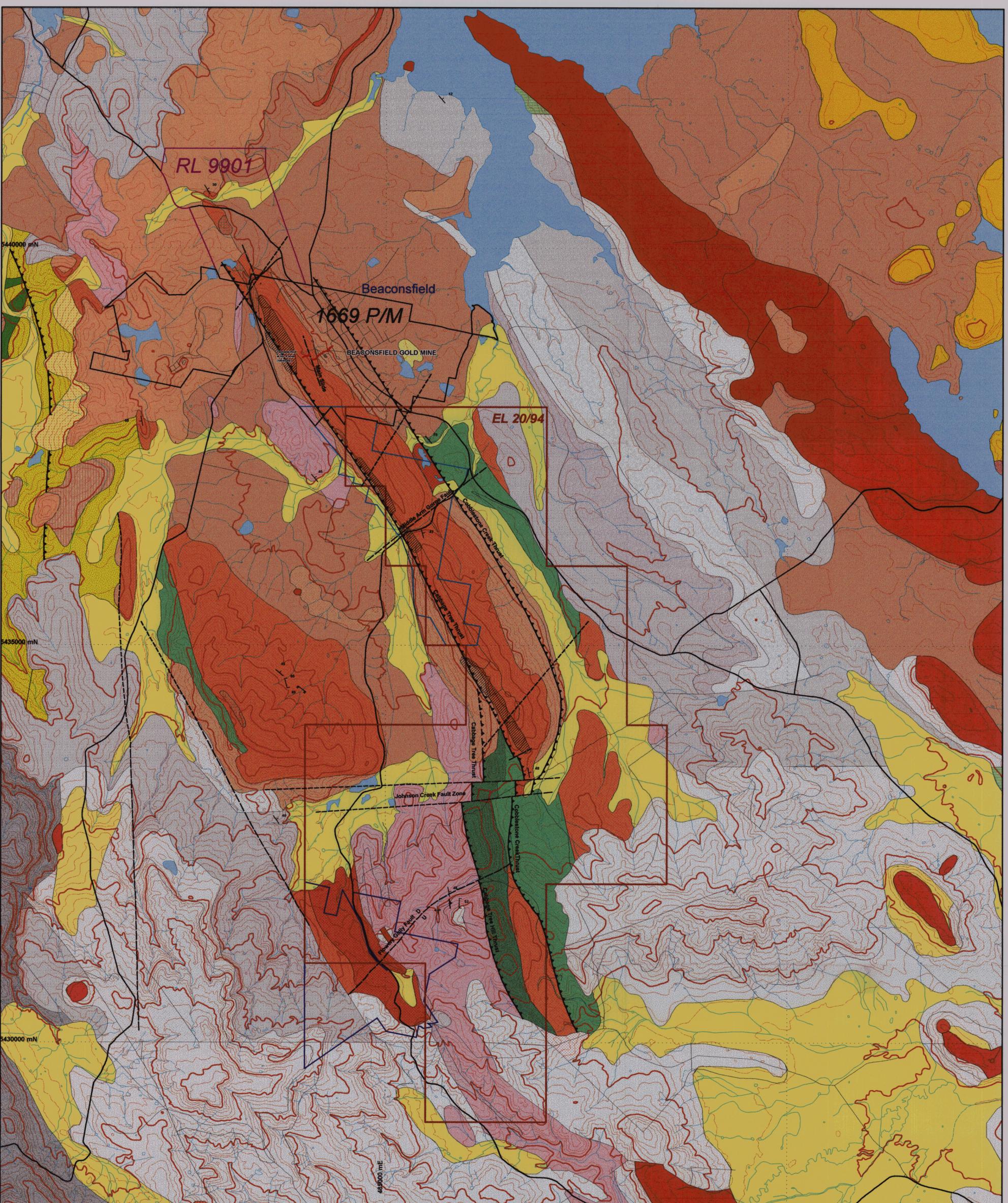
**APPENDIX 2**  
**ROCK SAMPLE LEDGER**

Appendix 2: Rock Sample Ledger

Allstate Explorations NL  
Macdonald, G.

EL20/1994

Sample Number	Informal name	Area	Collected	DDH	From	to (relevant)	AMG Northing	AMG Easting	Channel	Channel length	Description	Au	Au (rpt)	Au (ave)	As	Ag	Cu	Pb	Zn
217020		Mossie Adit Salls Hill	MacDonald 2000	nr	nr	nr					tensional qtz vn 10mm 75-245	5	4	5	<1	-	-	-	-
217021		Mossie Adit Salls Hill	MacDonald 2000	nr	nr	nr					tensional qtz vn 45-286	<1	-	<1	18	-	-	-	-
217022		Mossie Adit Salls Hill	MacDonald 2000	nr	nr	nr					tensional qtz vn parallel 217021	<1	-	<1	<1	-	-	-	-
217023		Mossie Adit Salls Hill	MacDonald 2000	nr	nr	nr					tensional qtz vn	<1	-	<1	2	-	-	-	-
217024		Mossie Adit Salls Hill	MacDonald 2000	nr	nr	nr					tensional qtz vn 62-265	<1	-	<1	27	-	-	-	-
217025		Mossie Adit Salls Hill	MacDonald 2000	nr	nr	nr					tensional qtz vn 60mm 45-283	<1	-	<1	17	-	-	-	-
217026		Mossie Adit Salls Hill	MacDonald 2000	nr	nr	nr					tensional qtz vn 20mm 45-265	<1	-	<1	3	-	-	-	-
217027		shaft nr rd Salls Hill	MacDonald 2000	nr	nr	nr					ang qtz in scree	6	-	6	50	-	-	-	-
217028		shft adj P Adit o/c	MacDonald 2000	nr	nr	nr			h	2	Shaft next P Adit o/c channel	57	-	57	210	-	-	-	-
217029		shft adj P Adit o/c	MacDonald 2000	nr	nr	nr			h	2	Shaft next P Adit o/c channel	52	54	53	140	-	-	-	-
217030		shft adj P Adit o/c	MacDonald 2000	nr	nr	nr			h	2	Shaft next P Adit o/c channel	488	-	486	165	-	-	-	-
217031		shft adj P Adit o/c	MacDonald 2000	nr	nr	nr			h	2	Shaft next P Adit o/c channel	180	-	180	155	-	-	-	-
217032		shft adj P Adit o/c	MacDonald 2000	nr	nr	nr			h	2	Shaft next P Adit o/c channel	79	77	78	370	-	-	-	-
217033		shft adj P Adit o/c	MacDonald 2000	nr	nr	nr			h	2	Shaft next P Adit o/c channel	36	-	36	125	-	-	-	-
217034		shft adj P Adit o/c	MacDonald 2000	nr	nr	nr			h	1	Shaft next P Adit o/c channel	170	160	165	235	-	-	-	-
217035		shft adj P Adit o/c	MacDonald 2000	nr	nr	nr					Shaft next P Adit o/c 20mm tensional mod to SW	163	-	163	115	-	-	-	-
217036		shft adj P Adit o/c	MacDonald 2000	nr	nr	nr					20mm qtz vn w gn string	54	-	54	55	-	-	-	-
217037		shft adj P Adit o/c	MacDonald 2000	nr	nr	nr			h	2.5	Shaft next P Adit o/c channel	51	-	51	150	-	-	-	-
217038		shft adj P Adit o/c	MacDonald 2000	nr	nr	nr			h	2.5	Shaft next P Adit o/c channel	48	-	48	145	-	-	-	-
217039		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr					ferrug qtz vn Toad Shaft	188	250	219	305	-	-	-	-
217040		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			h	2	Toad Shaft channel	60	-	60	1600	-	-	-	-
217041		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			h	2	Toad Shaft channel	89	-	89	675	-	-	-	-
217042		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			h	2	Toad Shaft channel	76	70	73	235	-	-	-	-
217043		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			v	1.5	Toad Shaft channel	93	-	93	260	-	-	-	-
217044		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			v	1.5	Toad Shaft channel	68	-	68	255	-	-	-	-
217045		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			v	1.5	Toad Shaft channel	65	-	65	220	-	-	-	-
217046		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			v	1.5	Toad Shaft channel	131	-	131	510	-	-	-	-
217047		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			v	1.5	Toad Shaft channel	168	-	168	265	-	-	-	-
217048		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr					ferrug patch from qtz vn Toad Shaft	79	76	78	665	-	-	-	-
217049		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr					strongly apple green stained wed qtz Toad Shaft	12	-	12	28	-	-	-	-
217050		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			v	1.5	Toad Shaft channel	7	-	7	70	-	-	-	-
217051		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			v	1.5	Toad Shaft channel	6	-	6	10	-	-	-	-
217052		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			v	1.5	Toad Shaft channel	12	-	12	12	-	-	-	-
217053		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			v	1.5	Toad Shaft channel	9	-	9	10	-	-	-	-
217054		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			v	1.5	Toad Shaft channel	11	12	12	7	-	-	-	-
217055		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			v	1.5	Toad Shaft channel	2	-	2	1	-	-	-	-
217056		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			v	1.3	Toad Shaft channel	<1	-	<1	14	-	-	-	-
217057		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			v	1.5	Toad Shaft channel	<1	-	<1	25	-	-	-	-
217058		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			v	1.5	Toad Shaft channel	20	20	20	55	-	-	-	-
217059		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr					ferrug qtz vn	308	280	294	490	-	-	-	-
217060		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			v	1	Toad Shaft channel	9	-	9	65	-	-	-	-
217061		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			v	1	Toad Shaft channel	14	-	14	85	-	-	-	-
217062		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			v	1.5	Toad Shaft channel	10	-	10	55	-	-	-	-
217063		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			v	2	Toad Shaft channel	14	-	14	55	-	-	-	-
217064		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			v	2	Toad Shaft channel	32	-	32	32	-	-	-	-
217065		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			v	1	Toad Shaft channel	6	-	6	7	-	-	-	-
217066		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			v	1.5	Toad Shaft channel	8	-	8	18	-	-	-	-
217067		Toad Shaft Salls Hill	MacDonald 2000	nr	nr	nr			v	1.5	Toad Shaft channel	19	-	19	29	-	-	-	-
217068		hole'sth P Adit	MacDonald 2000	nr	nr	nr	5433317.5	486779.6	v	1.9	ferrug sst w mod SW dipping qtz vng in 'hole'sth P Adit channel	221	210	216	210	-	-	-	-
217069		hole'sth P Adit	MacDonald 2000	nr	nr	nr	5433318.2	486778.9	v	2.1	ferrug sst w mod SW dipping qtz vng in 'hole'sth P Adit channel	260	-	260	445	-	-	-	-
217070		hole'sth P Adit	MacDonald 2000	nr	nr	nr	5433318.95	486778.25	v	2.4	ferrug sst w mod SW dipping qtz vng in 'hole'sth P Adit channel	487	400	444	640	-	-	-	-
217071		hole'sth P Adit	MacDonald 2000	nr	nr	nr	5433319.7	486777.6	v	2.3	ferrug sst w mod SW dipping qtz vng in 'hole'sth P Adit channel	334	-	334	325	-	-	-	-
217072		bank'sth P Adit o/c	MacDonald 2000	nr	nr	nr			h	2	nr	340	-	340	265	-	-	-	-
217073		bank'sth P Adit o/c	MacDonald 2000	nr	nr	nr			h	2	nr	247	-	247	195	-	-	-	-
217074		bank'sth P Adit o/c	MacDonald 2000	nr	nr	nr	5433330.6	486768	v	1.1	grab of very ferrug pyritic quartz	131	133	132	515	-	-	-	-
217075		bank'sth P Adit o/c	MacDonald 2000	nr	nr	nr	5433329.4	486763.4	v	1.1	nr	178	-	178	465	-	-	-	-
217076		bank'sth P Adit o/c	MacDonald 2000	nr	nr	nr	5433329.8	486765.3	v	1	nr	254	-	254	360	-	-	-	-
217077		bank'sth P Adit o/c	MacDonald 2000	nr	nr	nr			h	2	nr	380	290	340	440	-	-	-	-
217078		bank'sth P Adit o/c	MacDonald 2000	nr	nr	nr			h	2	nr	420	-	420	435	-	-	-	-
217079		bank'sth P Adit o/c	MacDonald 2000	nr	nr	nr			h	2	nr	680	635	648	580	-	-	-	-
217080		bank'sth P Adit o/c	MacDonald 2000	nr	nr	nr			h	2	nr	430	-	430	1160	-	-	-	-
217081		bank'sth P Adit o/c	MacDonald 2000	nr	nr	nr			h	2	nr	142	133	138	425	-	-	-	-
217082	channel Salls Hill workings	o/c nr upper costean	MacDonald 2000	nr	nr	nr	5433532.7	486689	v	0.5	-10mm qtz vns shallowly w dipping in sst	83	-	83	4	-	-	-	-
217083	channel Salls Hill workings	o/c nr upper costean	MacDonald 2000	nr	nr	nr	5433535.5	486689.9	v	1.5	-10mm qtz vns shallowly w dipping in sst	133	110	122	2	-	-	-	-
217084	channel Salls Hill workings	o/c nr upper costean	MacDonald 2000	nr	nr	nr	5433538.5	486688.7	v	1	-10mm qtz vns shallowly w dipping in sst	77	-	77	4	-	-	-	-
217085	channel Salls Hill workings	small shaft S-E SHA costean	MacDonald 2000	nr	nr	nr	5433440	486740	v	0.9	vn -55-220	17	-	17	225	-	-	-	-
217086	Salls Hill workings	small shaft S-E SHA costean	MacDonald 2000	nr	nr	nr	5433437.9	486740.25	v		grab vn -55-220	10	11	11	265	-	-	-	-
217087		hole'sth P Adit	MacDonald 2000	nr	nr	nr	5433317.5	486779.7	v		sulphidic qtz vn	183	11	97	840	-	-	-	-
217088		hole'sth P Adit	MacDonald 2000	nr	nr	nr	5433317.8	486779.5	v		yuggy ferrug pyritic qtz vn	5	10	8	395	-	-	-	-
217089		hole'sth P Adit	MacDonald 2000	nr	nr	nr	5433315.3	486771.4	v		slid yuggy qtz sst/vn	225	-	225	620	-	-	-	-
217090		hole'sth P Adit	MacDonald 2000	nr	nr	nr	5433314	486770	v	1		911	1020	966	460	-	-	-	-
217091		hole'sth P Adit	MacDonald 2000																



**GEOLOGICAL LEGEND**

<p><b>QUATERNARY</b></p> <ul style="list-style-type: none"> <li>Qha Stream alluvium, swamp and marsh deposits</li> <li>Qgp Silt with rounded clasts of granite, schist, quartzite, conglomerate, derived from Permian strata</li> <li>Qd Talus</li> <li>Qdt Dolerite talus</li> <li>Qc Coarsely domeritic sandstone</li> <li>Qcp Partly consolidated gravel sand</li> <li>Qca Angular gravel, mainly vein quartz</li> <li>Qca Rounded and angular gravel, mainly vein quartz</li> <li>Qc Discontinuity non-marine sequences of gravel, sand, silt, clay and regolith</li> <li>Qb Basaltic dolerite</li> <li>Qa Basalt</li> <li>Qf Plutonic intrusion</li> </ul>	<p><b>PERMIAN</b></p> <ul style="list-style-type: none"> <li>Pst Cross-bedded quartz sandstone, felspathic sandstone and shale</li> <li>Pp Carbonaceous sandstone and shale (Pp = Clay Cove Sandstone)</li> <li>Pm Mesozoic sandstone and sandstone (Pm = Middle Arm Group)</li> <li>Pw Fossiliferous sandstone, siltstone and limestone (Pw = West Arm Group)</li> <li>Pq Quartz sandstone, cross-bedded with common interbedded and interstratified shale, lesser conglomerate and rare coal</li> <li>Pm Mesozoic, pebbly siltstone and sandstone (Pm = Messy Creek Group)</li> <li>Pc Classic limestone</li> <li>Pb Angular boulder beds, siltstone and erratic rich mudstone</li> </ul>	<p><b>DEVONIAN</b></p> <ul style="list-style-type: none"> <li>SDol Shallow marine quartz sandstone, siltstone and shale (SDol = Corn Hill Beds) with massive quartz sandstone shown (SDolB)</li> <li>Cgl Carbonaceous shale (Cgl = Grubb Beds). Top of section not exposed and may be conformable with Corn Hill Beds (Cgl = Floney Gully Limestone)</li> <li>Qst Undifferentiated variably calcareous quartz sandstone, siltstone, grills, occasional pebbly conglomerates and limestone beds (Oct)</li> <li>Qst Variably calcareous quartz sandstone and siltstone with discrete limestone beds (Cag = Eaglehawk Gully Formation); interstratified basaltic andesite (Cag = Eaglehawk Gully basalt)</li> <li>Qst Quartz grills, siltstone and siltstone and occasional pebbly conglomerate (Cag = Salisbury Hill Formation)</li> <li>Qst Quartz conglomerate (Cag = Cabbage Tree Conglomerate)</li> <li>Qst Interbedded limestone, siltstone, quartz sandstone, v-chert with interstratified volcanics and intrusives (Cag = Blythe Creek Formation)</li> <li>Qst Chert and shale rich units shown (Cag)</li> <li>Qst Mafic-intermediate volcanics (Cag) inc. West Tamar Highway andesite</li> <li>Qst Distinctive polymict conglomerate (Cag) with clasts inc. ultramafic</li> <li>Qst Mafic-intermediate intrusives (Cag)</li> <li>Qst Quartz waste sandstones (Cag)</li> </ul>	<p><b>IGNEOUS ROCKS</b></p> <ul style="list-style-type: none"> <li>Tb Basalt (Tb) and basaltic dolerite (Tbd)</li> <li>Dol Dolerite</li> <li>Bas Basaltic andesite (Eaglehawk Gully basalt)</li> <li>MIV Mafic-intermediate volcanics (includes West Tamar Highway andesite)</li> <li>MI Mafic-intermediate intrusives</li> <li>Py Pyroxenite and serpentinized pyroxenite</li> </ul>
<p><b>FAULTS</b></p> <ul style="list-style-type: none"> <li>Thrust</li> <li>Faults - mapped or inferred</li> <li>Faults - interpreted</li> <li>Bedding</li> <li>Cleavage</li> <li>Second cleavage</li> </ul>	<p><b>STRUCTURAL FEATURES</b></p> <ul style="list-style-type: none"> <li>Zones of stronger magnetic intensity along Cabbage Tree Hill thrust</li> <li>Tasmania Reef at No. 6 level (45m ASL)</li> <li>Old hard rock workings</li> <li>Axial workings</li> </ul>	<p><b>BOUNDARIES</b></p> <ul style="list-style-type: none"> <li>Tempo ML</li> <li>Beams Bros ML</li> <li>Devonians ML (gravel)</li> </ul>	<p><b>MINING LEASES</b></p> <ul style="list-style-type: none"> <li>1669 P/M Mining lease - BMJV</li> <li>EL 20/94 Exploration lease - BMJV</li> <li>RL 9901 Retention lease - BMJV</li> </ul>

00\_4486

Annual report - EL 20/1994 - Salisbury Hill - 1999/2000  
 Allstate Explorations NL  
 Macdonald, G. EL20/1994

**EL 20/94 - Salisbury Hill**

**Regional Geology**

Date: Sept 2000 Author: G Macdonald  
 Drawn: G Macdonald File: SH AR2000 F1

Scale: 1:25 000

5 cm

**Beaconsfield Mine Joint Venture**

ALLSTATE EXPLORATIONS NL  
 ACN 000 679 023  
 (JV MANAGER)

Figure: 2

672075

**APPENDIX 3**  
**SOIL SAMPLE ASSAY RESULT SHEETS (ANALABS)**

672057

A N A L A B S



Our reference : BU017917  
Your reference : 114193  
Project code : MMI Samples  
Date received : 24/05/00  
Date reported : 16/06/00

Analabs Pty. Ltd.  
ACN 004 591 664  
14 Thirkell St, Burnie  
Tasmania 7320  
Telephone : (03) 6431 6837  
Facsimile : (03) 6431 8890

Grant MacDonald  
  
Beaconsfield Mine Joint Venture  
PO Box 58  
BEACONSFIELD  
  
TAS 7270

Number of pages of results : 1  
Number of Samples : 20  
First Sample : 218315  
Last Sample : 218346

Remarks: MMI leach produced solutions w  
Electronic Data Transmission :  
Modem Y //  
Facsimile //  
Disk Report Y //

Remarks: MMI leach produced solutions with substantial suspended matter (colloids?/clays?) and organic remains which made analysis difficult in attempting to recover clear liquor for analysis. Detection limits have been elevated x2 on these samples as a result of these difficulties. The M146 (Cu Pb Zn Cd) Suite was not processed as analysis is time sensitive and at least 3 days of pre-read settling time was required.

Authorised by .....  
On behalf of:

Rob Chapman  
Laboratory Manager

The results in the following analytical report pertain to the samples provided to this laboratory for preparation and/or analysis as requested by the client.



Our reference : BU017902  
 Your reference : **114193**  
 Project code : Con Note 43716  
 Date received : 23/05/00  
 Date reported : 08/06/00

**Analabs Pty. Ltd.**  
 ACN 004 591 664  
 14 Thirkell St, Burnie  
 Tasmania 7320  
 Telephone : (03) 6431 6837  
 Facsimile : (03) 6431 8890

Grant MacDonald  
  
 Beaconsfield Mine Joint Venture  
 PO Box 58  
 BEACONSFIELD  
  
 TAS 7270

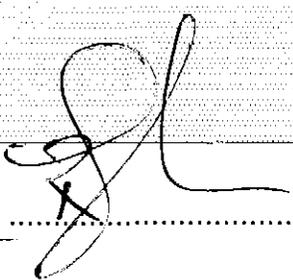
Number of pages of results : 14  
 Number of Samples : 311  
 First Sample : 216953  
 Last Sample : 217352

Invoice to:  
 Grant MacDonald  
  
 Beaconsfield Mine Joint Venture  
 PO Box 58  
 BEACONSFIELD  
  
 TAS 7270

Electronic Data Transmission :  
 Modem Y 08/06/00  
 Facsimile / /  
 Disk Report Y / /

Results to:

Results to:

Remarks : First batch soils - Salibury Hill  
 King good  
 + P... ..  


Authorised by .....  
 On behalf of .....  
 Rob Chapman  
 Laboratory Manager



Our reference : BU017902  
 Your reference : 114193  
 Project code : Con Note 43716  
 Report date : 08/06/00  
 Report status : Final  
 Page : 1 of 14

Analabs Pty. Ltd.  
 ACN 004 591 664  
 14 Thirkell St, Burnie  
 Tasmania 7320  
 Telephone : (03) 6431 6837  
 Facsimile : (03) 6431 8890

### ANALYTICAL DATA

Sample	Au	Au(R)	Cu	Pb	Zn	As
216953	<1	--	14	180	141	--
216954	<1	--	12	39	48	--
216955	<1	--	17	135	226	--
216956	<1	--	3	18	21	--
216957	<1	--	4	17	23	--
216958	<1	--	26	85	75	--
216959	<1	--	17	106	88	--
216960	<1	--	18	145	100	--
216961	<1	--	13	88	89	--
216962	<1	<1	8	44	39	--
216963	<1	--	12	128	73	--
216964	<1	<1	34	166	151	--
216965	<1	--	41	148	199	--
216966	<1	--	27	89	79	--
216967	<1	--	14	70	43	--
216968	<1	--	13	63	34	--
216969	<1	<1	27	68	56	--
216970	<1	--	8	34	20	--
216971	<1	--	7	37	28	--
216972	<1	--	24	62	75	--
216973	<1	--	15	65	30	--
216974	<1	<1	5	19	18	--
216975	<1	--	12	116	104	--
216976	<1	--	5	23	27	--
216977	<1	--	11	37	64	--
216978	<1	--	33	397	491	--
216979	<1	--	33	828	572	--
216980	<1	--	16	23	34	--
216981	<1	--	7	21	29	--
216982	<1	--	8	27	28	--
216983	<1	<1	6	22	20	--
216984	<1	--	4	20	17	--
216985	<1	--	4	20	21	--
216986	<1	--	5	24	25	--
216987	<1	<1	4	17	27	--
217020	<1	--	3	7	6	--
217021	<1	--	2	11	9	--
217022	<1	--	3	22	14	--
217023	<1	--	5	20	14	--
217024	<1	--	3	16	14	--
217025	<1	--	3	15	17	--
217026	5	3	2	15	14	--
217027	3	--	2	24	17	--
217028	<1	--	8	24	17	--
217029	<1	<1	3	18	12	--
217030	<1	--	2	14	10	--
217031	<1	--	4	36	13	--
217032	<1	--	3	30	22	--
217033	<1	--	6	32	56	--
217034	<1	--	7	20	21	--
Method	F614	F614	A102	A102	A102	A102
Units	ppb	ppb	ppm	ppm	ppm	ppm
Detection Limit	1	1	2	3	2	50

Notes: -- = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received



Our reference : BU017902  
 Your reference : 114193  
 Project code : Con Note 43716  
 Report date : 08/06/00  
 Report status : Final  
 Page : 2 of 14

Analabs Pty. Ltd.  
 ACN 004 591 664  
 14 Thirkell St, Burnie  
 Tasmania 7320  
 Telephone : (03) 6431 6837  
 Facsimile : (03) 6431 8890

## ANALYTICAL DATA

Sample	Au	Au(R)	Cu	Pb	Zn	As
217035	<1	--	11	31	56	--
217036	<1	--	5	26	45	--
217037	<1	--	4	14	14	--
217038	<1	--	4	13	12	--
217039	<1	--	3	13	12	--
217040	<1	--	5	7	17	--
217041	<1	--	3	17	20	--
217042	<1	--	2	9	19	--
217043	1	--	4	61	38	--
217101	<1	<1	5	9	23	--
217102	<1	--	3	14	23	--
217103	<1	<1	7	17	26	--
217104	<1	--	4	20	22	--
217105	<1	--	4	25	17	--
217106	<1	--	9	8	13	--
217107	<1	--	3	6	10	--
217108	<1	--	3	20	13	--
217109	<1	--	4	16	12	--
217110	<1	--	4	19	17	--
217111	<1	<1	2	22	4	--
217112	<1	--	19	9	19	--
217113	<1	--	7	21	24	--
217114	<1	--	4	4	18	--
217115	<1	--	6	6	19	--
217116	<1	--	3	4	17	--
217117	<1	--	5	4	20	--
217118	<1	--	3	9	20	--
217119	<1	--	2	7	19	--
217120	9	8	3	12	21	--
217121	<1	--	2	17	18	--
217122	<1	--	7	17	18	--
217123	<1	--	4	11	7	--
217124	<1	--	3	12	11	--
217125	<1	--	3	16	14	--
217126	<1	<1	3	6	7	--
217127	<1	--	4	3	8	--
217128	<1	--	4	5	25	--
217129	<1	--	3	9	19	--
217130	<1	<1	4	13	13	--
217131	<1	--	3	22	11	--
217132	<1	--	3	<3	7	--
217133	85	77	13	49	13	--
217134	<1	--	10	3	7	--
217135	<1	--	2	5	5	--
217136	8	8	2	14	10	--
217137	<1	--	3	5	2	--
217138	<1	--	2	7	6	--
217139	<1	--	2	9	9	--
217140	<1	--	7	9	15	--
217141	<1	--	<2	6	7	--
Method	F614	F614	A102	A102	A102	A102
Units	ppb	ppb	ppm	ppm	ppm	ppm
Detection Limit	1	1	2	3	2	50

Notes: -- = not analysed, - = element not determined, I.S. = insufficient sample, L.N.R. = listed not received



Our reference : BU017902  
 Your reference : 114193  
 Project code : Con Note 43716  
 Report date : 08/06/00  
 Report status : Final  
 Page : 3 of 14

Analabs Pty. Ltd.  
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 14 Thirkell St, Burnie  
 Tasmania 7320  
 Telephone : (03) 6431 6837  
 Facsimile : (03) 6431 8890

### ANALYTICAL DATA

Sample	Au	Au(R)	Cu	Pb	Zn	As
217142	<1	--	<2	7	5	--
217143	<1	<1	2	7	10	--
217144	<1	--	2	10	4	--
217145	<1	--	<2	20	15	--
217146	<1	--	3	27	19	--
217147	<1	--	<2	10	4	--
217148	<1	--	<2	22	7	--
217149	<1	--	2	11	6	--
217150	<1	--	2	24	13	--
217151	<1	<1	2	19	12	--
217152	<1	--	2	30	12	--
217153	<1	--	<2	10	7	--
217154	<1	--	2	37	6	--
217155	<1	--	<2	13	4	--
217156	<1	--	2	14	6	--
217157	<1	--	14	18	10	--
217158	<1	--	4	10	6	--
217159	<1	--	4	13	16	--
217160	<1	<1	4	14	14	--
217161	<1	--	2	11	5	--
217162	<1	--	3	18	11	--
217163	<1	--	2	14	10	--
217164	<1	--	2	18	13	--
217165	<1	<1	<2	17	12	--
217166	<1	--	2	18	11	--
217167	<1	--	<2	12	6	--
217168	<1	--	<2	18	10	--
217169	<1	--	2	23	13	--
217170	<1	--	2	10	6	--
217171	<1	--	<2	22	12	--
217172	<1	--	7	12	11	--
217173	<1	--	<2	9	6	--
217174	<1	--	<2	13	8	--
217175	<1	--	2	153	6	--
217176	10	12	3	39	11	--
217177	<1	--	2	20	10	--
217178	<1	--	3	8	9	--
217179	<1	--	4	4	5	--
217180	<1	<1	5	14	10	--
217181	<1	--	2	5	4	--
217182	<1	--	3	10	12	--
217183	<1	--	4	5	13	--
217184	<1	--	2	11	10	--
217185	<1	--	2	12	14	--
217186	<1	--	2	8	12	--
217187	<1	--	6	9	13	--
217188	<1	--	4	11	9	--
217189	<1	<1	4	15	11	--
217190	<1	--	3	10	14	--
217191	<1	--	2	9	7	--
Method	F614	F614	A102	A102	A102	A102
Units	ppb	ppb	ppm	ppm	ppm	ppm
Detection Limit	1	1	2	3	2	50

Notes: - = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received



Our reference : BU017902  
 Your reference : 114193  
 Project code : Con Note 43716  
 Report date : 08/06/00  
 Report status : Final  
 Page : 4 of 14

Analabs Pty. Ltd.  
 ACN 004 591 664  
 14 Thirkell St, Burnie  
 Tasmania 7320  
 Telephone : (03) 6431 6837  
 Facsimile : (03) 6431 8890

## ANALYTICAL DATA

Sample	Au	Au(R)	Cu	Pb	Zn	As
217192	<1	--	3	20	9	--
217193	<1	--	2	21	11	--
217194	<1	--	2	7	5	--
217195	<1	--	<2	5	5	--
217196	<1	--	2	13	6	--
217197	<1	--	2	5	6	--
217198	<1	--	3	13	10	--
217199	<1	--	2	8	22	--
217200	<1	<1	10	10	17	--
217201	<1	<1	4	12	7	--
217202	<1	--	2	13	4	--
217203	<1	--	2	12	6	--
217204	<1	--	7	14	9	--
217205	<1	--	2	12	8	--
217206	<1	--	3	18	14	--
217207	<1	--	2	9	5	--
217208	<1	--	<2	20	9	--
217209	<1	--	3	14	7	--
217210	<1	--	2	14	5	--
217211	<1	--	<2	15	11	--
217212	<1	<1	2	33	19	--
217213	<1	--	3	14	12	--
217214	<1	--	2	7	10	--
217215	<1	--	2	<3	<2	--
217216	<1	--	2	8	8	--
217217	<1	--	2	4	8	--
217218	<1	--	29	9	52	--
217219	<1	<1	4	7	8	--
217220	<1	--	3	<3	14	--
217221	<1	--	2	6	15	--
217222	<1	--	2	9	13	--
217223	<1	--	<2	4	11	--
217224	<1	--	2	12	14	--
217225	<1	--	<2	7	7	--
217226	<1	<1	<2	8	7	--
217227	<1	<1	<2	10	12	--
217228	<1	--	<2	7	9	--
217229	<1	--	<2	3	7	--
217230	<1	--	<2	5	6	--
217231	<1	--	<2	24	11	--
217232	<1	--	<2	13	20	--
217233	<1	--	<2	19	24	--
217234	<1	--	<2	6	13	--
217235	<1	<1	<2	5	9	--
217236	<1	--	<2	6	12	--
217237	<1	--	<2	7	6	--
217238	<1	--	2	5	6	--
217239	<1	--	3	4	9	--
217240	<1	--	<2	3	11	--
217241	<1	<1	<2	7	31	--
Method Units Defection Limit	F614 ppb 1	F614 ppb 1	A102 ppm 2	A102 ppm 3	A102 ppm 2	A102 ppm 50

Notes: - = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received



Our reference : BU017902  
 Your reference : 114193  
 Project code : Con Note 43716  
 Report date : 08/06/00  
 Report status : Final  
 Page : 5 of 14

Analabs Pty. Ltd.  
 ACN 004 591 664  
 14 Thirkell St, Burnie  
 Tasmania 7320  
 Telephone : (03) 6431 6837  
 Facsimile : (03) 6431 8890

### ANALYTICAL DATA

Sample	Au	Au(R)	Cu	Pb	Zn	As
217242	<1	--	<2	29	8	--
217243	<1	--	<2	18	7	--
217244	<1	--	<2	15	8	--
217245	<1	--	2	7	6	--
217246	<1	--	2	16	13	--
217247	<1	--	<2	9	7	--
217248	<1	--	<2	21	12	--
217249	<1	--	<2	19	16	--
217250	<1	--	<2	14	12	--
217251	<1	<1	3	17	16	--
217252	<1	--	2	4	6	--
217253	<1	--	<2	9	9	--
217254	<1	--	<2	16	16	--
217255	<1	--	<2	4	11	--
217256	<1	--	<2	3	8	--
217257	<1	--	<2	<3	7	--
217258	<1	--	<2	7	4	--
217259	<1	--	2	9	5	--
217260	<1	<1	11	11	19	--
217261	<1	--	2	7	5	--
217262	<1	--	<2	8	6	--
217263	<1	--	2	21	9	--
217264	<1	--	2	19	10	--
217265	<1	--	2	15	10	--
217266	<1	--	2	7	4	--
217267	<1	--	2	17	11	--
217268	<1	--	2	12	9	--
217269	<1	--	2	13	8	--
217270	<1	--	4	19	11	--
217271	<1	<1	3	20	13	--
217272	<1	--	3	16	7	--
217273	<1	--	3	3	5	--
217274	<1	--	3	<3	2	--
217275	5	--	2	5	13	--
217276	12	10	7	40	34	--
217277	<1	<1	3	4	8	--
217278	<1	--	3	<3	10	--
217279	<1	--	38	6	25	--
217280	<1	--	17	4	18	--
217281	<1	--	8	4	20	--
217282	<1	--	4	<3	12	--
217283	<1	--	2	<3	8	--
217284	<1	--	3	20	5	--
217285	<1	--	2	15	2	--
217286	<1	<1	2	16	<2	--
217287	<1	--	2	13	2	--
217288	<1	--	3	10	<2	--
217289	<1	--	4	11	5	--
217290	<1	--	3	8	5	--
217291	<1	--	2	7	<2	--
Method	F614	F614	A102	A102	A102	A102
Units	ppb	ppb	ppm	ppm	ppm	ppm
Detection Limit	1	1	2	3	2	50

Notes: - = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received



Our reference : BU017902  
 Your reference : 114193  
 Project code : Con Note 43716  
 Report date : 08/06/00  
 Report status : Final  
 Page : 6 of 14

Analabs Pty. Ltd.  
 ACN 004 591 664  
 14 Thirkell St, Burnie  
 Tasmania 7320  
 Telephone : (03) 6431 6837  
 Facsimile : (03) 6431 8890

**ANALYTICAL DATA**

Sample	Au	Au(R)	Cu	Pb	Zn	As
217292	<1	--	3	10	22	--
217293	<1	--	6	11	9	--
217294	<1	--	3	8	7	--
217295	5	--	5	5	6	--
217296	<1	--	3	7	8	--
217297	<1	--	3	14	7	--
217298	<1	--	4	18	13	--
217299	<1	--	2	<3	3	--
217300	<1	--	2	3	4	--
217301	<1	<1	3	5	11	--
217302	<1	--	3	<3	6	--
217303	<1	--	5	5	7	--
217304	<1	<1	3	5	8	--
217305	<1	--	4	24	9	--
217306	<1	--	3	34	13	--
217307	<1	<1	2	6	5	--
217308	<1	--	3	32	14	--
217309	<1	--	3	15	13	--
217310	<1	--	3	13	12	--
217311	<1	--	2	18	12	--
217312	<1	--	3	17	14	--
217313	5	--	5	34	34	--
217314	5	--	6	16	15	--
217315	<1	--	3	9	11	--
217316	<1	--	3	11	10	--
217317	5	--	3	7	10	--
217318	<1	--	2	31	12	--
217319	10	12	3	16	77	--
217320	4	--	8	8	84	130
217321	<1	--	15	10	32	--
217322	<1	--	3	7	12	--
217323	<1	<1	3	11	15	--
217324	<1	--	2	4	7	--
217325	<1	--	3	25	12	--
217326	<1	<1	4	17	10	--
217327	<1	--	<2	11	9	--
217328	<1	--	2	8	9	--
217329	<1	--	2	6	7	--
217330	<1	--	2	7	11	--
217331	<1	<1	2	6	7	--
217332	<1	--	5	15	12	--
217333	<1	--	3	18	36	--
217334	<1	--	3	17	19	--
217335	<1	--	2	10	14	--
217336	<1	--	4	6	8	--
217337	<1	--	2	11	9	--
217338	<1	--	5	31	49	--
217339	9	--	2	29	9	--
217340	57	46	5	10	16	--
217341	<1	--	3	3	8	--
Method	F614	F614	A102	A102	A102	A102
Units	ppb	ppb	ppm	ppm	ppm	ppm
Detection Limit	1	1	2	3	2	50

Notes: - = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received





Our reference : BU017902  
 Your reference : 114193  
 Project code : Con Note 43716  
 Report date : 08/06/00  
 Report status : Final  
 Page : 8 of 14

**Analabs Pty. Ltd.**  
 ACN 004 591 664  
 14 Thirkell St, Burnie  
 Tasmania 7320  
 Telephone : (03) 6431 6837  
 Facsimile : (03) 6431 8890

**ANALYTICAL DATA**

Sample	As				
216953	25				
216954	13				
216955	34				
216956	15				
216957	4				
216958	14				
216959	4				
216960	8				
216961	10				
216962	8				
216963	12				
216964	23				
216965	36				
216966	18				
216967	14				
216968	15				
216969	20				
216970	2				
216971	8				
216972	3				
216973	7				
216974	2				
216975	11				
216976	10				
216977	14				
216978	41				
216979	33				
216980	20				
216981	8				
216982	<1				
216983	<1				
216984	2				
216985	2				
216986	4				
216987	3				
217020	8				
217021	6				
217022	14				
217023	24				
217024	12				
217025	1				
217026	13				
217027	7				
217028	26				
217029	<1				
217030	<1				
217031	<1				
217032	<1				
217033	27				
217034	18				
Method Units Detection Limit	H102 ppm 1				

Notes: - = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received



Our reference : BU017902  
 Your reference : 114193  
 Project code : Con Note 43716  
 Report date : 08/06/00  
 Report status : Final  
 Page : 9 of 14

Analabs Pty. Ltd.  
 ACN 004 591 664  
 14 Thirkell St, Burnie  
 Tasmania 7320  
 Telephone : (03) 6431 6837  
 Facsimile : (03) 6431 8890

### ANALYTICAL DATA

Sample	As				
217035	> 50				
217036	43				
217037	15				
217038	19				
217039	9				
217040	28				
217041	11				
217042	15				
217043	43				
217101	1				
217102	1				
217103	2				
217104	5				
217105	9				
217106	10				
217107	2				
217108	10				
217109	3				
217110	3				
217111	< 1				
217112	26				
217113	< 1				
217114	< 1				
217115	4				
217116	4				
217117	< 1				
217118	13				
217119	5				
217120	5				
217121	10				
217122	42				
217123	1				
217124	< 1				
217125	< 1				
217126	< 1				
217127	< 1				
217128	2				
217129	< 1				
217130	< 1				
217131	< 1				
217132	< 1				
217133	> 50				
217134	< 1				
217135	< 1				
217136	8				
217137	5				
217138	6				
217139	2				
217140	7				
217141	5				
Method	H102				
Units	ppm				
Detection Limit	1				
Upper Method	A102				

Notes: - = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received



Our reference : BU017902  
 Your reference : 114193  
 Project code : Con Note 43716  
 Report date : 08/06/00  
 Report status : Final  
 Page : 10 of 14

Analabs Pty. Ltd.  
 ACN 004 591 664  
 14 Thirkell St, Burnie  
 Tasmania 7320  
 Telephone : (03) 6431 6837  
 Facsimile : (03) 6431 8890

### ANALYTICAL DATA

Sample	As				
217142	<1				
217143	<1				
217144	<1				
217145	<1				
217146	1				
217147	<1				
217148	7				
217149	12				
217150	16				
217151	14				
217152	20				
217153	<1				
217154	9				
217155	<1				
217156	4				
217157	5				
217158	2				
217159	4				
217160	3				
217161	<1				
217162	5				
217163	9				
217164	12				
217165	10				
217166	10				
217167	13				
217168	5				
217169	6				
217170	<1				
217171	<1				
217172	11				
217173	12				
217174	10				
217175	10				
217176	32				
217177	9				
217178	14				
217179	<1				
217180	<1				
217181	1				
217182	<1				
217183	2				
217184	2				
217185	7				
217186	5				
217187	8				
217188	2				
217189	2				
217190	<1				
217191	<1				
Method Units Detection Limit	H102 ppm 1				

Notes: - = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received



Our reference : BU017902  
 Your reference : 114193  
 Project code : Con Note 43716  
 Report date : 08/06/00  
 Report status : Final  
 Page : 11 of 14

Analabs Pty. Ltd.  
 ACN 004 591 664  
 14 Thirkell St. Burnie  
 Tasmania 7320  
 Telephone : (03) 6431 6837  
 Facsimile : (03) 6431 8890

### ANALYTICAL DATA

Sample	As				
217192	<1				
217193	<1				
217194	<1				
217195	2				
217196	11				
217197	6				
217198	8				
217199	<1				
217200	<1				
217201	<1				
217202	<1				
217203	<1				
217204	<1				
217205	<1				
217206	<1				
217207	<1				
217208	13				
217209	4				
217210	5				
217211	<1				
217212	6				
217213	<1				
217214	1				
217215	4				
217216	12				
217217	12				
217218	7				
217219	<1				
217220	1				
217221	9				
217222	1				
217223	4				
217224	6				
217225	11				
217226	11				
217227	1				
217228	2				
217229	<1				
217230	2				
217231	2				
217232	17				
217233	9				
217234	6				
217235	<1				
217236	<1				
217237	<1				
217238	<1				
217239	1				
217240	<1				
217241	<1				
Method Units Detection Limit	H102 ppm 1				

Notes: - = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received



Our reference : BU017902  
 Your reference : 114193  
 Project code : Con Note 43716  
 Report date : 08/06/00  
 Report status : Final  
 Page : 12 of 14

Analabs Pty. Ltd.  
 ACN 004 591 664  
 14 Thirkell St, Burnie  
 Tasmania 7320  
 Telephone : (03) 6431 6837  
 Facsimile : (03) 6431 8890

### ANALYTICAL DATA

Sample	As				
217242	4				
217243	7				
217244	5				
217245	<1				
217246	<1				
217247	<1				
217248	<1				
217249	<1				
217250	<1				
217251	12				
217252	5				
217253	<1				
217254	<1				
217255	<1				
217256	<1				
217257	<1				
217258	<1				
217259	<1				
217260	6				
217261	4				
217262	<1				
217263	<1				
217264	<1				
217265	<1				
217266	<1				
217267	2				
217268	5				
217269	4				
217270	8				
217271	6				
217272	16				
217273	1				
217274	6				
217275	4				
217276	8				
217277	<1				
217278	<1				
217279	11				
217280	7				
217281	9				
217282	3				
217283	3				
217284	7				
217285	4				
217286	4				
217287	4				
217288	8				
217289	<1				
217290	3				
217291	3				
Method Units Detection Limit	H102 ppm 1				

Notes: - = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received



Our reference : BU017902  
 Your reference : 114193  
 Project code : Con Note 43716  
 Report date : 08/06/00  
 Report status : Final  
 Page : 13 of 14

**Analabs Pty. Ltd.**  
 ACN 004 591 664  
 14 Thirkell St, Burnie  
 Tasmania 7320  
 Telephone : (03) 6431 6837  
 Facsimile : (03) 6431 8890

**ANALYTICAL DATA**

Sample	As				
217292	3				
217293	2				
217294	9				
217295	5				
217296	10				
217297	11				
217298	1				
217299	8				
217300	5				
217301	12				
217302	1				
217303	6				
217304	5				
217305	2				
217306	6				
217307	1				
217308	4				
217309	5				
217310	3				
217311	1				
217312	12				
217313	36				
217314	39				
217315	7				
217316	16				
217317	6				
217318	11				
217319	3				
217320	>50				
217321	7				
217322	1				
217323	2				
217324	<1				
217325	4				
217326	5				
217327	<1				
217328	2				
217329	1				
217330	6				
217331	5				
217332	4				
217333	9				
217334	7				
217335	9				
217336	6				
217337	6				
217338	38				
217339	11				
217340	48				
217341	3				
Method	H102				
Units	ppm				
Detection Limit	1				
Upper Method	A102				

Notes: - = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received



672004

**A N A L A B S**



Our reference : BU017975  
Your reference : **114194**  
Project code : Con-note: 43717  
Date received : 14/06/00  
Date reported : 27/06/00

**Analabs Pty. Ltd.**  
ACN 004 591 664  
14 Thirkell St, Burnie  
Tasmania 7320  
Telephone : (03) 6431 6837  
Facsimile : (03) 6431 8890

Peter Hills  
  
Beaconsfield Mine Joint Venture  
PO Box 58  
BEACONSFIELD  
  
TAS 7270

Number of pages of results : 2  
Number of Samples : 55  
First Sample : 217353  
Last Sample : 217407

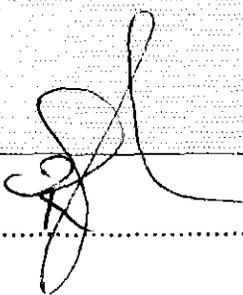
Invoice to:  
Peter Hills  
  
Beaconsfield Mine Joint Venture  
PO Box 58  
BEACONSFIELD  
  
TAS 7270

Electronic Data Transmission :  
Modem Y 27/06/00  
Facsimile //  
Disk Report Y //

Preliminary Reports :  
23/06/00 Report

Results to:

Results to:

Remarks :  
SOILS - SALISBURY HILL MAGNETICS GRID  
  


Authorised by .....  
On behalf of:  
  
Rob Chapman  
Laboratory Manager

The results in the following analytical report pertain to the samples provided to this laboratory for preparation and/or analysis as requested by the client.



Our reference : BU017975  
 Your reference : 114194  
 Project code : Con-note: 43717  
 Report date : 27/06/00  
 Report status : Final  
 Page : 1 of 2

Analabs Pty. Ltd.  
 ACN 004 591 664  
 14 Thirkell St, Burnie  
 Tasmania 7320  
 Telephone : (03) 6431 6837  
 Facsimile : (03) 6431 8890

### ANALYTICAL DATA

Sample	Au	Au(R)	Cu	Pb	Zn	As
217353	<1	--	3	10	38	3
217354	<1	--	4	10	37	<1
217355	<1	--	3	12	42	1
217356	<1	<1	2	14	43	<1
217357	<1	--	2	6	31	<1
217358	<1	--	3	6	33	<1
217359	<1	--	2	10	33	2
217360	<1	<1	4	<3	31	<1
217361	<1	--	2	11	30	<1
217362	<1	<1	<2	7	33	1
217363	<1	--	2	5	38	<1
217364	<1	--	3	47	40	1
217365	44	48	3	40	37	8
217366	<1	--	5	4	32	2
217367	<1	--	8	12	32	8
217368	<1	--	3	6	29	<1
217369	<1	--	3	4	28	<1
217370	<1	--	2	7	193	<1
217371	<1	--	<2	8	154	<1
217372	<1	--	5	10	89	1
217373	<1	--	3	<3	58	1
217374	<1	--	3	8	47	<1
217375	<1	<1	2	10	42	1
217376	<1	--	2	14	42	<1
217377	<1	--	<2	13	38	3
217378	<1	--	2	18	34	7
217379	<1	--	<2	12	29	2
217380	<1	--	<2	8	30	3
217381	<1	--	2	10	34	<1
217382	<1	<1	<2	4	35	<1
217383	<1	--	<2	5	36	3
217384	<1	--	3	10	35	<1
217385	<1	--	3	36	64	4
217386	<1	--	<2	4	34	<1
217387	<1	<1	3	5	39	<1
217388	<1	--	6	10	32	<1
217389	<1	--	<2	11	28	1
217390	<1	--	2	4	29	2
217391	<1	--	2	4	31	<1
217392	<1	<1	<2	7	31	1
217393	<1	--	<2	6	32	<1
217394	<1	--	2	3	32	4
217395	<1	--	<2	4	31	1
217396	<1	--	5	7	92	<1
217397	<1	--	2	10	37	<1
217398	<1	--	3	7	24	5
217399	<1	--	2	11	21	1
217400	<1	--	3	9	20	<1
217401	<1	--	3	9	23	<1
217402	<1	<1	3	9	22	<1
Method	F614	F614	A102	A102	A102	H102
Units	ppb	ppb	ppm	ppm	ppm	ppm
Detection Limit	1	1	2	3	2	1

Notes: N.A. = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received



672097

A N A L A B S



Our reference : BU018018  
Your reference : 114195  
Project code : Exploration  
Date received : 26/06/00  
Date reported : 03/07/00

**Analabs Pty. Ltd.**  
ACN 004 591 664  
14 Thirkell St, Burnie  
Tasmania 7320  
Telephone : (03) 6431 6837  
Facsimile : (03) 6431 8890

Peter Hills  
  
Beaconsfield Mine Joint Venture  
PO Box 58  
BEACONSFIELD  
  
TAS 7270

Number of pages of results : 2  
Number of Samples : 59  
First Sample : 217408  
Last Sample : 217466

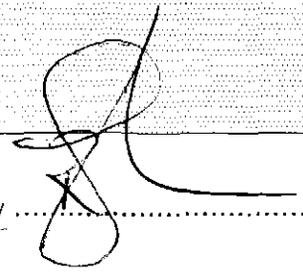
Invoice to:  
Peter Hills  
  
Beaconsfield Mine Joint Venture  
PO Box 58  
BEACONSFIELD  
  
TAS 7270

Electronic Data Transmission :  
Modem Y 03/07/00  
Facsimile / /  
Disk Report Y / /

Preliminary Reports :  
30/06/00 Report

Results to:

Results to:

Remarks :  
SOILS - SAGBURY HILL MAGNETIC GAID  
  


Authorised by .....  
On behalf of:

Rob Chapman  
Laboratory Manager

The results in the following analytical report pertain to the samples provided to this laboratory for preparation and/or analysis as requested by the client.



Our reference : BU018018  
 Your reference : 114195  
 Project code : Exploration  
 Report date : 03/07/00  
 Report status : Final  
 Page : 1 of 2

**Analabs Pty. Ltd.**  
 ACN 004 591 664  
 14 Thirkell St, Burnie  
 Tasmania 7320  
 Telephone : (03) 6431 6837  
 Facsimile : (03) 6431 8890

### ANALYTICAL DATA

Sample	Au	Au(R)	Cu	Pb	Zn	As
217408	<1	--	2	4	2	<1
217409	5	--	4	<3	7	1
217410	17	--	9	7	2	<1
217411	21	18	4	13	6	4
217412	4	--	4	<3	4	1
217413	<1	--	3	<3	<2	<1
217414	<1	--	3	4	2	<1
217415	2	--	3	3	<2	<1
217416	<1	--	3	<3	<2	<1
217417	<1	<1	3	<3	2	<1
217418	<1	<1	2	<3	<2	4
217419	<1	--	3	<3	3	<1
217420	<1	--	2	<3	<2	<1
217421	<1	--	4	11	9	1
217422	<1	--	3	4	3	5
217423	<1	--	2	<3	2	4
217424	<1	--	3	<3	2	1
217425	<1	--	5	<3	<2	<1
217426	<1	--	2	<3	5	5
217427	<1	--	2	3	6	5
217428	<1	--	3	<3	5	4
217429	<1	--	3	<3	2	1
217430	<1	--	3	3	2	1
217431	<1	<1	3	<3	9	8
217432	<1	--	2	4	2	1
217433	<1	--	4	9	8	3
217434	<1	--	3	6	4	1
217435	<1	<1	3	<3	<2	<1
217436	<1	--	4	6	2	1
217437	<1	--	3	<3	<2	<1
217438	<1	--	3	<3	3	1
217439	<1	--	3	<3	<2	<1
217440	<1	--	3	<3	<2	5
217441	<1	--	3	<3	<2	10
217442	<1	<1	3	<3	<2	7
217443	<1	--	2	6	<2	5
217444	<1	--	3	3	2	1
217445	<1	--	3	<3	6	3
217446	<1	--	3	<3	6	3
217447	<1	--	4	<3	16	7
217448	<1	--	3	<3	2	<1
217449	<1	--	2	<3	5	<1
217450	<1	--	2	6	6	6
217451	<1	--	3	4	6	<1
217452	<1	--	3	7	4	2
217453	<1	--	2	16	7	6
217454	<1	--	7	6	12	7
217455	<1	--	4	10	9	<1
217456	<1	--	3	14	7	1
217457	<1	<1	4	<3	3	<1
Method Units	F614 ppb	F614 ppb	A102 ppm	A102 ppm	A102 ppm	H102 ppm
Detection Limit	1	1	2	3	2	1

Notes: N.A. = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received



**APPENDIX 4**  
**ROCK SAMPLE ASSAY RESULT SHEETS (ANALABS)**



Our reference : BU018110  
Your reference : 17833 & 18026  
Project code : 114196  
Date received : 15/08/00  
Date reported : 23/08/00

**Analabs Pty. Ltd.**  
ACN 004 591 664  
14 Thirkell St, Burnie  
Tasmania 7320  
Telephone : (03) 6431 6837  
Facsimile : (03) 6431 8890

Grant MacDonald  
  
Beaconsfield Mine Joint Venture  
PO Box 58  
BEACONSFIELD  
  
TAS 7270

Number of pages of results : 3  
Number of Samples : 134  
First Sample : 217020  
Last Sample : 217653

Invoice to:  
Grant MacDonald  
  
Beaconsfield Mine Joint Venture  
PO Box 58  
BEACONSFIELD  
  
TAS 7270

Electronic Data Transmission :  
Modem Y 23/08/00  
Facsimile / /  
Disk Report Y / /

Preliminary Reports :  
22/08/00 Report

Results to:

Results to:

Remarks :

Authorised by .....  
On behalf of:

Rob Chapman  
Laboratory Manager

The results in the following analytical report pertain to the samples provided to this laboratory for preparation and/or analysis as requested by the client.



Our reference : BU018110  
 Your reference : 17833 & 18026  
 Project code : 114196  
 Report date : 23/08/00  
 Report status : Final  
 Page : 1 of 3

Analabs Pty. Ltd.  
 ACN 004 591 664  
 14 Thirkell St, Burnie  
 Tasmania 7320  
 Telephone : (03) 6431 6837  
 Facsimile : (03) 6431 8890

### ANALYTICAL DATA

Sample	Au	Au(R)	Au(R2)	As	As
217020	5	4	--	<1	<50
217021	<1	--	--	18	<50
217022	<1	--	--	<1	<50
217023	<1	--	--	2	<50
217024	<1	--	--	27	<50
217025	<1	--	--	17	<50
217026	<1	--	--	3	<50
217027	6	--	--	>50	50
217028	57	--	--	>50	210
217029	52	54	--	>50	140
217030	486	160	144	>50	165
217031	180	132	--	>50	155
217032	79	77	--	>50	370
217033	36	--	--	>50	125
217034	170	160	--	>50	235
217035	163	--	--	>50	115
217036	54	--	--	>50	55
217037	51	--	--	>50	150
217038	48	--	--	>50	145
217039	188	250	107	>50	305
217040	60	--	--	>50	1600
217041	89	--	--	>50	675
217042	76	70	--	>50	235
217043	93	--	--	>50	280
217044	68	--	--	>50	255
217045	65	--	--	>50	220
217046	131	--	--	>50	510
217047	168	--	--	>50	265
217048	79	76	--	>50	665
217049	12	--	--	28	<50
217050	7	--	--	>50	70
217051	6	--	--	10	<50
217052	12	--	--	12	<50
217053	9	--	--	10	<50
217054	11	12	--	7	<50
217055	2	--	--	1	<50
217056	<1	--	--	14	<50
217057	<1	--	--	25	<50
217058	20	20	--	>50	55
217059	308	280	--	>50	490
217060	9	--	--	>50	65
217061	14	--	--	>50	85
217062	10	--	--	>50	55
217063	14	--	--	>50	55
217064	32	--	--	32	<50
217065	6	--	--	7	<50
217066	8	--	--	18	<50
217067	19	--	--	29	<50
217068	221	210	--	>50	210
217069	250	--	--	>50	445
Method	F614	F614	F614	H102	A102
Units	ppb	ppb	ppb	ppm	ppm
Detection Limit	1	1	1	1	50
Upper Method				A102	

Notes: N.A. = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received



Our reference : BU018110  
 Your reference : 17833 & 18026  
 Project code : 114196  
 Report date : 23/08/00  
 Report status : Final  
 Page : 2 of 3

Analabs Pty. Ltd.  
 ACN 004 591 664  
 14 Thirkell St, Burnie  
 Tasmania 7320  
 Telephone : (03) 6431 6837  
 Facsimile : (03) 6431 8890

### ANALYTICAL DATA

Sample	Au	Au(R)	Au(R2)	As	As
217070	487	400	--	> 50	640
217071	334	--	--	> 50	325
217072	340	--	--	> 50	265
217073	247	--	--	> 50	195
217074	131	133	--	> 50	515
217075	178	--	--	> 50	485
217076	254	--	--	> 50	360
217077	390	290	--	> 50	440
217078	420	--	--	> 50	435
217079	660	635	--	> 50	580
217080	430	--	--	> 50	1160
217081	142	133	--	> 50	425
217082	83	--	--	4	< 50
217083	133	110	--	2	< 50
217084	77	--	--	4	< 50
217085	17	--	--	> 50	225
217086	10	11	--	> 50	285
217087	183	11	--	> 50	640
217088	5	10	--	> 50	395
217089	225	--	--	> 50	620
217090	911	1020	--	> 50	460
217091	714	--	--	> 50	1500
217092	635	--	--	> 50	380
217093	625	--	--	> 50	380
217094	284	--	--	> 50	230
217095	662	--	--	> 50	510
217096	8	--	--	1	< 50
217097	178	160	--	> 50	110
217098	1224	990	--	> 50	2200
217099	1005	1240	--	> 50	1700
217100	284	220	--	> 50	115
217601	8	--	--	24	< 50
217602	15	14	--	14	< 50
217603	3	--	--	9	< 50
217604	4	2	--	25	< 50
217605	3	--	--	45	< 50
217606	3	--	--	39	< 50
217607	3	--	--	46	< 50
217608	3	--	--	> 50	60
217609	4	--	--	> 50	50
217610	5	--	--	> 50	55
217611	26	--	--	15	< 50
217612	6	--	--	> 50	125
217613	27	--	--	> 50	70
217614	8	--	--	> 50	180
217615	10	--	--	> 50	205
217616	6	--	--	46	< 50
217617	< 1	--	--	> 50	155
217618	< 1	--	--	> 50	175
217619	27	21	--	> 50	90
Method	F614	F614	F614	H102	A102
Units	ppb	ppb	ppb	ppm	ppm
Detection Limit	1	1	1	1	50
Upper Method				A102	

Notes: N.A. = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received





Our reference : BU018113  
 Your reference : 18026  
 Project code : 114197  
 Date received : 16/08/00  
 Date reported : 22/08/00

**Analabs Pty. Ltd.**  
 ACN 004 591 664  
 14 Thirkell St, Burnie  
 Tasmania 7320  
 Telephone : (03) 6431 6837  
 Facsimile : (03) 6431 8890

Grant MacDonald

Beaconsfield Mine Joint Venture  
 PO Box 58  
 BEACONSFIELD

TAS 7270

Number of pages of results : 1  
 Number of Samples : 17  
 First Sample : 217654  
 Last Sample : 217670

Invoice to:  
 Grant MacDonald

Beaconsfield Mine Joint Venture  
 PO Box 58  
 BEACONSFIELD

TAS 7270

Electronic Data Transmission :  
 Modem Y 22/08/00  
 Facsimile //  
 Disk Report Y //

Results to:

Results to:

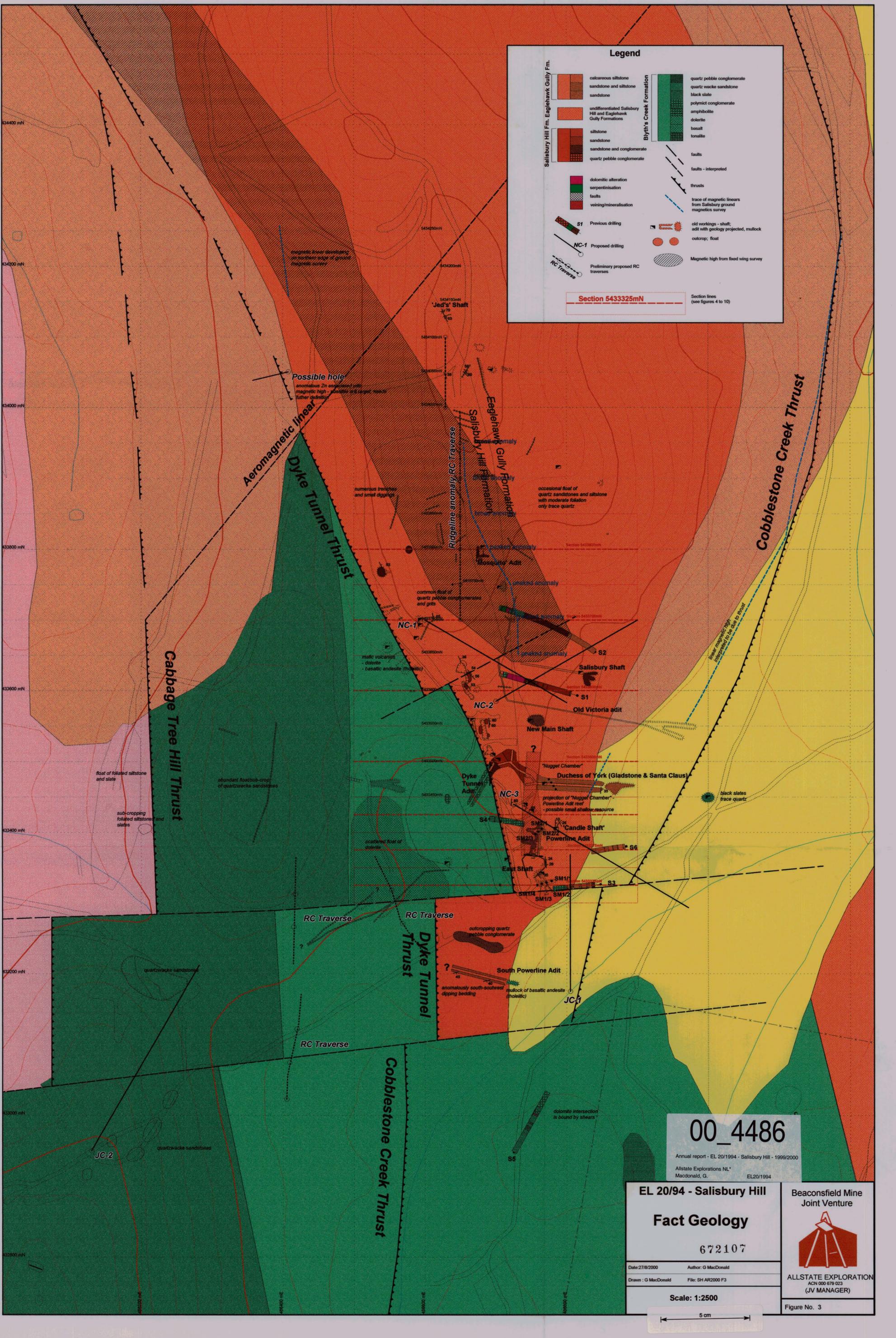
Remarks :

Authorised by .....  
 On behalf of:

Rob Chapman  
 Laboratory Manager

The results in the following analytical report pertain to the samples provided to this laboratory  
 for preparation and/or analysis as requested by the client.





### Legend

	calcareous siltstone sandstone and siltstone sandstone		quartz pebble conglomerate
	undifferentiated Salisbury Hill and Eaglehawk Gully Formations		quartz waste sandstone
	siltstone sandstone sandstone and conglomerate quartz pebble conglomerate		black slate
	dolomitic alteration		polymict conglomerate
	serpentinisation		amphibolite
	faults		dolerite
	veining/mineralisation		basalt
	S1 Previous drilling		tonalite
	NC-1 Proposed drilling		faults
	Preliminary proposed RC traverses		faults - interpreted
			thrusts
			trace of magnetic linears from Salisbury ground magnetics survey
			old workings - shaft; adit with geology projected, mullock outcrop; float
			Magnetic high from fixed wing survey

**Section 543325mN**

Section lines (see figures 4 to 10)

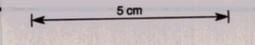
**00\_4486**  
 Annual report - EL 20/1994 - Salisbury Hill - 1999/2000  
 Allstate Explorations NL  
 Macdonald, G. EL20/1994

**EL 20/94 - Salisbury Hill**  
**Fact Geology**  
 672107  
 Date: 27/8/2000 Author: G MacDonald  
 Drawn: G MacDonald File: SH AR2000 F3  
**Scale: 1:2500**

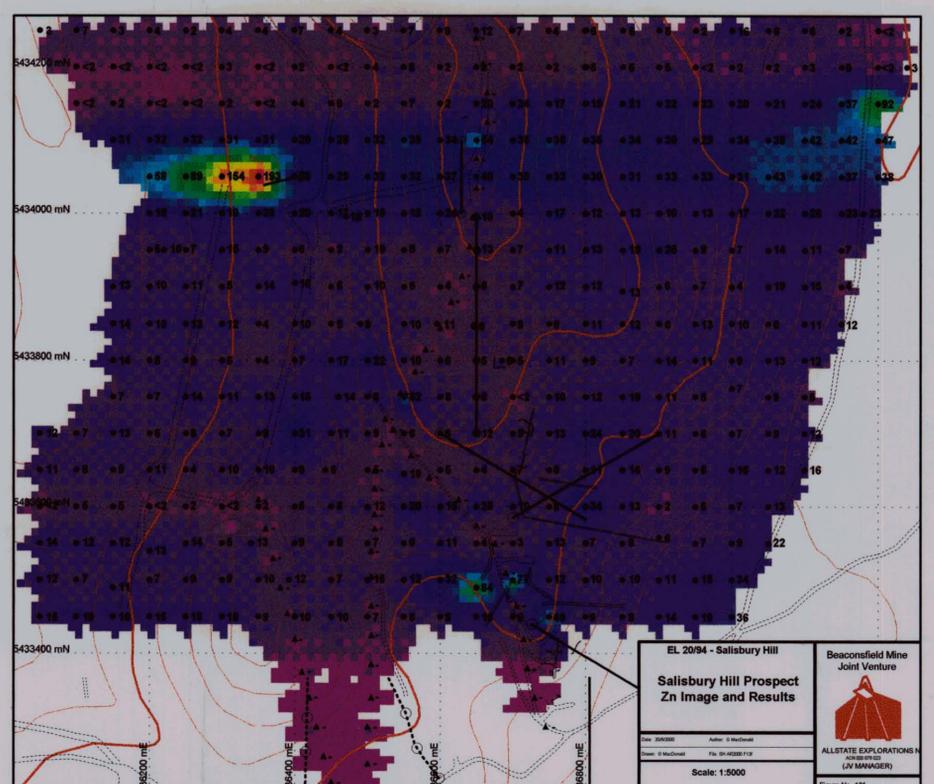
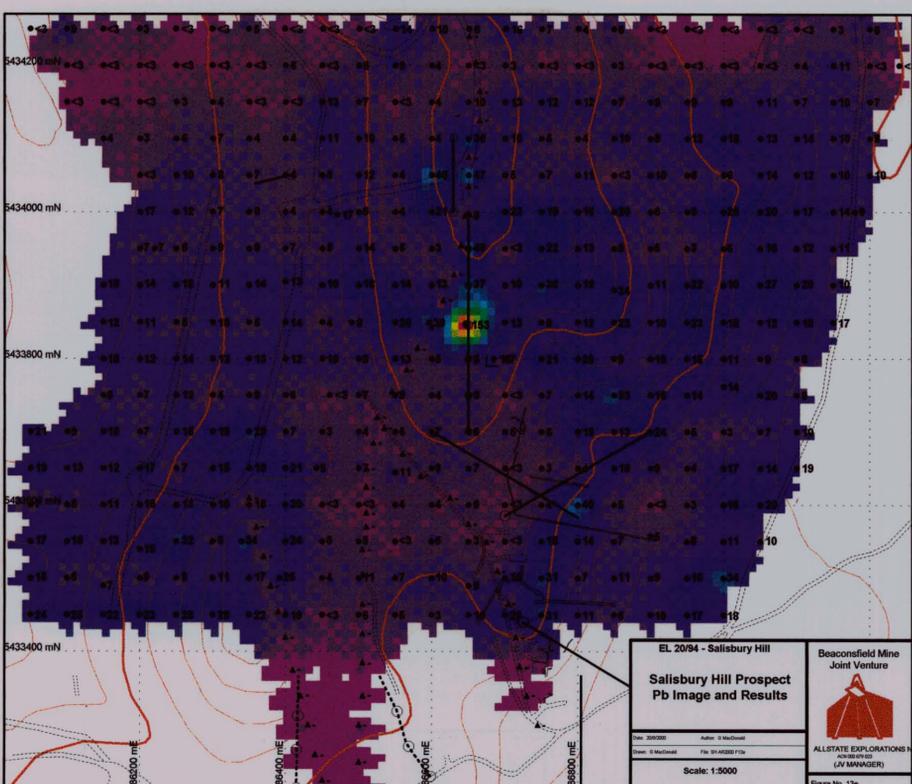
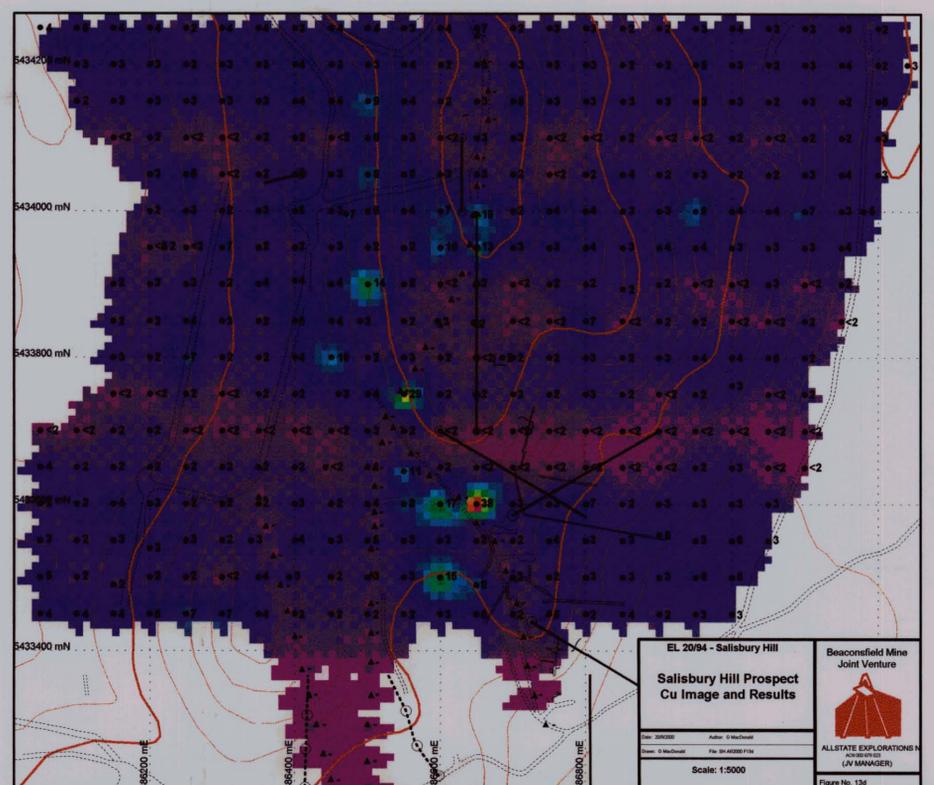
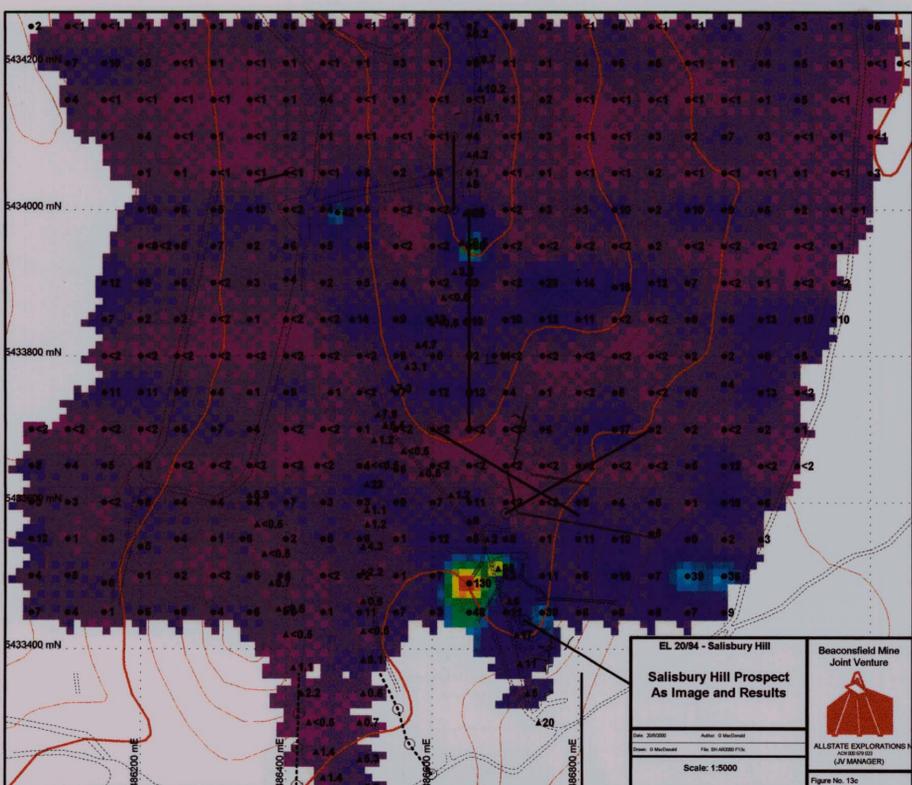
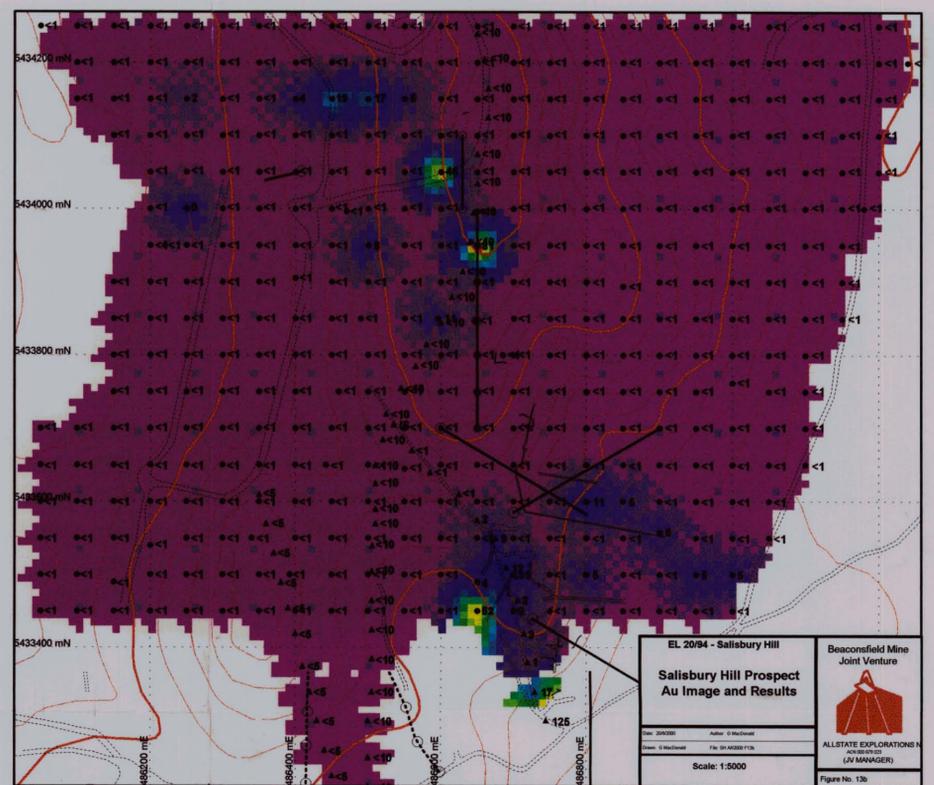
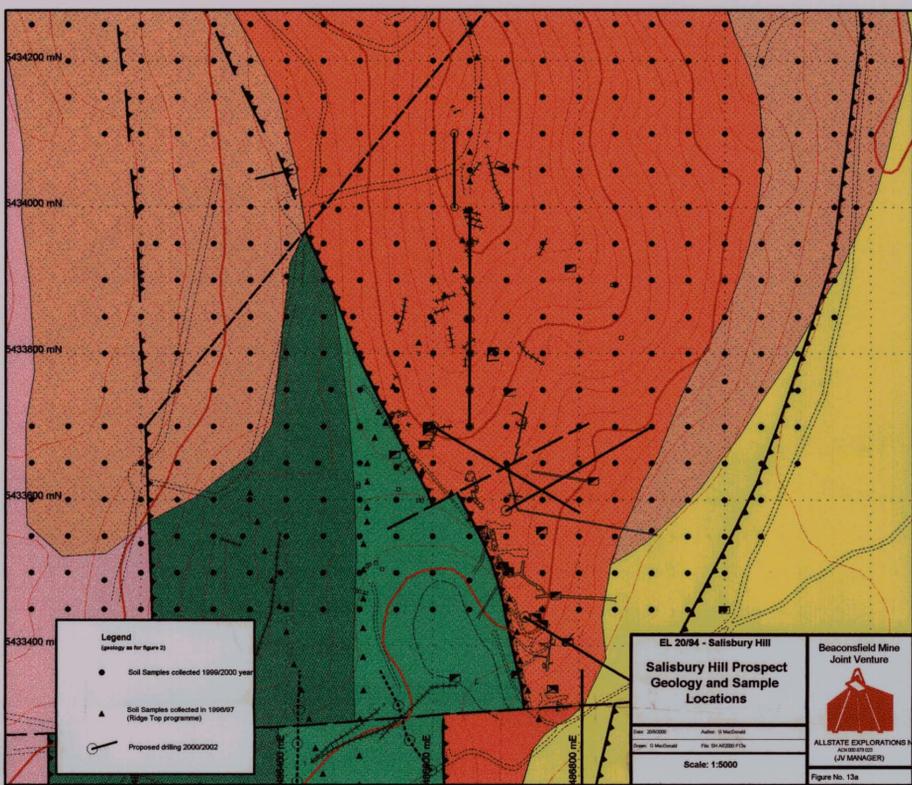
Beaconsfield Mine Joint Venture

ALLSTATE EXPLORATION  
 ACN 000 679 023  
 (JV MANAGER)

Figure No. 3







**Salisbury Magnetics grid -  
Geology, Sample Locations  
and Results Summary**

**00\_4486**

Scale 1:5000

672109

Annual report - EL 20/1994 - Salisbury Hill - 1999/2000  
Allstate Explorations NL  
Macdonald, G.

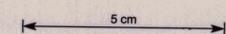
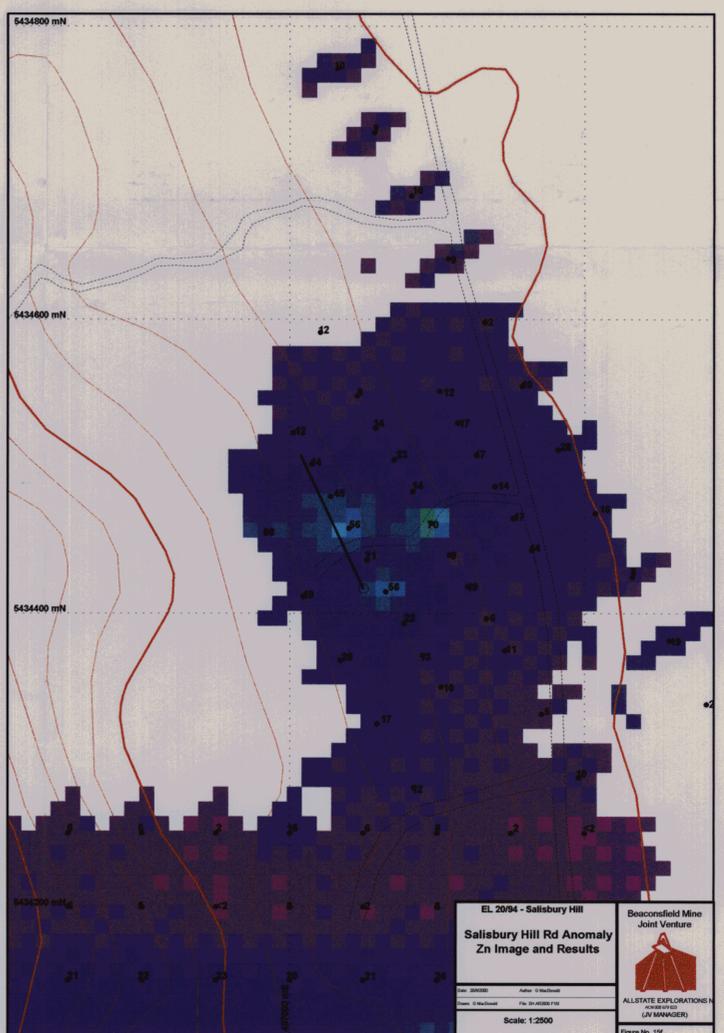
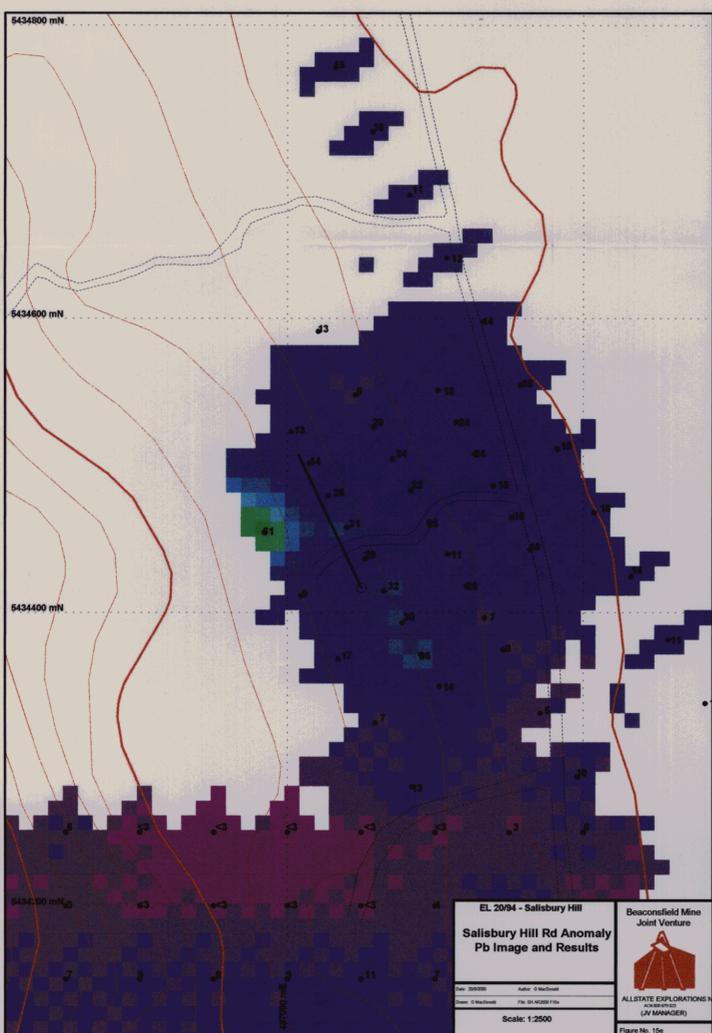
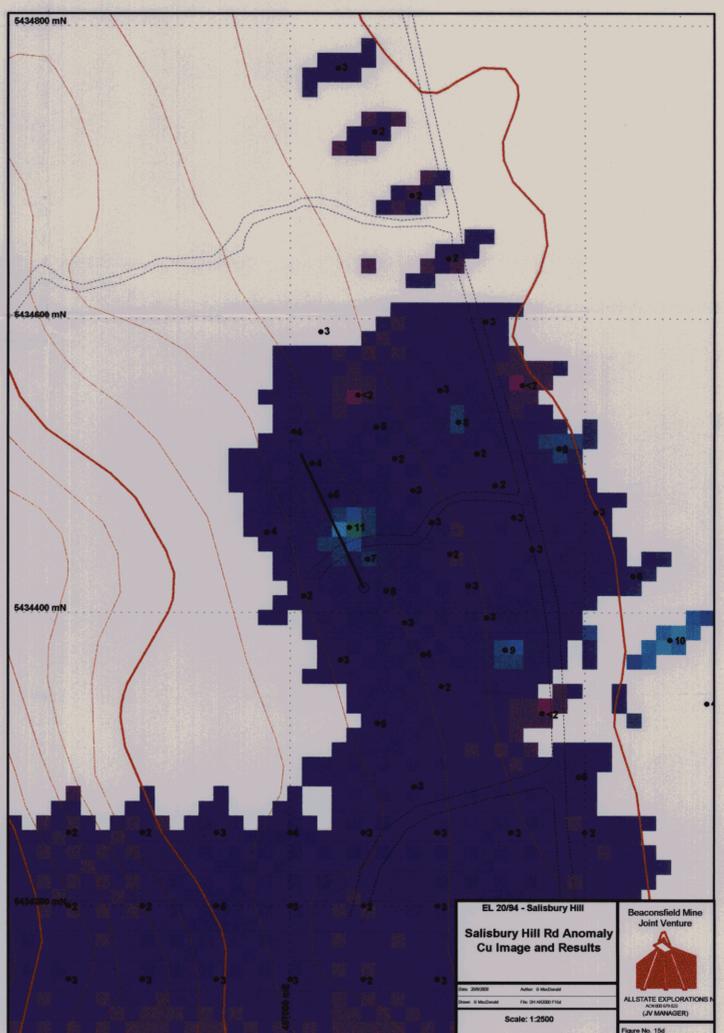
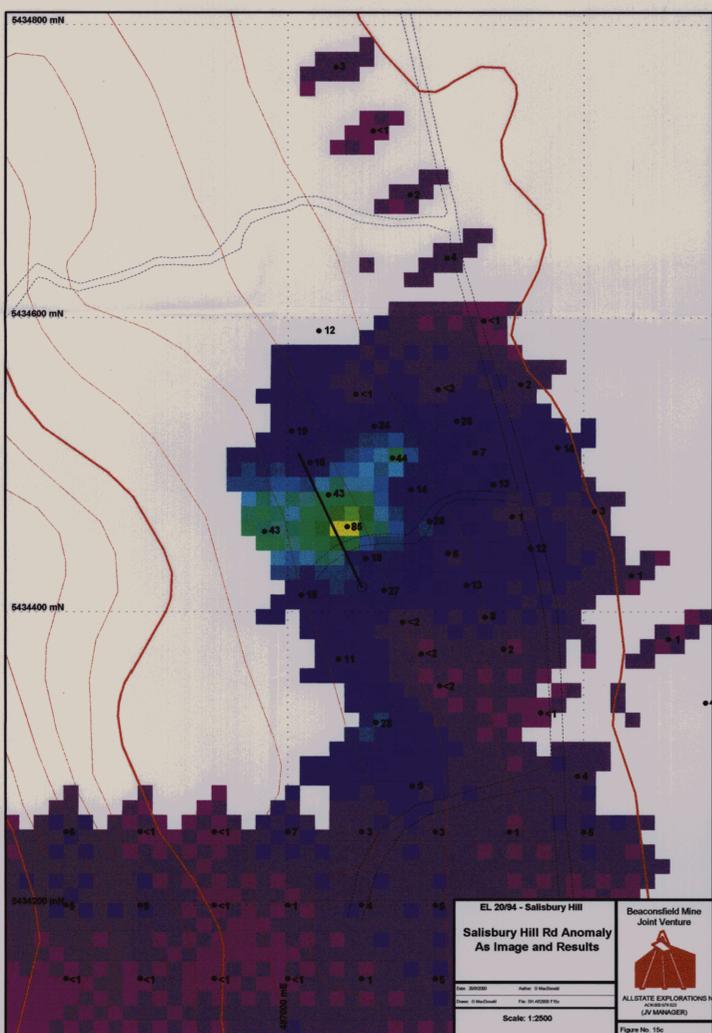
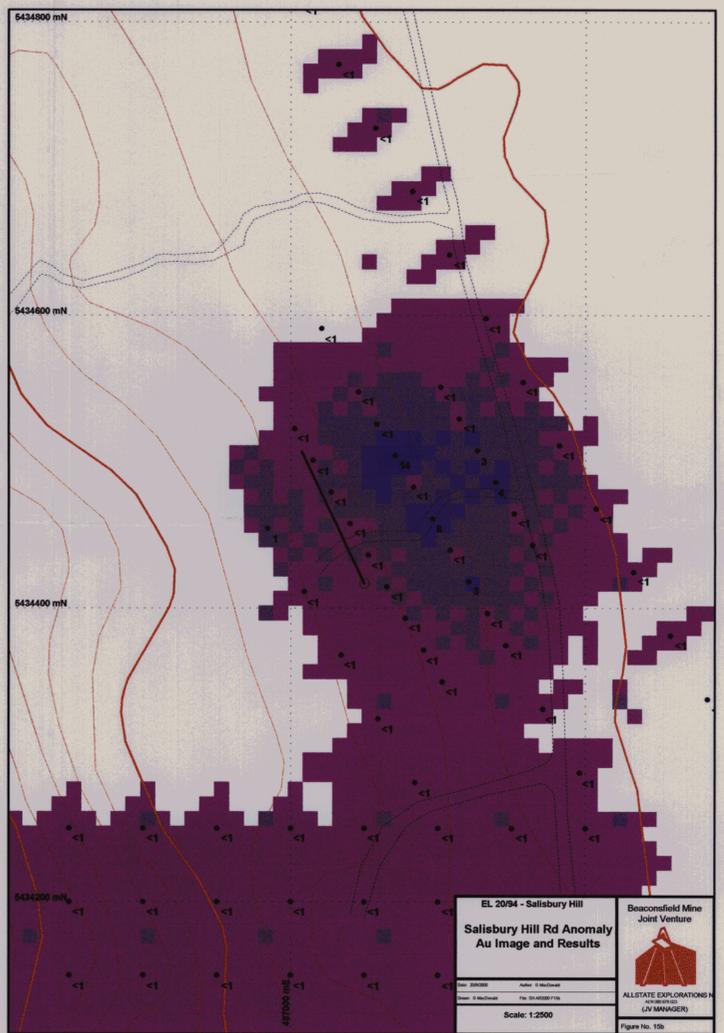
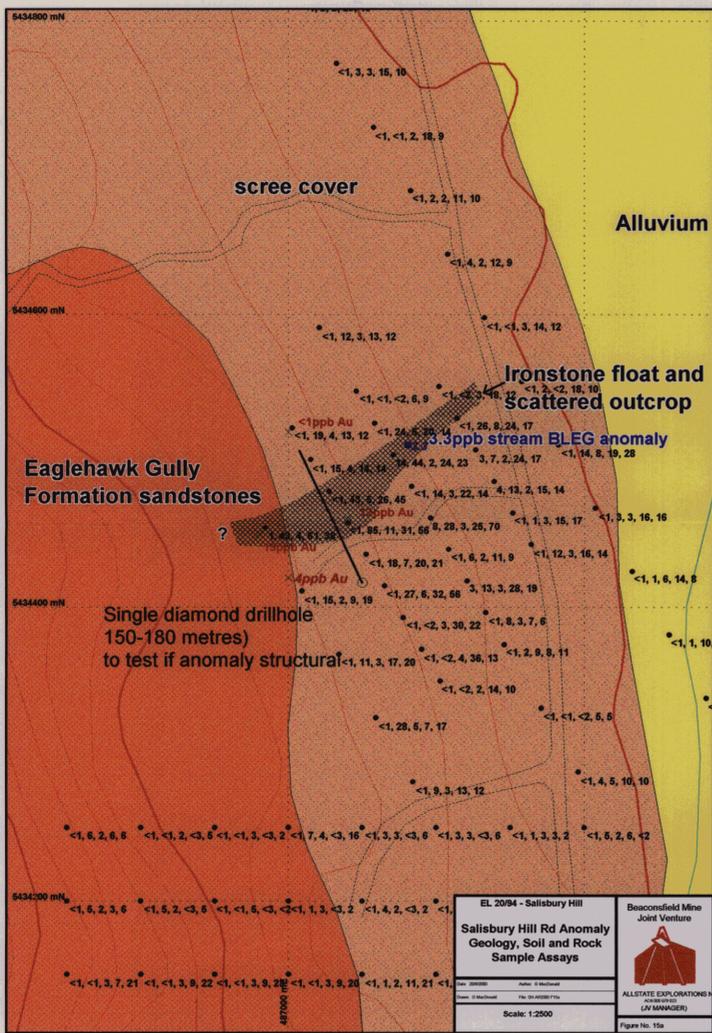


figure 13

EL20/1994



00\_4486

Salisbury Hill Road prospect -  
Geology, Sample Locations and  
Results Summary

Annual report - EL 201994 - Salisbury Hill - 1999/2000  
Allstate Explorations NL\*  
Macdonald, G. EL20/1994

Scale 1:2500

672110

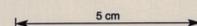
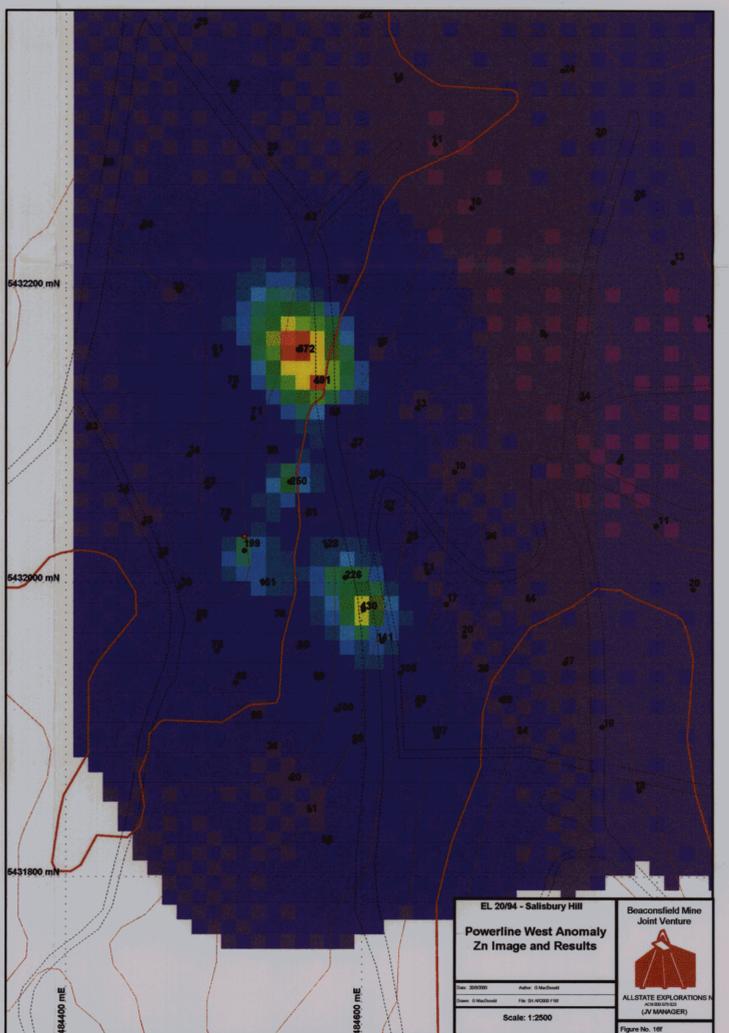
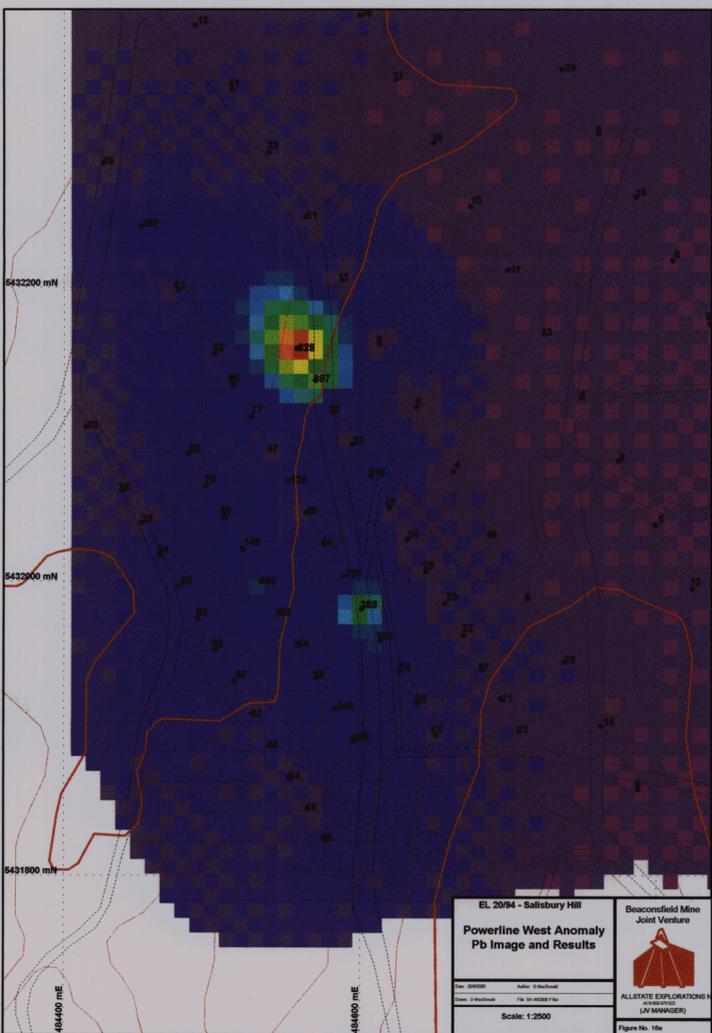
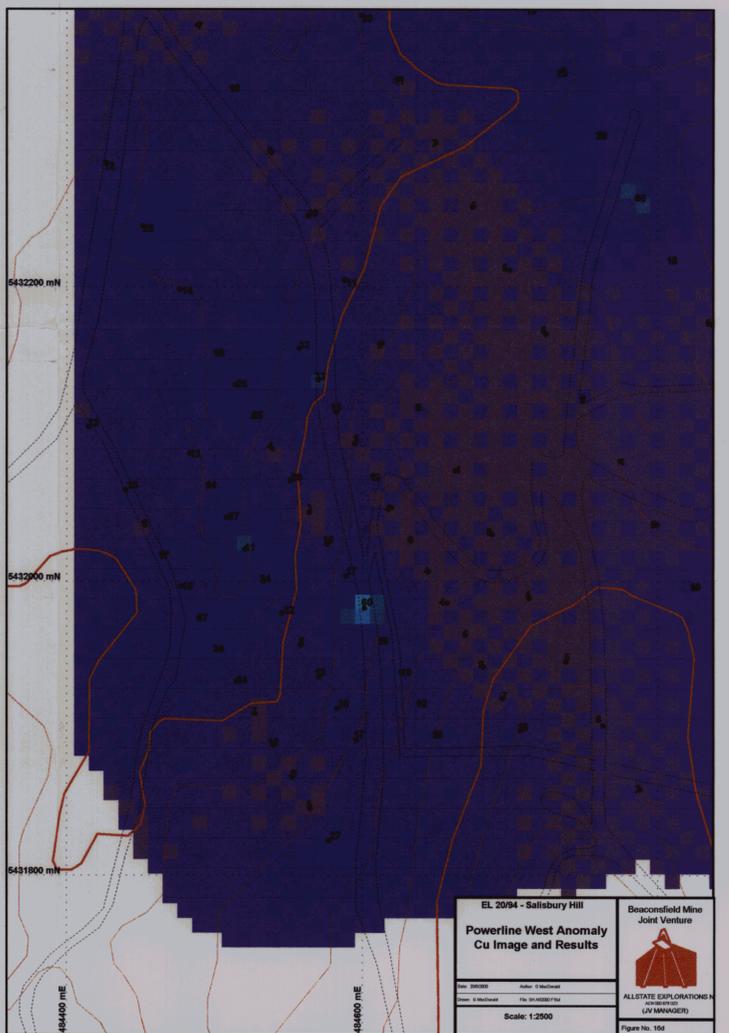
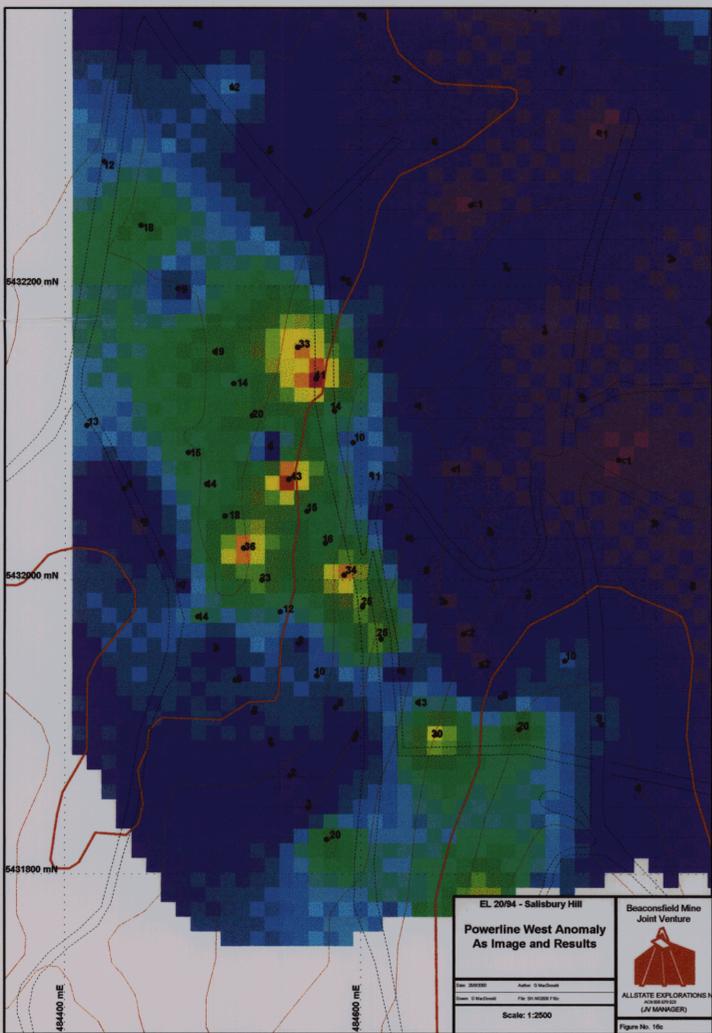
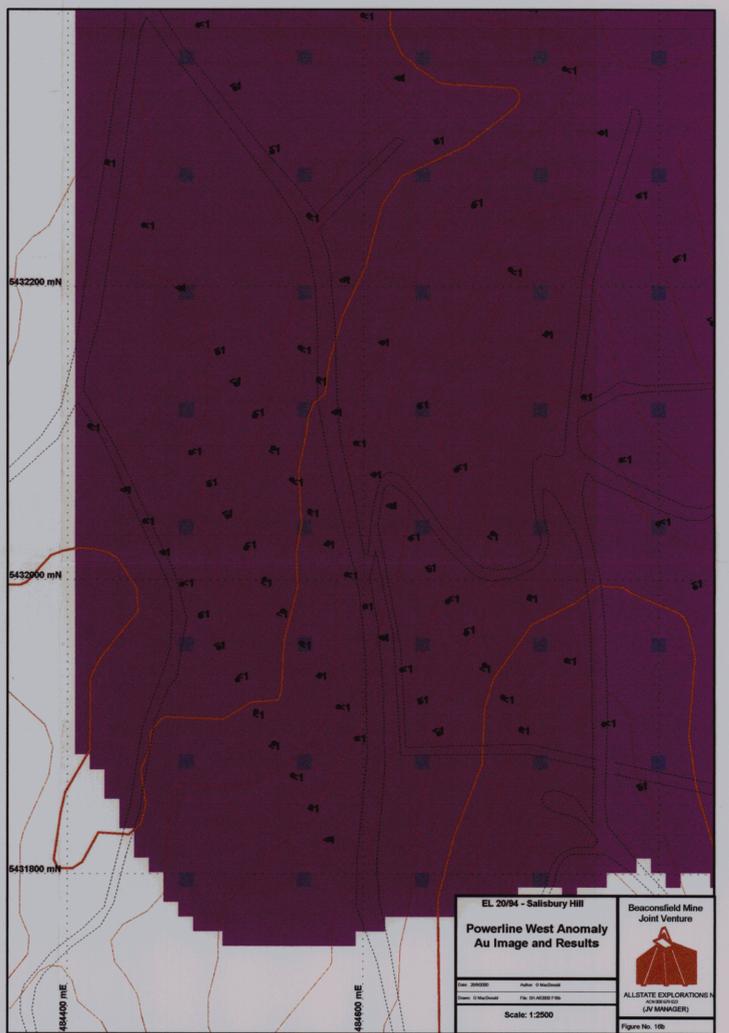
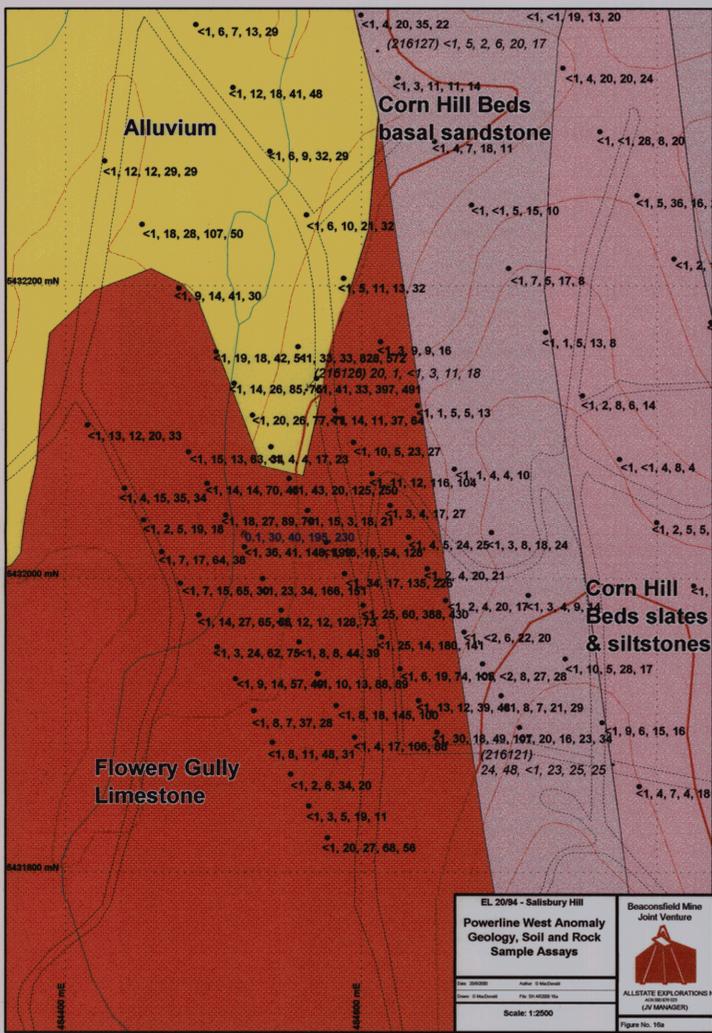


figure 15



672111

00\_4486

**Powerline West anomaly**  
**Geology, Sample Locations**  
**and Results Summary**

Annual report - EL 20/1994 - Salisbury Hill - 1999/2000

Scale 1:2500

Allstate Explorations NL  
 Macdonald, G. EL20/1994

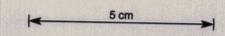
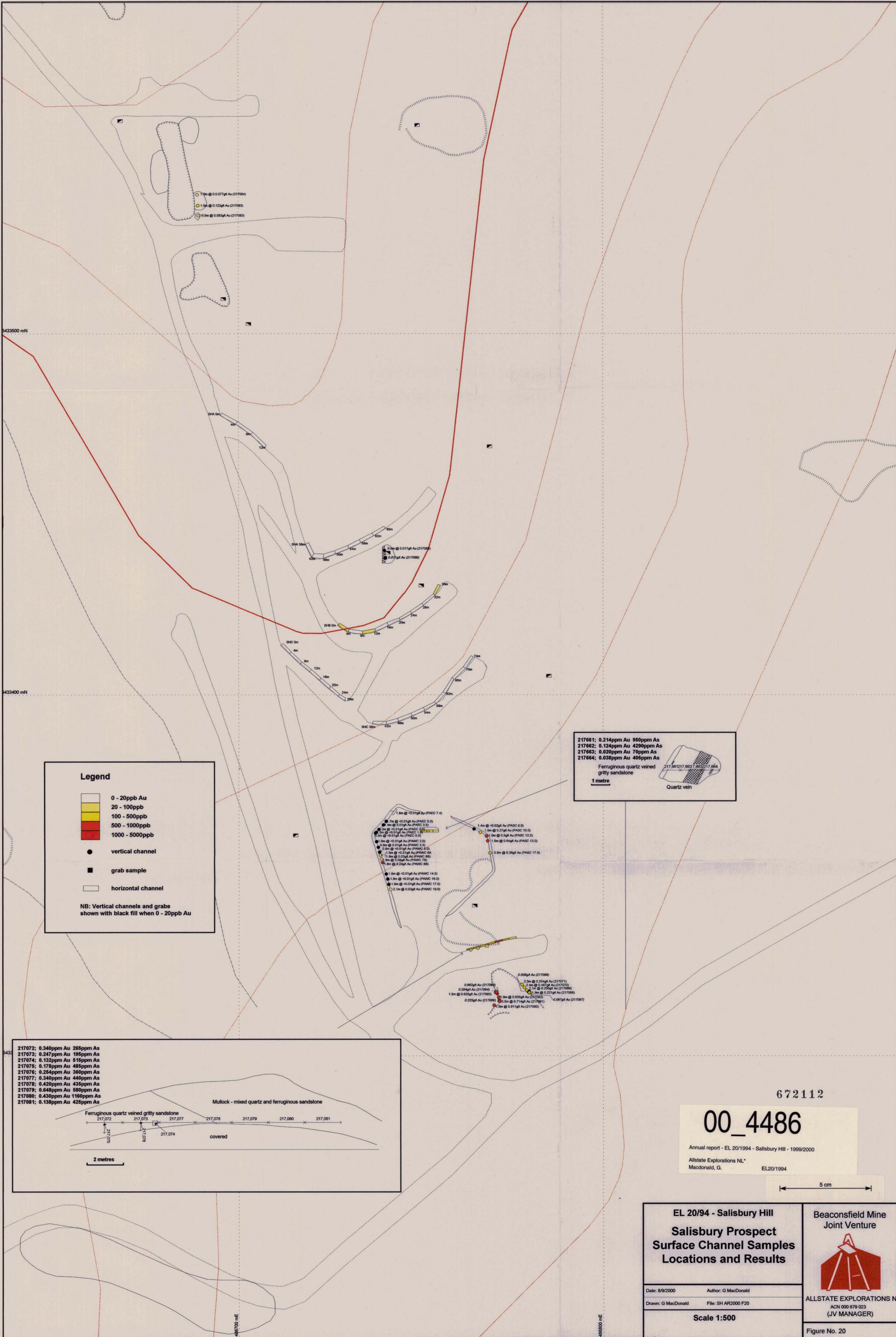


figure 16



**Legend**

- 0 - 20ppb Au
- 20 - 100ppb
- 100 - 500ppb
- 500 - 1000ppb
- 1000 - 5000ppb
- vertical channel
- grab sample
- horizontal channel

NB: Vertical channels and grabs shown with black fill when 0 - 20ppb Au

217661; 0.214ppm Au 950ppm As  
 217662; 0.124ppm Au 4290ppm As  
 217663; 0.020ppm Au 70ppm As  
 217664; 0.038ppm Au 405ppm As

Ferrous quartz veined gritty sandstone  
 1 metre  
 Quartz vein

217072; 0.340ppm Au 285ppm As  
 217073; 0.247ppm Au 195ppm As  
 217074; 0.132ppm Au 516ppm As  
 217075; 0.178ppm Au 485ppm As  
 217076; 0.254ppm Au 360ppm As  
 217077; 0.340ppm Au 440ppm As  
 217078; 0.420ppm Au 435ppm As  
 217079; 0.648ppm Au 580ppm As  
 217080; 0.430ppm Au 1160ppm As  
 217081; 0.138ppm Au 425ppm As

Mullock - mixed quartz and ferruginous sandstone

Ferrous quartz veined gritty sandstone

covered

2 metres

672112

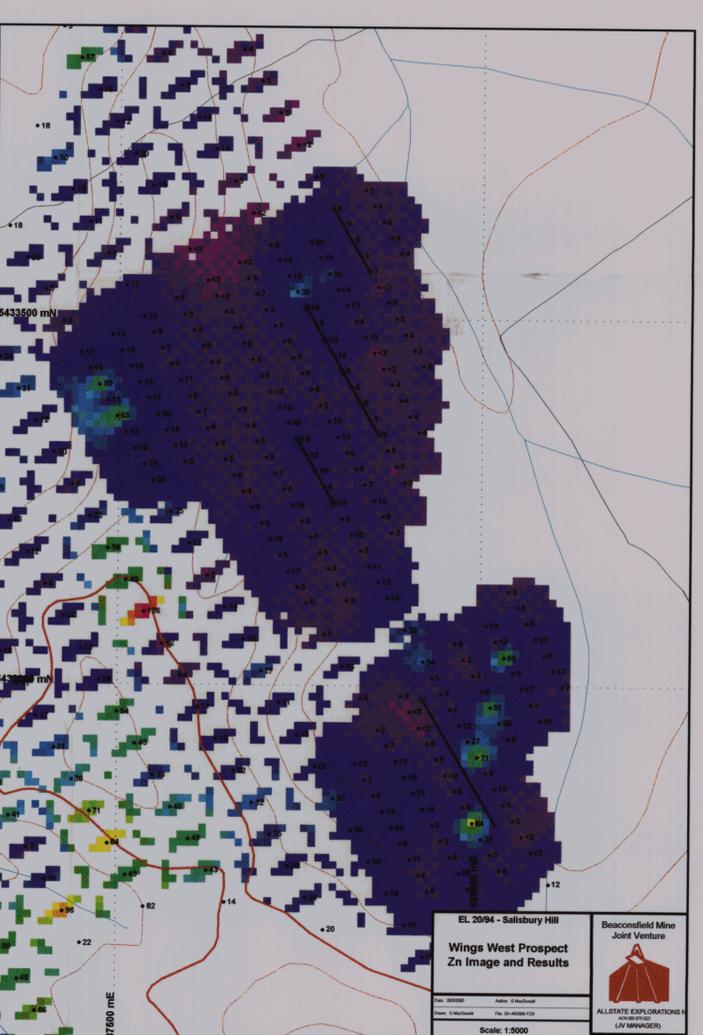
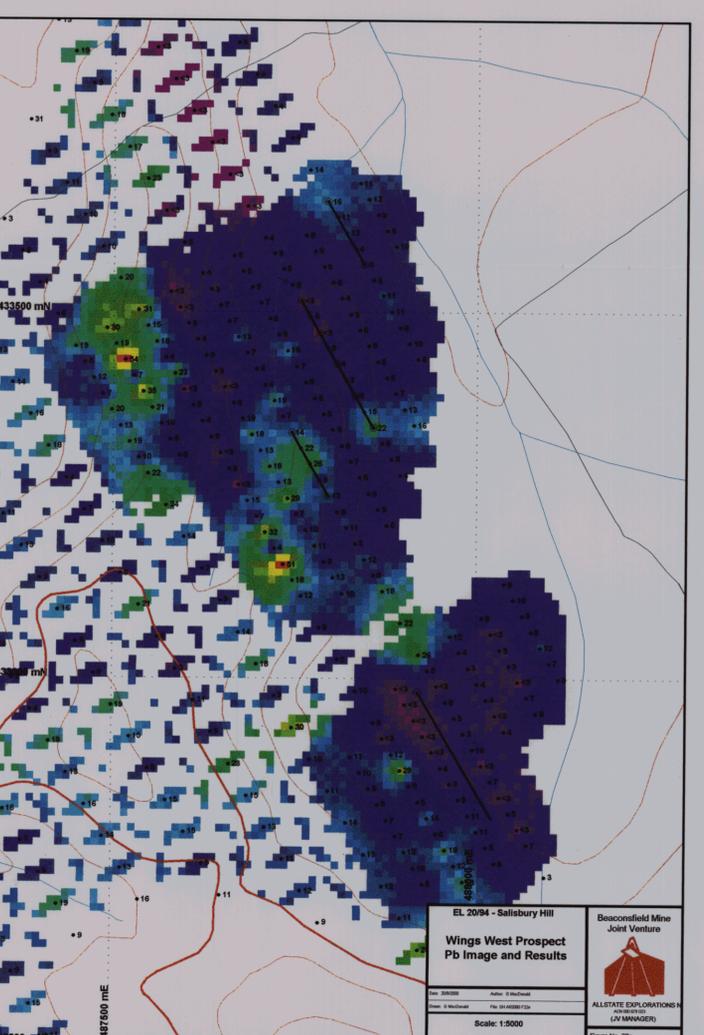
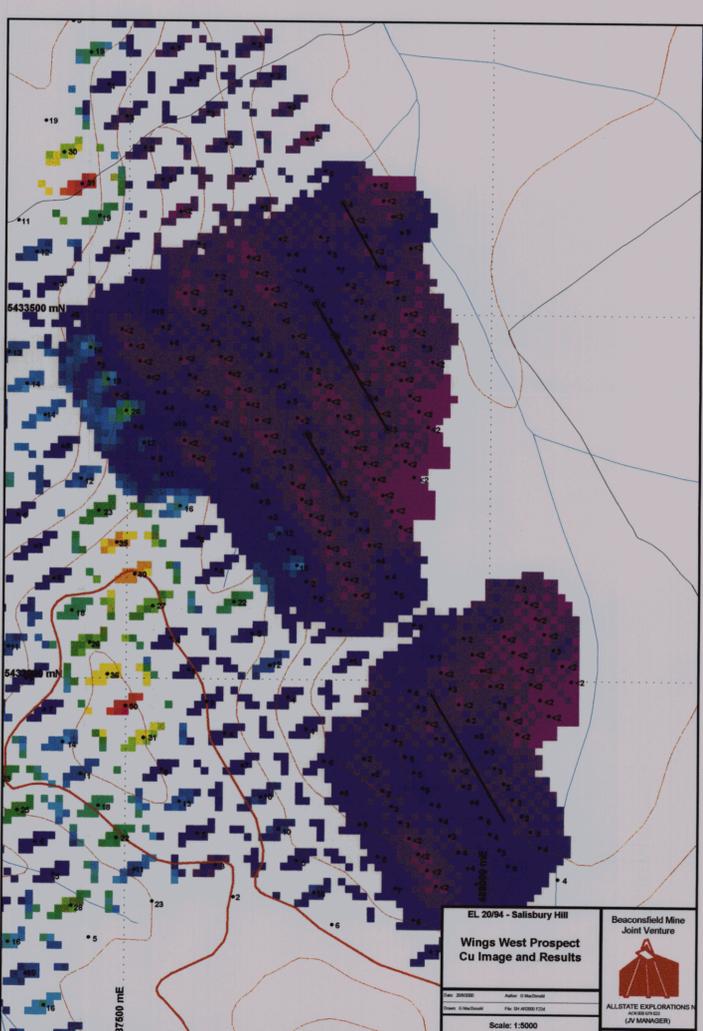
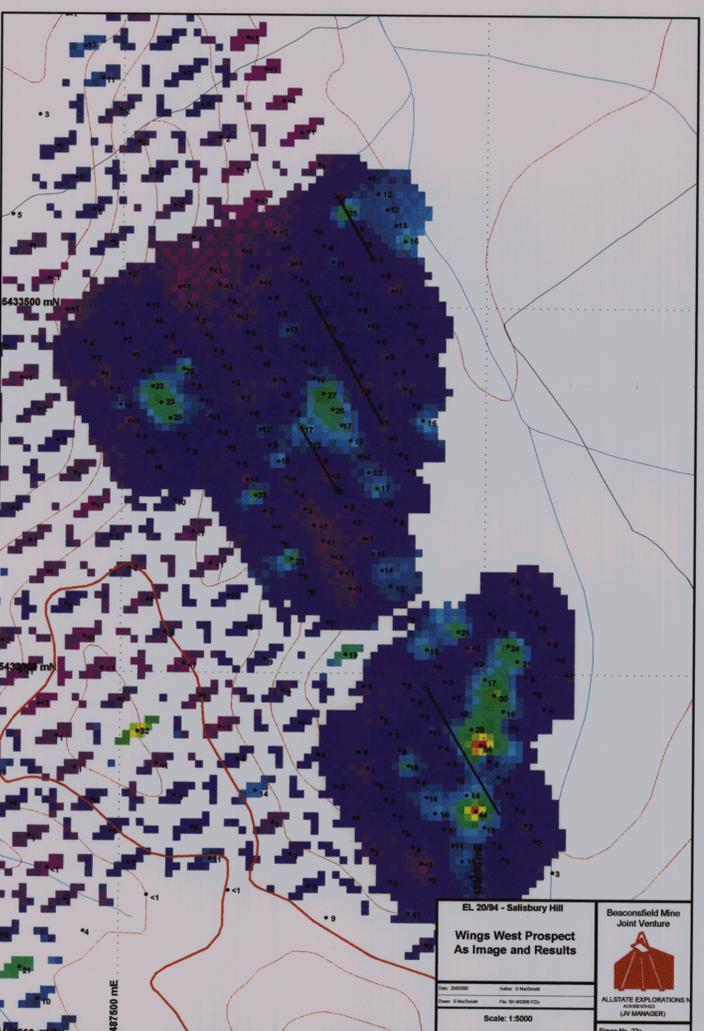
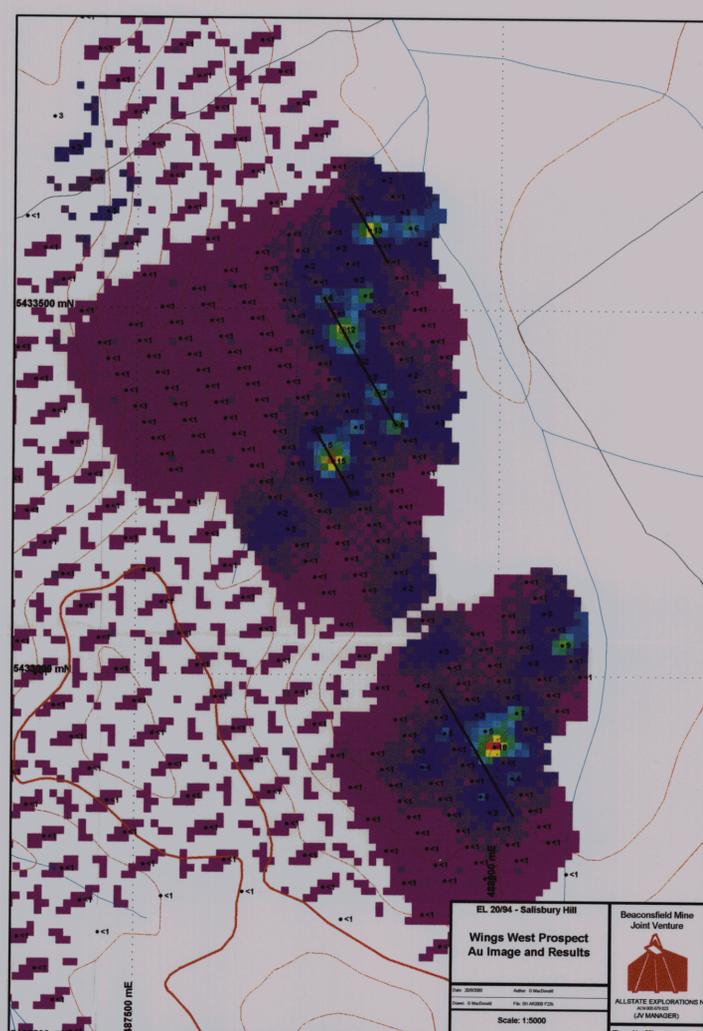
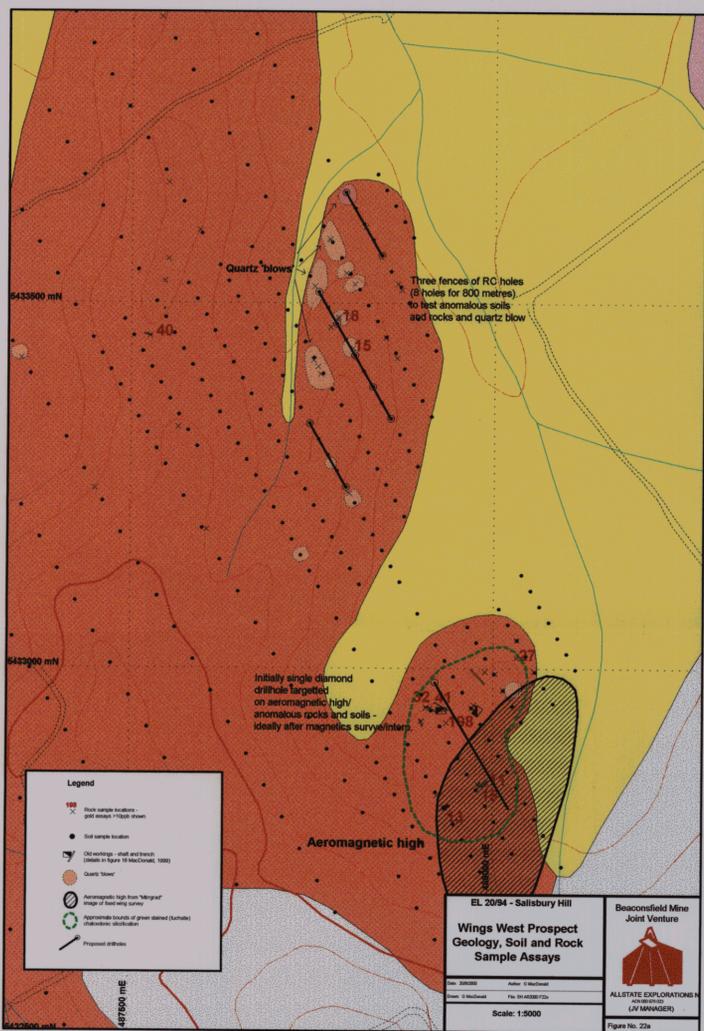
**00\_4486**

Annual report - EL 20/1994 - Salisbury Hill - 1999/2000

Allstate Explorations NL\*  
 Macdonald, G. EL20/1994

5 cm

<b>EL 20/94 - Salisbury Hill</b>		<b>Beaconsfield Mine Joint Venture</b>
<b>Salisbury Prospect Surface Channel Samples Locations and Results</b>		
Date: 8/9/2000	Author: G MacDonald	 <b>ALLSTATE EXPLORATIONS NL</b> ACN 000 679 023 (JV MANAGER)
Drawn: G MacDonald	File: SH AR2000 F20	
<b>Scale 1:500</b>		Figure No. 20



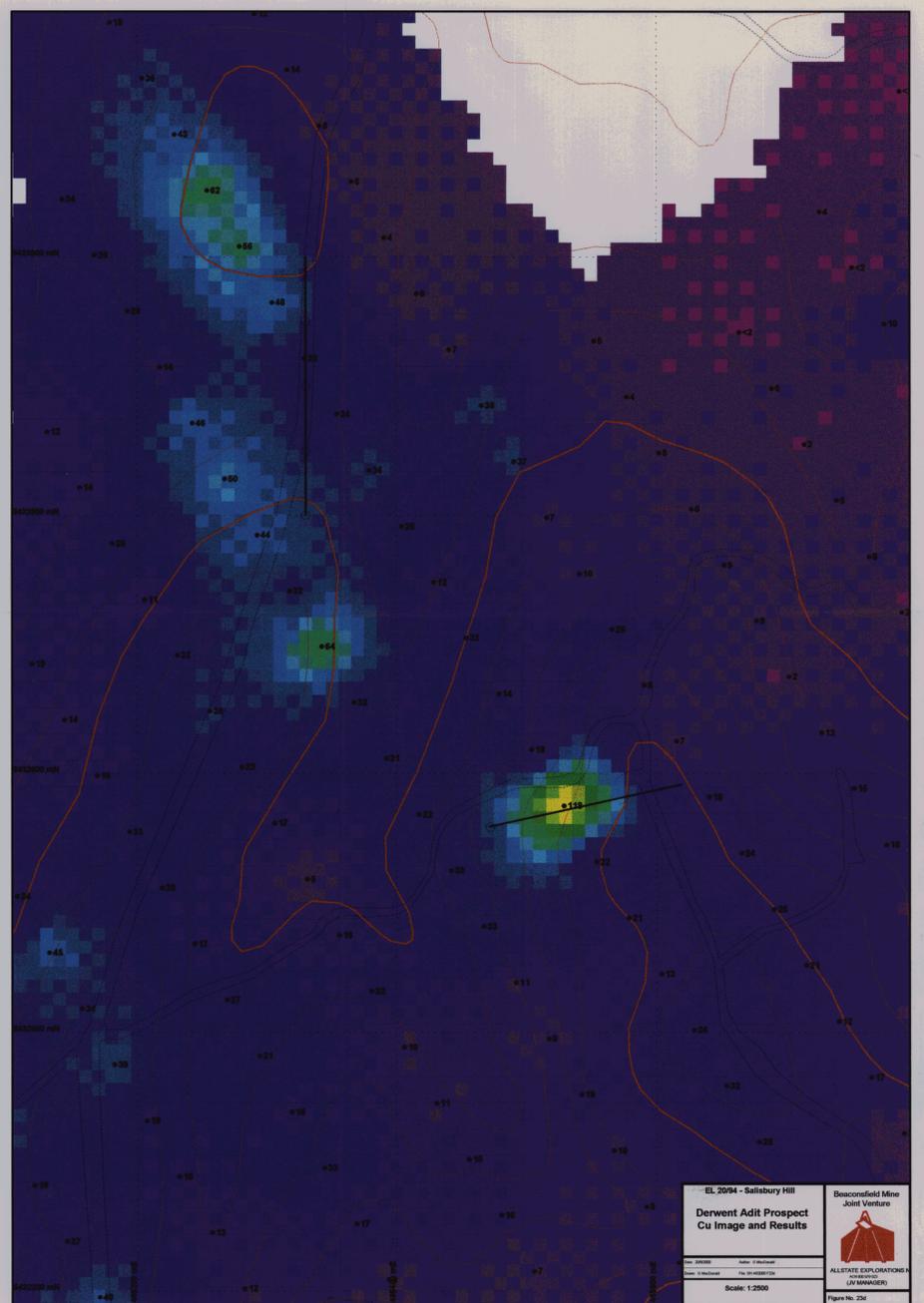
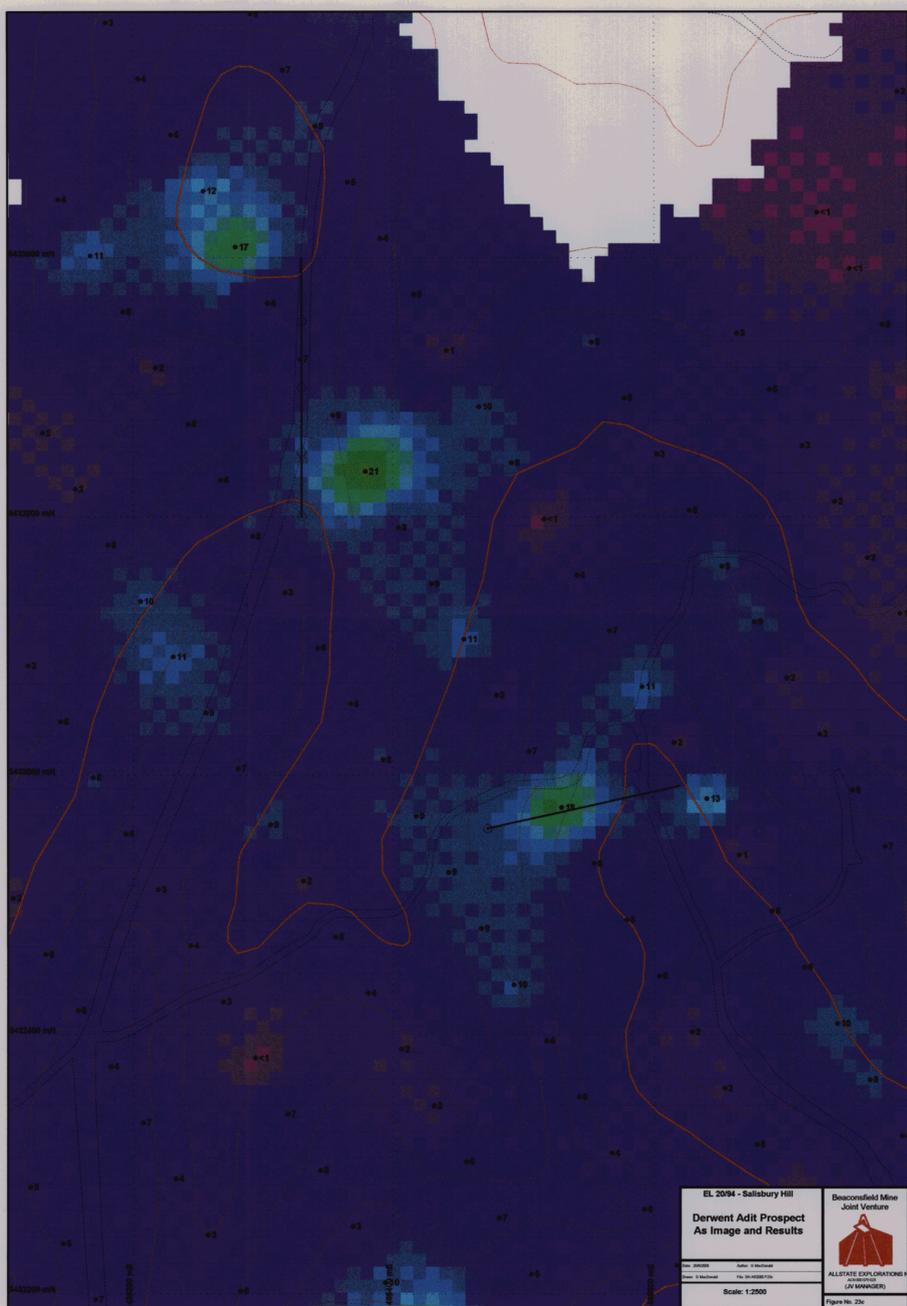
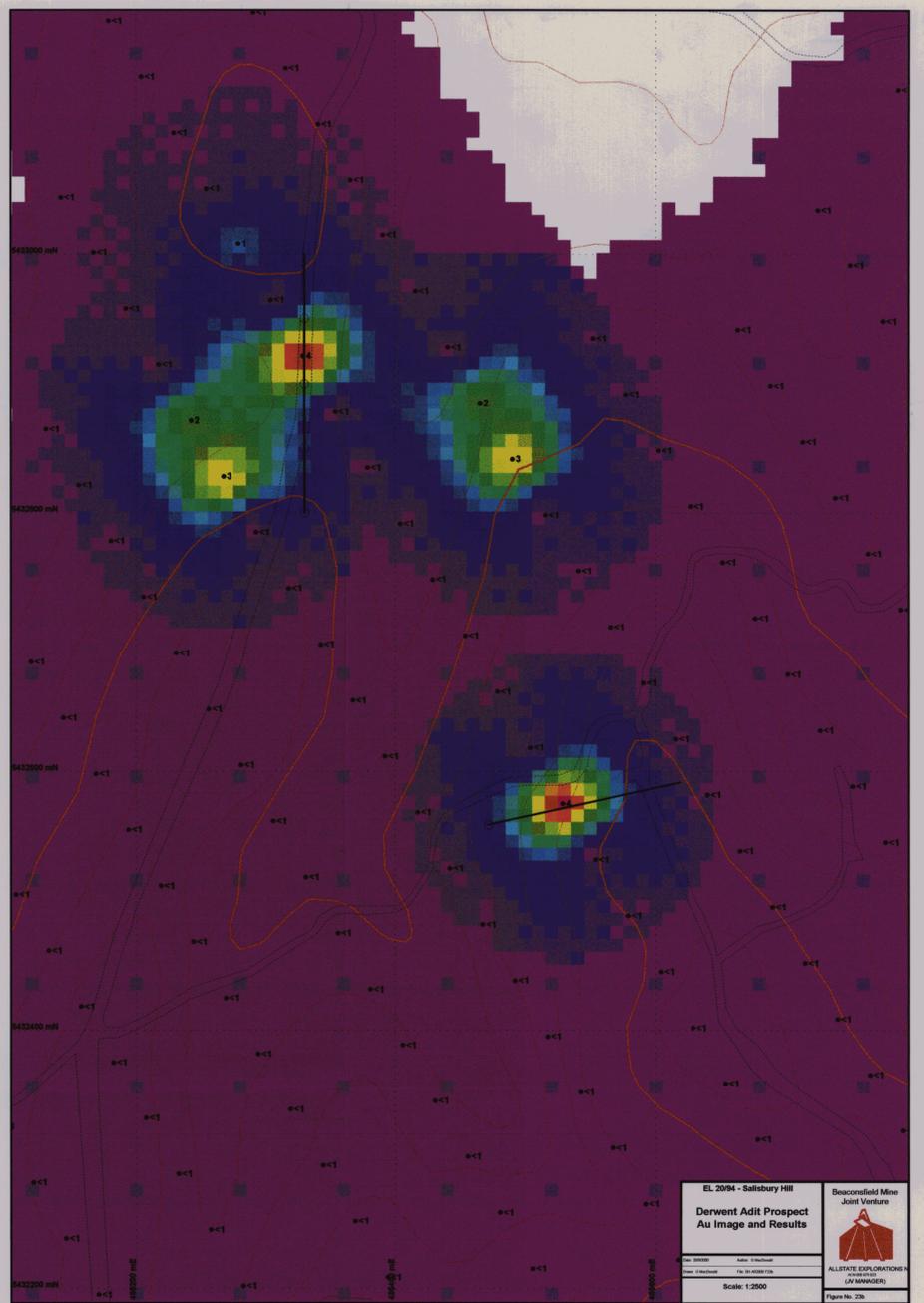
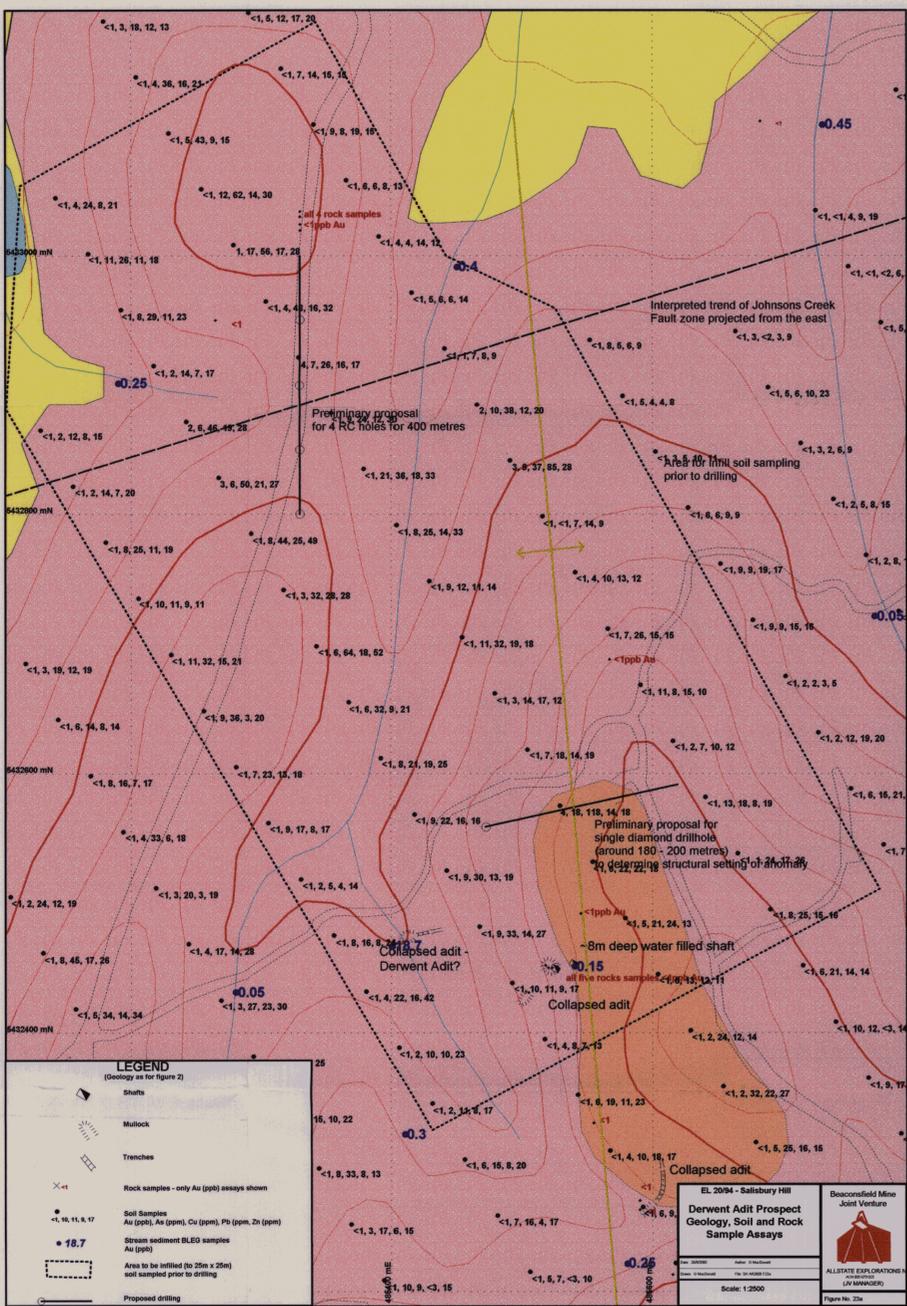
672113  
**00\_4486**  
 Annual report - EL 20/1994 - Salisbury Hill - 1999/2000  
 Allstate Explorations NL\*  
 Macdonald, G. EL20/1994

**Wings West prospect  
Geology, Sample Locations  
and Results Summary**

scale 1:5000

5 cm

**figure 22**



672114  
**00\_4486**  
Derwent Adit prospect  
Geology, Sample Locations  
and Results Summary

Annual report - EL 201994 - Salisbury Hill - 1999/2000  
Allstate Explorations NL  
Macdonald, G. EL201994

Scale 1:2500

5 cm

figure 23