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GEOLOGICAL APPRAISAL OF THE DAN RIVULET AREA (E.L.31/76), MATHINNA, TASMANIA

PREPARED FOR STURTS MEADOWS PROSPECTING SYNDICATE N.L.

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31st May, 1980.

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DAN RIVULET PROJECT

FIGURES & TABLES

1.0 INTRODUCTION

A preliminary visit to the Dan Rivulet area was made by Peter Howe in December 1979. On his recommendation it was decided to carry out a detailed exploration programme in the E.L.31/76 which covered the northern section of the Dan Rivulet. This programme of exploration was designed primarily to test the alluvial flats for gold bearing gravels. An additional study was to be made of the auriferous lode deposits in the Exploration License.

The geological work on E.L.31/76 commenced on 28th January and was completed on 14th AprIL 1980, during which time 25 alluvial boreholes were drilled and all the significant lode deposits were mapped and sampled. The results of this reconnaissance survey are now available and they form the basis of the geological assessment. The aim of this report is to examine the geology and economic potential of this Exploration License.

2.0 LOCATION AND ACCESS

E.L.31/76 is located 10 kilometres northwest of Mathinna, Tasmania and covers a total area of 14 square kilometres. One ten acre mining lease over the O'Brien's deposit is contained within the E.L. and is included in this study.

Topographically, The Dan Rivulet valley is divided into two types of terrain; the fairly flat alluvial terraces and flood plains and the steep faces of the surrounding hills. Most of the flat areas have been deforested and are now used as grazing land. Access into these cultivated areas is generally good, however, in the surrounding mountains and hills, thick vegetation, coupled with steep terrain, makes access difficult. Two roads have been constructed to provide access into the known deposits in these mountainous areas.

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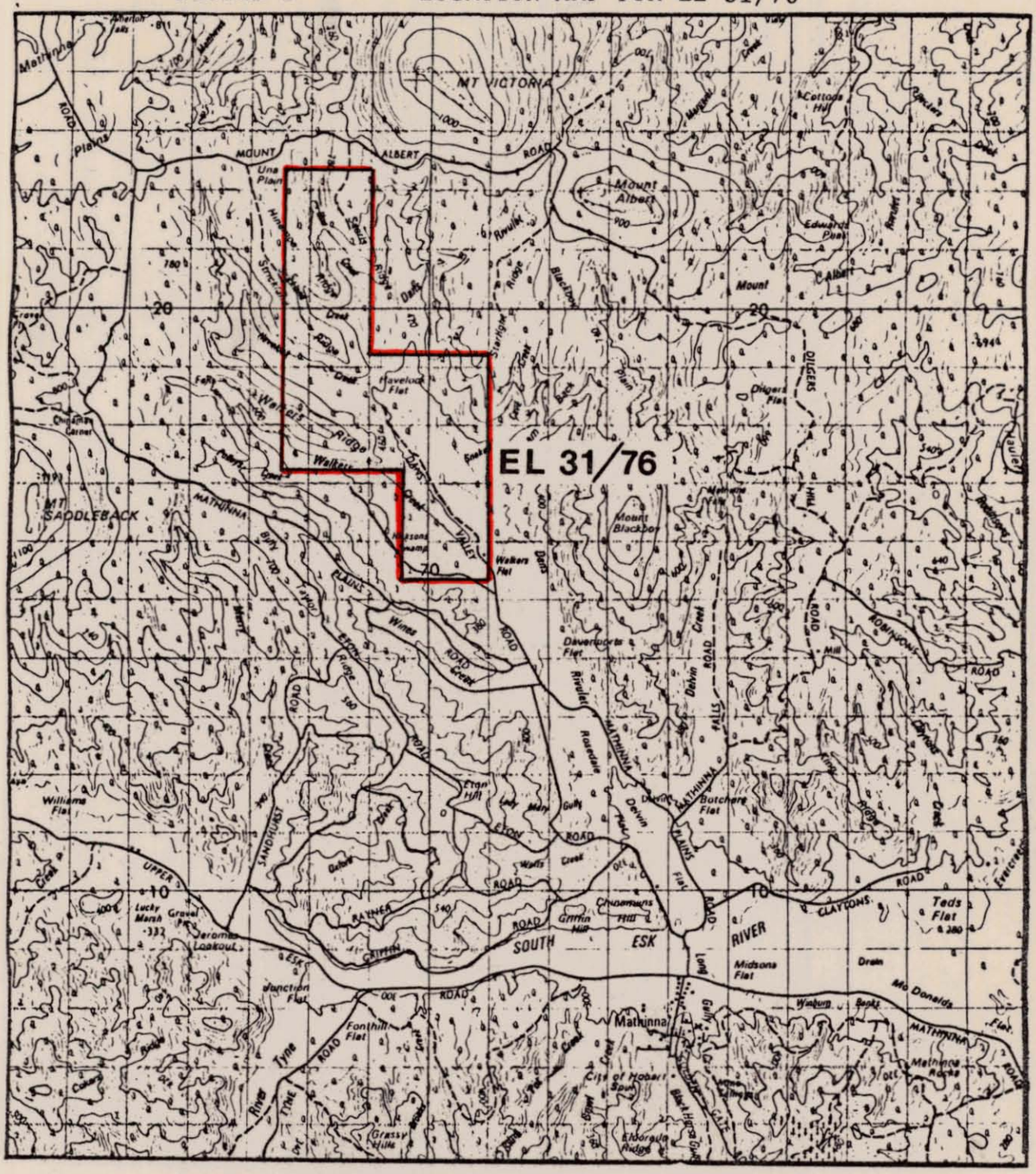
FIGURE 1 LOCATION MAP FOR EL 31/76



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5 cm

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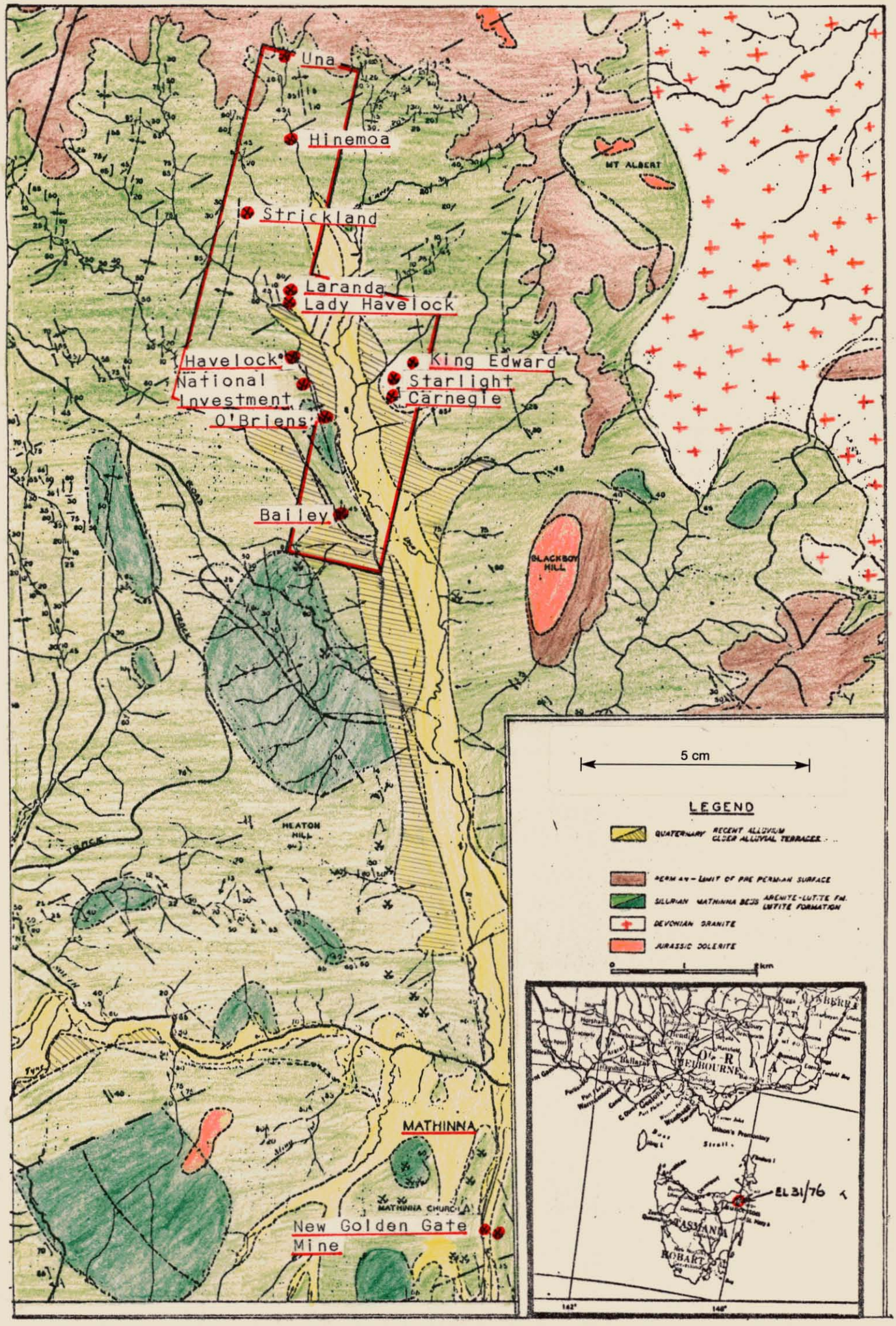
E.L. 31/76 DAN VALLEY GOLD MINES LOCATION MAP



3.0 REGIONAL GEOLOGY

E.L.31/76 is located in a broad belt of metasediments referred to as the Mathinna Beds. These are of Lower Devonian/Tremadocean age and consist mainly of a micaceous greywacke turbidite sequence, together with minor mudstones and sandstones.

During the later Tabberabberan Orogeny, most of the Mathinna Beds were subjected to low grade regional metamorphism. This produced the NNW-SSE slatey cleavage common in the Mathinna beds of the Dan Rivulet area. In the same orogeny, granodiorite and adamellite-granite masses were intruded into the Mathinna Beds. Exposures of these granitic intrusives can be found some 3km east and 6km west of E.L.31/76, however, there is no evidence of any exposed or concealed intrusives in the E.L. area.

Over much of the northeastern Tasmania, a group of Permo-Carboniferous marine and estuarine sediments were laid down over the early Paleozoic metasediments. The rock units present in this sequence consist mainly of mudstones, sandstones, conglomerates and limestones.

Overlying the Permo-Carboniferous sediments are the Jurassic diorite/basalt lava flows. These volcanics crop out over much of northeastern Tasmania, however, post Jurassic erosion has removed most of these Permo-Carboniferous sediments and Jurassic volcanics in the Dan Rivulet area, confining its present outcrop to the tops of hills and mountains surrounding the E.L. area. This erosion has been caused mainly by the action of rivers and glaciers, incising deep valleys through these sediments and volcanics. In the Dan Rivulet area alone, over 900m of rock has been removed from above the valley floor. Most of this material has been transported out of the Mathinna area, although some residual alluvium remains. This alluvial material has been deposited as river terraces and alluvial flats in the Dan Rivulet and South Esk rivers.

This is nonsense he should have asked someone in the department to write it for him.

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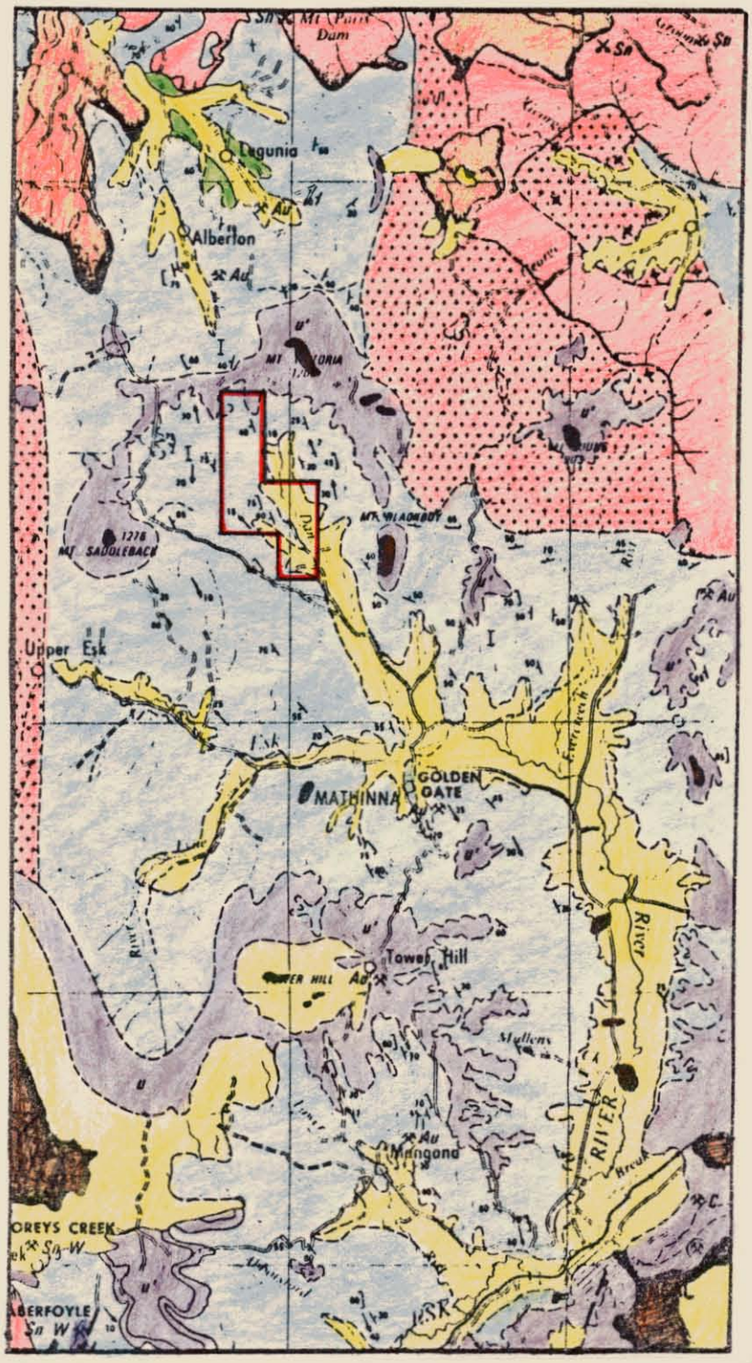
FIGURE 2 REGIONAL GEOLOGICAL SETTING



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- Alluvium
- Tertiary Basalts
- Tertiary Limestones
- Jurassic Dolerite
- Permian Sediments
- Mathinna Beds
- Adamellite-Granite
- Granodiorite

this is my thesis map with the Permian & mathinna Beds colours reversed. I didn't know there was Tertiary bls in the New River (Legunia) area.

3.1 Economic Geology of the Mathinna Region

In the region around Mathinna, shown in Figure 2, the three main economic minerals are coal, tin and gold.

COAL

Coal in this region is confined to the Permo-Carboniferous sediments, which, in the area covered by E.L.31/76, have been almost totally removed by erosion.

TIN

Surrounding the E.L.31/76, are a number of massive granite plutons, which are known to be stanniferous. Some tin and a minor amount of wolfram, have been produced from both veins and alluvial deposits in and around these intrusives. The nearest known tin deposit to E.L.31/76, is around 15km to the north.

GOLD

Gold is the most important economic mineral to be found in the region, and is certainly the most significant for E.L.31/76. In the past, significant amounts of gold have been produced from a number of goldfields in the region (recorded production figures are shown in Table 1). The distribution of these goldfields and auriferous deposits is shown in Figure 3.

This diagram highlights the fact that most of the gold deposits in northeastern Tasmania occur in the Mathinna beds and are found along a belt stretching from the Lyndhurst goldfield to Mangana.

This north north westerly trending belt is parallel to the tectonic trend of the region. Two theories have been proposed in order to explain this correlation between the tectonic trend and gold distribution. These have related the deposits to either a major shear zone, similar to the "Main Slide" found in the Golden Gate Mine, or associated the deposits with a belt of intense folding.

In either case the Dan Rivulet area (and E.L.31/76) forms part of a much larger structure along which a number of major deposits have been found.

One of the main characteristics of the gold mineralization in the region, is the large number of gold-quartz lodes, which are mostly of limited extent. This has made prospecting difficult and expensive. In only a few mines has there been any attempt at systematic prospecting, developing and stoping. The fields were mined in gold rush conditions by unskilled workers with a minimum amount of equipment and capital. Outcropping lodes were stoped from surface resulting in most lodes being worked out at surface, but being virtually unexplored below 60m. Many examples of such deposits can be found in E.L.31/76. To the south of the E.L., around Mathinna, there are a number of well documented deposits, of which the most well known is the New Golden Gate Mine. This deposit was worked down to 1,903ft, although the lowest level was 1,800ft. Six principal reefs were mined, the Upper West reef, Central reef, Loane's reef, Main reef, East reef and Lower West reef of which only the Upper West reef outcropped. During the period 1888-1912, this mine produced 279,900 tons of ore which yielded 234,400 oz of gold. Subsequent small scale working during the period 1912-1932, recovered a further 19,455 oz of gold.

Smaller, but still significant producers in the Mathinna area, were the Tasmanian Consols Mine, which produced 11,000 oz of gold and the City of Hobart mine.

TABLE 1

Recorded production from the Goldfields of North-Eastern Tasmania

Goldfield	No. of mines[1]	Period	Ore milled (tons)	Gold production (oz)	Average yield (dwt/ton)
Lefroy	7	1883–1904	77,070	162,070	42
Dan Rivulet	8(24)	1888–1906	6,087	2,760	9
Mangana	7(15)	1884–1905	5,942	5,449	18
Mathinna (excluding New Golden Gate and Tasmanian Consols)	11(27)	1896–1909	10,924	6,033	11
New Golden Gate		1880–1932	298,348	253,865	17
Tasmanian Consols		1904–1907	23,610	10,997	9
Mt. Victoria	6(42)	1884–1926	8,086	10,164	25
Warrentina	8(10)	1892–1937	3,876	3,777	19

[1] The number of mines for which production figures are available. Figures in brackets indicate the number of mines in departmental records.

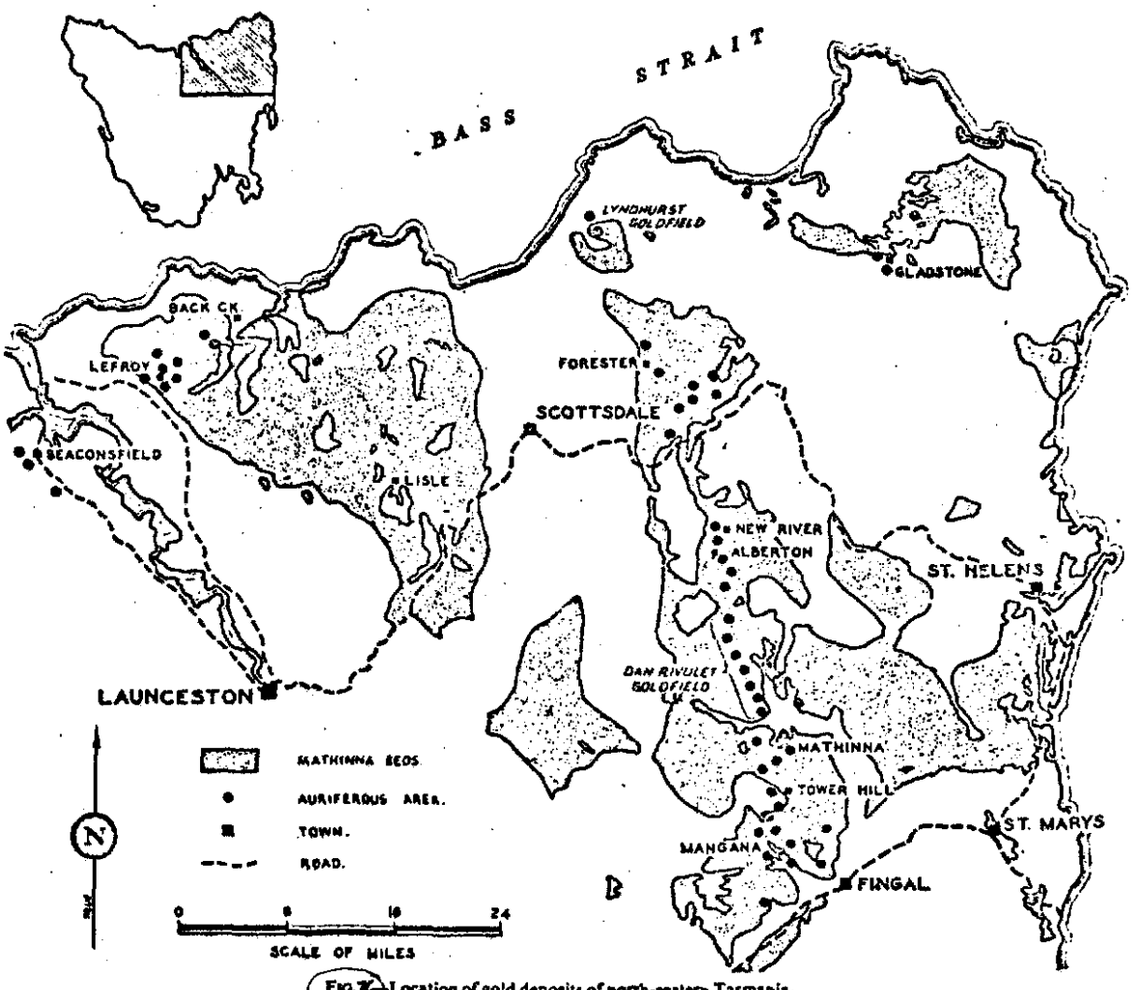

FIG. 3—Location of gold deposits of north-eastern Tasmania.

5 cm

4.0 ALLUVIAL DEPOSITS

An extensive alluvial flat exists along the length of the Dan Rivulet valley, together with remnant Pleistocene river terraces. Considerable volumes of alluvial material are known to exist within this valley. The presence of numerous gold veins within the Dan Rivulet catchment area, indicated the possibility of a significant volume of gold bearing gravels. A programme of drilling was recommended to test for economic concentrations of gold in this alluvial material.

4.1 Alluvial Drilling Equipment and Programme

In 1973, a short programme of reconnaissance drilling was completed by Geophoto Resources Consultants in the Dan Rivulet. Five lines of holes (A to E) were drilled across the Dan Valley from its confluence with the South Esk River, north to the Rayner's Farm. A cable tool rig was used, but because of operational problems and poor recovery, the results of this survey were inconclusive. The recent programme of drilling was designed to check the results of previous work and to extend the area drilled northwards into E.L.31/76.

Considering the difficulties encountered in 1973, the method chosen for giving the best recovery of uncontaminated samples in this bouldery ground, was dual pipe reverse circulation rotary drilling. The largest diameter dual piping was used, to enable the large pebbles to be sampled. This had an internal diameter of 4" which allowed up to 35/8" pebbles to be sampled, however some difficulties were encountered when coring larger sized boulders. The hardness of the slatey boulders also precluded the use of the drag bits, which are the normal coring tool for this type of drilling equipment, so that it was necessary to use a roller bit adapted for coring.

To obtain an overall assessment of the large quantity of alluvial material, three lines of boreholes were drilled across the valley. (See Figure 5). Both the Pleistocene gravels and the Recent alluvials were tested, although much of the effort was concentrated on the reworked recent gravels. On lines F and G, drillholes were spaced at 75m intervals across the river flats. Line E included infill drilling along Geophoto's drill line and had a spacing of around 100m. The distance between lines of drillholes was approximately 1½km.

Drilling commenced on 7th February, 1980 and completed an initial 25 hole programme by 18th March, 1980. This programme of drilling was not designed to produce a quantitative assessment of the alluvial material but was merely aimed to locate any possible economic concentrations of gold bearing gravels which might have existed in the Dan Rivulet.

4.2 Sampling and Sample Processing

Samples were taken at one metre intervals along each borehole. Sample material obtained from the inner tube was collected in a specially designed sump and riffles which were emptied at the end of each metre drilled. Where bad drilling conditions were encountered, it was common for there to be a loss of reverse circulation, thus causing the water and sample to rise up the outside of the drill-pipe. This part of the sample was collected in a duct containing four riffles, which was used to drain the collar of the drillhole.

The total weight of the sample collected each metre, ranged from 8.4 to 158 kg, although the majority averaged around 40 kg. The calculated weight for a drillhole of this diameter would be approximately 47kg/m. Samples larger than this, indicate overcoring or collapse of the sediments into the drillhole, caused mainly by the use of high pressure water in an unconsolidated sediment. Samples were initially bagged, and later transported to the creek for processing.

All samples were weighed and sieved before concentration. The sieves removed the coarse fraction, i.e. greater than 4mm, from the sample and this was weighed also and expressed as a percentage of the total sample. The fine fraction (-4mm) was concentrated using a cradle, thus reducing the sample volume to around 1kg. This concentrate was bagged and sent for assay and accurate weighing. All samples were fire-assayed for gold. Using the initial sample weight and concentrate weight, the grade of alluvial material was calculated.

In order to check for loss of gold in either the sample collection or concentration, a composite sample of part of the sludge from the drill sump, together with tailings from the cradle, were reprocessed and analysed. These showed some minor losses of gold in the initial drillholes, but the quantities are considered to be small.

4.3 Results of the Alluvial Drilling

A tabulated summary of the samples recovered during alluvial drilling has been appended to this report. (Appendix 1). These tables record the sample description; the weights of samples and concentrates; the percentage gravel; and the assays and calculated grades of the samples. This information has been drafted as section lines across the Dan Rivulet valley (Figures 5-7). Three distinct alluvial horizons can be identified in each of the drillholes and include

(i) Topsoil - predominantly brown clay containing organic material, but in the base of the present valley this topsoil contains a high proportion of gravel.

(ii) Fine to Coarse Gravel -consists mainly of grey slatey pebbles and boulders, well rounded and clearly forming a residue from intense erosion. In the Pleistocene gravels, some additional fine grained matrix is present in the form of brown clays and sands.

(iii) Yellow and orange clay with minor gravel. These thick clays probably represent either early eluvial deposits or in situ decomposed bedrock. Any quartz or rock fragments contained within this clay are always angular and clearly indicate little or no erosional activity.

These three horizons have been correlated over the entire width of the Dan Valley, however, some additional intercalation of sediments have been recorded in some drillholes. This is especially true for the Pleistocene sediments in which a great deal more fine grained material is present. The poor sorting exhibited by the Pleistocene gravels, together with the intermixture of clays with gravel, indicates very low order fluviøtile activity and almost certainly represents a fluvioglacial deposit. Later reworking of these sediments by the present river system, has removed most of the fines and left the coarse pebbly conglomerates which form the majority of the material covering the existing river flats.

Bedrock in all cases was a weathered, soft slate which was usually yellow in colour, although occasionally ironstained to orange-brown. Occasionally these slates contained thin stringers of quartz or manganese/iron stained fractures.

The grades of samples taken were of an extremely low order. Most of the alluvial concentrates had gold values below the detectable limit, i.e. less than 0.3g/tonne. In such cases it was impossible to calculate an accurate grade for the samples, however, with a detection limit 0.3g/tonne, true grade will not exceed 0.01g/tonne and most have much lower maximum grade in terms of value. It is evident that 0.01g/tonne represents an in ground value of 16¢/tonne (assuming that the market value of gold is $500/oz), and therefore is uneconomic.

The remainder of the samples,, with assays above the 0.3g/t Au detectable limit, gave a range of grades up to 0.054g/tonne which represents an inground value of 87¢/tonne assuming $500/oz market price). One additional area of higher values was intersected by drillholes G1 & G2. These higher values represented an eluvial concentration and only covers an isolated area in which only a small volume of material exists.

Most of the more significant alluvial concentrations of gold intersected by these drillholes, were located on the contact between the yellow clays or clay rich gravels and the overlying coarse pebbly gravel. Not all the drillholes in the Recent alluvials showed any concentration of gold, however, those that did usually recorded their highest values at this contact (highest being 0.054g/tonne).

In the Pleistocene sediments the values were much lower and the distribution of higher grade was much more erratic.

The high sample results obtained in boreholes G1 and G2, are believed to be produced by eluvial concentrations, although it is feasible that these are Pleistocene sediments. Values obtained in these two drillholes include sample G1(0-1m)-0.539g/t Au; G2/9(8-9m)-0.107g/t Au; (G211(10-11m) -0.216g/t Au. Although these results are significantly higher than any of the alluvial deposit they are extremely erratic, and show no correlation between drillholes. In addition there is a limited volume of such material. Where gold was found in the alluvial material, it was always in the form of fine particles with grain sizes of up to half a millimetre.

4.4. Conclusions on the Results of the Alluvial Drilling

One of the main conclusions to be reached during the investigation of the alluvial deposits, was that only minor concentrations of residual gold are present, consequently overall grades are extremely low. At the current price of gold these deposits could not be worked economically.

The absence of economic gold concentrations in the alluvial deposits may be attributable to a number of factors:-

1. The volume of gold veins eroded away in the Dan Rivulet catchment area, may have been small, hence the possible quantity of gold available for concentrations would have been limited.

2. There is a reasonable amount of evidence to suggest that the Dan Valley was glaciated in the early Pleistocene era and that much of the present topography was formed by these glaciers. This being the case, much of the erosion and transport-ation would have been by these glaciers and only as the glacier

I know of no evidence that the Dan Valley was glaciated — poor sorting is not sufficient evidence. That can happen in a fluvial environment

retreated would fluviotile deposition have taken place. These fluvioglacial deposits tend to be unsorted and not condusive to gold concentration. In more recent times, there has been some reworking by rivers of the Pleistocene fluvioglacial deposits which has concentrated the original Pleistocene sediments to approximately half its original volume. This has produced some minor concentrations of gold in the more recent sediments but not into any economically viable deposits.

3. Most of the gold found in the vein deposits in the Dan Rivulet area is locked up in sulphides and very little "free" gold is present. Where gold is visible it is always extremely fine grained and therefore rarely free from gangue minerals. Any combination of these factors render this type of gold easily transportable by rivers, in comparison to coarser nuggety gold and may have resulted in much of the gold being removed from the E.L.

It must be concluded therefore, that because of the poor development of residual deposits, due to any of the three factors mentioned above, there is little likelihood of any economic concentration of gold in any of the Dan Rivulet alluvial deposits, even in the areas which remain untested by this recent reconnaissance drilling programme.

No further work is recommended on any of the alluvial deposits of the Dan Rivulet E.L.31/76.

5.0 LODE DEPOSITS

5.1. Introduction

In the past a number of gold mines have worked lode deposits within E.L.31/76. These mines were all small producers and only worked the gold veins down to shallow depths. The location and distribution of these gold deposits throughout the E.L. is shown in Figure 8. This figure clearly shows the NNW trend to the distribution of these deposits and in addition, indicates the possiblity of a continuity into E.L.31/76 of the "Main Slide" shear zone, which is a major control to mineralizatio in the Mathinna area, especially in the Golden Gate Mine.

5.2 Exploration

A reconnaissance exploration programme, concentrated on evaluating the known deposits within the E.L. in order to determine which of the lode deposits had reserves and which may require further underground testing. To examine the lode deposit, the adit levels were reopened, together with some of the winzes. No attempt was made to reopen the main shafts in the area. All of the main lode deposits were examined in detail and both underground workings and surface trenches, pits and shafts, were mapped on a scale of 1:500. All visible lode deposits were sampled and where access to underground workings was not possible, samples were taken of the dump material above the old workings. This information, together with old records, form the basic information on which this assessment is based.

The following deposits were examined in detail:-

(5.4) O'Briens Area
(5.5) King Edward-Starlight-Carnegie
(5.6) Havelock Mine
(5.7) Strickland Mine
(5.8) Hinemoa Mine
(5.9) Una Mine

The remaining deposits (National Investment, Lady Havelock Laranda, Bailey) were investigated at the commencement of this reconnaissance programme and were considered too small to warrant detailed exploration at this stage.

The location of all of these deposits is shown in Figure 4 (enclosure).

5.3 Geology of the Dan Rivulet Lode Deposits

Most of the lodes in the Dan Rivulet area are characterized by very similar mineralogy, structural geology and type of mineralization.

From a mineralogical point of view, a fairly consistant mineral assemblage was noted in most of the gold lodes. The main gangue mineral was quartz, which because of inclusions of sulphides, was often greyish-blue in colour. Sulphides contained within this type of ore included, arsenopyrite, pyrite, galena and sphalerite (in order of importance).

These sulphides are usually disseminated, but also form streaks or blebs infilling fractures within the quartz. This type of mineralogy was found very near surface with little, if any, oxide zone.

The lodes which differed markedly from this mineralogical pattern, were the O'Brien's No 3 lode, Havelock, the Ironstone lode and the first lode exposed in the Starlight Mine.

The O'Brien's No 3 and Havelock lodes are similar, in that they contain little or no sulphides in the adit level and the quartz gangue is usually a white opaque quartz. These exposures of lodes probably indicate that a more strongly developed oxide zone exists, which may give way to sulphides in depth.

The Ironstone lode and the Starlight lode are both manganese/iron cemented fracture zones. In the case of the O'Brien's lode, it contains significant gold values. There is evidence to suggest that the manganese/iron is a secondary mineralogy, which has no connection with the gold mineralization and was deposited in the fractured rocks at a later stage. Therefore, this mineralogy is superimposed on any previous mineralization.

The form of a lode deposit is very dependent on the structure along which the vein has formed. In the Dan Rivulet area, most of these veins follow small faults, (wrench faults and normal faults) which have a variety of strike directions, but usually have steep dips. Ore shoots have developed along very short lengths of these fractures. These lodes/ore shoots are also narrow, with widths of between 0.2-1.0m., although in a few places, larger widths have been recorded. The size of the structures in which most of these known deposits are located, is too small to be condusive to the formation of major deposits. The Una mine is the only exception, as the lodes in this area are controlled by a major shear zone.

The overall picture to be gained, is one of small deposits which have recorded some reasonably high grade assays, but which have produced only a limited tonnage. Most of the gold is locked up in the fine grained sulphides.

The lodes are of limited lateral extent, but may continue below the present workings.

5.4 O'Brien's Area (Figure 9)

This area covers four main lode systems and a number of mineralized stringers. In the past these four main lodes were worked by three adits, and in the case of O'Brien's No 1 lode, by a shaft to 145ft. Recorded production for these workings was up to 1,200 tons of quartz, assaying around 1oz/ton, however, the records appear incomplete, especially regarding later gouging operations. Nevertheless these operations are unlikely to raise the production figure by any significant amount.

5.4.1 O'Brien's No 1 Adit

Most of the gold recovered in the O'Brien's area came from the O'Brien's No 1 deposit. This lode has been worked to adit level and from winzes, to 25ft. below adit level. The open stope at surface indicates that the vein was worked over a length of 50m and had a width of around 3-4m. Access to these workings is restricted to the recently reopened adit level and winze. Exposures of vein material in these reopened workings is visible only in the east face of O'Brien's No 1 winze. Three samples of vein material taken from this winze gave assays of 73cm @ 17.8 g/t Au. with an additional 80cm @ 2.91 g/t Au. at around 3.3m below adit level. Surface dump material taken from the periphery of the open stope showed an average value of 16.6 g/t Au.

The surface expression of this lode indicates that it strikes east-west and dips south at approximately 75-80°. The ore shoot appears to plunge to the east, but the exact angle of plunge is not known.

Between 1954-1956, a total of five diamond drillholes were drilled to intersect this vein at depth. Of the five holes, two intersected old workings (either the shaft or the 145ft level workings) and the remaining three intersected the vein structure. Two of these "vein" intersections were outside the ore shoot and consisted merely of thin veinlets and stringers of quartz. The third vein intersections gave results very similar to those obtained in the winze. The values obtained in this intersection are shown in Appendix 2 and gave an overall result of 14ft 8". (4.47m) (true width) at 6.3dwt/ton (10 g/t Au). The projected point of intersection of this drillhole, indicates clearly that the drillhole intersected the oreshoot between the adit level and the

145' level. No values are available for the 145' level, although it is rumoured that the ore shoot was intersected in the main crosscut from the shaft. All these indications suggest that the O'Brien's No 1 ore shoot continues to at least the 145' level, if not deeper. If the dimensions and grade of this ore shoot remain consistent in depth, it is possible to make a calculated guess at the possible reserves for this deposit. This would be expected to be around 400 tonnes per vertical metre with assays of around 6dwt/tonne (9.3 g/t Au). Assuming that this ore shoot continues to the 145' level and excluding the first 55ft which has been mined out, there remains a possible 90ft containing, an estimated, 10,000 tonnnes of unworked vein material. This is the potential reserve for this mine, and extensive drilling or underground development would be essential to confirm these figures.

5.4.2 O'Brien's No 2 Adit

The O'Brien's No 2 adit level was used to work the No 2 quartzlode and also to work ore from the "Iron Lode". These two lodes will be included in this section of the report.

Access into the adit level is possible only up to the open stope where the drive has collapsed. The surface exposures of the open stopes indicate that the vein was driven along and in part stoped out for a strike length of 54 metres. No exposures of vein exist along this section of the vein. but it appears, from the open stopes that the vein was narrow (40-60cm) and discontinuous. Samples of vein material taken from dumps, yielded low assay values of betweem 2.8 and 5.0 g/t Au. To the south of the main vein, a secondary branch of this lode has been stoped over a strike length of 15m, but vein widths appear to be narrow.

Recorded production for these lodes is 300-400 tons, yielding between 18dwt to 1oz/ton (27.9-31.0g/t Au). No evidence of these high assays was recorded in the dump sampling, except at the junction between the ironstone lode and the No 2 lode, where dump material assayed 26.0g/t Au. The potential tonnage for this deposit, assuming the following dimensions 15m long x 1m wide (minimum mineable width) x 2.65 (S.G.) would be approximately 40 tonnes/vertical metre which if continued down to the 145' of the O'Brien's No 1 shaft would indicate a possible reserve of 2-2500 tonnes.

5.4.3 O'Brien's No 3 Adit

O'Brien's No 3 Adit consists of a short tunnel into the hillside and a crosscut along the lode for a distance of around 35m. Along this crosscut two parallel quartz lodes trending 100°N and dipping north at 85° are visible. Both lodes exist as a series of quartz lenses infilling two minor fractures. The two lodes were sampled throughout the crosscut and gave values ranging from 0.3 to 16.0 g/t over widths of 25-35cm. Only a small amount of stoping has been carried out with no records of any gold having been produced.

The O'Brien area also contains a number of small veins which have been prospected and pitted. In one such case, between O'Briens No 1 and 2, a north south trending lode produced a few tons of high grade ore from surface trenching.

Evaluating the potential of the O'Brien's group is difficult. Certainly this group has produced the largest amount of ore and gold in the Dan Rivulet Goldfield. The group has been handicapped also by the low relief in which the veins occur. This has made past exploration more costly and more difficult than any other deposit in the area. The indication of a continuity of the O'Brien's No 1 lode in depth, is promising, although the tonnages and grades are small. In addition there is a minor possibility of unexplored extension to these lodes, below the alluvial cover of the Dan Rivulet flats. If further exploration is envisaged in the Dan Rivulet area, these two possibilities should be explored fully.

5.5 King Edward-Starlight-Carnegie Area

The King Edward, Starlight and Carnegie are names given to three individual mines. In the surrounding area, additional vein deposits have been prospected and tested by shafts and trenches. These indicate that a network of veins/fractures exist (See Figure 1). Most of the major ore shoots worked in this region were formed at the intersection of two fractures or veins and therefore it is important to consider each of these deposits in their regional setting.

5.5.1 King Edward Mine

This mine worked a small ore shoot in two adit levels. The ore shoot developed at the fork of two narrow veins which trend N-W to ESE-WNW. At the junction of these two veins a lens of rubbly quartz occurs. This has widths of around 1ft (0.3m) and was stoped out to surface over a length of 20ft (6.1m). High grades were recorded in this small ore shoot, exemplified by the production in 1905 of 255 oz from 78 tons of ore, resenting a head grade of 3 oz 5dwt/ton or 101g/t Au. The total recorded production for the mine was 231 tons of ore, which yielded 323 oz, thus indicating an average grade of 1 oz 8dwt/ton (43g/t Au). From samples taken in the lower adit and from production figures for the final year, the grade of ore appears to diminish in depth and no attempt seems to have been made to work this ore shoot below the lower adit level. To the east of the King Edward mine, another vein has been prospected by a series of trenches. This vein trends 160-170°N and has been prospected over a strike length of 100m. Exposures of vein are limited to the trenches, where the lode is mainly low grade, white quartz, infilling a brecciated fault zone, however, locally thin veinlets and stringers of sulphide rich grey quartz can be found. Grades of mineralized quartz taken from these trenches gave an average value of 1.6g/t Au. The strike direction of this vein would appear to indicate that this lode is an extension of the mineralization exposed in Carnegie No 2 adit.

5.5.2 Starlight

The Starlight adit has explored three different vein systems, although it has mined only one ore shoot. The estimated production for this mine is around 600-800 oz Au and this came from an irregular lode containing lenses of mineralized quartz upto one metrewide. The overall ore shoot was stoped to a depth of 40m, by adit and winze over a total length of 28m. The past mining operation was very selective and extracted only the richer pockets of ore. The grade of one such ten ton parcel of ore was 2oz 15dwt/ton (85g/t Au). The lode in which this ore shoot has formed, has a trend of 110°N, however, a secondary N-S fracture/vein intersects the main lode at the position of the ore shoot. Extensions of this main trending lode can be seen in the area of the Carnegie mine. In addition to the main ore shoot, two other vein systems were intersected by the adit level.

At a point 67m from the portal into the Starlight adit, a 10-20m long north/south trending vein (westerly dip of 53°) was stoped for 7m above the main drive. Samples of quartz from this stope assayed 3.1g/t Au, although surface trenches on the same vein assayed 10g/t Au. There is a possibility of extensions of this vein to the south. In addition, a number of parallel veins are present within a 40m zone to the east of this vein. One important parallel vein is located adjacent to survey pegs 9/5 and 9/6. This north-south lode has given assay values ranging from 3.8-24.7g/t Au. The lode occurs at the junction of east-west and north-south trending fractures and appears to be of limited strike length (believed to be 15m) lode widths are generally greater than 20cm. Extensions of this lode and others, within the 40m zone mentioned above, are believed to correspond with north-south fractures observed in the main ore shoot of the Starlight mine.

At 27m from the portal along the Starlight adit main drive, a major 5m wide east-west fracture zone is visible. This fracture zone is characterised by manganese and haematite staining of numerous parallel fracture planes, together with some minor quartz stringers. A crosscut both east and west of the main drive has been driven on this structure, but no stoping has been carried out. Assays of samples taken in this fracture zone, gave values of 2.5 and 0.3g/t Au. To the west of the maindrive, these fractures appear to converge and conversely, to the east, the fractures bifurcate and eventually intersect the lode exposed near survey pegs 9/5 and 9/6.

To the east of the Starlight group of mines, prospecting pits have been dug on the possible extension of the Starlight main ore shoot. These can be traced into the Carnegie area.

5.5.3 Carnegie Mine

Two adits have been driven in the Carnegie mine and a number of prospecting pits and shafts have been sunk on extensions of lodes beyond the underground workings and on additional lodes.

The only productive workings in the Carnegie was from Carnegie No1 adit. Here an ore shoot was worked to the adit level and for a further 10m below adit level by winze. The total tonnage of gold produced is not known. Most of the ore mined from this adit was taken from a short stope along a vein trending 100oN. This is exposed in the winze, where it has a thickness of upto 1.9m. Assay values taken of the vein in the winze, gave values of 23.2 g/t Au, however, in early government reports, a 1.75m wide vein exposed in the winze was reputed to have assayed 1 oz 5 dwt (38.75 g/t Au. A secondary north-south mineralized vein with a width of 20-30cm and assaying 10 dwt (15.5 g/t Au), is reported to intersect this main lode to the east of the winze. A similar structure exists in the winze at a depth of 6m below adit level and its dip indicates that these are probably one and the same. The formation of this ore shoot appears to be closely controlled by this vein intersection, as it was noted in the winze that the E-W lode developed both in size and grade near this junction. The ore shoot seems to have a limited horizontal length of between 5-10m which plunges westwards. Evidence from the stopes and winze, together with information found in historical records, suggests that the ore shoot diminishes in depth.

Two diamond drillholes were drilled by the Mines Department to intersect this lode in depth. (The records form Appendix 2). Although the vein structure was intersected in one drillhole, no significant mineralization was found. This may indicate that the oreshoot does not continue in depth, however, a more likely explanation is that the narrow oreshoot was missed in both drillholes.

Carnegie No 2 adit is located 40m to the northwest of No 1 adit and has been driven on a different lode system. Most of the work in No 2 adit appears to be exploratory, following northwest trending fractures and stringers. In the adit, this NW trending fracture zone has a minimum width of 7m and can be traced at surface by a series of trenches and pits, over a distance of 80m. Most of the stringers and veinlets are narrow (max 20cm) pods of mineralized quartz, which have assayed between 0.8 g/t Au and 6.8 g/t Au.

Their scanty distribution makes them uninteresting from an economic viewpoint, but at survey peg 7/11, this fracture zone intersects an east-west trending vein and forms a rich pod of quartz. Assays of dump material from a pit on this pod, gave values of 29.5 g/t Au, although the extent of this mineralization appears to be very limited.

Along the line of the east-west vein, some traces of gold (2.4-1.8 g/t Au) were recorded in some of the quartz samples. A similar WNW trending vein, was prospected further still to the north.

In addition to the NW trending fracture zone, another cross fracture trending 115°, was exposed in Carnegie No2 adit. This represents the continuation of the main lode in the Starlight mine. This quartz vein is very narrow (10cm) and contains only traces of gold (1.1 g/t Au). The entire length between the Carnegie adit and the Starlight stope, has been prospected by pits and shafts and no significant mineralization was discovered.

The main conclusions to be reached on this area are as follows: (i) The ore shoots mined in the past, were all formed by the intersection of two fracture systems.

(ii) Surface prospecting has been extensive, especially in the vicinity of projected fracture intersections

(iii) The limited lateral extent of these ore shoots, together with the indications of their diminishing size and grade with depth, makes the economic exploitation of these deposits unlikely.

5.6 Havelock Mine

The adit level of the Havelock mine was accessible at the time of my investigation, however much of the ore exploited in this mine came from a 200ft shaft with levels driven at 100ft and 140ft.

On the adit level, one lode has been driven along for a distance of 42m. This lode trends 160° and dips southeast at between 50-75°. Mineralization along this lode structure is erratic with numerous quartz lenses separated by sections of

brecciated slates. Samples of this lode taken in the adit level, have shown a range of values from 0.12 to 9.3 g/t Au over an average width of 35cm. One 5m long section of this lode has been stoped to surface and the continuation of this ore shoot below the drive, has been underhand stoped to a depth of 15m.

To the north east, a continuation of the same lode has been worked to a depth of 50ft by an underlay shaft. In addition, a vertical shaft has been sunk to a depth of 200ft and the records suggest that a second parallel lode, to that exposed at surface, was worked on the 100' level and 140' levels. Around 250 tons of quartz assaying 15dwt (23 g/t Au) was raised from this shaft and this forms the major part of the production for this mine.

Although this lode occupies a strong fault and continuity with depth would be assured, the limited tonnage of ore contained in and mined from, this lode to the 140ft level, is not encouraging and would not appear to warrant further exploration in depth.

5.7 Strickland Mine

A number of veins have been identified in the Strickland Mine. In the lower adit, three main quartz lodes are found, as well as a number of narrow stringers. Of all the veins present, only one gave significant gold values. This vein trends 032°N and dips northwest at 70°. Three winzes and three short stopes have worked and explored the richer sections of this lode. The thickness of the lode varies from 19cm to 150cms, although the majority of the small ore shoots that were worked, had an average thickness of 20-50cm. The most important ore shoot is found in Winze No 3 and the stope above. Here, grades ranged from 11.2-12.9 g/t, but one grab sample gave an assay of 36.8 g/t Au. The extent of this ore shoot within the vein adit/fracture has a total length of less than 15m exposed in the lower adit.

The upper adit has been driven along a narrow mineralised fracture. Two samples of small quartz lens contained in this fracture gave values of 0.7 and 25.0 g/t Au.

Along the crest of the hill, a short, 15m long, cut has been made on a mineralized vein with the same trend and dip as those exposed in the tunnels. This cut has mined the lode down to at least 9m. Very little quartz is left exposed in these workings, but one sample of vein gave an assay of 0.8 g/t Au over 40cm.

Only a very minor tonnage of ore, was ever produced from this deposit, as access was difficult and ore shoots were small. This mine is located near the top of a very steep sided hill. Below the Lower Adit there is ample room for additional adit levels to test the vein at depth. However the size of the oreshoots, grades of mineralization and the narrow lode widths indicate that this exploration would not be justified at present gold prices.

5.8 Hinemoa

The Hinemoa deposit has been explored by three adits and a series of surface trenches and pits, over a total strike length of 250m. No ore has been produced at this mine, although the exploratory work on the deposit has been extensive (Figure 13).

The Hinemoa deposit consists of one continuous vein system, which has been mineralized to a varying degree along its entire length. Some sub-parallel lodes may exist, but these are probably of minor importance. The Hinemoa vein strikes north-south and dips at an average of 75^{o} to the west. Vein exposures can be traced over a strike length of 250m and have an average width of about 25cm.

The Lower Adit (No 1 Tunnel) has been driven south along the vein from the Una Creek, for a total length of 60m. This tunnel forms the best exposure of this vein. Most of the features exhibited by the vein in the tunnel, are characteristic of lode deposits and include:- discontinuous pods of quartz forming within the vein structure; en echelon arrangement of pods of quartz; gold values contained within the vein structure, even sections absent of quartz; braiding of fractures and occasional quartz lenses associated with cross fractures.

All these factors have resulted in variable vein thicknesses and assay values, but like most vein deposits, zones of higher values exist. These form ore shoots within the lode, an example of which is apparent in the Lower Adit (No 1 Tunnel). In the first 55m of this tunnel, the grades and vein widths are predominantly high, giving an average of 11 g/t Au (excluding an anomalous value of 525.0 g/t Au) over a mean width of 62cm. If this ore shoot continues to surface, this would suggest a possible reserve of 1300 tonnes of quartz assaying 11.0 g/t Au to adit level.

To the south of No 1 Tunnel, the vein appears to diminish in values and thickness. The Upper adit and a series of six trenches indicate a narrow vein width containing only traces of gold. Beyond this, a second "ore shoot" is apparent. This has been exposed in trenches from survey points 197 to 202, a total horizontal distance of 55m. The northern portion of this ore shoot, has been driven along in the Rayner's Tunnel for a total length of 18m. In this tunnel the vein pinches out to the north and furthermore, shows an improvement in grade to the south. Within this "oreshoot" the vein has an average width of 25cm and an average grade of 8.5 g/t Au. This would represent a "reserve" of about 2,000 tonnes with an average grade of 8.5 g/t Au, assuming continuity of the vein between adit level and surface.

The "reserves" as quoted, represent the maximum tonnage of vein quartz that could exist above adit level, as indicated by the recent mapping. No adjustment has been made for minimum mineable widths or dilution. Both these factors would, in all probability, make mining these oreshoots uneconomic.

In conclusion, it is evident that both the reserves and size of the ore shoots are small and therefore no further major expenditure is justified.

5.9 Una Mine

Five adits and several trenches have opened up a number of separate lode deposits in the Una mine. These veins are all geologically interelated as they have formed along a single major shear zone, the full extent of which is not known. Mineralized veins have been found in a zone 550m long and 75m wide. All the workings to date are shallow and expose a series of fairly short, narrow mineralized quartz lodes containing mainly low gold values. Due to the close relationship between the veins and the shear zone, all the lodes have similar trends (040°N) and most dip steeply to the west.

Adit No 1 is the most northerly working and has followed a vein over a strike length of 57m. The width of this vein is usually between 20-30cm, however, a quartz blow has been stoped in part of these workings where the vein attained a width of 1m. Assay values for samples of this vein ranged from 0.35 to 4.63 g/t Au, but one additional sample of dump material yielded a value of 51.9 g/t Au.

Sixty metres to the west of this lode, a parallel vein exists. A series of prospecting pits have exposed this vein which shows a width of 30cm, but contained only traces of gold (0.11 g/t Au). South of these two veins, there is a section of the shear zone in which only a few isolated veins have been exposed. One such vein was trenched over a length of 8m (survey peg 153) and this had exposed a 30cm vein which assayed 83.5 g/t Au. To the south, another major vein has been intersected and driven along by two adits. This vein has a strike length of 80m. No 2 Adit was driven along this vein for 25m and four assay values of samples taken across the vein averaged 1.6 g/t Au. Adit No 3 was also driven to intersect this vein and exposed a 1 metre quartz lode which assayed only 1.15 g/t Au. The extension of this vein has been exposed by surface trenches, but averaged only 30-35cm.

Additional parallel lodes occur to the east, where they have been exposed near the Una Creek by trenching and a short adit (although the extent of mineralization in this area appears limited) and to the west, where a vein has been exposed along the crest of the hill (this vein contains little or no mineralization at surface). The fourth main adit was driven eastwards from a tributary of the Una Creek. This adit never reached the lode deposits before it was abandoned. Within this adit, however, there was a strong cleavage to the slates, which was parallel to the main shear direction.

No significant gold production has come from the Una mine and most of the lode material extracted, with the exception of No 1 adit, has been taken from surface trenching along the lodes. This may indicate that there was some shallow surface enrichment which was of an economic grade; certainly the grades and vein widths indicated by the recent investigation, showed the ore potential of these lodes to be minimal. However, there is one geological factor which makes the Una mine potentially one of the more interesting areas examined in E.L.31/76, this is because it has the strongest structural control. This structure, and therefore the associated veins, would undoubtedly continue for quite some distance in depth. If the lode deposits continue to be similar to the veins exposed at surface, these would not be of any economic value, but quite often large structures can develop large deposits, especially in the case of vein deposits, consequently, if further exploration is to be carried out in this region this deposit should be tested in depth.

5.10 Conclusions on Lode Deposits

Lode deposits are characterized by an extremely erratic distribution of vein widths and grades. Consequently it is very difficult to predict whether a gold vein will continue or expand in depth beyond the existing workings. In the old days companies frequently went bankrupt chasing the next ore shoot. Unfortunately, modern technology is not very much further advanced in answering questions on the distribution of mineralization in veins, with the only modern means available for testing veins being diamond drilling, which is expensive.

The only method available to a geologist when evaluating lode deposits, is to examine the structural controls of the lode and to base his assessment of the deposit on the size and type of control.

In the Dan Rivulet area, the controls consist of faults or intersecting fractures. In most cases, these faults and fractures are irregular, small scale displacements, which, I believe, have little or no chance of improving in depth. Therefore, the size of the known deposits/workings are considered typical of what is likely to be found if exploration is continued beyond the present workings. Of all the gold mining areas in E.L. 31/76, the O'Brien's area was both the largest producer and had the greatest concentration of gold mineralization in any one area although even here, the total gold production is at best 1,200 oz of gold. It is possible that the ore shoots continues below the O'Briens working and that these could contain a small quantity of reserves, however, the high mining cost involved in working such small deposits, and the high capital costs of plant and machinery would make mining this, or any of the other deposits, uneconomic at present gold prices. If the price of gold continues to increase and therefore should exploration continue on the lode deposits in the Dan Rivulet area, the recommended targets are:

(i) Oreshoots below the existing workings in the O'Brien's Mine (Lodes 1 and 2)

(ii) Extensions below eluvial and alluvial cover of the O'Brien's No 1 and 2 lodes, and the Havelock lode.

(iii) Exploration of the Una shear zone which is the only significant structure known to be mineralized in the Dan Rivulet area.

(iv) To prove or disprove a theory by Threader suggesting a possible major shear zone exists below the Dan Rivulet valley flats. This shear may be a continuation of the "Main Slide" of the Golden Gate Mine.

The only means by which these targets can be evaluated is by drilling and/or underground development. In which case, the costs would be high, so that this exploration must, be considered as low priority, and dependent on current gold prices.

The final conclusion that must be drawn from this report, is that there is little potential for a viable company sized operation, given the current price of gold. Only the lode deposits have shown grades of mineralization that could be economically mined, but the tonnages are believed to be small. Further extensive exploration would be required before any mining operation could be considered. This exploration is of low priority and should be postponed until gold prices improve.

P.R. MITCHELL
PROJECT GEOLOGIST

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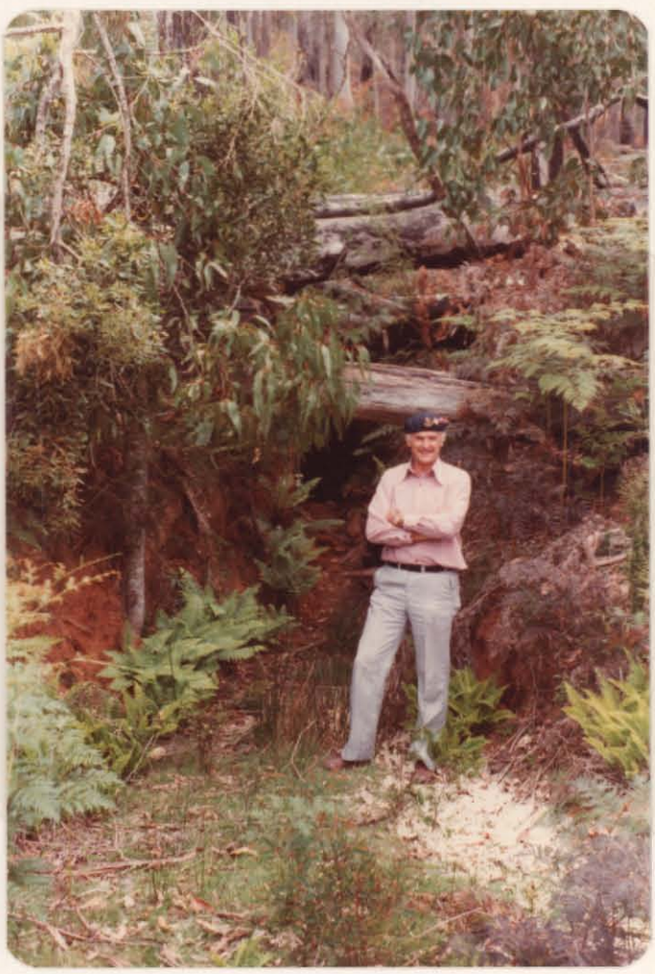

Trenches and adits exposing quartz lodes in the Carnegie and O'Brien's Area.

034.

Alluvial Drilling

Sample
Collection

Sample
Processing

061035

APPENDIX 1

TABULATED BOREHOLE RESULTS

SM STURTS MEADOWS PROSPECTING SYNDICATE : DAN RIVULET PROJECT

Alluvial Drilling — Line F — Borehole

SUPERVISED BY P.R.MITCHELL for A C A HOWE AUSTRALIA PTY LTD DRILLED FEB/MARCH 1980

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (G)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
F1	1	Very clayey topsoil and containing some minor fine/medium gravel	24.8	2.62	271	≤0.1	<3	–	–
F1	2	Clay rich horizon with minor sand and grit. Clay balls very common.	44.2	1.13	170	3.9	<3	0.015	–
F1	3	Sandy gravels. Pebbles mainly slate with minor quartz. Some clays present.	45.9	37.04	962	<0.1	<3	–	–
F1	4	Very sandy with slate/dolerite and quartz pebbles and also light brown sandy shale boulders.	62.4	40.87	752	1.5	<3	0.018	–
F1	5	Very clayey decomposed bedrock with yellow iron stained shales, well cleaved and angular	26.4	33.33	870	0.3		0.01	–

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BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (G)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
F2	1	Mainly clayey topsoil with only minor gravels.	35.8	2.51		1.2			
F2	2	Clayey gravel with medium - fine gravel.	46.0	17.17	1212	<0.3		-	
F2	3	Sandy (and some clay) with coarse to pebbly gravel. (Yellow clay). Pebbles made up predominantly of Shales and Slates	55.2	30.80	666	<0.3		-	
F2	4	Sandy gravel. Gravel mostly medium to coarse with minor pebbles.	54.6	51.10	578	<0.3		-	
F2	5	Clay with medium - coarse gravelly sand, mainly slate	49.7	36.82	428	6.3		0.030	
F2	6	Yellow clayey gravel containing numerous blocky shale pebbles and fairly angular, possibly decomposed bedrock	56.3	22.56	460	0.4		0.002	
F2	7		47.0	13.62	620	0.8		0.009	
F2	8	Clay with some slate gravel, but mainly cont. bedrock with also 20cm core of shale. Some Mn Fe Quartz	8.8	29.46	385	<0.3		-	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (K.G)	GRAVEL %	CONCENTRATED WEIGHT (G)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						AU	AG	AU	AG
F3	1	Topsoil with vegetation and minor coarse sand/fine gravel.	8.4	-	480	<0.3		-	
F3	2	Mainly topsoil with some clayey gravels.	24.4	4.09	727	<0.3		-	
F3	3	Dark grey sandy gravel, with coarse gravel, mainly slatey with minor quartz.	38.5	43.64	410	1.4		0.007	
F3	4	Slatey gravel with minor quartz gravel coarse grit-small pebble.	145.9	48.25	1240	<0.3		-	
F3	5	Brown clay rich gravel. (Gravel medium-coarse grained)	51.5	45.05	812	0.8		0.006	
F3	6	Yellow sandy/clayey gravel	57.2	17.13	974	<0.3	—	-	
F3	7	Yellow clay rich gravel with some bedrock.	127.6	15.75	710	3.9		0.012	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG.)	GRAVEL %	CONCENTRATED WEIGHT (G)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						AU	AG	AU	AG
F4	1	Fine - medium - coarse slatey gravel.	32.9	40.43	1000	≤ 0.1	< 3	—	
F4	2	Fine to medium sandy gravel	87.5	41.71	761	≤ 0.1	< 3	—	
F4	3	Fine to medium sandy gravel	68.9	53.99	732	≤ 0.1	< 3	—	
F4	4	Fine sandy gravel	54.2	7.01	876	0.9		0.015	
F4	5	Pebbly yellow and blue slates with some yellow sandy clays	98.1	50.87	925	< 0.3		—	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (G)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						AU	AG	AU	AG
F4 A	1	Fine gravel with black clay topsoil.	13.1	3.82	295	<0.3		–	
F4 A	2	Blue slate grit - Fine gravel	16.9	7.10	537	<0.3		–	
F4 A	3	Blue slate grit - Fine gravel	27.5	22.18	1033	1.2		0.017	
F4 A	4	Fine sandy gravel	29.0	23.45	1526	0.6		0.014	
F4A	5	Yellow clay rich coarse gravel/ pebbles. Mainly yellow shale but some slates	39.0	58.46	620	3.6		0.034	
F4A	6	Yellow clay, coarse gravel and pebbles, A little quartz	55.0	37.45	798	1.6		0.012	
F4A	7	Coarse yellow gravel and pink and yellow bedrock	46.8	30.34%	1210	<0.3		–	
F4A	Composite 0-7	Fine sandy gravel	21.6	0.93	2600	<0.3		–	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (G)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
FS	1	Fine blue gravel	10.2	4.90	1018	<0.3		–	
FS	2	Coarse and fine blue gravel. Some quartz.	66.3	41.93	800	<0.3		–	
FS	3	Coarse and fine blue gravel and a little quartz.	53.1	45.76	2005	<0.3		–	
FS	4	Coarse and fine blue gravel and a little quartz.	53.8	48.14	2472	<0.3		–	
FS	5	Fine blue sandy gravel	19.6	13.78	2460	<0.3		–	
FS	6	Fine yellow clay gravel and a little quartz.	26.4	8.71	1270	0.9		0.028	
FS	7	Fine blue gravel and a little quartz.	25.0	20.0	290	0.3		0.002	
FS	8	Fine blue gravel and a little quartz.	26.0	27.69	465	<0.3		–	
FS	9	Fine blue gravel and a little quartz.	17.6	17.61	424	2.2		0.036	
FS	Composite 1-9		68.1	12.33	438	1.1			

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (G)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
F6	1	Topsoil. Blue pebbles	14.5	10.34	613	<0.3		–	
F6	2	Black clayey soil with fine – coarse blue slate gravel and a little quartz.	47.8	56.28	675	<0.3		–	
F6	3	Fine blue gravel and grey clay.	45.0	32.22	860	<0.3		–	
F6	4	Coarse-medium pebbly gravel, mainly blue slate but some yellow shale with very minor yellow clay	60.1	47.75	693	<0.3		–	
F6	5	Yellow clay with fine and coarse blue slate, yellow shale and a little quartz.	67.9	31.22	950	0.5		0.007	
F6	6	Yellow clay with coarse and fine blue slate and yellow shale	78.3	38.06	695	<0.3		–	
F6	7	Yellow clay with coarse and fine blue slate and yellow shale	94.2	34.29	301	<0.3		–	
F6	8	Yellow clay, fine blue slate and fine yellow shale	49.7	11.87	554	<0.3		–	
F6	9	Thick yellow clay with bedrock blocks almost all representing bedrock – pink yellow soft shales	40.9	–	455	<0.3		–	
F6	1-9		22.0	0.68	591	<0.3		–	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (G)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
F7	1	Topsoil. Fine gravel with some clay.	28.7	2.09	509	0.3	NA	0.008	
F7	2	Fine-coarse blue slatey gravel with some topsoil.	27.9	57.71	1361	<0.3	NA	–	
F7	3	Fine gravel with sandy clay matrix. Gravel - mostly blue slate with some quartz.	29.2	34.93	2029	<0.3	NA	–	
F7	4	Fine blue slate in yellow sandy clay.	51.7	26.31	1175	<0.3	NA	–	
F7	5	Yellow clay with some fine-medium gravel. Much quartz (mainly angular)	55.8	4.66	1214	<0.3	NA	–	
F7	6	Orange clay with some fine-medium gravel with minor quartz.	48.8	3.48	1413	<0.3	NA	–	
F7	7	Orange clay with fine-medium gravel.	48.6	7.0	1681	<0.3	NA	–	
F7	8	Orange clay and a little fine gravel.	55.3	1.08	1059	<0.3	NA	–	
F7	9	Orange clay with some fine gravel. Some fragment of visible shale bedrock.	50.4	2.98	760	<0.3	NA	–	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (G)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						AU	Ag	AU	Ag
F7	10	Orange clay with some fine gravel and shales	44.2	0.9	987	<0.3		–	
F7	11	Orange clay with small quantity of gravel and minor shales	44.3	–	1342	<0.3		–	
F7	12	Orange clay with much gravel. Due to change of bit - hole collapsed.	49.1	24.24	1609	<0.3		–	
F7	1-12 composite		21.1	10.43	1130	<0.3		–	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (G)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag.
F8	1&2	Topsoil with fine and medium gravel	58.7	34.92	1811	<0.3		-	
F8	3	Yellow clay with fine gravel	28.5	44.21	1612	<0.3		-	
F8	4	Fine sandy blue gravel.	76.4	40.05	2350	<0.3		-	
F8	5	Fine sandy blue gravel	49.6	28.02	1820	<0.3		-	
F8	6	Fine sandy blue gravel and a little yellow clay.	91.0	36.48	1842	<0.3		-	
F8	7	Fine and medium blue gravel in a little yellow clay.	80.8	45.92	1533	<0.3		-	
F8	8	Fine and medium blue gravel in yellow clay	57.4	34.84	1675	<0.3		-	
F8	9	Yellow sandy clay with fine yellow and blue gravel	71.6	25.56	1278	0.3		0.005	
F8	10	Yellow clay with fine yellow and blue gravel.	78.7	29.48	1350	<0.3		-	
F8	11	Yellow clay with brown sands and quartz.	41.70	8.15	1371	<0.3		-	
F8	12	Orange clay, brown sands and a little quartz.	46.8	4.27	980	<0.3		-	
F8	13	Orange clay with fine and coarse sand.	80.3	22.17	1050	<0.3		-	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (G)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						AU	Ag	AU	Ag
F8	14	Fine brown sands in orange clay	95.8	18.27	1828	<0.3		–	
F8	15	Fine and coarse sandstone and a little quartz in orange clay	79.9	48.56	1316	<0.3		–	
F8	16	Orange clay with fine sandy gravel	109.7	12.67	2081	0.5		0.01	
F8	17	Orange clay with a little fine gravel.	40.4	1.24	723	3.0		0.054	
F8	18	Orange clay with a little gravel	39.8	0.50	990	<0.3		–	
F8	19	Orange clay	45.8	–	494	<0.3		–	
F8	1–19 composite	Yellow clay with coarse and fine gravel.			1093	0.3		–	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (G)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
F9	18 2	Topsoil and fine blue gravel	41.1	17.03	1170	<0.3		—	
F9	3	Brown sandy soil with fine blue gravel.	49.7	29.18	1741	<0.3		—	
F9	4	Yellow clay + Sandy and fine blue gravel.	40.0	29.5	1430	<0.3		—	
F9	5	Yellow clay with sandy and fine blue gravel.	34.3	36.44	1180	<0.3		—	
F9	6	Yellow clay and fine blue gravel.	31.3	34.19	1902	<0.3		—	
F9	7	Yellow clay and fine blue gravel	42.4	20.52	1451	<0.3		—	
F9	8	Yellow 'fine' sands in yellow clay.	47.4	6.33	759	<0.3		—	
F9	9	Fine brown gravel in yellow clay plus a little quartz.	45.7	9.85	1250	<0.3		—	
F9	10	Yellow clay and fine brown gravel plus a little quartz.	49.6	6.05	821	<0.3		—	
F9	11	Fine brown gravel and a little quartz in yellow clay	45.5	8.57	1136	<0.3		—	
F9	12	Fine yellow sandstone and a little quartz in yellow clay.	40.2	3.48	1430	<0.3		—	
F9	13	Fine sands and a little quartz in yellow clay.	30.4	3.95	1195	<0.3		—	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (G)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
F9	14	Fine blue and brown gravel in yellow clay.	45.3	0.44	724	<0.3		–	
F9	15	Yellow clay.	22.9	–	670	<0.3		–	
F9	16	Yellow clay	48.7	–	548	<0.3		–	
F9	17	Fine brown and blue gravel in yellow clay.	50.2	0.80	734	<0.3		–	
F9	18	Orange clay	53.6	–	408	0.3		0.002	
F9	19	Orange clay	58.3	–	652	<0.3		–	
F9	20	Orange clay	47.0	–	652	<0.3		–	
F9	21	Orange clay	51.7	–	948	<0.3		–	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (G)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						AU	Ag	AU	Ag
F10	1	Topsoil mixed with brown slate and quartz.	29.0	8.62	1078	< 0.3		—	
F10	2	Brown sandy soil with fine and coarse blue and brown gravel.	54.7	17.18	1397	0.4		0.01	
F10	3	Brown sandy soil with fine-medium blue and brown gravel.	35.4	32.49	1850	<0.3		—	
F10	4	Sandy soil with fine and coarse blue gravel	47.1	40.76	1541	<0.3		—	
F10	5	Sandy yellow clay with fine-medium blue and brown gravel	85.4	21.55	1840	<0.3		—	
F10	6	Sandy soil with fine-medium blue and brown gravel.	67.3	37.74	2164	<0.3		—	
F10	7	Fine blue gravel in yellow sandy clay	51.9	36.22	1403	<0.3		—	
F10	8	Fine and coarse sands	30.5	18.03	961	<0.3		—	
F10	9	Fine and coarse sands	56.2	16.55	2575	<0.3		—	
F10	10	Fine blue and brown gravel in yellow clay	89.6	25.22	1264	<0.3		—	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (G)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						AU	Ag	AU	Ag
F10	11	Fine and coarse sands and a little quartz in yellow clay	62.7	16.75	1030	<0.3		—	
F10	12	Fine and coarse sands. Yellow clay	63.6	10.22	1069	<0.3		—	
F10	13	Fine-coarse sands with yellow clay	60.2	18.77	1493	<0.3		—	
F10	14	Fine and coarse sandy gravel in orange clay.	63.0	23.17	1590	<0.3		—	
F10	15	Fine sands in orange clay.	39.1	3.58	1500	<0.3		—	
F10	16	Orange clay with coarse and fine brown gravel.	49.7	9.05	1191	<0.3		—	
F10	17	Orange clay with fine and coarse sands.	61.1	2.62	1152	<0.3		—	
F10	18	Orange clay and fine sands.	33.9	2.06	1134	<0.3		—	
F10	19	Orange clay and coarse sands	46.5	6.45	1418	<0.3		—	
F10	20	Pink shaley siltstone - bedrock with some yellow clays.	31.0	12.9	742	<0.3		—	
F10	1-20 composite	Blue and brown gravel in sandy yellow clay	66.3	24.59	1491	<0.3		—	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (G)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
F11	1	Topsoil, with fine and coarse brown stone	35.8	15.36	1081	<0.3		—	
F11	2	Brown sandy soil with coarse and fine brown gravel.	45.0	18.89	1660	<0.3		—	
F11	3	Yellow clay with fine brown gravel and a little quartz.	52.8	5.49	660	<0.3		—	
F11	4	Coarse and fine brown gravel in yellow clay	65.3	12.56	1005	<0.3		—	
F11	5	Fine black and brown gravel with a little quartz in yellow clay	98.6	8.72	514	<0.3		—	
F11	6	Fine and coarse blue and brown gravel in sandy yellow clay	31.2	34.62	1180	<0.3		—	
F11	7	Fine blue gravel in brown Sandy soil.	75.7	30.38	933	<0.3		—	
F11	8		76.1	30.22	1535	<0.3		—	
F11	9	Fine blue gravel in yellow sandy soil	45.8	23.36	1550	<0.3		—	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (G)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
F11	10	Fine blue and coarse brown gravel in yellow clay	59.5	23.36	1658	<0.3		—	
F11	11	Fine brown and blue slate mixed with yellow sand.	36.6	23.50	1430	<0.3		—	
F11	12	Fine blue and brown gravel in orange clay	42.6	10.56	1316	0.3		0.009	
F11	13	Fine brown gravel and coarse bedrock in orange clay	83.5	8.86	1009	0.3		0.004	
F11	14	Fine and coarse bedrock in orange clay	76.5	5.23	978	<0.3		—	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (G)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
F12	1	Topsoil with fine sand	29.0	12.07	894	<0.3		—	
F12	2	Fine and coarse sand and a little topsoil	38.1		1150	<0.3		—	
F12	3	Fine sand in yellow clay	42.0	8.81	586	<0.3		—	
F12	4	Fine sandstone in yellow clay.	40.0	2.0	688	<0.3		—	
F12	5	Fine sandstone in yellow clay	50.8	1.97	450	1.6		0.014	
F12	6	Fine and coarse sandstone in yellow clay	66.1	7.87	764	<0.3		—	
F12	7	Fine and coarse blue slate in yellow clay.	58.5	34.19	878	<0.3		—	
F12	8	Fine and coarse blue slate with coarse sandstone in brown sandy soil	49.1	41.55	1076	<0.3		—	
F12	9	Fine and coarse sandstone in orange clay.	35.4	13.56	1104	<0.3		—	
F12	10	Fine and coarse sandstone in orange clay	28.1	18.86	1120	<0.3		—	
F12	11	Fine and coarse sandstone in orange clay.	35.1	16.24	1640	<0.3		—	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (G)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
F12	12	Fine and coarse sandstone in orange clay.	55.3	19.17	1628	<0.3		—	
F12	13	Fine and coarse bedrock in orange clay	11.5	13.04	1125	<0.3		—	
F12	1 - 13 Composite	Fine sandstone	25.1	5.98	1485	<0.3		—	

SM

STURTS MEADOWS PROSPECTING SYNDICATE : DAN RIVULET PROJECT

Alluvial Drilling — Line G — Borehole

SUPERVISED BY P.R.MITCHELL for A C A HOWE AUSTRALIA PTY LTD DRILLED FEB/MARCH 1980

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (g)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
G1	1	Fine brown sandstone in yellow clay.	35.1	11.4	1390	13.6		0.539	
G1	2	Fine and medium brown sandstone in yellowish-orange clay.	54.8	5.1	600	<0.3		—	
G1	3	Fine and medium brown sandst in yellow clay.	43.2	18.98	1110	<0.3		—	
G1	4	Fine and medium brown sandst in orange-yellow clay.	47.1	12.1	781	<0.3		—	
G1	5	Coarse and fine sandstone in yellow clay.	39.8	16.33	770	<0.3		—	
G1	6	Fine and medium sandstone in yellow clay.	50.1	18.8	1119	<0.3		—	
G1	7	Fine and medium sandstone in yellow clay.	36.8	12.5	1180	<0.3		—	
G1	8	Fine and medium sandstone in yellow clay.	41.5	10.84	1235	<0.3		—	
G1	9	Fine and coarse sandstone in orange clay.	41.0	10.73	912	<0.3		—	
G1	10	Coarse and fine sandstone in orange clay.	35.3	18.41	760	<0.3		—	
G1	11	Fine and coarse sandstone in yellow and orange clay.	55.0	12.55	588	<0.3		—	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (g)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
G1	12	Coarse and fine Sandstone in orange clay.	33.8	11.83	1156	<0.3		—	
G1	13	Coarse and fine sandstone in orange clay.	32.6	9.51	1251	<0.3		—	
G1	14	Fine and coarse sandstone with a little quartz in yellow clay.	57.2	10.84	1570	<0.3		—	
G1	15	Fine and medium sandst. and a little quartz in yellow clay.	58.5	7.7	950	<0.3		—	
G1	16	Fine and medium sandstone with a little quartz in yellow clay.	43.8	9.4	1330	<0.3		—	
G1	17	Hard yellow and pink clay.	36.0	—	416	<0.3		—	
G1	18	Thick pink clay.	72.0	-	639	<0.3		—	
G1	19	Coarse and fine Sandstone in pink clay.	37.7	5.31	1015	1.2		0.032	
G1	20	Fine Sandstone, a little quartz and bedrock in yellow clay.	47.0	8.3	1272	<0.3		—	
G1	22	Fine Sandstone and quartz with bedrock in yellow clay.	37.9	17.15	1244	<0.3		—	
G1	1-22 composite		20.0	2.5	993	<0.3		—	

*G1/21 — missing

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (g)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
G2	1	Fine and medium sandstone in topsoil.	17.0	17.65	411	<0.3		–	
G2	2	Fine and medium sandstone in brown sandy soil.	44.1	20.41	1628	<0.3		–	
G2	3	Fine and medium sandstone in yellow clay.	57.4	8.4	620	0.3		0.003	
G2	4	Fine and medium sandstone in brown clay.	62.1	13.69	1441	<0.3		–	
G2	5	Fine and coarse brown sandstone in orange clay.	67.7	16.69	548	<0.3		–	
G2	6	Fine and coarse sandstone in orange clay.	52.3	18.93	953	<0.3		–	
G2	7	Fine and coarse sandstone in orange clay.	57.3	11.0	1046	1.5		0.027	
G2	8	Fine and coarse sandstone in orange clay.	55.7	15.62	1174	<0.3		–	
G2	9	Fine and coarse sandstone in orange clay.	41.3	11.86	981	4.5		0.107	
G2	10	Fine and coarse sandstone in orange clay and a little fine quartz.	47.6	16.18	766	<0.3		–	
G2	11	Fine and medium sandstone in yellow clay, with a little fine quartz.	47.9	8.8	724	14.3		0.216	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (g)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
G2	12	Fine sandstone and coarse bedrock in yellow clay.	35.2	11.08	1180	0.3		0.01	
G2	1-12 composite	Brown soil with a little fine gravel.	7.0	4.29	1000	<0.3		–	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (g)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE	
						Au	Ag	Au	Ag
G3	1	Fine and medium brown sandstone in topsoil.	28.6	21.68	610	<0.3		—	
G3	2	Fine and coarse sandstone in brownish clay.	46.5	12.9	918	<0.3		—	
G3	3	Fine and medium sandstone with a little quartz in brown clay.	47.4	10.76	674	<0.3		—	
G3	4	Fine sandstone and a little quartz in brown clay.	70.6	3.82	1029	<0.3		—	
G3	5	Fine and coarse gravel in brown clay.	61.3	1.63	1180	1.3		0.025	
G3	6	Fine sandstone in very hard brown clay.	41.2	0.73	274	<0.3		—	
G3	7	Fine and coarse sandstone in orange clay.	53.8	21.0	1151	<0.3		—	
G3	8	Fine and coarse blue and brown gravel in orange clay.	89.6	28.68	1396	<0.3		—	
G3	9	Fine and coarse blue and brown gravel in yellow clay.	67.2	32.44	1196	3.6		0.064	
G3	10	Fine blue and brown gravel in yellow clay.	76.3	28.18	1211	<0.3		—	
G3	11	Fine and coarse blue and brown gravel in orange clay.	88.8	14.64	800	<0.3		—	
G3	12	Fine and coarse brown gravel in orange clay.	66.1	14.52	828	<0.3		—	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (g)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
G3	13	Fine brown sandstone and coarse bedrock in orange clay	50.4	12.9	876	<0.3		—	
G3	1-13 Composite		8.8		515	<0.3		—	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (g)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
G4	1	Fine and medium sandstone in topsoil.	27.9	23.3	1126	<0.3		–	
G4	2	Fine and medium blue and brown gravel in brown sandy soil.	42.4	22.17	795	<0.3		–	
G4	3	Fine, medium and coarse blue and brown gravel in brown sandy soil.	78.9	27.12	1406	<0.3		–	
G4	4	Fine and coarse blue and brown gravel in brown sandy soil.	56.2	31.67	1152	<0.3		–	
G4	5	Fine and coarse blue gravel in brown sandy soil.	76.5	23.4	630	1.4		0.012	
G4	6	Fine and coarse blue and brown gravel in brown sandy soil.	65.6	32.77	1316	<0.3		–	
G4	7	Fine and coarse brown and blue gravel in brown sandy soil.	67.5	35.11	864	<0.3		–	
G4	8	Fine blue and brown gravel in brown sandy soil.	52.7	25.81	900	<0.3		–	
G4	9	Fine blue and coarse brown gravel in brown sandy soil with a little quartz.	72.6	28.24	814	0.7		0.008	
G4	10	Fine and coarse brown gravel in brown sandy soil	33.5	15.52	551	<0.3		–	
G4	1-10 Composite		11.5		831	<0.3		–	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG).	GRAVEL %	CONCENTRATED WEIGHT (g)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE	
						Au	Ag	Au	Ag
G5	1	Fine brown gravel in topsoil.	35.0	8.29	708	<0.3		—	
G5	2	Fine and medium blue and brown gravel in topsoil and brown sand.	41.1	24.33	856	<0.3		—	
G5	3	Fine blue and brown gravel in brown sandy soil.	60.5	41.65	1352	0.5		0.011	
G5	4	Fine and medium blue and brown gravel and a little quartz in brown sandy soil.	82.7	34.34	1060	<0.3		—	
G5	5	Fine blue gravel in brown sandy soil.	50.6	35.57	1550	<0.3		—	
G5	6	Fine blue gravel in brown sandy soil.	86.8	41.94	1694	<0.3		—	
G5	7	Fine and coarse blue gravel in brown sand and yellow clay.	72.3	29.74	1120	<0.3		—	
G5	8	Fine and coarse blue and brown gravel in yellow sandy clay.	74.7	13.39	1230	<0.3		—	
G5	9	Yellow clays with shale and slatey gravel.	69.8	27.08	1232	<0.3		—	
G5	10	Yellow shaley gravel in yellow sandy clay.	56.4	40.78	1480	<0.3		—	
G5	11	Yellow shaley bedrock with some yellow sandy clay.	105.2	18.06	965	1.2		0.011	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (g)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag.
G6	1	Topsoil with coarse slatey gravel.	24.7	48.18	502	<0.3		-	
G6	2	Fine - coarse slatey gravel.	38.7	61.76	1431	<0.3		-	
G6	3	Fine - coarse slatey gravel.	66.5	46.62	1400	<0.3		-	
G6	4	Coarse and fine slatey gravel	132.0	56.06	2081	<0.3		-	
G6	5	Fine - coarse slatey gravel.	60.9	67.32	1780	<0.3		-	
G6	6	Yellow clay and fine - coarse slatey gravel.	94.5	52.28	1190	<0.3		-	
G6	7	Yellow clay and fine slatey gravel	73.9	28.42	1718	<0.3		-	
G6	8	Yellow clay and fine slatey gravel.	49.6	25.0	1582	<0.3		-	
G6	9	Yellow clay and very sandy gravel	46.4	7.33	1090	<0.3		-	
G6	10	Yellow clay with coarse - fine slatey gravel.	157.9	44.02	940	<0.3		-	
G6	11	Thick orange clay with coarse slatey gravel.	136.6	33.24	1100	0.4		0.003	
G6	12	Thick orange clay with coarse slatey gravel.	66.2	66.31	562	<0.3		-	
G6	13	Thick orange clay with coarse slatey gravel.	60.3	56.22	651	<0.3		-	
G6	14	Thick orange clay with fine gravel.	81.9	29.67	910	<0.3		-	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (g)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
G6	15	Thick orange clay with fine gravel and quartz.	136.4	50.3	1283	<0.3		–	
G6	1-15 composite	Mud and fine gravel.	25.3	13.83	1045	<0.3		–	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (g)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
G7	1	Topsoil with some coarse gravels	10.0	20.0	860	<0.3		–	
G7	2	Blue slatey, fine-coarse pebbly gravel with some topsoil	68.4	27.63	3549	<0.3		–	
G7	3	Coarse-medium pebbly slate, with minor sands.	78.6	43.89	2294	<0.3		–	
G7	4	Med-fine slatey gravel.	48.5	36.7	1252	<0.3		–	
G7	5	Medium-fine grained slatey gravel.	45.6	16.88	1900	4.3		0.179	
G7	6	Fine to medium grained gravel with orange clays	33.2	10.24	1792	<0.3		–	
G7	7	Fine-medium grained slatey/shaley gravel with orange clay.	45.5	18.68	1278	1.0		0.028	
G7	8	Orange clay with fine sandy gravel.	30.0	2.16	1238	<0.3		–	
G7	9	Yellow/orange clay with minor sandy gravel.	28.8	1.74	985	<0.3		–	
G7	10	Thick yellow clay with traces of fine sandy/shaley fragments of bedrock	28.1	1.78	2010	<0.3		–	
G7	1-10 composite		19.8		1230	<0.3		—	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (g)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
G8	1	Blue slatey gravel and topsoil.	12.5	20.8	638	<0.3		–	
G8	2	Topsoil with fine-coarse slatey gravel.	48.8	36.27	582	<0.3		–	
G8	3	Some topsoil but mostly medium-coarse slatey gravels.	39.4	59.64	584	0.8		0.012	
G8	4	Coarse gravels with minor grey clays.	36.2	57.46	700	<0.3		–	
G8	5	Coarse gravel with some clay.	23.4	42.74	568	<0.3		–	
G8	6	Coarse and fine yellowand blue slatey gravel.	37.0	50.0	870	<0.3		–	
G8	7	Grey slatey and fine sandy gravel.	106.8	38.3	744	<0.3		–	
G8	8	Fine grey slatey gravel.	38.8	10.57	940	<0.3		–	
G8	9	Fine to medium, grey slatey gravel.	103.0	30.2	1096	<0.3		–	
G8	10	Fine, grey, slatey gravel	39.1	21.48	911	0.8		0.027	
G8	11	Fine grey gravel with grey clay.	27.4	26.28	717	<0.3		–	
G8	12	Fine gravel with yellow clay.	18.8	5.32	650	<0.3		–	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (g)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
G8	1-12 composite		43.3	34.64	660	<0.3		—	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (g)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
G9	1	Topsoil and shaley gravel.	16.3	24.54	711	<0.3		-	
G9	2	Topsoil with fine-coarse shaley gravel.	52.2	54.6	1183	<0.3		-	
G9	3	Topsoil and fine shaley gravel	39.4	53.55	1076	<0.3		-	
G9	4	Fine shaley gravel.	105.8	51.7	1238	<0.3		-	
G9	5	Fine yellow clay with fine shaley gravel.	46.0	52.0	1254	<0.3		-	
G9	6	Yellow clay and fine slatey gravel.	28.3	12.37	1332	<0.3		-	
G9	7	Yellow clay and fine slatey gravel.	43.4	43.09	1165	<0.3		-	
G9	8	Yellow clay and very fine gravel.	40.1	22.44	1430	<0.3		-	
G9	9	Yellow clay and fine shaley gravel.	39.8	22.86	736	<0.3		-	
G9	10	Yellow mud and fine shaley gravel.	28.1	19.57	718	<0.3		-	
G9	1-10 composite		13.2		610	<0.3		-	

SM STURTS MEADOWS PROSPECTING SYNDICATE : DAN RIVULET PROJECT

Alluvial Drilling — Line E — Borehole

SUPERVISED BY P.R.MITCHELL for A C A HOWE AUSTRALIA PTY LTD DRILLED FEB/MARCH 1980

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (g)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
E4	1	Topsoil with coarse to sandy gravel.	27.4	40.15	1106	<0.3		–	
E4	2	Fine-coarse slatey gravel.	52.5	46.48	1442	<0.3		–	
E4	3	Fine-medium grained slatey gravel.	78.5	32.61	1704	<0.3		–	
E4	4	Fine, with some medium, slatey gravels	35.7	2.8	1370	<0.3		–	
E4	5	Fine-medium grained gravel, mainly slate but some shale at base	74.4	31.05	1111	<0.3		–	
E4	6	Yellow/orange clay with minor quartz and shaley gravel.	45.4	3.52	1410	<0.3		–	
E4	7	Thick yellow clay with angular quartz fragments	40.7	2.46	858	<0.3		–	
E4	8	Yellow clay and angular quartz.	35.7	7.0	1490	<0.3		–	
E4	10	Yellow clay with angular quartz.	25.6	9.0	1570	<0.3		–	
E4	11	Yellow clay and angular quartz.	25.5	1.96	1402	<0.3		–	
E4	12	Yellow clays with angular quartz fragments	29.3	2.05	1234	<0.3		–	

* E4/9 - missing

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (g)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
E4	13	Yellow brown clay with some shale fragments possibly bedrock	11.2	-	1181	<0.3		-	
E4	14	Yellow brown clay with angular quartz and fragments of bedrock	11.9	-	1060	<0.3		-	
E4	1-14 Composite		27.4	4.38	1260	<0.3		-	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (g)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
ES	1	Topsoil with fine-coarse slatey gravel	17.8	10.11	921	<0.3		-	
ES	2	Coarse slatey gravel	15.5	56.13	650	<0.3		-	
ES	3	Fine - medium grained slatey gravel.	69.2	34.54	635	0.4		0.004	
ES	4	Coarse - fine gravel, grey and orange	105.6	39.39	808	3.1		0.024	
ES	5	Slatey gravel.	54.8	35.22	506	<0.3		-	
ES	6	Yellow clay with coarse - fine gravel.	41.8	22.25	1061	<0.3		-	
ES	7	Yellow mud and fine gravel with solid clay.	31.0	8.06	982	<0.3		-	
ES	1-7 composite		10.7	2.8	590	<0.3		-	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (g)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
E6	1	Topsail	27.8	1.8	246	<0.3		-	
E6	2	Topsoil and shaley gravel	47.6	44.75	622	2.7		0.035	
E6	3	Fine and coarse slatey gravel and grey mud	55.7	42.55	475	<0.3		-	
E6	4	Grey mud with very fine shaley gravel.	57.7	44.89	600	0.3		0.003	
E6	5	Yellow mud and fine shaley gravel.	28.4	37.68	432	2.0		0.03	
E6	1-5 composite		13.1	15.26	211	<0.3		-	

BOREHOLE NUMBER	SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE WEIGHT (KG)	GRAVEL %	CONCENTRATED WEIGHT (g)	CONCENTRATED ASSAY g/tonne		CALCULATED GRADE g/tonne	
						Au	Ag	Au	Ag
E7	1	Topsoil with red slate	43.4	20.74	422	<0.3			
E7	2	Coarse-medium yellow clay	45.2	21.02	540	1.4		0.07	
E7	3	Fine-coarse yellow clayey gravel	45.0	22.22	590	<0.3			
E7	4	Yellow clay mixture. Fine-coarse blue + yellow gravel.	58.3	24.01	900	<0.3			
E7	5				589	<0.3			
E7	6	Yellow clayey gravel, fine-coarse.	56.5	26.55	998	<0.3			
E7	7	Yellow clay and fine-coarse gravel.	45.9	22.66	341	5.5		0.041	
E7	8	Yellow and white clay	27.9	-	350	0.3		0.004	
E7	9	Fine sandy orange + yellow gravel	34.0	17.94	351	1.8		0.019	
E7	10	Fine-medium sandy gravel	41.9	19.09	748	<0.3		=	
E7	11	Clayey mixture with fine-coarse blue, pink and purple gravel	52.6	24.52	555	<0.3		-	
E7	12	Fine-medium multi-coloured gravel	36.7	24.52	636	0.5		0.009	
E7	13				170	0.6			

APPENDIX 2

DIAMOND DRILLING RESULTS

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[HUGHES - 1954]

PRELIMINARY REPORT ON BORING AT O'BRIENS MINE DAN RIVULET

Boring has been proceeding at the O'Brien Mine since May of this year, but because of other commitments the drill has now been moved from there. Consequently it has been thought advisable to write a preliminary note on the results to date.

This mine is located in the Dan Rivulet Mining Field. In 1947, I reported on this District and the relevant extract from this report is quoted:-

" The O'Brien Company's workings are situated about six and a quarter of a mile west of the Dan. A metalled road, six miles in length leads from Mathinna to within a mile and a half of the property. From here a sideling road, accessible to motor vehicles in the dry season, leads to the workings.

" The first leases, three ten-acre sections, were taken up in 1884 and the ground was leased almost continuously until 1911, but actual mining activity was confined mainly to two periods. The O'Brien Prospecting Association M.L. from 1888-1890 carried out underground work, including adits on the reefs and crushed from 900-1200 tons of quartz. In 1910-1911 the New Golden Gate Company sank the Main Shaft to 160 feet and carried out some crosscutting at the 145 foot level. H.A. Rayner held the principal section 11442/M of 10 acres, from 1935 to 1943, and I.B. and B.V. Chapman hold it, at the present time, as 17M/43.

" Twelvetrees gives an account of the workings in his report of 1904 and in 1941 Nye visited the property and compiled a typewritten report, relying mostly on evidence contained in old records.

" Four main reefs can be traced on the property by surface and adit workings. The two most important are those exposed in Nos. 1 and 2 adits. These reefs are parallel striking at 70° and having a steep, almost vertical dip to the south. In No. 1 adit, Twelvetrees reports that the reef was stoped for 160 feet, with 30 to 45 feet of backs. The old mine plans show stoping for only 60 feet but these may have been incomplete. The reef was reported to have been up to 24" wide and generally between 18" and 24", but in the western face of the adit, appears to have pinched. Two winzes have been sunk from the adit floor by the O'Brien Company, one to a depth of 16 feet. It is reported that, later, the New Golden Gate Company deepened one of them to 60 feet. They are now filled with water.

" It has been estimated that between 700 and 900 tons of quartz, averaging about 1 oz. of gold per ton have been treated from these workings in No. 1 Reef."

" About 400 feet south east of No. 1 adit, a second adit was driven to intersect the parallel No. 2 Reef. The width of this Reef is stated to have been the same as No. 1, viz. up to 24" and it has been stoped to surface over a length of 80 feet, for an estimated yield of three to four hundred tons of quartz, averaging from 18 to 20 dwts. of gold per ton.

" Seventy feet east of No. 2 Reef, a north and south "
" reef can be traced by a line of surface stopes. At"
" the southern end a shaft, now filled with water, was"
" sunk to 20 feet. This is the Ironstone Reef and "
" Twelvetrees states that it is 10-12" in width, and "
" 20 tons of quartz was treated from it for a recovery"
" of 23 oz. of gold. This reef does not apparently "
" persist to the north, otherwise it would have been "
" intersected in No. 2 Adit. "

" A third Adit has been driven, about 600 feet south- "
" west of No. 2 and 100 feet higher. At 50 feet this"
" intersected a fourth reef, striking at 100° and "
" dipping to the north at 78°. The adit itself has "
" been filled in and is only accessible for 40 feet "
" but the reef itself may be traced by surface stoping"
" and examined in a shallow underlay shaft, accessible"
" to 21 feet. The reef itself consists of dense "
" white, vitreous quartz showing some iron staining "
" and varies in width from 13" to 36". "

" All these workings described above are essentially "
" superficial and the only work done to a reasonable "
" depth is the sinking of the Main Shaft. Unfortun- "
" ately, the Main Shaft now contains water and none of"
" these workings can be examined. According to the "
" Mine plans, the shaft was sunk to 160 feet and a "
" level opened out at 145 feet. A crosscut was "
" driven east for 41 feet, as shown in the mine plans,"
" but for 200 feet according to local report. At any"
" rate, there is no evidence of any reef intersection "
" in this crosscut. A north-western crosscut was "
" also driven for 107 feet, sufficiently far to cut "
" any downward extension of No. 1 Reef. Whether this"
" was intersected and, if so, whether it was payable, "
" is a matter of argument. The mine plans show no "
" drives from this crosscut and the Annual Report of "
" the Secretary for Mines of 1911 contains the follow-"
" ing statement. "A good deal of sinking and driving "
" was done by this Company, at O'Briens section, 8 or "
" 9 miles to the north of Mathinna; but the lode did"
" not prove to be payable below the old adit level." "
" However, local opinion seems to be that the lode was"
" intersected and the Company mislead by those actually"
" working in the mine, as to its real value. It does"
" seem strange that, if the lode was struck, and it "
" seems likely that it should be, no driving was done "
" on it, even if it proved unpayable at one particular"
" point. "

From this brief description it can be seen that reports of the now inaccessible workings are vague and conflicting and verbal information gleaned since from persons having recollections of the old workings has been at variance with that found in the old mine plans. The most interesting reef is the Number 1 because some attempt had been made to test it at depth and in spite of the fact that no driving is shown for the 145 foot level, the presence of lode material on the dump of the main shaft is tantalising.

Consequently, the syndicate now holding the lease decided to test this reef at depth by boring; and advice was sought from the Department on the siting of holes.

In the absence of any record of driving from the crosscut on the 145 ft. level, indeed in the absence of any real evidence that a quartz reef had been cut at

0'- 60'	Soft Mathinna slates
60'-128'	Mathinna slates
128'-131'	Mineralised quartz
131'-143'	Slates with numerous quartz stringers
143'-157'	Mineralised quartz
157'-162'	Soft Slate

Structure

The regional structure of this area shows that the beds intersected in these bores form part of the eastern leg of a northwest coursing anticline. However, due to the difference in competency between the quartzites and slates and the various intermediate forms that make up the Mathinna series, local folding and buckling often shows in the slates. It would be expected that the more defined channel ways for the quartz and mineral solutions would have been developed in the more massive quartzites but this boring has indicated that the dark blue slate seems to be the best host rock.

The country passed through in the first two bores was extremely broken and actual fault zones occurred at 88 ft. in number 1 and 94 ft. in number 2. It was first considered that this fault was the same one responsible for the termination of the reef to the east in the adit workings. But this is apparently not so, otherwise the fault would show in number 3 bore and this went down in quite settled country. Presumably then this fault is a steep-dipping one, coursing generally east and west and passing to the south of number 3 bore.

The Quartz Reef.

In number 3 bore a wide quartz reef was passed through between 128'4" and 157'6". This reef was in two portions separated by a horse of country rock comprising siliceous argillites, freely traversed by veins and bunches of quartz. The bore was designed to intersect the reef at an angle of about 30°. This is admittedly a very acute angle but because of the haste and the small footage it was considered warranted. Thus recorded widths in the bore should be divided by two to give true widths. In bores at such acute angles to formations, there is always a danger that they will turn and follow the formation. An examination of the core shows that this does not seem to have happened here and the foreman is confident that the bore has gone straight.

The core was divided into four samples namely the first quartz reef, the siliceous country rock and two samples from the second quartz reef.

Details of these sections of the bore are as follows:-

Sample 1. 128'4" - 131'1".

Width in bore - 2'9"
Actual width - 1'5"
Description: Mainly hard white, but some bluish quartz with little slate inclusions. Pyrite, fairly coarse and arsenopyrite finer plentiful. Green mineral (sphero?) sparse. Little or no carbonates.

that level, it was decided to site the first hole to intersect the reef (if present) at 15 to 20 feet from the crosscut and at that level. At 182 feet, the bore entered a stope cavity and although wasted as a hole, it did show that some driving and stoping had been done at the 145 ft. level.

No. 2 Bore was sited to intersect the reef at 50 feet below this level and 50 feet from the crosscut. No main reef was encountered in this hole although mineralised quartz stringers were intersected at 230' and 255' feet. Long delays were experienced in drilling time in these two holes, mainly because of labour shortage, although the drilling rate was very slow due to extremely broken ground. Towards the end of October the plant was required for other work but it was decided to put down one short hole at an acute angle to the reef to determine if, as local report had it, it plunged to the west. This hole was sited to intersect the reef within 150 feet down the bore and from 128 feet to 157 feet good mineralised quartz, with some country rock was passed through.

Details of the bores are as follows:-

No. 1

Position: 66 ft. from N.W. Corner of Main Shaft in a bearing of 196°.

Direction of bore: 343°

Inclination: 50°.

0'- 71'	Oxidised fairly hard sandstone.
71'-103'	Mathinna Slates. Fault at 88'
103'-133'	Mathinna Slates and grey slate
133'-164'	Oxidised Mathinna Slate
164'-182'	Mathinna and blue slate
182'-187'	Stope Cavity (some wood, rubble).

No. 2

Position: 100 feet from N.W. Corner of Main Shaft on bearing of 208°.

Direction: 343°

Inclination: 55°.

0'- 96'	Mathinna Slates. 94' fault.
96'-155'	Mathinna Slates with some bands of blue slate from 121'.
155'-254'	Mathinna Slates with small quartzite bands.
254'-274'	Quartzites with small blue slate bands.
From 200'	the country blue, settled - some pyrite showing.
230'-232'½"	Mineralised quartz seam at acute angles.
255'-256'	do.

No. 3

Position: 124 feet from N.W. Corner of Main Shaft on bearing of 255°.

Direction: 360°

Inclination: 70°

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Assay Result. Gold 1 oz. 10 dwt. 16 grns.
Silver 11 dwt. 8 grns.
As. 0.8%
Sulphur 1.0%

This is equivalent to 1.75% arsenopyrite and 1.25% pyrite but the original sulphides were higher than this as there is much oxidation.

Sample 2. 131'1" - 143'6"

Width in bore 12'5"
Actual width 6'3"
Description: Some quartz stringers and bunches in greeny grey shale, sometimes bluish slate showing much silicification.

Assay. Gold and Silver Trace

Sample 3. 143'6" - 150'

Width in bore 6'6"
Actual width 3'3"
Description: Hanging wall quartz rather brownish, some oxidation, little sulphide, poor core. Centre shows good core, hard white and blue quartz; some arsenopyrite then green mineral (sphere? coating quartz crystals) and black mineral (iron oxide) in cracks and vughs. Footwall side again broken, poor core.

Assay		
	Gold	12 dwt 1 grn.
	Silver	8 dwt 8 grns.
	Arsenopyrite	1.75%
	Pyrite	0.7
	Galena	0.12
	Sphalerite	0.15

but some sulphides oxidised.

Sample 4. 150' - 157'6"

Width in bore 7'6"
Actual width 3'9"
Description: As in 3 but more oxidised and less sulphides. Very hard quartz giving good core right to footwall.

Assay		
	Gold	3 dwt 8 grns.
	Silver	2 dwt 7 grns.
	Arsenopyrite	about 1%

Gold Values From this bore indicate that at this point there exists a formation between fourteen and fifteen feet in width carrying gold of the order of 7 dwt. per ton. If the horse of country rock is excluded then a width of over eight feet (in two portions) carries approximately 12 dwt of gold per ton. The silver values are rather less.

Conclusion:

It is a well known saying that one bore does not make a gold mine and with quartz reefs of the nature of those occurring in the Dan Rivulet Goldfield, boring will only give a preliminary idea of the value of them. However, the result of this bore has been sufficiently encouraging to warrant further drilling and it is

unfortunate that the drill had to be taken away at this stage. It has shown us that at 140 feet below the surface there exists a payable gold reef. The thing to be determined now is the extent and plunge of the reef.

The next bore should be put down to intersect the formation at 200 feet from the surface and about 200 feet farther up the hill. If this is successful then the bracket should be halved and another bore put in between them.

Sgd. Terence D. Hughes

GEOLOGIST

9.12.54.

DIAMOND DRILLING AT DAN RIVULET

by V. M. Threader

In 1947, T. D. Hughes recommended drilling on the old Carnegie-Starlight lease areas in the Dan Rivulet goldfield. The purpose was to test for extensions of the Carnegie lode westwards and the Starlight lode eastwards and for an ore shoot on their line of intersection.

Two holes were drilled by the Department of Mines in 1962; their position is indicated on the accompanying map (Figure 20) (a portion of map accompanying the abovementioned 1947 report) and a summary of the drilling record is given below:—

BOREHOLE 1

Depth	Core Recovery %	Description
0 — 117'	60	Weathered iron-stained sandstone.
117' — 198'	70	Fissile sandstone with patches of iron staining
198' — 441'	60	Fresh grey fissile sandstone. (395' 8" — 402' 11": 4" core recovered, i.e., 5% recovery; driller reported a cavity)
441' — 467'	70	Fresh, grey sandstone with greater fissility.
467' — 510'	80	Very broken core, probably as above but brecciated.

Quartz veins: These occur at 123'-132' and 298'-510', with mineralization at 408' and 441'-510'.

Five samples were assayed by the Department of Mines with the following results:—

Assay No.	Depth	Gold	Silver
3287	408' — 408' 9"	trace	—
3288	441' — 445' 6"	Nil	trace
3289	445' 6" — 450' 5"	Nil	Nil
3290	450' 5" — 458' 4"	Nil	Nil
3291	458' 4" — 467'	Nil	trace

A specimen of the brecciated core from 468 feet was examined by G. Everard who described it as a "dark, fine grained siliceous rock with numerous fine quartz veins. In thin section it shows strong shearing, the pattern of which has been interrupted by the introduction of medium to fine grained veins and patches of crystalline quartz. The fine grained sheared rock consists of recrystallized quartz grains in a matrix of fine sericite; a little chlorite is also present and the shearing is marked by anastomosing lines of minute crystals of pyrite. Opaque white grains represent original feldspar now altered to kaolin. The chlorite is not an original mineral and the rock is a metamorphosed subgreywacke altered to a muscovite-chlorite-quartz type rock of the green schist facies". There were calcite veins present up to half an inch in width but none in the specimens examined.

Structure: Bedding is clearly shown by colour banding in the drill core and it is probable that two fold axes were intersected in this hole.

BOREHOLE 2

Depth	Core Recovery %	Description
0 — 81'	30	Weathered sandstone.
81' — 369'	70	Fresh grey sandstone with well defined colour banding.

Quartz veins: These occur at 152'-369' 1" but are more frequent after 265'; no mineralization was seen and no samples were taken for assay.

Structure: The dip is uniform as indicated by colour banding and there is no brecciation.

CONCLUSIONS

The two quartz lodes did not extend far enough to intersect or if they did, had deteriorated to such an extent that they were indistinguishable from the mass of barren quartz veins. This finding is in accordance with past experience in the Dan Rivulet goldfield where mineralized quartz lodes are usually short and anything approaching half a mile in length is an exception to the general rule. The results of this drilling do not warrant any further work being done on these reefs.

REFERENCE

Hughes, T. D., 1947.—The Dan Rivulet goldfield. *Rep. Dep. Min. Tas.* (Unpublished)

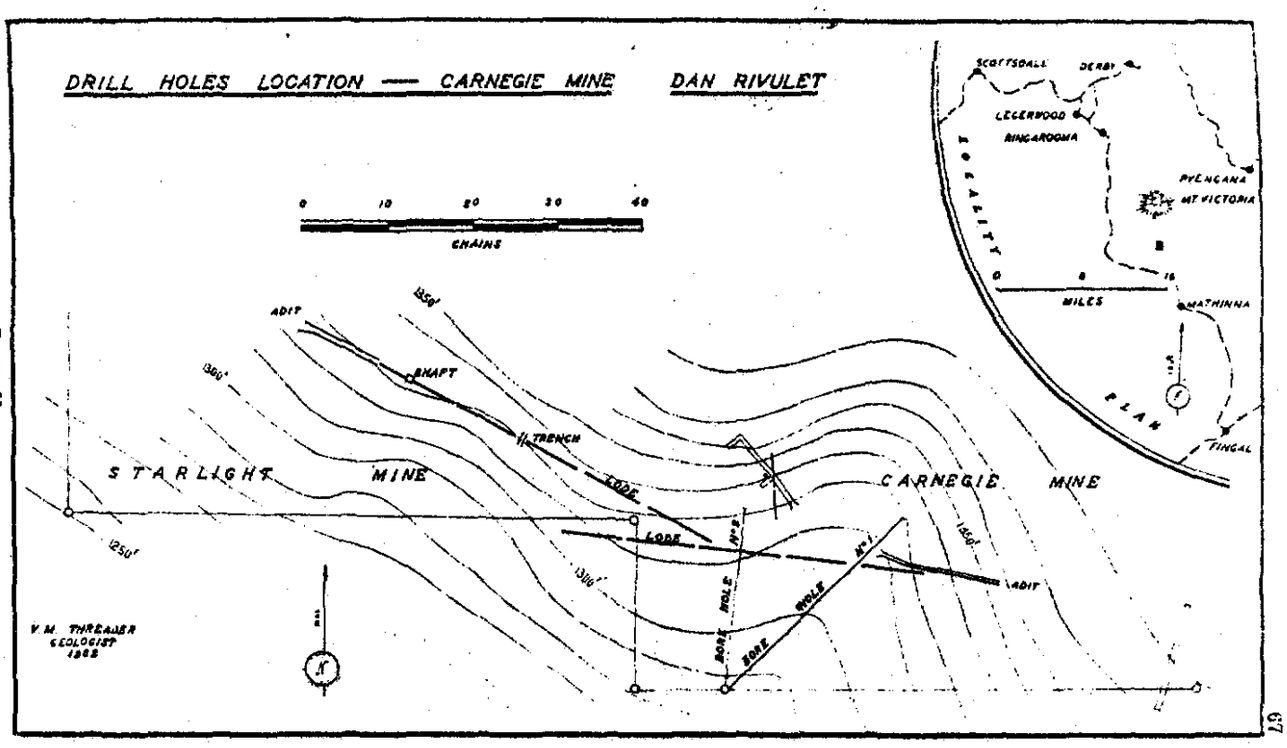
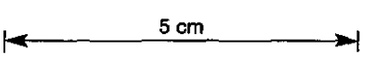


Figure 20.



APPENDIX 3

ASSAY RESULTS

061084

DEPARTMENT OF MINES—TASMANIA

TELEPHONES:
Metallurgical Research .. ..
Laboratory .. .. ..
Mines Inspection .. .. ..
Explosives & Inflammable Liquids
44 2431-2 (2 lines)

4th March 1980

Sturts Meadows Prospecting Syn N.L.,
P.O. Box 145,
Chatswood N.S.W. 2067

c.c. Min. Hol.
W. St. Manson

Reg. Nos 800230-33 800252-58

Dear Sirs,

Please find below results of samples submitted to this laboratory on the 14th Feb'80 and stated to be from the Dan River E.L. 31/76.

Reg. Nos.	Descriptions	Au g/t	Ag g/t	Weight.
800230	F1 - 1	<0.1	<3	271g
800231	F1 - 2	3.9	<3	170g
800232	F1 - 3	<0.1	<3	962g
800233	F1 - 4	1.5	<3	752g
800252	F4 - 1	<0.1	<3	1000g
800253	F4 - 2	<0.1	<3	761g
800254	F4 - 3	<0.1	<3	732g
800255	Rock S.(i) Red. Manganese & haematite from F2	<0.1	<3	
800256	Rock S.(ii) Strickland Dump	16.8	<3	
800257	" (iii) Strickland Lower adit No1 Stope	1.0	<3	
800258	Rock S.(iv) Strickland at end of drive	6.2	<3	

Sample Nos. 800234 to 800251 inclusive being your Nos. F1-5, F2-1 to F2-8, F2 composite, F3-1 to F3-7 and F3 composite have been omitted due to grinding problems in sample preparation.

Upon pulverizing it was found the grinding discs were being cut to pieces by these samples. Examination showed samples contained pieces of tungsten carbide up to 3mm across but in addition welding debris (metal beads, slag etc) and brass bearing metal.

We then went to the other end of this batch of samples and worked back until grinding problems recurred when preparation was suspended.

Following discussion with Mr. Peter Howe it is proposed to halve a number of these suspect samples, to screen on 1 or 0.5mm to remove the coarse material and to concentrate this in a laboratory jig then assay the concentrate after hand picking to remove the tungsten carbide.

It is also intended initially to assay for gold only and leave silver until later when gold has been proved.

Yours faithfully,

(H. K. Wellington)
Chief Chemist & Metallurgist.

Analyses by.....

085

M 1588

061086

DEPARTMENT OF MINES—TASMANI

TELEPHONES:
Metallurgical Research .. ..
Laboratory .. .. .. } 44 2431-2
Mines Inspection .. .. .. (2 lines)
Explosives & Inflammable Liquids

LAUNCESTON OFFICES
287 WELLINGTON STREET
SOUTH LAUNCESTON ..... 7250 .....

5th March 1980

Sturts Meadows Prospecting Syn N.L.,
P.O. Box 145,
Chatswood N.S.W. 2067

c.c. Min. Hold.
W.St. Manson.

Reg. Nos 800295-6 800315-19

Dear Sirs,

Please find below results of samples submitted to this laboratory on the 25th Feb'80 and stated to be from Mathinna E.L. 31/76.

Reg. Nos	Descriptions	Au g/t	Weight.
800295	F4 - 4	0.9	876g
800296	F4 - 5	<0.3	925g
800315	F6 - 1	<0.3	613g
800316	F6 - 2	<0.3	675g
800317	F6 - 3	<0.3	880g
800318	F6 - 4	<0.3	693g
800319	F6 - 5	0.5	950g

Yours faithfully,

(H. K. Wellington)
Chief Chemist & Metallurgist.

Analyses by..L.M. Hay.

086 M 1588

061087

DEPARTMENT OF MINES—TASMANIA

RECEIVED
10 MAR 1980

LAUNCESTON OFFICES
287 WELLINGTON STREET
SOUTH LAUNCESTON 7250

TELEPHONES:
Metallurgical Research Laboratory
Mines Inspection
Explosives & Inflammable Liquids
44 2431-2 (2 lines)

6th March 1980

Sturts Meadows Pros. Syn N.L.
P.O. Box 145,
Chatswood N.S.W. 2067

c.c. Min. Hold.
W. St. Manson.

Reg. No 800320-27 800336-43

Dear Sirs,

Please find below results of samples submitted to this laboratory on the 25th Feb'80 and stated to be from Mathinna E.L. 31/76.

Reg. Nos	Description	Au g/t	Weight.
800320	F6 - 6	<0.3	695 g
800321	F6 - 7	<0.3	301 g
800322	F6 - 8	<0.3	554 g
800323	F6 - 9	<0.3	455 g
800324	F6 Composite	<0.3	591 g
800325	F7 - 1	0.3	809 g
800326	F7 - 2	<0.3	1361 g
800327	F7 - 3	<0.3	2029 g
800336	F7 - 12	<0.3	1609 g
800337	F7 Composite	<0.3	1130 g
800338	Carnegie No 1 - 1 Rock Sam	0.5	
800339	" 1 - 2	0.6	
800340	" 1 - 3	0.7	
800341	" 2 - 1	1.1	
800342	" 2 - 2	1.1	
800343	T/P 7/1	1.3	

Yours faithfully,

(H. K. Wellington)
Chief Chemist & Metallurgist.

Analyses by J. R. Lethborg

087

M 1588

DEPARTMENT OF MINES—TASMANIA

061088

RECEIVED
10 MAR 1980

LAUNCESTON OFFICES
287 WELLINGTON STREET
SOUTH LAUNCESTON 7250

TELEPHONES:
Metallurgical Research .. ..
Laboratory .. .. ..
Mines Inspection .. .. ..
Explosives & Inflammable Liquids
} 44 2431-2 (2 lines)

7th March 1980

Sturts Meadows Prospecting Syn. N.L.,
P.O. Box 145,
Chatswood N.S.W. 2067

c.c. Min. Hold.
W. St. Manson

Reg. Nos. 800352-358 & 800350

Dear Sirs,

Please find below results of samples submitted to our laboratory on the 25th Feb'80 and stated to be from Mathinna E.L. 31/76.

Reg. Nos.	Description	Au g/t
800352	T/P 7/14 Rock Samples	<0.3
800353	T/P 7/15	1.5
800354	T/P 7/16 A	1.4
800355	T/P 7/16 B	1.8
800356	T/P 7/18	1.3
800357	T/P 7/20	<0.3
800358	T/P 7/22	<0.3
800350	T/P 7/11	29.5

Yours faithfully,

(H. K. Wellington)
Chief Chemist & Metallurgist.

Analyses by J. L. Lathbury

088

M 1588

DEPARTMENT OF MINES—TASMANIA

LAUNCESTON OFFICES
287 WELLINGTON STREET
SOUTH LAUNCESTON 7250

TELEPHONES:
Metallurgical Research .. ..
Laboratory .. .. ..
Mines Inspection .. .. ..
Explosives & Inflammable Liquids
44 2431-2 (2 lines)

7th March 1980

Sturts Meadows Prosp. Syn N.L.,
P.O. Box 145,
Chatswood N.S.W. 2067

c.c. Min. Hold.
W. St. Manson

Reg. Nos 800328-35 800344-49 800351

Dear Sirs,

Please find below results of samples submitted to this laboratory on the 25th Feb'80 and stated to be from Mathinna E.L. 31/76.

Reg. Nos.	Description	Au g/t	Weight.
800328	F7 - 4	<0.3	1175
800329	F7 - 5	<0.3	1214
800330	F7 - 6	<0.3	1413
800331	F7 - 7	<0.3	1681
800332	F7 - 8	<0.3	1059
800333	F7 - 9	<0.3	760
800334	F7 - 10	<0.3	987
800335	F7 - 11	<0.3	1342
800344	T/P 7/2 Rock Samples	<0.3	
800345	T/P 7/4	0.6	
800346	T/P 7/6	6.8	
800347	T/P 7/8	0.8	
800348	T/P 7/9	0.3	
800349	T/P 7/10	1.0	
800351	T/P 7/13	0.5	

Yours faithfully,

(H. K. Wellington)
Chief Chemist & Metallurgist.

Analyses by. L.M.S. Hay

083

M 1588

061090

DEPARTMENT OF MINES—TASMANIA

LAUNCESTON OFFICES
287 WELLINGTON STREET
SOUTH LAUNCESTON 7250

TELEPHONES:
Metallurgical Research .. ..
Laboratory .. .. ..
Mines Inspection .. .. ..
Explosives & Inflammable Liquids
} 44 2431-2 (2 lines)

14th March 1980

Sturts Meadows Prospecting Syn N.L.,
P.O. Box 145,
Chatswood N.S.W. 2067

c.c. Min. Hold.
W. Manson.

Reg. Nos 800518-27 Rock Samples

Dear Sirs,

Please find below results of samples submitted to this laboratory on the 12th March'80 and stated to be Rock Samples from lease E.L. 31/76.

Reg. Nos.	Description	Au g/t
800518	Rock Sample O'Brien No 1 - 1	<0.3
800519	" No 2 - 1	<0.3
800520	" 2 - 2	<0.3
800521	" 2 - 3	<0.3
800522	" No 3 - 1	<0.3
800523	" 3 - 2	<0.3
800524	" 3 - 3	16.0
800525	" 3 - 4	1.1
800526	" 3 - 5	<0.3
800527	" 3 - 6	<0.3

Analyses by J. R. Lethbridge
L. M. Lay

(H. K. Wellington)
Chief Chemist & Metallurgist.

Department of Mines

13th March 1980

Sturts Meadows Prospecting Syn. N.L.

Reg. Nos	Sturts M. Nos.	Total Mass (g)	-850 µm Mass g.	Assay Au g/t	-850 µm Mass g.	Remarks
800234	F1 - 5	870	281	0.3	150	No gold observed in +850 µm fractions of all samples.
800236	F2 - 2	1212	389	<0.3	192	
800241	F2 - 7	620	249	0.8	60	
800299	F4A 3	1033	195	1.2	317	
800300	F4A 4	1526	348	0.6	455	

Analyses by.. L. M. Hay

(H. K. Wellington)
Chief Chemist & Metallurgist.

Sturts Meadows Prospecting Syn. N.L.

Reg. No.	Sturts M. No.	Total Mass (g)	-425 µm Mass g.	-850 µm Mass g.	Assay Au. g/t	+425 µm Mass g.	+850 µm Mass g.	Remarks.
800243	F2 Composite	62	56		0.8	4		
800245	F3 - 2	727		249	<0.3		129	
800246	F3 - 3	410		101	1.4		100	No gold
800298	F4A 2	537		177	<0.3		90	observed
800301	F4A 5	620		173	3.6		122	on the
800303	F4A 7	1210		319	<0.3		296	screen
800311	F5 - 7	290		90	0.3		65	oversize
800312	F5 - 8	465		147	<0.3		98	fractions of all samples.

Analyses by... L. M. Hay

(H. K. Wellington)
Chief Chemist & Metallurgist.

Fee $80.00

092

Sturts Meadows Prospecting Syn. N.L.

Reg. No	Sturts M. No.	Total Mass	Assay Au g/t
800235	F2 - 1	36	1.2

Reg. No.	Sturts M. No.	Total Mass	-850 µm Mass g.	Assay Au g/t	+850 µm Mass g.	Remarks
800304	F4A Composite	2600	948	<0.3	352	No gold observed on the screen oversize fractions of all samples
800305	F5 - 1	1018	307	<0.3	202	
800306	F5 - 2	800	480	<0.3	535	
800307	F5 - 3	2005	465	<0.3	507	
800308	F5 - 4	2472	500	<0.3	780	
800309	F5 - 5	2460	610	<0.3	551	
800310	F5 - 6	1270	411	0.9	218	

Analyses by J. R. Lethbridge

(H. K. Wellington)
Chief Chemist & Metallurgist.

Fee $75.00

Sturts Meadows Prospecting Syn. N.L.

Reg. No.	Sturts M. No.	Total Mass (g)	-850 µm		+850 µm	Remarks.
			Mass g.	Assay Au (g/t)	Mass g.	
800237	F2 - 3	666	184	<0.3	152	No gold observed in +850 µm fractions of all samples.
800238	F2 - 4	578	200	<0.3	93	
800239	F2 - 5	428	112	6.3	91	
800240	F2 - 6	460	140	0.4	80	
800242	F2 - 8	385	149	<0.3	60	
800244	F3 - 1	480	201	<0.3	50	
800247	F3 - 4	1240	273	<0.3	360	
800248	F3 - 5	812	193	0.8	215	
800249	F3 - 6	974	304	<0.3	179	
800250	F3 - 7	710	193	3.9	145	
800251	F3 Composite	329	85	4.4	69	
800297	F4A 1	295	91	<0.3	48	
800302	F4A 6	798	105	1.6	93	
800313	F5 - 9	424	149	2.2	71	
800314	F5 Composite	438	136	1.1	70	

Analyses by J.R. Lothberg

(H. K. Wellington)
Chief Chemist & Metallurgist

Fee $150.00

RECEIVED
14 MAR 1980
Ans'd.....

094

AM 1588

061095

DEPARTMENT OF MINES—TASMANIA

TELEPHONES:
Metallurgical Research .. ..
Laboratory .. .. ..
Mines Inspection .. .. ..
Explosives & Inflammable Liquids
} 44 2431-2 (2 lines)

LAUNCESTON OFFICES
287 WELLINGTON STREET
SOUTH LAUNCESTON 7250

18th March 1980

Sturts Meadows Prospecting Syn N.L.,
P.O. Box 145,
Chatswood,
N.S.W. 2067

c.c. Min. Hold.
W. Manson.

800528-529

Reg. Nos. 800530-537 Rock Samples.

Dear Sirs,

Please find below results of samples submitted to this laboratory on the 12th March'80 and stated to be Rock Samples from lease E.L. 31/76.

Reg. Nos	Description	Au g/t
800528	Rock Sample Haverlock 1	4.7
529	" 2	9.3
530	" 3	5.8
531	" 4	2.7
532	King Edward 1	<0.3
533	Starlight 1	0.3
534	" 2	2.5
535	" 3	3.1
536	" 4	<0.3
537	" 5	5.8

Yours faithfully,

Analyses by.. L. M. Flay. J. L. Lethbridge.

(H. K. Wellington)
Chief Chemist & Metallurgist

RECEIVED
25 MAR 1980
Ans'd.....

095

M 1588

061096

DEPARTMENT OF MINES—TASMANIA

TELEPHONES:
Metallurgical Research .. ..
Laboratory .. .. ..
Mines Inspection .. .. ..
Explosives & Inflammable Liquids
44 2431-2 (2 lines)

LAUNCESTON OFFICES
287 WELLINGTON STREET
SOUTH LAUNCESTON 7250

20th March 1980

Sturts Meadows Prospecting Sny N.L.,
P.O. Box 145,
Chatswood N.S.W. 2067

c.c. Min. Hold.
W. Manson.

Reg. Nos 800492-98 800500-07 800538-53.

Dear Sirs,

Please find below results of samples submitted to this laboratory on the 12th Mar'80 and stated to be Alluvial and Rock Samples from lease E.L. 31/76.

Reg. Nos		Description	Au g/t	Weight
800492	Alluvial	F11 - 4	<0.3	1005
493		F11 - 5	<0.3	514
494		F11 - 6	<0.3	1180
495		F11 - 7	<0.3	933
496		F11 - 8	<0.3	1535
497		F11 - 9	<0.3	1550
498		F11 - 10	<0.3	1658
800500		F11 - 12	0.3	1316
501		F11 - 13	0.3	1009
502		F11 - 14	<0.3	978
503		F11 Composite	<0.3	2070
504		F12 - 1	<0.3	894
505		F12 - 2	<0.3	1150
506		F12 - 3	<0.3	586
507		F12 - 4	<0.3	688
Rock Samples				
800538	Rock Samples	T/P 7/7	1.0	
539		T/P 7/17	1.5	
540		T/P 9/13	7.8	
541		T/P 22/6	0.4	
542		T/P 22/5	5.2	
543		T/P 9/6	24.7	
544		T/P 34	10.1	
545		T/P 22/1	2.7	
546		T/P 9/3	3.8	
547		T/P 22/7	0.5	

Reg. Nos.	Description	Au g/t
800548	Rock Samples T/P 49	2.8
549	T/P 26	40.3
550	T/P 38	2.9
551	T/P 82	4.5
552	T/P 37	37.5
553	T/P 9/8	10.9

Yours faithfully,

(H.K. Wellington)
Chief Chemist & Metallurgist.

Analyses by. J. L. Tellborg.

097

061098

M 1588

DEPARTMENT OF MINES—TASMANIA

RECEIVED
25 MAR 1980
LAUNCESTON OFFICES
287 WELLINGTON STREET
SOUTH LAUNCESTON 7250

TELEPHONES:
Metallurgical Research Laboratory .. .. .. 44 2431-2 (2 lines)
Mines Inspection .. .. 44 2431-2 (2 lines)
Explosives & Inflammable Liquids 44 2431-2 (2 lines)

21st March 1980

Sturts Meadows Prospecting Syn N.L.,
P.O. Box 145,
Chatswood,
N.S.W. 2067

c.c. Min. Hol.
W. St. Manson.

Reg. Nos.800431-37 800499 800508-17 800554-59

Dear Sirs,

Please find below results of samples submitted to this laboratory on the 12th March'80 and stated to be Alluvial & Rock samples from the lease E.L. 31/76.

Reg. Nos	Description	Au g/t	Weight g.
800431	Alluvial F8 - 5	<0.3	1820
432	F8 - 6	<0.3	1842
433	F8 - 7	<0.3	1533
434	F8 - 8	<0.3	1675
435	F8 - 9	0.3	1278
436	F8 - 10	<0.3	1350
437	F8 - 11	<0.3	1371
499	F11 - 11	<0.3	1430
800508	F12 - 5	1.6	450
509	F12 - 6	<0.3	764
510	F12 - 7	<0.3	878
511	F12 - 8	<0.3	1076
512	F12 - 9	<0.3	1104
513	F12 - 10	<0.3	1120
514	F12 - 11	<0.3	1640
515	F12 - 12	<0.3	1628
516	F12 - 13	<0.3	1125
517	F12 Composite	<0.3	1485
800554	Rock Sample T/P 9/5	3.8	
555	T/P 83	2.9	
556	T/P 9/10	2.3	
557	T/P 9/12	0.8	
558	T/P 58	<0.3	
559	T/P 56	19.3	

Analyses by J.R. Lethbridge

H.K. Wellington)
Chief Chemist & Metallurgist

098 M 1688

061099

DEPARTMENT OF MINES—TASMANIA

TELEPHONES:
Metallurgical Research
Laboratory
Mines Inspection
Explosives & Inflammable Liquids
44 2431-2 (2 lines)

24th March 1980

Sturts Meadows Prospecting Syn N.L.,
P.O. Box 145,
Chatswood,
N.S.W. 2067

c.c Min. Hol.
W. St. Manson

Reg. Nos 800428-30 800444, 800447-53, 800561-65

Dear Sirs,

Please find below results of samples submitted to this laboratory on the 12th Mar'80 and stated to be Alluvial and Rock samples from the lease E.L. 31/76.

Reg. Nos	Description	Au g/t	Weight
800428	Alluvial F8 (1 & 2)	<0.3	1811g.
429	F8 - 3	<0.3	1612
430	F8 - 4	<0.3	2350
800444	F8 - 18	<0.3	990
447	F9 (1 & 2)	<0.3	1170
448	F9 - 3	<0.3	1741
449	F9 - 4	<0.3	1430
450	F9 - 5	<0.3	1180
451	F9 - 6	<0.3	1902
452	F9 - 7	<0.3	1451
453	F9 - 8	<0.3	759
800561	Rock Samples T/P 51	<0.3	
562	T/P 59	26	
563	T/P 42	0.8	
564	T/P 53	2.3	
565	T/P 62	2.8	

Yours faithfully,

(H. K. Wellington)
Chief Chemist & Metallurgist.

Analyses by J. A. Lethborg

061100

099. M 1588

DEPARTMENT OF MINES—TASMANIA

TELEPHONES:
Metallurgical Research .. ..
Laboratory .. .. ..
Mines Inspection .. .. ..
Explosives & Inflammable Liquids
44 2431-2 (2 lines)

25th March 1980

Sturts Meadows Prospecting Syn N.L.,
P.O. Box 145,
Chatswood,
N.S.W. 2067

c.c. Min. Hol.
W. St. Manson.

Reg. Nos 800438-42 800445-6 800463-69 800560

Dear Sirs,

Please find below results of samples submitted to this laboratory on the 12th Mar'80 and stated to be Alluvial and Rock samples from the lease E.L. 31/76

Reg. Nos	Description	Au g/t	Weight g.
800438	Alluvial F8 - 12	< 0.3	980
439	F8 - 13	< 0.3	1050
440	F8 - 14	< 0.3	1828
441	F8 - 15	< 0.3	1316
442	F8 - 16	0.5	2081
445	F8 - 19	< 0.3	494
446	F8 Composite	0.3	1093
800463	F9 - 18	< 0.3	408
464	F9 - 19	< 0.3	652
465	F9 - 20	< 0.3	652
466	F9 - 21	< 0.3	948
467	F9 Composite	< 0.3	1161
468	F10 - 1	< 0.3	1078
469	F10 - 2	0.4	1397
800560	Rock Sample T/P 54	< 0.3	

Yours faithfully,

(H. K. Wellington)
Chief Chemist & Metallurgist.

Analyses by... L. M. Hay. J. A. Lethbridge

100

061101

M 1588

DEPARTMENT OF MINES—TASMANIA

RECEIVED
- 8 APR 1980

LAUNCESTON OFFICES
287 WELLINGTON STREET
SOUTH LAUNCESTON 7249

TELEPHONES:
Metallurgical Research .. .. } 44 2431-2
Laboratory .. .. .. } (2 lines)
Mines Inspection .. .. ..
Explosives & Inflammable Liquids

2nd April 1980

Sturts Meadows Prosp. Syn N.L.,
P.O. Box 145,
Chatswood.
N.S.W. 2067

c.c. Min. Hol.
W. St. Manson

Reg. Nos 800686-800711.

Dear Sir,

Please find below results of samples submitted to this laboratory on the 26th Mar'80 and stated to be Alluvial from the lease E.L. 31/76.

Reg. Nos	Description	Au g/t	Weight g.
800686	G1 - 1	13.6	1390
687	G1 - 2	<0.3	600
688	G1 - 3	<0.3	1110
689	G1 - 4	<0.3	781
690	G1 - 5	<0.3	770
691	G1 - 6	<0.3	1119
692	G1 - 7	<0.3	1180
693	G1 - 8	<0.3	1235
694	G1 - 9	<0.3	912
695	G1 - 10	<0.3	760
696	G1 - 11	<0.3	588
697	G1 - 12	<0.3	1156
698	G1 - 13	<0.3	1251
699	G1 - 14	<0.3	1570
700	G1 - 15	<0.3	950
701	G1 - 16	<0.3	1330
702	G1 - 17	<0.3	416
703	G1 - 18	<0.3	639
704	G1 - 19	1.2	1015
705	G1 - 20	<0.3	1272
706	G1 - 22	<0.3	1244
707	G1 Composite	<0.3	993
708	G2 - 1	<0.3	411
709	G2 - 2	<0.3	1628
710	G2 - 3	0.3	620
711	G2	<0.3	1441

Analyses by ... Lt. Plug.

(H.K. Wellington)
Chief Chemist & Metallurgist.

101

061102

M 1588

DEPARTMENT OF MINES—TASMANIA

TELEPHONES:
Metallurgical Research .. ..
Laboratory .. .. .. } 44 2431-2
Mines Inspection .. .. .. (2 lines)
Explosives & Inflammable Liquids

27th March 1980

Sturts Meadows Prospecting Syn N.L.
P.O. Box 145,
Chatswood,
N.S.W. 2067

c.c. Min. Hold.
W. Manson.

Reg. Nos 800443, 800454-62 800470-83 800484-91

Dear Sirs,

Please find below results of samples submitted to this laboratory on the 12th Mar'80 and stated to be Alluvial samples from the lease E.L. 31/76.

Reg. Nos	Description	Au g/t	Weight g.
800443	Alluvial F8 - 17	3.0	723
454	F9 - 9	<0.3	1250
455	F9 - 10	<0.3	821
456	F9 - 11	<0.3	1136
457	F9 - 12	<0.3	1430
458	F9 - 13	<0.3	1195
459	F9 - 14	<0.3	724
460	F9 - 15	<0.3	670
461	F9 - 16	<0.3	548
462	F9 - 17	<0.3	734
800470	F10 - 3	<0.3	1850
471	F10 - 4	<0.3	1541
472	F10 - 5	<0.3	1840
473	F10 - 6	<0.3	2164
474	F10 - 7	<0.3	1403
475	F10 - 8	<0.3	961
476	F10 - 9	<0.3	2575
477	F10 - 10	<0.3	1264
478	F10 - 11	<0.3	1030
479	F10 - 12	<0.3	1069
480	F10 - 13	<0.3	1493
481	F10 - 14	<0.3	1590
482	F10 - 15	<0.3	1500
483	F10 - 16	<0.3	1191

Reg. Nos	Description	Au g/t	Weight g
800484	Alluvial F10 - 17	<0.3	1152
485	F10 - 18	<0.3	1134
486	F10 - 19	<0.3	1418
487	F10 - 20	<0.3	742
488	F10 Composite	<0.3	1491
489	F11 - 1	<0.3	1081
490	F11 - 2	<0.3	1660
491	F11 - 3	<0.3	660

Yours faithfully,

(H. K. Wellington)
Chief Chemist & Metallurgist.

Analyses by L. M. Flay
J. R. Lethbridge

103 M 1588

061104

DEPARTMENT OF MINES—TASMANIA

TELEPHONES:
Metallurgical Research .. .. } 44 2431-2
Laboratory .. .. .. } (2 lines)
Mines Inspection .. .. .. }
Explosives & Inflammable Liquids }

LAUNCESTON OFFICES
287 WELLINGTON STREET
SOUTH LAUNCESTON 7250

10th April 1980

Sturts Meadows Prosp. Syn N.L.,
P.O. Box 145,
Chatswood,
N.S.W. 2067

c.c. Min. Hold.
W. St. Manson

Reg. Nos. 800712-756 800757-780 800849-866.

Dear Sir,

Please find below results of samples submitted to this laboratory on the 26th Mar'80 and stated to be Alluvial from the lease E.L. 31.76. and also Rock samples

Reg. Nos	Description		Au g/t	Weight g.
800712	Alluvial	G2 - 5	<0.3	548
713		G2 - 6	<0.3	953
714		G2 - 7	1.5	1046
715		G2 - 8	<0.3	1174
716		G2 - 9	4.5	981
717		G2 - 10	<0.3	766
718		G2 - 11	14.3	724
719		G2 - 12	<0.3.	1180
720		G2 Composite	0.3	1000
721		G3 - 1	<0.3	610
722		G3 - 2	<0.3	918
723		G3 - 3	<0.3	674
724		G3 - 4	<0.3	1029
725		G3 - 5	1.3	1180
726		G3 - 6	<0.3	274
727		G3 - 7	<0.3	1151
728		G3 - 8	<0.3	1396
729		G3 - 9	3.6	1196
730		G3 - 10	<0.3	1211
731		G3 - 11	<0.3	800
732		G3 - 12	<0.3	828
733		G3 - 13	<0.3	876
734		G3 Composite	0.3	515

Reg. Nos		Description	Au g/t	Weight g.
800735	Alluvial	G4 - 1	<0.3	1126
736		G4 - 2	<0.3	795
737		G4 - 3	<0.3	1406
738		G4 - 4	<0.3	1152
739		G4 - 5	1.4	630
740		G4 - 6	<0.3	1316
741		G4 - 7	<0.3	864
742		G4 - 8	<0.3	900
743		G4 - 9	0.7	814
744		G4 - 10	<0.3	551
745		G4 Composite	<0.3	831
746		G5 - 1	<0.3	708
747		G5 - 2	<0.3	856
748		G5 - 3	0.5	1352
749		G5 - 4	<0.3	1060
750		G5 - 5	<0.3	1550
751		G5 - 6	<0.3	1694
752		G5 - 7	<0.3	1120
753		G5 - 8	<0.3	1230
754		G5 - 9	<0.3	1232
755		G5 - 10	<0.3	1480
756		G5 - 11	1.2	965
757		G6 - 1	<0.3	502
758		G6 - 2	<0.3	1431
759		G6 - 3	<0.3	1400
760		G6 - 4	<0.3	2081
761		G6 - 5	<0.3	1780
762		G6 - 6	<0.3	1190
763		G6 - 7	<0.3	1718
764		G6 - 8	<0.3	1582

Reg. Nos	Description	Au g/t	Weight g
800765	G6 - 9	<0.3	1090
766	G6 - 10	<0.3	940
767	G6 - 11	0.4	1100
768	G6 - 12	<0.3	562
769	G6 - 13	<0.3	651
770	G6 - 14	<0.3	910
771	G6 - 15	<0.3	1283
772	G6 Composite	<0.3	1045
773	G7 - 1	<0.3	860
774	G7 - 2	<0.3	3549
775	G7 - 3	<0.3	2294
776	G7 - 4	<0.3	1252
777	G7 - 5	4.3	1900
778	G7 - 6	<0.3	1792
779	G7 - 7	1.0	1278
780	G7 - 8	<0.3	1238

Yours faithfully,

(H. K. Wellington)
Chief Chemist & Metallurgist.

Analyses by L. M. Lloyd
G. D. Lethbridge

106

061107

Reg. Nos. Rock Samples 800849-866

Reg. Nos.	Description		Au g/t
800849	Rock Samples	Strickland 1	0.5
850		" 2	2.1
851		" 3	<0.3
852		" 4	<0.3
853		" 5	<0.3
854		" 6	<0.3
855		" 7	3.0
856		" 8	2.0
857		" 9	0.5
858		" 10	4.0
859		" 11	12.9
860		" 12	0.5
861		" 13	11.2
862		" 1/1	0.7
863		" 1/2	25
864	TP 101		<0.3
865	TP 104A		0.8
866	TP 104B		0.7

Analyses by....

J.A. Petthoy

107

M 1588

061108

DEPARTMENT OF MINES—TASMANIA

TELEPHONES:
Metallurgical Research .. ..
Laboratory .. .. ..
Mines Inspection .. .. ..
Explosives & Inflammable Liquids
} 44 2431-2 (2 lines)

17th April 1980

Sturts Meadows Prosp. Syn N.L.,
P.O. Box 145,
Chatswood
N.S.W. 2067

c.c. Min. Hol.
W. St, Manson.

Reg. Nos. 800781-848

Dear Sirs,

Please find below results of samples submitted to this laboratory on the 26th Mar'80 and stated to be Alluvial from the lease E.L. 31/76.

Reg. Nos	Description	Au g/t	Weight g.
800781	Alluvial G7 - 9	<0.3	985
782	G7 - 10	<0.3	2010
783	G7 Composite	<0.3	1230
784	G8 - 1	<0.3	638
785	G8 - 2	<0.3	582
786	G8 - 3	0.8	584
787	G8 - 4	<0.3	700
788	G8 - 5	<0.3	568
789	G8 - 6	<0.3	870
790	G8 - 7	<0.3	744
791	G8 - 8	<0.3	940
792	G8 - 9	<0.3	1096
793	G8 - 10	0.8	911
794	G8 -,11	<0.3	717
795	G8 - 12	<0.3	650
796	G8 Composite	<0.3	660
797	G9 - 1	<0.3	711
798	G9 - 2	<0.3	1133
799	G9 - 3	<0.3	1076
800	G9 - 4	<0.3	1238
801	G9 - 5	<0.3	1254
802	G9 - 6	<0.3	1332
803	G9 - 7	<0.3	1165
804	G9 - 8	<0.3	1430
805	G9 - 9	<0.3	736

Reg. Nos	Description	Au g/t	Weight g
800806	G9 - 10	<0.3	718
807	G9 Composite	<0.3	610
808	E4/1	<0.3	1106
809	E4/2	<0.3	1442
810	E4/3	<0.3	1704
811	E4/4	<0.3	1370
812	E4/5	<0.3	1111
813	E4/6	<0.3	1410
814	E4/7	<0.3	858
815	E4/8	<0.3	1490
816	E4/10	<0.3	1570
817	E4/11	<0.3	1402
818	E4/12	<0.3	1234
819	E4/13	<0.3	1181
820	E4/14	<0.3	1060
821	E4 Composite	<0.3	1260
822	E5/1	<0.3	921
823	E5/2	<0.3	650
824	E5/3	0.4	635
825	E5/4	3.1	808
826	E5/5	<0.3	506
827	E5/6	<0.3	1061
828	E5/7	<0.3	982
829	E5 Composite	<0.3	590
830	E6/1	<0.3	246
831	E6/2	2.7	622
832	E6/3	<0.3	475
833	E6/4	0.3	600
834	E6/5	2.0	432
835	E6 Composite	<0.3	211
836	E7/1	<0.3	422
837	E7/2	1.4	540
838	E7/3	<0.3	590
839	E7/4	<0.3	900
840	E7/5	<0.3	589
841	E7/6	<0.3	998
842	E7/7	5.5	341

Reg. Nos.	Description	Au g/t	Weight g
800843	E7/8	<0.3	350
844	E7/9	1.8	351
845	E7/10	<0.3	748
846	E7/11	<0.3	555
847	E7/12	0.5	636
848	E7/13	0.6	170

Yours faithfully,

(H. K. Wellington)
Chief Chemist & Metallurgist.

Analyses by J. A. Letheby.. L. M. Flay.

061111

M 1588

DEPARTMENT OF MINES—TASMANIA

LAUNCESTON OFFICES
287 WELLINGTON STREET
SOUTH LAUNCESTON 7250

TELEPHONES:
Metallurgical Research .. ..
Laboratory .. .. ..
Mines Inspection .. .. ..
Explosives & Inflammable Liquids
44 2431-2 (2 lines)

2nd June 1980

c.c. W. Manson

Sturts Meadows Prosp. Syn N.L.
P.O. Box 145,
Chatswood,
N.S.W. 2067

Attent. Mr. John Duck

Reg. Nos 801296-99

Dear Sir,

Please find below results of samples submitted to this laboratory on the 20th May'80.

Reg. Nos.	Description	Au g/t	Ag g/t
801296	North Wall	29	10
297	South Wall	77	29
298	Bottom of Shaft	16	6
299	Drive Starlight	6	4

Yours faithfully,

(H. K. Wellington)
Chief Chemist & Metallurgist.

Analyses by.. L. M. Hay.

Fee $40.00

FOX Laboratories
106 WOODPARK ROAD, SMITHFIELD, N.S.W.
POSTAL ADDRESS: P.O. BOX 34, SMITHFIELD 2164
Telephone: 632 5888 Telex: AA25061

111

REPORT OF ANALYSIS

CLIENT
A.C.A Howe. Australia Pty Ltd.
18 Carrara Rd
Vaucluse 2030.

DATE RECEIVED	DATE REPORTED	SAMPLE ADVICE No.	SAMPLE TYPE
April 1980	28th May 1980		Samples ex Dept Mines Tas.

SAMPLE No.	Au	MINES DEPT. EQUIVALENT	REMARKS
800449.	0.04	<0.3	FQ-4 Alluvial.
800686	16.2	13.6	B.1/1 "
800719	BLD.	<0.3	G2/12 " "
800739	0.11	1.4	G4/5 " "
800777.	0.17	4.3	G7/5 " "
800544.	16.1	10.1	34 Rock Samples.
800557	4.73	3.8	9/5 " "
800559	23.2	19.3	56 " "
800564	4.54	2.3	53 " "
800865	1.83.	2.8	62 " "
		Free gold present.	
LIMIT OF DETECTION	0.04		
ANALYTICAL METHOD	6F/2		

P.P.M. UNLESS OTHERWISE STATED

SIGNATORY

0611112

FOX Laboratories
106 WOODPARK ROAD, SMITHFIELD, N.S.W.
POSTAL ADDRESS: P.O. BOX 34, SMITHFIELD 2164
Telephone: 632 5888 Telex: AA25061

112

REPORT OF ANALYSIS

CLIENT
A.C.A. Howe Australia Pty Ltd
18 Carrara Rd.
VAUCLUSE 2030.

DATE RECEIVED	DATE REPORTED	SAMPLE ADVICE No.	SAMPLE TYPE
31st March 1980.		Letter 27/3/80.	Tailings + Rock.

SAMPLE No.		Ag	Au	REMARKS
Adit No1	1	0·54	4·24	
	2	0·33	2·73	
	3	0·20	4·63	
Adit No2	1	0·58	27·4	
	2	0·59	14·3	
	3	0·24	7·41	
	4	0·80	20·55	
Adit No3. Stope 1	1	0·19	1·15	
Una Adit	1	0·15	0·35	
Stope 2 N to		0·61	1·06	
1M NZT Face		0·34	0·28	
LIMIT OF DETECTION				
ANALYTICAL METHOD				SIGNATORY

P P M UNLESS OTHERWISE STATED

0611113

FOX Laboratories
106 WOODPARK ROAD, SMITHFIELD, N.S.W.
POSTAL ADDRESS: P.O. BOX 34, SMITHFIELD 2164
Telephone: 632 5888 Telex: AA25061

113

CLIENT
A.C.A. Howe Australia Pty Ltd.
18 Carrara Rd.
Vaucluse. 2030.

REPORT OF ANALYSIS

DATE RECEIVED	DATE REPORTED	SAMPLE ADVICE No.	SAMPLE TYPE
15th April 1980.	24th April 1980.	Letter 13/4/80.	

SAMPLE No.	Ag	Au.	REMARKS
124	0·22	3·76	
126	BLD.	12·2	
137	0·11	0·21	
151	BLD.	0·14	
153	1·69	83·5	
154	0·07	0·27	
157	0·45	0·11	
160	0·06	0·11	
163	0·04	0·16	
174	BLD.	0·17	
189	0·56	0·83	
193	0·39	0·65	
194	1·32	2·35	
195	0·26	0·80	
196	0·13	2·50	
197	0·58	8·44	
198	0·41	0·74	
199	3·91	13·65	
LIMIT OF DETECTION	0·05	0·04	
ANALYTICAL METHOD	5	GF/A.	

P P M UNLESS OTHERWISE STATED

SIGNATORY

061114

FOX Laboratories
106 WOODPARK ROAD, SMITHFIELD, N.S.W.
POSTAL ADDRESS: P.O. BOX 34, SMITHFIELD 2164
Telephone: 632 5888 Telex: AA25061

REPORT OF ANALYSIS

CLIENT
A.C.A. Howe. Australia Pty Ltd
18 Carrara Rd
Vaucluse 2030.

DATE RECEIVED	DATE REPORTED	SAMPLE ADVICE No.	SAMPLE TYPE
15th April 1980	24th April 1980.	letter 13/4/80.	

SAMPLE No.	Ag	Au	REMARKS
200	13.1	17.7	
202	3.09	13.9	
204	0.81	2.66	
211/1	0.11	0.21	
211/2	0.07	0.08	
214	0.06	0.08	
216	0.05	0.08	
224	0.07	0.17	
226	0.15	0.31	
226	0.25	1.99	fine metallics
228	0.60	2.35	
230	0.08	0.61	
231	0.08	0.11	
232/a	1.18	1.45	
232/b	0.07	0.11	
LIMIT OF DETECTION	0.05	0.04	
ANALYTICAL METHOD	5	FA/A	

P P M UNLESS OTHERWISE STATED

SIGNATORY

061115

FOX Laboratories
106 WOODPARK ROAD, SMITHFIELD, N.S.W.
POSTAL ADDRESS: P.O. BOX 34, SMITHFIELD 2164
Telephone: 632 5888 Telex: AA25061

115

REPORT OF ANALYSIS

CLIENT
A.C.A. Hove Australia Pty Ltd
18 Carrara Rd
Vaucluse 2030

DATE RECEIVED	DATE REPORTED	SAMPLE ADVICE No.	SAMPLE TYPE
15th April 1980	24th April 1980	Letter 13/4/80.	

SAMPLE No.	Ag	Au	REMARKS
1 Hinemoa Tunnel	1·98	22·6	
2	2·59	24·0	
3	0 67	5·87	
4	0·09	0·70	
5	6·76	525·0	
6.	0·19	4·42	
Rayners Tunnel 1	0·80	3·70	
2	1·07	3·46	
3	1·96	6·75	
4	0·28	1·38	
O'Briens Winze 1	0 46	17·8	
2	1·98	2·91	
3	0·29	1·13	
Black Bay 1	0·05	0·30	
Trench North 22/5	0 42	1·47	
Trench South 22/5	0 06	0·26	
LIMIT OF DETECTION	0·05	0·04	
ANALYTICAL METHOD	5	GF/A.	

P P M UNLESS OTHERWISE STATED

SIGNATORY

0611116

APPENDIX 4

EXPENDITURE REPORT

117

061118

Sturts Meadows Prospecting Syndicate No Liability
38 Grenfell Street, Adelaide, S.A. 5000. Telephone: (08) 212 6767, (08) 212 6751.
33 Bertram Street, Chatswood, N.S.W. 2067. Telephone: (02) 41 0369.

EXPLORATION LICENCE No. 31/76
LAND DISTRICT OF CORNWALL VICINITY OF MT. VICTORIA, TASMANIA

REPORT OF EXPENDITURE FOR THE PERIOD 11TH DECEMBER, 1979 TO 23RD MAY, 1980

The Exploration Licence is held by Mineral Holdings Australia Pty. Limited of 100 Collins Street, Melbourne VIC. and the exploration and expenditure was incurred during this period by Sturts Meadows Prospecting Syndicate No Liability of 33 Bertram Street, Chatswood N.S.W. -

Geological Consulting Fees and Expenses paid to A.C.A. Howe Australia Pty. Ltd. including services of Senior Consulting Geologists and full-time field Project Geologist		$ 30,585
Fees paid to Metallurgical and Planning Consultants		631
Alluvial Drilling costs paid to W. L. Sides & Son Pty. Ltd., 186 Wellington Road, Clayton VIC.		33,542
Drilling and Sampling Equipment		280
Payments made to Subcontract Miners and Field Assistants		21,600
Hire Charges of D9 Bulldozer in road making and giving access to all mines		15,460
Hire of D7 Bulldozer, Backhoe and other equipment		3,619
Field Supplies and Materials		3,299
Hire of Motor Vehicles		1,238
Motor Vehicle Operating Expenses		341
Accommodation and Camping Expenses Geologists		2,387
Department of Mines, Tasmania samples assay charges and fees		2,468
TOTAL DIRECT EXPLORATION EXPENDITURE		$ 115,450
Capital Costs where Capital Equipment retained on the Exploration Licence Area -		
Purchase of 1980 Toyota LWB 4WD Motor Vehicle	$ 11,175	
Purchase of Franklin Caravan for Field Workers Camping on site	3,500	14,675
Fwd.		$ 130,125

2/...

EXPLORATION LICENCE No. 31/76, TASMANIA REPORT OF EXPENDITURE FOR THE PERIOD 11TH DECEMBER, 1979 TO 23RD MAY, 1980 (CONT'D...)

	Fwd.	$ 130,125
Direct Expenses incurred by Sturts Meadows Prospecting Syndicate N.L. in travel and accommodation by Directors from Sydney to the Exploration Licence Area on numerous occasions during the period being air fares, accommodation and direct out-of-pocket expenses		4,957
Sturts Meadows Prospecting Syndicate N.L. Company Directors and Staff overall supervision of project including staff wages and administration expenses		21,000
Publicity and Promotion material		1,138
Payment made to Mineral Holdings Australia Pty. Limited as according to contract arrangement		5,000
Preparation of final reports for Sturts Meadows Prospecting Syndicate N.L. and Mineral Holdings Australia Pty. Limited and the Department of Mines, Tasmania - estimate, yet to be accounted		2,000
TOTAL EXPENDITURE INCURRED BY STURTS MEADOWS PROSPECTING SYNDICATE NO LIABILITY ON EXPLORATION LICENCE No. 31/76 TASMANIA, FOR THE PERIOD 11TH DECEMBER, 1979 TO 23RD MAY, 1980		$ 164,220

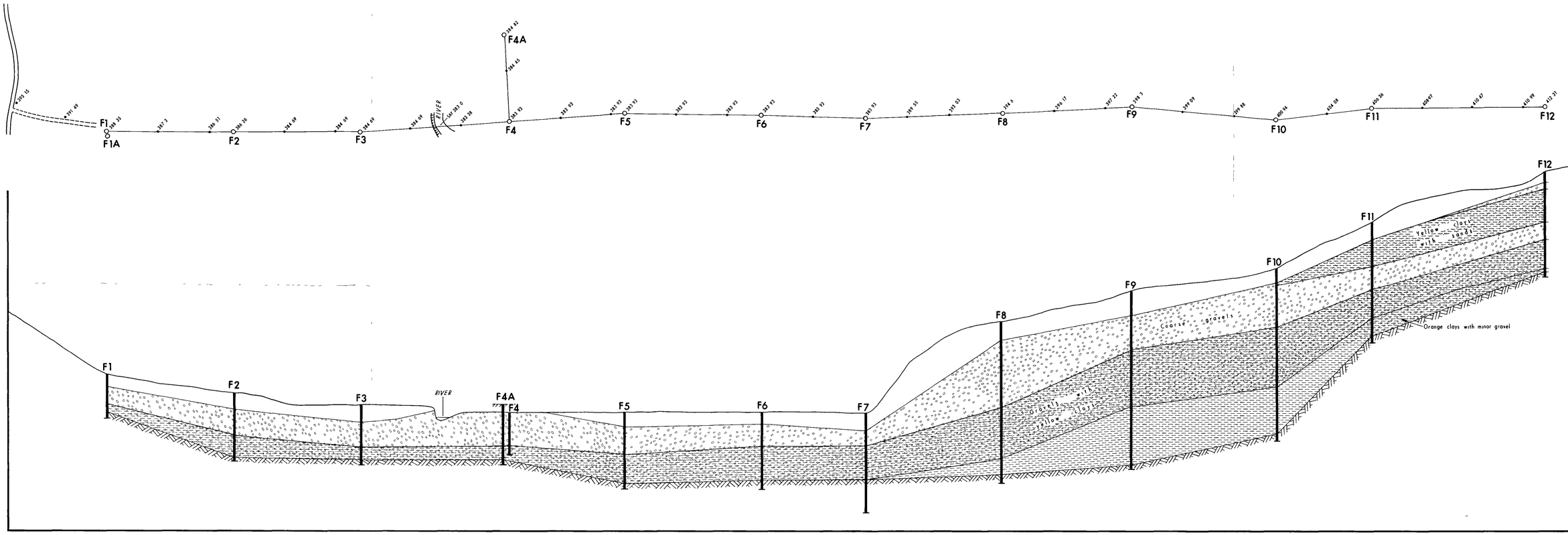
STURTS MEADOWS PROSPECTING SYNDICATE NO LIABILITY

JOHN DUCK
CHAIRMAN

23rd May, 1980


GEOLOGICAL SKETCH MAP
OF
DAN RIVULET GOLDFIELD
NORTHERN AREA
SCALE
0 5 10 20 30 40 CHS.
0 1/4 1/2 MILE
N.B. HEIGHTS BASED ON RAILWAY LEVEL AT FINGAL STATION (754')
5 cm
B.Sc.
8 9 47
LEGEND
TOPOGRAPHICAL
ROADS IN USE
NOT SUITABLE FOR VEHICLES
TRACKS
PURCHASED LAND
MINERAL LEASES HELD
VACANT
CONTOURS (50 FOOT INTERVALS)
GEOLOGICAL
RECENT ALLUVIUM
PLEISTOCENE ALLUVIUM
PERMIAN SANDSTONES
LOWER PALAEOZOIC SLATES QUARTZITES
MESOZOIC DOLERITE
GEOLOGICAL BOUNDARIES
533
14/1/48
Fig 4
80-1464
061120
STRICKLAND
UNA CREEK
OLD ALBERTON PACK TRACK
HAVELOCK CREEK
CARANDAH
LADY HAVELOCK
RIVULET
HAVELOCK
NATIONAL INVESTMENT
O'BRIENS
KING EDWARD
STARLIGHT
CARNEGIE
G LINE
F LINE
E LINE
DAN
WALKER CREEK
BAILEYS
REVENUE
MABEL
OCTOBER
TO RINGAROOMA
Sawmill
End of metalled road
Rayner's House
Baker's House
BLACK BOY HILL

2067



F1

DEPTH (m)	GRADE (g/Tonne) Au
0 - 1	
1 2	0 015
2 - 3	
3 - 4	0 018
4 5	0 01

F2

DEPTH (m)	GRADE (g/Tonne) Au
0 - 1	-
1 - 2	-
2 - 3	-
3 - 4	-
4 - 5	0 03
5 - 6	0 002
6 - 7	0 009
7 8	-

F3

DEPTH (m)	GRADE (g/Tonne) Au
0 - 1	-
1 - 2	-
2 3	0 007
3 - 4	-
4 5	0 006
5 6	-
6 - 7	0 012

F4A

DEPTH (m)	GRADE (g/T)
0 - 1	-
1 - 2	-
2 - 3	0 017
3 - 4	0 014
4 - 5	0 034
5 - 6	0 012
6 - 7	-

F4

DEPTH (m)	GRADE (g/T) Au
0 - 1	-
1 - 2	-
2 - 3	-
3 - 4	0 015
4 - 5	-

F5

DEPTH (m)	GRADE (g/Tonne) Au
0 - 1	-
1 - 2	-
2 3	-
3 - 4	-
4 - 5	-
5 - 6	0 028
6 - 7	0 002
7 8	-
8 - 9	0 036

F6

DEPTH (m)	GRADE (g/Tonne) Au
0 - 1	-
1 2	-
2 - 3	-
3 4	-
4 - 5	0 007
5 6	-
6 - 7	-
7 - 8	-
8 - 9	-

F7

DEPTH (m)	GRADE (g/Tonne) Au
0 - 1	0 008
1 2	-
2 3	-
3 - 4	-
4 5	-
5 - 6	-
6 - 7	-
7 8	-
8 - 9	-
9 10	-
10 - 11	-
11 12	-

F8

DEPTH (m)	GRADE (g/Tonne) Au
0 - 1	-
1 - 2	-
2 3	-
3 - 4	-
4 - 5	-
5 6	-
6 7	-
7 - 8	-
8 9	0 005
9 - 10	-
10 - 11	-
11 - 12	-
12 - 13	-
13 - 14	-
14 - 15	-
15 - 16	0 01
16 - 17	0 054
17 - 18	-
18 - 19	-
19 -	

F9

DEPTH (m)	GRADE (g/Tonne) Au
0 - 1	-
1 - 2	-
2 - 3	-
3 - 4	-
4 - 5	-
5 - 6	-
6 - 7	-
7 - 8	-
8 - 9	-
9 - 10	-
10 - 11	-
11 - 12	-
12 - 13	-
13 - 14	-
14 - 15	-
15 - 16	-
16 - 17	-
17 - 18	0 002
18 - 19	-
19 - 20	-
20 - 21	-

F10

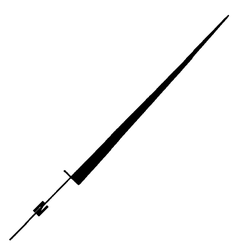
DEPTH (m)	GRADE (g/Tonne) Au
0 - 1	-
1 - 2	0 01
2 - 3	-
3 - 4	-
4 - 5	-
5 - 6	-
6 - 7	-
7 - 8	-
8 - 9	-
9 - 10	-
10 - 11	-
11 - 12	-
12 13	-
13 - 14	-
14 - 15	-
15 - 16	-
16 - 17	-
17 - 18	-
18 - 19	-
19 - 20	-
20 -	

F11

DEPTH (m)	GRADE (g/Tonne) Au
0 - 1	-
1 - 2	-
2 - 3	-
3 - 4	-
4 - 5	-
5 - 6	-
6 - 7	-
7 - 8	-
8 - 9	-
9 - 10	-
10 - 11	-
11 - 12	0 009
12 - 13	0 004
13 14	-
14 -	

F12

DEPTH (m)	GRADE (g/T) Au
0 - 1	-
1 - 2	-
2 - 3	-
3 - 4	-
4 - 5	0 014
5 - 6	-
6 - 7	-
7 - 8	-
8 - 9	-
9 - 10	-
10 - 11	-
11 - 12	-
12	



KEY

- Topsoil
- Gravel
- Clay
- Sand
- Shale Bedrock

NB Where two symbols superimpose this refers to a mixture of sediment types

061121

5 cm

STURTS MEADOWS PROSPECTING SYNDICATE NL
DAN RIVULET PROJECT

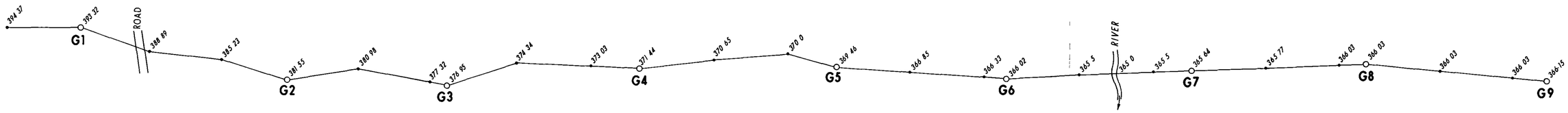
DRAFTED BY GEODRAFTING SERVICES
FOR A C A HOWE AUSTRALIA PTY LTD

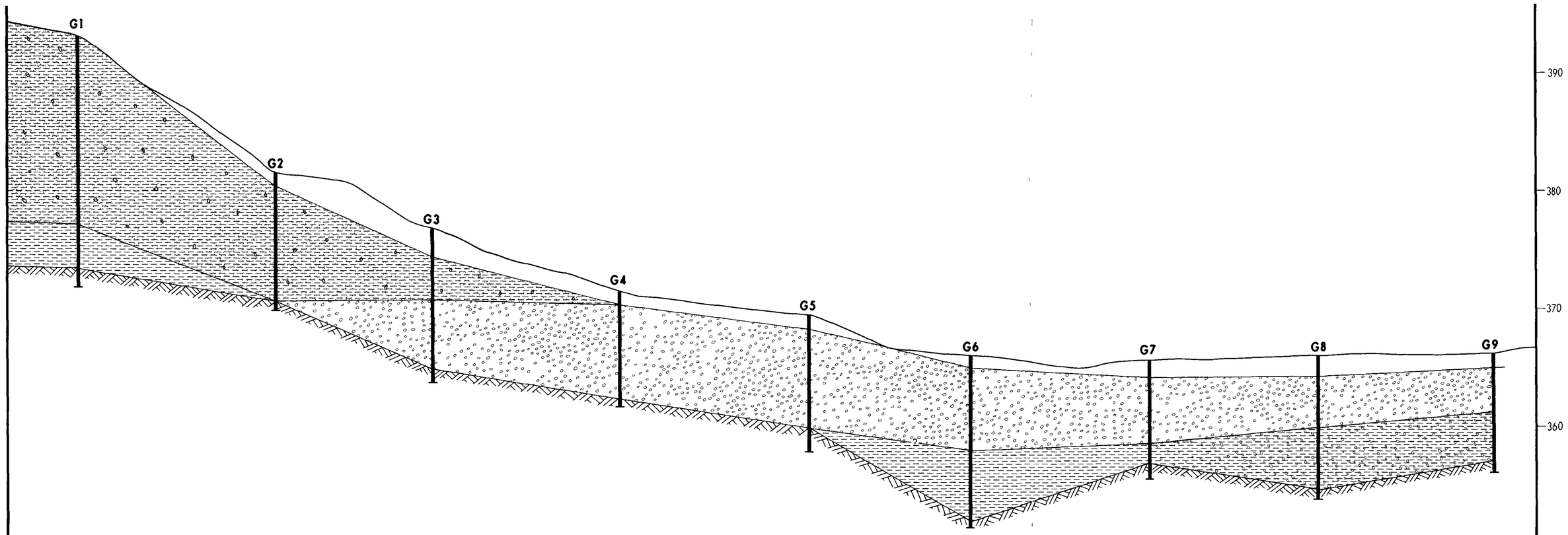
ALLUVIAL DRILLING - LINE F

HORIZONTAL SCALE 1 1000
VERTICAL SCALE 1 200

PREPARED BY P R MITCHELL
2068 FIGURE 6

80-1464





G1

DEPTH (m)	GRADE (g/Tonne) Au
0 1	0 539
1 2	–
2 3	–
3 4	–
4-5	–
5 6	–
6 7	–
7 8	–
8-9	–
9-10	–
10-11	–
11 12	–
12-13	–
13-14	–
14-15	–
15 16	–
16-17	–
17-18	–
18 19	0 032
19-20	–
20 21	–
21-22	

G2

DEPTH (m)	GRADE (g/Tonne) Au
0-1	–
1-2	–
2 3	0 003
3-4	–
4-5	–
5-6	–
6-7	0 027
7 8	–
8-9	0 107
9 10	–
10-11	0 216
11-12	0 01

G3

DEPTH (m)	GRADE (g/Tonne) Au
0-1	–
1-2	–
2-3	–
3-4	–
4 5	0 025
5-6	–
6-7	–
7-8	–
8-9	0 064
9-10	–
10-11	–
11-12	–
12-13	–
13-	

G4

DEPTH (m)	GRADE (g/Tonne) Au
0-1	–
1-2	–
2-3	–
3-4	–
4-5	0 012
5-6	–
6-7	–
7 8	–
8-9	0 008
9-	–

G5

DEPTH (m)	GRADE (g/Tonne) Au
0-1	–
1-2	–
2-3	0 011
3-4	–
4 5	–
5-6	–
6-7	–
7-8	–
8-9	–
9-10	–
10 11	0 011
11	–

G6

DEPTH (m)	GRADE (g/Tonne) Au
0-1	–
1 2	–
2-3	–
3-4	–
4-5	–
5 6	–
6-7	–
7-8	–
8 9	–
9-10	–
10 11	0 003
11 12	–
12 13	–
13-14	–
14-15	–
15-	–

G7

DEPTH (m)	GRADE (g/Tonne) Au
0-1	–
1-2	–
2-3	–
3-4	–
4-5	0 179
5-6	–
6-7	0 028
7-8	–
8-9	–
9-10	–

G8

DEPTH (m)	GRADE (g/Tonne) Au
0-1	–
1-2	–
2-3	0 012
3-4	–
4-5	–
5-6	–
6-7	–
7-8	–
8-9	–
9-10	0 027
10-11	–
11-12	–

G9

DEPTH (m)	GRADE (g/Tonne) Au
0-1	–
1-2	–
2-3	–
3-4	–
4-5	–
5-6	–
6-7	–
7-8	–
8-9	–
9-10	–
10-	–

KEY

- Topsoil
- Gravel
- Clay
- Sand
- Shale Bedrock

NB Where two symbols superimpose this refers to a mixture of sediment types

5 cm

061122

STURTS MEADOWS PROSPECTING SYNDICATE NL
DAN RIVULET PROJECT

DRAFTED BY GEODRAFTING SERVICES
FOR A C A HOWE AUSTRALIA PTY LTD

ALLUVIAL DRILLING – LINE G

HORIZONTAL SCALE 1 1000
VERTICAL SCALE 1 200

PREPARED BY P R MITCHELL
2069 FIGURE 7

80-4 64

Δ MT. VICTORIA
1966

MT ALBERT

Δ MT. SADDLEBACK
4166'

MT. YOUNG Δ
2964

BLACKBOY HILL

HEATON HILL

Δ TYNE

MATHINNA

MATHINNA CHURCH Δ
1116'

Δ EVERCREECH
1183'

TOWER HILL

MANGANA

FINGAL

5 cm

LEGEND

- QUATERNARY RECENT ALLUVIUM OLDER ALLUVIAL TERRACES
- TRIASSIC
- PERMIAN — LIMIT OF PRE PERMIAN SURFACE
- SILURIAN MATHINNA BEDS ARENITE-LUTITE FM LUTITE FORMATION
- DEVONIAN GRANITE
- JURASSIC DOLERITE
- TERTIARY BASALT
- GEOLOGICAL BOUNDARY
- STRIKE & DIP OF BEDDING
- BEDDING & CLEAVAGE LINEATION
- SECTION LINE
- STRIKE & DIP OF CLEAVAGE
- PALAEOCURRENT DIRECTION
- GOLD-QUARTZ LODE
- DETAILS OF MINOR STRUCTURES, SCALE VARIABLE
- TRACE OF SHEAR PLANE (PLUS POST PERMIAN MOVEMENT)
- FOLD AXIS INFERRED
- LINEAR INTERPRETED FROM AIR PHOTOS
- POST PERMIAN FAULT (THROW INDICATED)

FIGURE 8

DEPARTMENT OF MINES — TASMANIA

GEOLOGICAL MAP MATHINNA - MANGANA - DAN RIVULET GOLDFIELDS

DATE JUNE 1963	CHAINS SCALE 0 30 60 90
GEOLOGIST	SURVEYOR
DRAUGHTSMAN	MAP SHEET & PALEERSON 41
REVISIONS — 2070	FILE No. 2532

061123

80-1494

O'BRIEN No 1 TUNNEL

DUMP

Dump material 10 1g/t Au

Dump material 37 5g/t Au

Dump 2 9g/t Au

WINZE

Breccia Zone

TIMBERED

Wmze 3 3m below drive
Vein consist of 73cm quartz 17 8g/t Au
& 80cm brecciation 2 91g/t Au

Shaft

Shallow trench in eluvium no quartz visible

Shallow trench with m nor quartz in dumps

1 5m deep trenches
No quartz

1m deep trench
No quartz

Shallow trench with only traces of quartz

Shallow trenches on NW trending structure

Deep trenches on fracture zone trending 170°, very little quartz on dumps containing only traces of gold

Shallow trench in eluvium

Shallow trench

Shallow trench

Shallow pit (3m) in eluvium

Warrapoona Hut

Shallow pit in eluvium

pit above

O'BRIEN No 2 TUNNEL

10cm quartz vein + manganese staining following fracture – <0 3g/t Au

Quartz on dump – 26 0g/t Au

Quartz in dump by shaft – 2 8g/t Au

stopes

Dump material

stopes along narrow vein

Manganese stained fractured zone

20cm Quartz vein 0 3g/t Au

Minor quartz and iron stained fractured shales with traces of gold

Stope 3 5m deep

Thin quartz vein in fracture <0 3g/t Au

3m deep shaft with dump quartz – 2 3g/t Au

Quartz on dump 19 3g/t Au

Minor quartz and iron stained breccia showing no trace of gold

Trench access NW trending structure

Shallow trenches in eluvium

Shallow pit with ironstone breccia – 2 8g/t Au

Small pit in eluvial material

Mainly shallow trenches with strong fracturing but only minor quartz veining

O'BRIEN No 3 TUNNEL

Sample 82 dump material – 4 2g/t Au

Quartz vein upto 0 15m wide along distinct fracture

Sample 83 dump 2 9g/t Au

Sample	Width	Assay (g/t Au)
1	0 3m	<0 3
2	0 33m	<0 2
3	0 35m	16 0
4	0 3m	1 1
5	0 3m	<0 3
6	0 25m	<0 3

KEY

- Trench
- Fault
- Strike and dip
- Quartz vein
- Survey point
- Tunnel Sample No
- Scree

N

5 cm

STURTS MEADOWS PROSPECTING SYNDICATE NL
DAN RIVULET PROJECT

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061124

O'BRIEN AREA

2071

SCALE 1 500
PREPARED BY P R MITCHELL

FIGURE 9

80-1462

2072

Fault with minor quartz vein - 0·3g/t Au

Stoped to surface

LOWER ADIT

KING EDWARD MINE

22/2

Quartz on dump around stope - 2·7g/t Au

22/3

Quartz float

22/4 Trench

22/5

Quartz vein 0·4m. wide - 5·2 g/t Au

22/6

Quartz with minor sulphides but showing strong breccia infilling of slates in parallel veining - 0·4 g/t Au

Trench

Shallow trench with only minor quartz present

22/7

Samples of dump quartz - 0·5g/t Au

ROAD

STOPE

7/01

Stope 80° collapse

7/02

Fractures containing minor quartz stringers. Sample 5 - 5·8 g/t Au

7/03

Quartz veinlets in fractures in shale trend 135° very irregular and white quartz with no sulphides - <0·3g/t Au

7/04

Dump material above stope - 2·3g/t Au

7/05

Shaft w. water

53°

7/06

Shallow trenches with some quartz present, 10 g/t Au

7/07

Tie stope with quartz veining along narrow fracture. Grab sample - 3·1g/t Au

7/08

Shallow trench with quartz stringers - 7·8 g/t Au

7/09

Vein trending N-S on shallow trench, quartz indicate narrow vein. Dump quartz - 3·8 g/t Au

7/10

Dump - 24·7g/t Au

7/11

Much quartz present in dumps of shaft and deep trenches. Sulphide mineralization present Dump quartz - 3·8g/t Au

7/12

Shallow trench with some white quartz veinlets

7/13

Shallow trench. vein trending approx. E - W

7/14

② Manganese rich fracture zone with minor quartz 1·5m. wide - 2·5g/t Au

7/15

① 0·97m wide quartz blow associated with breccia zone - 0·3g/t Au

Breccia

Elluvial cover

STARLIGHT

7/16

7/17

7/18

7/19

Quartz present on dumps, no exposure, dump quartz - 1·3g/t Au

Exploration trench No quartz

0·37m quartz - 0·5g/t Au

7/20

Some quartz on dump, no exposure

7/21

Numerous quartz stringers in vein width up to 0·4 m.

7/22

Minor quartz on dump - 0·3g/t Au

Small pieces quartz - 1·8g/t Au

Quartz veining - 1·4g/t Au

Water, some quartz on dump, mostly stringers 1·5g/t Au

No exposure but vein pieces on dump indicate width 0·2m - 29·3g/t Au

7/23

Trench - no quartz

Quartz vein 0·3 to 0·5m. wide 1·5g/t Au

No quartz

7/24

Quartz veining wall defined fracture/vein 0·35m. wide - 1·0g/t Au

FRACTURE ZONE WITH QUARTZ STRINGERS

Quartz stringers trending N-S some pieces on dump indicate vein width 0·1 - 0·2m - 0·2 g/t Au

Quartz stringers in shale - 0·8g/t Au

quartz exposed in bench trending 330° - 0·8g/t Au

7/25

Shallow trench. No quartz exposed

7/26

8 to 8·5m. deep shaft mainly in yellow shaley slates no quartz visible although fracture trend 110°

7/27

Shaft 4m deep with traces of quartz on dump - 0·6g/t Au.

Cleavage/fracture direction

Numerous quartz stringers in brecciated shales. Dump quartz - 1·0 g/t

Quartz stringer

Quartz stringers

Quartz with 2 fracture trends

7/28

Thin quartz vein in trench - 1·3g/t Au

7/29

Quartz pod - 1·1g/t Au

7/30

Quartz veinlet - 1·1 g/t Au

Thin stringers - 0·2g/t Au

ADIT - CARNEGIE No. 2

ADIT - CARNEGIE No. 1

Strong fault with brecciation and much iron staining

Qtz pod

Thin quartz pods following fracture in samples No 3 - 0·3 - 0·7g/t Au

① Quartz

③ Quartz

Fracture trend

Trench at surface

② Quartz

Carnegie Winze Samples at 6m, 19m vein assaying 25·2 g/t Au

Fall in open stope

Open stopes or shafts

Disturbed Area Possibly due to trenching

6/1

6/2

6/3

6/4

6/5

6/6

6/7

6/8

N

5 cm

061125

STURTS MEADOWS PROSPECTING SYNDICATE N.L.

DAN RIVULET PROJECT

DRAFTING BY: GEODRAFTING SERVICES

FOR: A.C.A. HOWE AUSTRALIA PTY LTD

STARLIGHT, CARNEGIE & KING EDWARD AREAS

2072

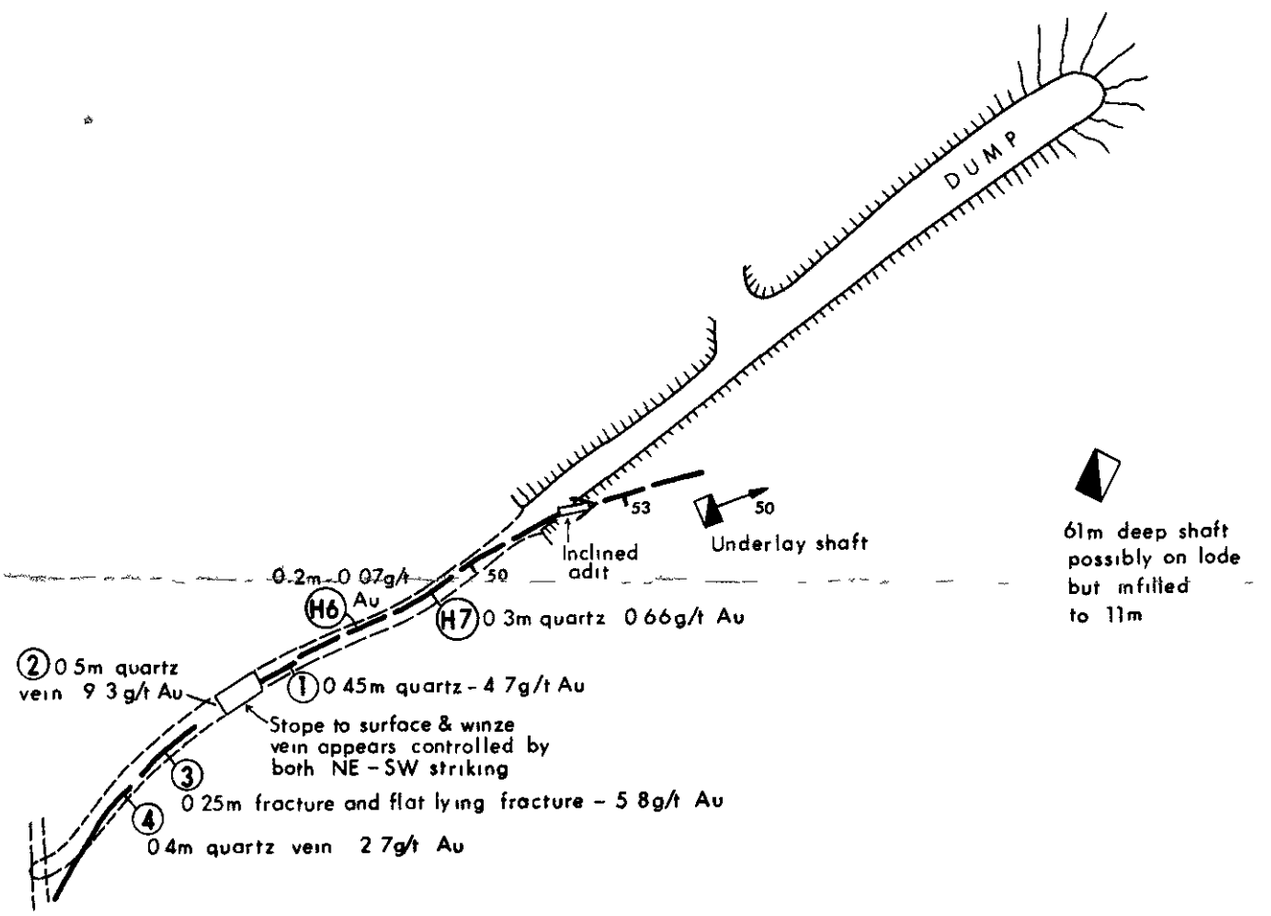
SCALE 1 : 500

PREPARED BY: P.R. MITCHELL

FIGURE 10

KEY

- Trench
- Fault
- Strike and dip
- Quartz vein
- Survey point
- Tunnel sample no.
- Scree



061126

5 cm

STURTS MEADOWS PROSPECTING SYNDICATE N L

DAN RIVULET PROJECT

DRAFTED BY GEODRAFTING SERVICES FOR A C A HOWE AUSTRALIA PTY LTD

HAVELOCK MINE

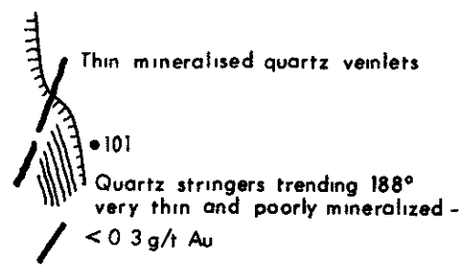
2073

SCALE 1 500
PREPARED BY P R MITCHELL

FIGURE 11

80-1464

SAMPLE No.	VEIN WIDTH	LOWER ADIT g/t Au
①	75 cm	0 5
②	150 cm	2 1
③	20 cm	0 3
④	60 cm	0 3
⑤	79 cm	0 3
⑥	82 cm	0 3
⑦	26 cm	3 0
⑧	15 cm	2 0
⑨	26 cm	0 5
⑩	19 cm	4 0
⑪	19 cm	12 9
⑫	63 cm	0 5
⑬	77 cm	11 2



KEY

Trench

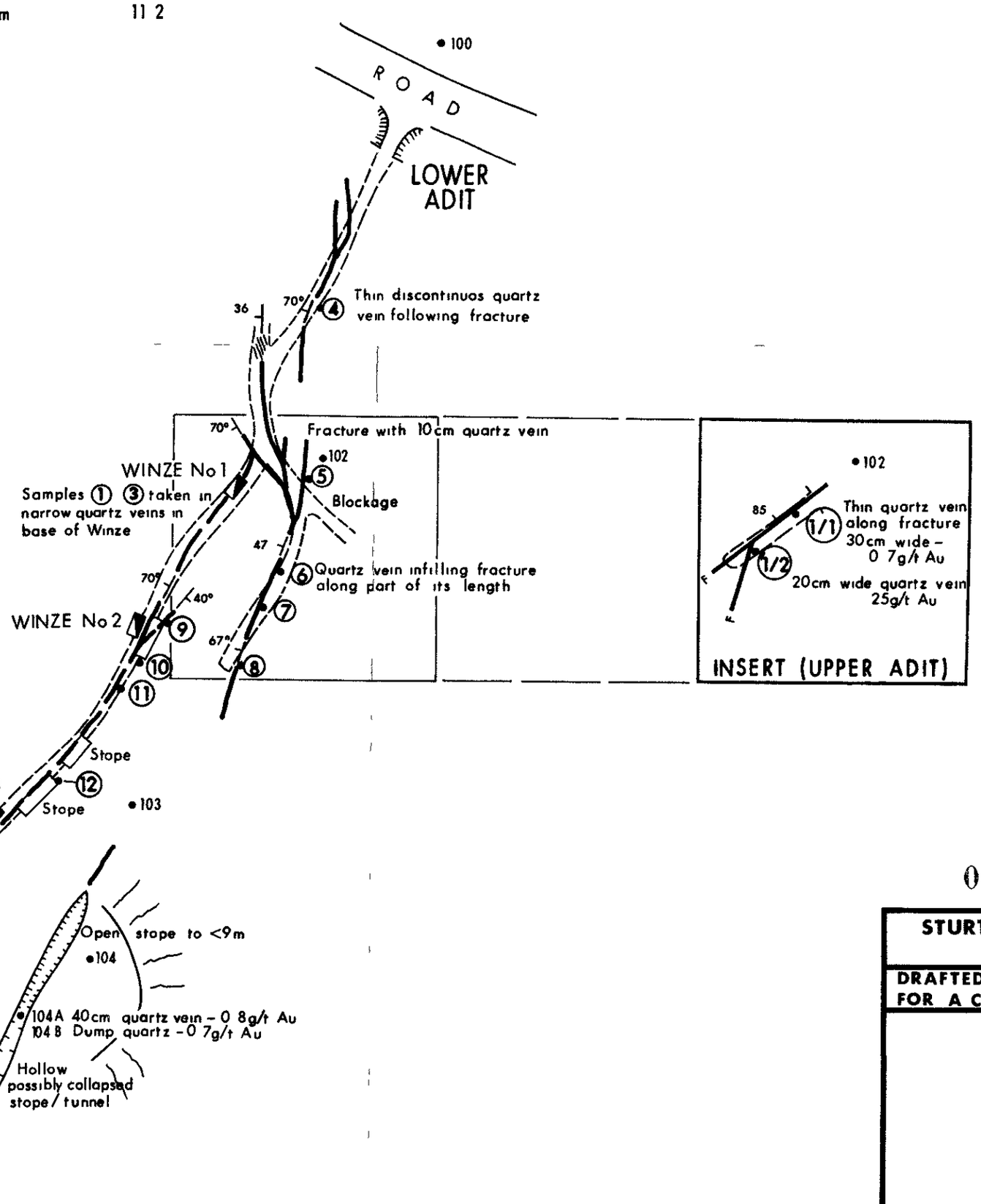
F — Fault

70 Strike and dip

Quartz vein

• 101 Survey point

•⑤ Tunnel Sample No



5 cm

06112

STURTS MEADOWS PROSPECTING SYNDICATE N L

DAN RIVULET PROJECT

DRAFTED BY GEODRAFTING SERVICES
FOR A C A HOWE AUSTRALIA PTY LTD

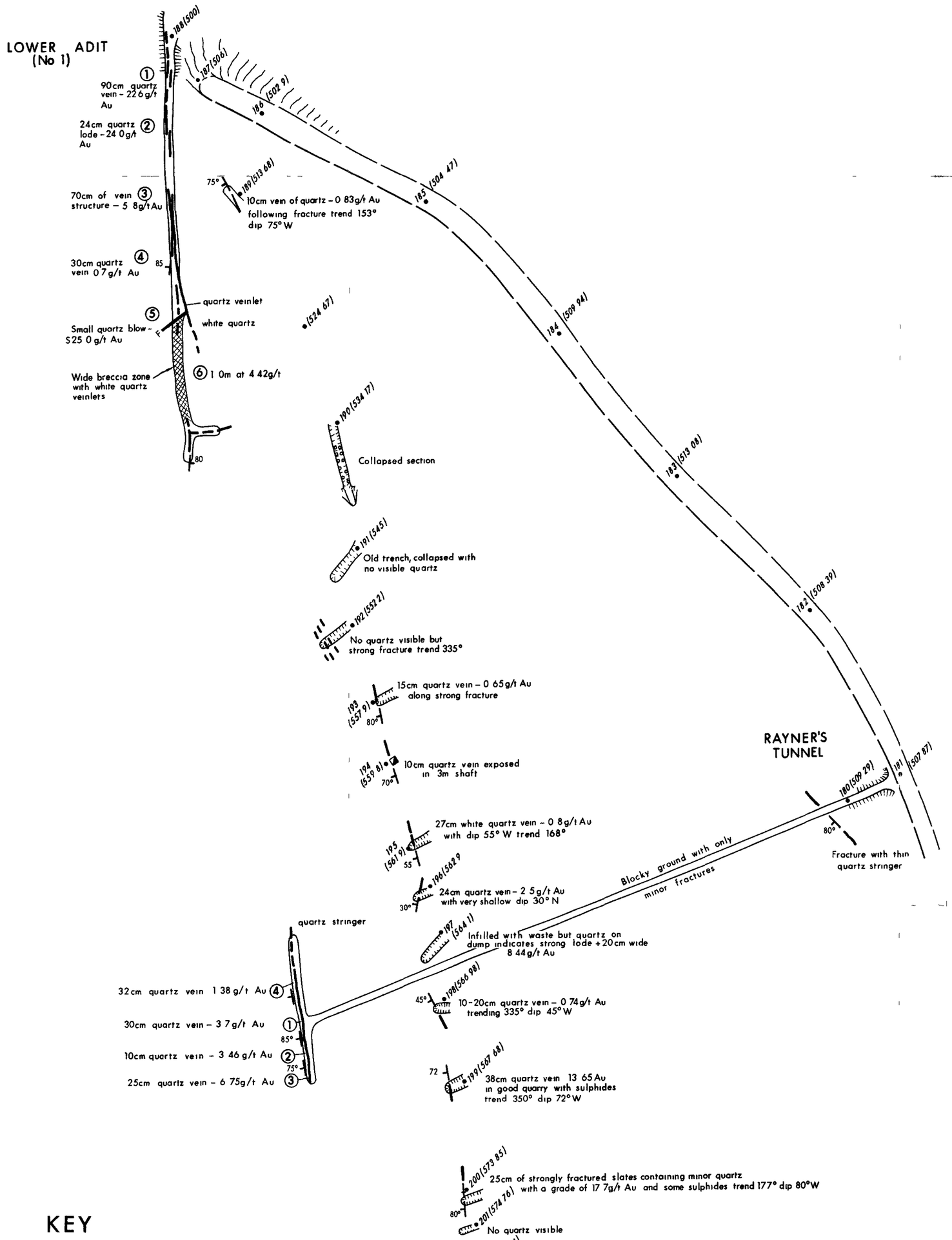
STRICKLAND MINE

2074

SCALE 1 500
PREPARED BY P R MITCHELL

FIGURE 12

80 – 464



KEY

- Trench
- F Fault
- 45° Strike and dip
- Quartz vein
- • 103(582 24) Survey point
- • ② Tunnel sample no
- Scree

STURTS MEADOWS PROSPECTING SYNDICATE N L

DAN RIVULET PROJECT

DRAFTING BY GEODRAFTING SERVICES FOR A C A HOWE AUSTRALIA PTY LTD

061128

HINEMOA MINE

2075

SCALE 1 500

PREPARED BY P R MITCHELL

FIGURE 13

80-1464

148
Deep trench with narrow stringer of quartz

Deep trench with 1cm stringer or mineralized stringer

Two shallow trenches with no visible quartz

Shallow exploratory trench no quartz on dump
144
143

142
114
Two samples of veins in stope in 0 35 and 1 06 g/t over widths of 20cm
113
112
75°
DANGEROUS
111
① 20cm at 4 24 g/t Au
② 25cm at 2 23 g/t Au
③ 30cm at 4 63 g/t Au
80°
ADIT No 1
110
Dump quartz assaying 52 g/t
Dump
UNA CREEK

Trench 325
33cm wide 9 3 vein assaying 0 11 g/t Au
160

New Road
157
156
80°
White quartz trench 150° dip 80°W 20 30cm wide assaying 0 11 g/t Au
155
Road
115
158
Shallow trench with quartz
116
117
Deep trench with 16cm quartz vein assaying 0 27 g/t Au
15
118

30cm wide quartz lode assaying 83 5 g/t Au
75°
153
152
119
120
0 16 g/t Au
Water filled adit
80
Fracture
162
163
161
121
143
Trench with quartz
Old Track
Quartz stringers
Vein splits
Face 20 55
Road
① 57cm at 23 4 g/t Au
② 35cm at 14 3 g/t Au
③ 40cm at 7 41 g/t Au
70
ADIT No 2
125
122
126
Water Wheel
Narrow quartz vein assaying 3 76 g/t Au
ADIT No 3
Dump material for 4m shaft assaying 12 2 g/t Au
124
165
70
Vein dip shallow with depth
Sample 1m wide assaying 1 15 g/t Au
127
166
UNA
128
129
70
Stringers quartz
130
Deep pit in vein trending 315
Trench on stringers width shear trend 160
Track
138
167
CREEK
Strong fracture/cleavage direction of 330 dip NE at 85°
137
131
Pit on quartz stringers trend 315°
132
168
40
141
Creek
ADIT No 4
133
169
134

	BEARING	DISTANCE	< INCLINATION
171 to 172	118	25	7°
172 to 173	915	30	+25
173 to 174	134	26	+13

INSERT
A narrow quartz lode 5 10cm wide trend 330 Vertical and Shaft 3m deep assaying 0 17g/t Au
174
possible attempt to start adit no quartz

135
173
136
171
172

N
5 cm

STURTS MEADOWS PROSPECTING SYNDICATE N L
DAN RIVULET PROJECT
DRAFTING BY GEODRAFTING SERVICES
FOR A C A HOWE AUSTRALIA PTY LTD

UNA MINE

061129 2076

SCALE 1 500
PREPARED BY P R MITCHELL
FIGURE 14

80-1464