042001

NEWNHAM EXPLORATION AND MINING SERVICES

REVIEW OF GEOLOGICAL DATA AND RESOURCE POTENTIAL

REWARD CREEK AREA, JANE RIVER GOLDFIELD, TASMANIA

ML 21 H/74

L.A. Newnham B.Sc., F.A.I.M.M.
July 1990

CONTENTS

1. SUMMARY

Alluvial gold was reportedly discovered in the Reward Creek area in 1884.

Intermittant prospecting and mining of these deposits have taken place from discovery through to 1989 when all work in the area ceased as a result of Government revocation of leases.

Historical production has been confined to the secondary deposits in the region which are a combination of both alluvial and elluvial formations. Official production, which is undoubtedly less than actual production, totalled approximately 20-25 kg of gold.

A program of systematic pitting and bulk sampling of the secondary deposits undertaken in 1989 suggested that considerable but undefined potential existed for further production of gold from the alluvial and elluvial material in the vicinity of Reward Creek. This potential lay not so much in the already worked alluvials in the western section of Reward Creek but rather in the alluvials and deeper elluvials in the eastern section.

Recent geological, geophysical and geochemical studies completed in the area have confirmed the most exciting opportunities for the development of primary gold deposits in the immediate and general vicinity of Reward Creek.

These studies have highlighted the following:

- The alluvial gold has not travelled far
- much of the deeper gold at Reward Creek is elluvial
- the gold is mercury anomalous and cinnabar has also been reported from the workings
- gold anomalism is widespread in the Precambrian schists and carbonates in the region
- a rock sample from within probable Ordovician rocks was also gold anomalous.
- many of the rock samples in the area are also tungsten anomalous
- regional gravity surveys indicate the general Jane River area to be quite unusual in that it appears to be underlain by thick, dense, non-magnetic formations

The Reward Creek area has traditionally been regarded as an alluvial goldfield and it has unfortunately not been until very recently that its potentially much greater significance as a primary gold deposit has been recognised.

Under normal land tenure circumstances, this newly recognised potential would be vigorously persued by most serious gold exploration Companies. The style of program considered necessary to undertake a preliminary evaluation is outlined in this report. It has been designed in such a way as to have minimal environmental impact and would cost approximately $450,000 over a two year period to complete.

2. INTRODUCTION

This report, prepared at the request of John Miedecke and Partners Pty Limited, reviews available geological information on an area in the vicinity of Reward Creek, popularly known as the Jane River Goldfield.

On the basis of this review, observations are made regarding the possible sources of both the primary and alluvial gold deposits and the potential for further discovery of gold. Under normal exploration land tenure situation, the primary gold potential would be further investigated , and a hypothetical programme to undertake such an investigation is outlined and costed.

It was not part of the Author's brief to visit the area in order to make a first hand assessment, but rather to review existing data and information. However, because of the high quality of some of the previous work in the field, this did not detract from the current review.

3. TENURE

Mining Lease 21M/74 of 183Ha on Reward Creek in South West Tasmania was granted to John Bennetto on 19 August 1974 for a 21 year period.

The adjacent Water Licence 13W/67 was granted to John Bennetto on 10 November 1988.

Both tenements were revoked under Section 91 of the Mines Act of 1929 by the Governor in Council on 20 December 1989 and Mr. Bennetto was advised of this fact by the Minister for Resources and Energy (with respect of 21M/74) on 24 December 1989 and by the Department of Resources and Energy on 1 February 1990.

4. GEOGRAPHY and GEOLOGY

The Reward Creek area covered by former tenements 21M/74 and 13W/67 lies 50 kms South East of Queenstown and can be accessed either by helicopter or a 25 km rough all terrain vehicle track which leaves the Lyell Highway 1 km West of the Franklin River bridge, and heads generally South. (Fig 1)

Reward Creek is a small westerly flowing tributary of Ridge Creek which in turn flows into Algonkian Rivulet which is a tributary of the Jane River. Reward Creek and the other small tributaries to the immediate North and South, all rise along a South-West trending range formed by Gum Ridge and Algonkian Mountain.

The undulating Reward Creek area is covered by a mixture of button grass, ti-tree and wet schlerophyll regrowth vegetation growing on peat, gravels or weathered sediments. The surface profile has been affected by previous alluvial mining operations.

There are apparently no official rainfall or temperature records for the area, but occuring as it does about midway between Queenstown and Strathgordon at an altitude of 400 m, it is undoubtedly a cold and wet location. These adverse climatic factors combined with the remote location and difficult access have had a strong influence on the prospecting and mining history of the Reward Creek area.

Various geological descriptions of the Reward Creek area agree that the region is underlain by Precambrian quartz—muscovite, chloritic, and quartz schists with interbedded dolomites. Where exposed in Reward Creek, these schists carry quartz veins, which are believed by most authors to be the source of the gold and pyrite. Warnes Lookout to the immediate West of Reward Creek is a remnant outlier of flat lying Ordovician conglomerates and sandstones unconformably overlying the Precambrian metamorphics.

Pleistocene and Recent quartz gravels lie along the drainage patterns and on low lying flood plains. Their thickness is extremely variable (2-9m) in Reward Creek, probably reflecting the irregular upper surface of the dolomite. "Gravels" on the South side of Reward Creek appear from sample descriptions to be elluvial rather than alluvial.

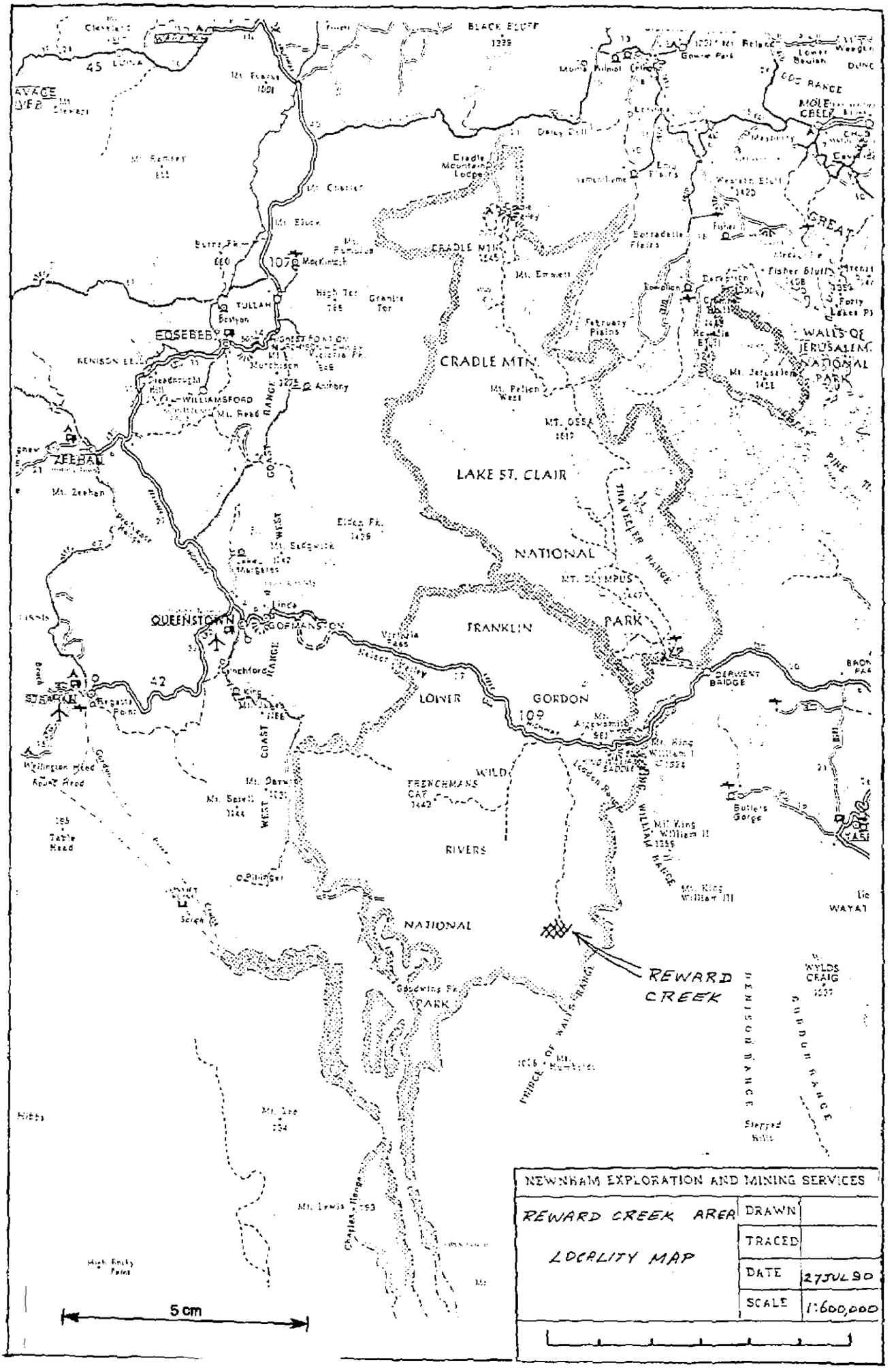

CRADLE MTN
LAKE ST. CLAIR
NATIONAL
PARK
FRANKLIN
QUEENSTOWN
ZEEHAN
WILLIAMSFORD
EDSEBEBY
TULLAH
LINER
GORDON
RIVERS
WILD
REWARD CREEK
WALLS OF JERUSALEM
NATIONAL PARK
5 cm
NEWNHAM EXPLORATION AND MINING SERVICES
REWARD CREEK AREA
LOCALITY MAP
DRAWN
TRACED
DATE 27JUL90
SCALE 1:600,000

Fig. 1

042007

5. PREVIOUS WORK

5.1 1890-1940

Alluvial gold was reportedly discovered in the general vicinity of the Jane River goldfield in 1894 and the region appears to have been prospected by the Huon Pine loggers and others until the discovery of relatively rich alluvials along Reward Creek by R. Warne in 1935. This is the same area as covered until recently by M.L. 21M/74. The field was reported upon by Government geologist Blake in 1935 and 1936 (Ref. 1 and 2), and it would appear that during this period of substantial operations in the mid 1930's, that approx 20 kgs of alluvial gold were officially produced. Actual production would undoubtedly have been higher than this. At todays gold prices, this official production would be worth approx $300,000.

In addition to the alluvial deposits, Blake also adquately described the local geology and suggested the alluvial gold was derived locally from the underlying Precambrian schists and carbonates. He noted the presence of the mercury sulfide mineral cinnabar in a small creek immediately South of Reward Creek.

At the time of Blake's reports, the alluvial ground around Reward Creek then being worked, was grading approximately 37 gms of recovered gold per cubic metre, and was of a very high fineness (0.9821). The recognition of these high grades is important because it is unlikely that the relatively primative equipment carried to this remote site in the mid 1930's would have recovered more than about 90-95% of the gold. Thus it is reasonable to speculate that their tailings may have been carrying 2-3g/m^3 of gold. This unrecovered gold would largely have been of the smaller size fractions, but recoverable by modern gravity units.

Not continued

Blake also adequately described alluvial workings elsewhere in the district. A rough plot of the distribution of these workings is instructive in that it highlights the quite extensive nature of the alluvial gold and presumably therefore also the substantial scale of the potential primary source. He describes most of the creeks West of Gum Ridge draining into Ridge Creek (including Reward Creek) as carrying gold. Prospecting East of Gum Ridge in the drainage catchment of Algonkian Rivulet also indicated extensive alluvial gold, as did creeks draining South to Prince Rivulet. (Fig 2)

Carol's work.

5.2 1940-1970

From the late 1930's to the late 1960's, very little work was undertaken in the Reward Creek area, with only sporadic and apparently unreported prospecting in the field.

The Lyell-EZ Exploration consortium (LEE) in 1955 and the BHP Company in 1966 conducted regional aeromagnetic surveys over the Jane River-Reward Creek are, but as would be expected from the local geology, no anomalies were detected and in both instances no ground follow up work was undertaken.

In 1968, Solomon[3] submitted a brief report to the Syndicate than holding tenements over the area, on the distribution of alluvial gold and on the possible resource potential. He identified three main areas of potential ...:

(i) Reward Creek and the Creek parallel to and North of Reward Creek.
(ii) Upper reaches of Ridge Creek
(iii) Alluvial flat North of Warnes Lookout.

(i) In Reward Creek area (Site of M.L. 21M/74) he described the alluvials as stretching over 350m along the creek to depths of 2-9 m. He attributed the highly variable depths to the fact that Reward Creek flowed mainly along eroded domomites, producing a classically irregular carbonate sub-surface, which was later covered by gravels. He described the gold as ranging in size from "flour" up to 60 g nuggets, with their nature highly suggestive of a local source. His rough estimate of potential in the Reward Creek area (including the small parallel creek to the North within 21 M/74) was 138,000m^3 , and he deduced that if this gravel averaged 2g/m^3 , then the deposit would contain 276 kg gold.

It is unclear how Solomon obtained his average grade—possibly just from a discussion with Syndicate members and historical records.

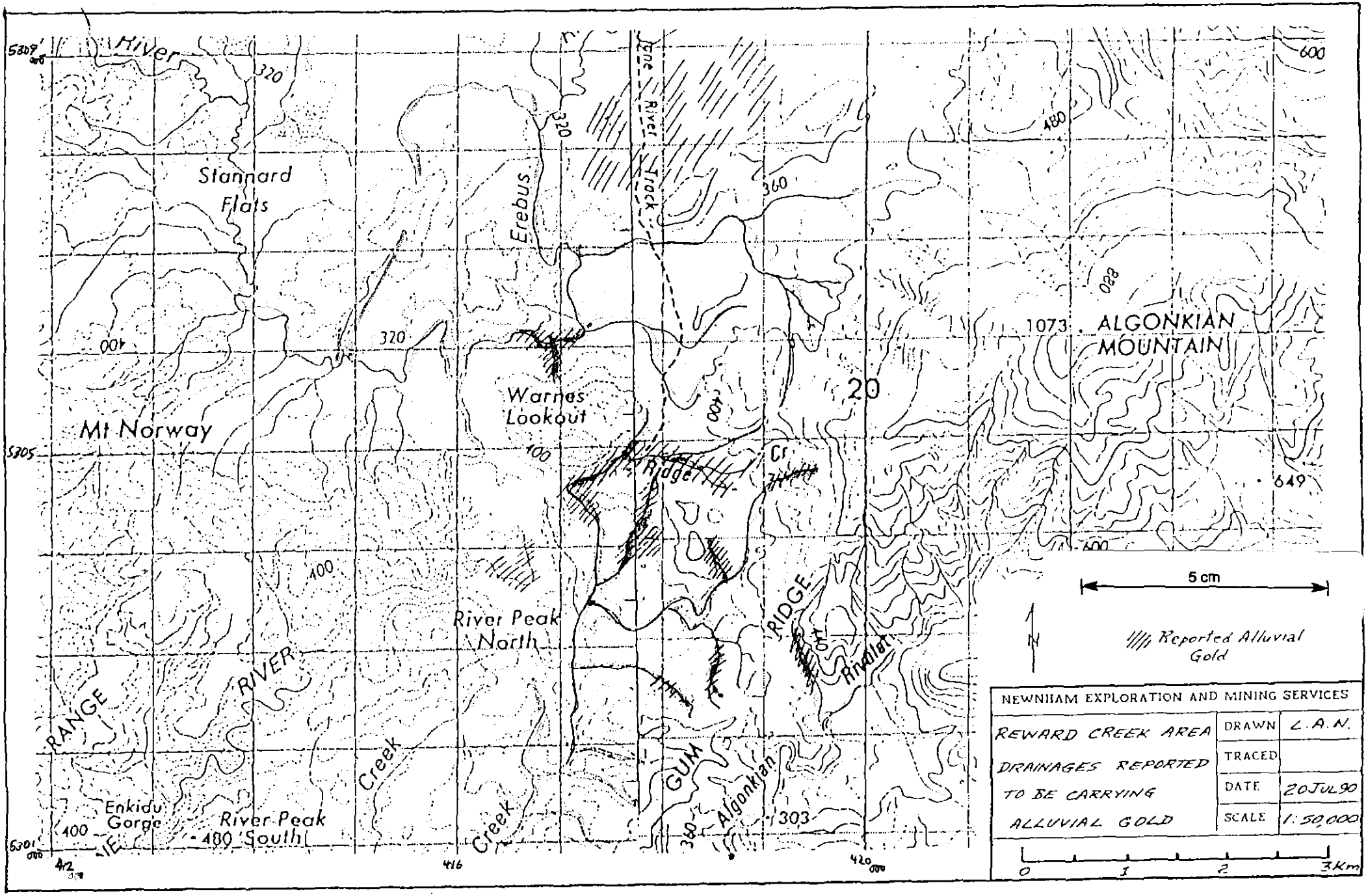

Stannard Flats
Erebus
Track
Warnes Lookout
Mt Norway
1073 ALGONKIAN MOUNTAIN
20
649
Ridge
Cr
RIDGE
Rivulet
River Peak North
RIVER
RANGE
Creek
Enkidu Gorge
River Peak South
GUM
Algonkian
303
5 cm
Reported Alluvial Gold
NEWNHAM EXPLORATION AND MINING SERVICES
REWARD CREEK AREA
DRAINAGES REPORTED TO BE CARRYING ALLUVIAL GOLD
DRAWN L.A.N.
TRACED
DATE 20JUL90
SCALE 1:50,000
0 1 2 3Km

Fig 2

(ii) In Ridge Creek, Solomon's resource estimate (a "crude guess" lying largely within 21M/74) was 191,000 m^3 , of unknown grade. He described the gravels here as being extensive and shown by a shaft to be up to 9m thick.

(iii) Alluvial flat 1.6 kms North of Warnes Lookout was estimated by Solomon to contain 1.9m^3 of unknown grade but reportedly carrying "good gold values" in gravels approx 2 m thick. This area is outside the boundaries of 21M/74 but its existence aids in the appreciation of both the extensive alluvial deposits in this district, and the general location of the primary source of gold.

5.3 1970-1980

Government Senior Geologist Jennings[4] visited the area of 21M/74 in 1972, with the primary objectives of assessing access problems, taking and assaying a bulk sample and reviewing the suitability of equipment in use.

At this time the area was being worked intermittantly by small parties largely financed by Mr. Bennetto. Jennings commented on the fact that the alluvials were not worked to their full width either side of Reward Creek.

A 15m^3 sample was taken and primitively sluiced on site, and 30g of clean gold obtained, together with a pyrite-gold concentrate which was later determined to contain a further 0.8 g of gold. Thus the recovered grade from this sample using very basic methods was just over 2g/m^3 . This result is similar to that used by Solomon in his earlier resource estimates of the Reward Creek area. The exact location of this sampling point is not known to the writer.

The pyrite-gold concentrate was submitted to the Department of Mines Laboratories in Launceston for further studies[5]. These mineralogical and analytical studies indicated the following:

—the gold in the pyrite-gold concentrate had not travelled far
—98% of the gold was free
—90% of the gold was >100µm
—the gold was of very high fineness

The above work by Jennings suggests that if modern, simple gravity recovery methods were employed, then nearly all of the gold would be recovered.

Jennings, in the company of Mines Inspector R. Billingham, again visited the area in February 1976. At this time, some bulldozer costeaning and backhoe pitting was being undertaken close to either bank of Reward Creek for a distance of 320m along the creek. Bedrock was apparently not reached in any of these excavations. A rough pace and compass survey plan of the location of this work was produced. Samples of unknown size and location were taken from each pit and costean and panned. A list of qualitative results from the panning indicated gold of some extent in 21 of the 30 pits. Jennings in his unpublished report was somewhat critical of the value and effectiveness of this work and very little can be deduced from it.

In June 1976, three bulk samples were collected—one by the Syndicate (1134 kg) and two others (233kg, 246 kg) which appear to have been collected by Department of Mines Geologist (?). The Syndicate sample (site and collection method unknown) was reported upon in Department of Mines report R718[6]. The dry mass of 1134 kgs contained 0.22 g/t of gold. The sample was sized and jigged. The +2.41 mm was barren and discarded; 25% of the gold was jigged from the -2.41+1.24 mm fraction and 66% was jigged from the—1.24 mm fraction. The other two bulk samples when dried and assayed, ran 0.299 g/t and 0.273 g/t. Because the volumes of these samples are unknown, it is very difficult to equate the laboratory mass grades to volume grades as normally considered in evaluating alluvial deposits.

In 1976, the lease owners engaged Douglas McKenna and Partners to prepare a report on the area[7]. They undertook a brief inspection of the field and prepared a theodolite survey of the Reward Creek area. They made a rough estimate of the resource along Reward Creek as 9,750m^3 at 10g/m^3 , equivalent to 97 kg gold.

The manner in which they derived their volume estimate was very tenuous and the basis of their grade estimate is unknown. As with previous resource estimates, Douglas McKenna and Partners had very little reliable data with which to work and they admit their resource estimates are "purely speculative since there is almost a total lack of data to work on."

5.4 1980-1988

In 1980, Leaman et. al [8] and 1987, Richardson and Leaman[10] published data on the gravity field of Tasmania. The data over the general Jane River area was regional in nature and it was only possible to draw general conclusions from it. In a regional sense, the Reward Creek area does plot on the Western flank of a North-South trending gravity low from Cox's Bight to Florentine Valley. Such lows elsewhere in Tasmania have been interpreted as representing a relatively shallow ridge of concealed Devonian granite. Deep seated structures associated with the flanks of such ridges may act as conduits for hydrothermal fluids. The granites themselves may act as a heat source for generating and mobilising these fluids.

In 1985, the area was covered by the BMR aeromagnetic survey utilising widely spaced lines. This data confirmed the results of the earlier airomagnetic surveys by showing the Jane River-Reward Creek area to be magnetically "flat".

Leaman (pers. comm.) points to more recent interpretations in 1988 of the gravity and aeromagnetic data as indicating firstly that the Jane River area is possibly underlain by non-magnetic rocks of moderate to high density and that several gross statewide trends impact in the area.

The geophysical data, although being of a regional nature, suggests that the Jane River area is geologically unusual and is more complex than previously recognised from scattered surface outcrops. Such data could form the basis of a geological model to explain or explore for the primary source of the alluvial and elluvial gold at Reward Creek.

In his report on the mineral resource potential of South Western Tasmania, Green[9] refers to the likelihood of lode gold deposits in the Jane River area: "The widespread occurrence of alluvial gold and particular occurrences such as Jane River suggest there is potential for lode gold deposits in South Western Tasmania, but much work is needed on regional mapping and metallogenic studies in the region, and in genetic studies of Tasmanian gold deposits in general."

5.5 1988-1989 Field Program

It was only during 1988-89 that both some properly controlled and directed evaluation work of the alluvials and an initial but systematic search for the primary source of gold took place.

In late 1988, the Lease owners engaged John Miedecke and Partners Pty Limited[11] to prepare a Development Plan for the area. In this Plan, Miedecke recommended a further, properly supervised evaluation program in order to reliably establish an alluvial resource. It was apparent that further work of the type required was going to be severely restricted at this stage by the WHA land classification on the region.

However, the Lease owners persisted and between April-October 1989, they undertook an extensive program of excavator pitting and trenching adjacent to Reward Creek. Subsamples from heavy metal concentrates of bulk samples from five of these pits were mineralogically examined by Botrill[12], and a review of the history of the Jane River Goldfield was compiled by Bacon[13]. A program of rock chip sampling was completed by N. Turner[14], and a regional huminex geochemical survey was completed by W. Barker of the Division of Mines and Mineral Resources.

The results of the survey by Baker are not yet published, and the report of the work by Turner is in a published but preliminary form. The results of all this 1989 work, collectively form the most useful and reliable data available on the Reward Creek area.

5.5.1 Mineragraphic Work

The mineragraphic work by Botrill[12] on the five 50g subsamples highlighted the association of chromite with the gold and the high mercury and low silver levels of the gold. The well formed chromite grains were of a distinctive composition, typically associated with

ultrabasics on the West Coast of Tasmania, and he suggested that the chromite may have been either locally derived or glacially transported. The high mercury content of the gold confirms the validity of cinnabar observations in panned samples in the immediate vicinity made by Blake (1935) and N. Turner (1989 - pers. comm). Whilst the mercury is of no commercial value, its presence could be significant in considerations of the nearby primary source of gold and is commented upon later in this report. Boutrill supports the local derivation of the gold, although he alludes to the presence of crystallised aggregates and overgrowths as suggestive of in-situ growth, which may account in part for the exceptionally high fineness of the gold. The grains are very porous, possibly caused by leaching activity which would also be a contributing factor in increasing the fineness.

5.5.2 Historical Compilation

Bacon[13] thoroughly compiled all historical and technical data on the Jane River district and the Reward Creek area in particular. Because of the chronological sequence, the results of the Division of Mines and Mineral Resources rock chip sampling program completed by Turner (see below) are not included.

There are two relatively minor points in Bacon's report which require clarification: Firstly, in referring to the 15 m^3 bulk sample taken in 1976, it is the writer's understanding that three products were produced from this sample viz,. a clean gold concentrate, a pyrite-gold concentrate and tailings and that it was the pyrite-gold concentrate that was further examined and reported upon in Mines Department report R647. Secondly, the gold is referred to on several occasions as either very fine grained or very small, which could give an impression of recovery difficulties. The limited amount of sizing work undertaken suggests 90+% is +100 um., which is not fine grained in terms of metallurgical performance.

5.5.3 Trenching and Pitting

In April, 1989, the leaseholders commenced a pitting and trenching program which was confined by Government direction, to an area of 350 m x 100 m along Reward Creek. This confinement was unfortunate as it became apparent as the program progressed that the full lateral and strike extents of the secondary material were not being tested. A large number of bulk secondary samples, and bedrock chip samples were taken during this program. The samples were collected by an excavator with a known bucket capacity of 0.45 m^3. Hence from each sampling site, a known volume of material (generally 1.8 m^3 or 4 buckets full) was treated, and a concentrate produced for assay at the Launceston Laboratories of the Division of Mines and Mineral Resources. As described by the operators in their field sample books and reports, these samples were taken from a number of pits along eight costeans across Reward Creek. The material sampled varies from reworked tailings to decomposed bedrock. Values in the first few costeans appear to be very low, but from the later costeans further East and upstream on Reward Creek the samples appear to be significantly higher grade.
Of particular interest are the bedrock samples taken from pits on Costean Six which assayed 0.42 g/t, 5.7 g/t, 0.30 g/t and 0.48 g/t and the sample described as having been taken from the clay creek bed bottom in Costean Seven which assayed 1.56 g/t gold.

From the sample book descriptions of the samples, it is reasonably clear that many were taken from either elluvial material or near bedrock in situ soils and clays. The occassional anomalous gold values in these samples suggests that the gold has been derived from adjacent or nearly underlying rocks.

5.5.4 Rock Sampling

In 1989, N. Turner[14] of the Division of Mines and Mineral Resources conducted a reconnaissance mapping and rock chip sampling program in the Reward Creek area. A total of eighty one (81) chip samples were taken from outcrops over a 12 sq kilometre area between Algonkian Mountain in the East and Warnes Lookout in the West. The samples were assayed for a wide range of elements and compounds at the Division's Launceston Laboratories.

The results of this work were encouraging and indicated:

a) Most of the major rock types in the area are gold anomalous, including the metamorphics, dolomites and most interestingly a hematitic quartz vein mapped within an area of Ordovician sediments.

b) Most of the gold anomalous rocks were also tungsten anomalous, with tungsten values up to 950 p.p.m. This fact is important as the gold-tungsten association is common in many metamorphosed primary gold deposits.

c) Free gold was noted in several samples.

d) The gold in the secondary deposits along Reward Creek was derived from the underlying rock formations.

Samples taken by N. Turner from the pits in Costean Six did not support the high values obtained there by the leaseholders.

6 PRIMARY GOLD DEPOSIT MODELS

N Turner concluded in his report that the secondary gold deposits along Reward Creek were most likely derived from the weathering of Precambrian metamorphics and dolomites which carried gold and pyrite in quartz veins.

He further concluded from his sampling of outcrops, that the gold anomalous Precambrian units were widespread over a significant area around Reward Creek.

Two hematitic quartz veins, and a leached sandstone from within the Ordovician sequences on Warnes Lookout were also gold anomalous.

Many of the gold anomalous rock samples are also strongly tungsten anomalous and mercury sulfide is reported around the Reward Creek area.

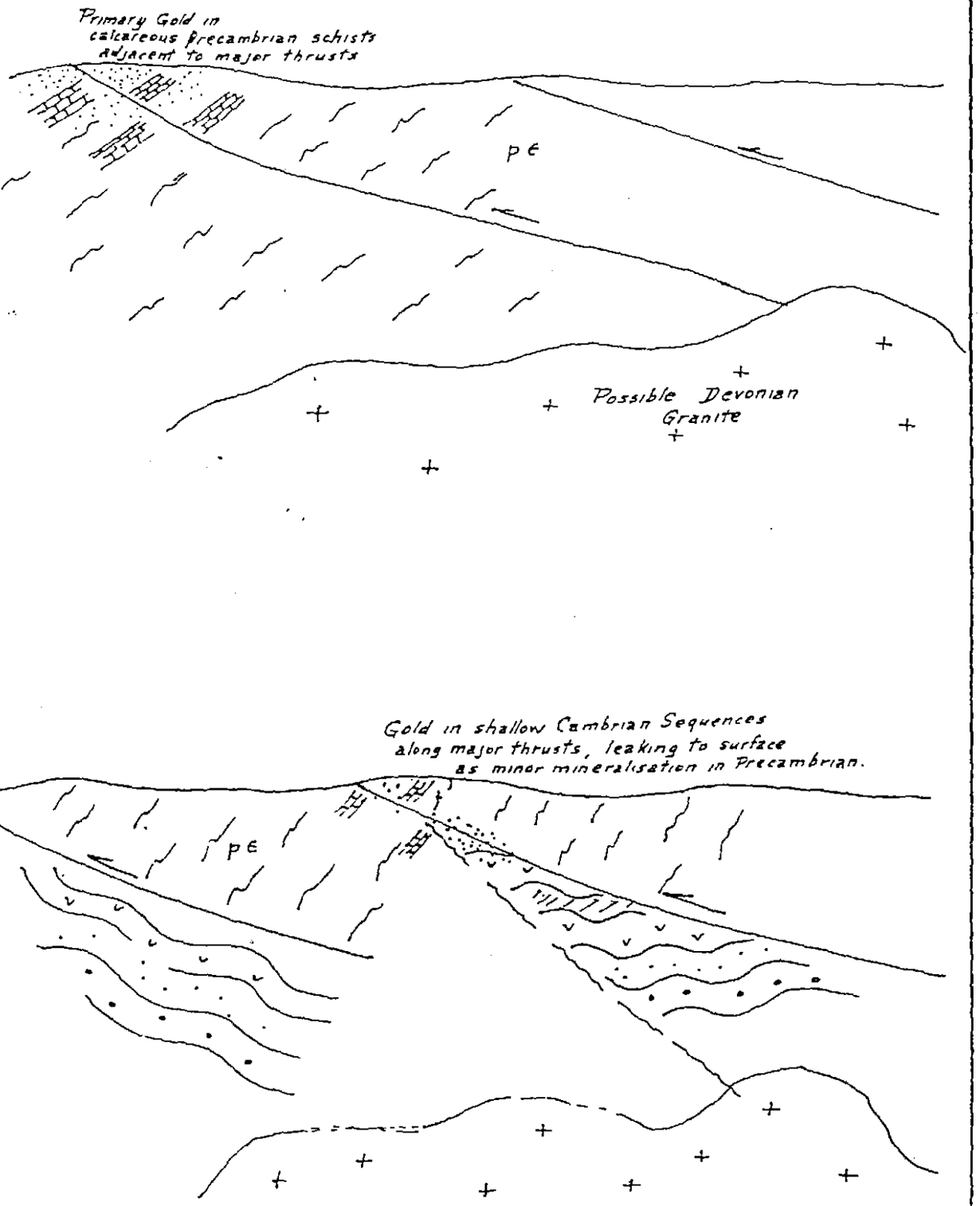
Regional gravity and aeromagnetic data has indicated a number of unusual features which impact on the Reward Creek area: firstly a gravity low extending North from Port Davey to the East of Reward Creek suggests that a Devonian granite body may be present in that area at a modest depth; secondly, recent re-interpretations of the gravity and aeromagnetic data suggest several regional trends coverage on the general Jane River area which appears to be underlain by dense non-magnetic formations not present at the surface.

It is possible that major thrust structures are present in South West Tasmania which thrust relatively thin slices of Precambrian rocks over the top of potentially more interesting younger Palaeozoic formations.

At least two broad geological models are possible to explain the genesis of the Reward Creek primary gold. The first would involve a distal Devonian heat source and possibly gold source to the East, with the gold migrating along major thrust or structural zones into the Reward Creek area, where the gold-quartz solutions were deposited along with tungsten and mercury into all the silty and calcareous formations present. Such a model is broadly similar to that now linked to the formation of Carlin styled deposits in the Western USA and elsewhere.

A second model would involve the presence at relatively shallow depths beneath the Reward Creek Area of Cambrian sequences similar to those seen elsewhere in Tasmania in the Tasman Fold Belt. Precambrian rocks would have been thrust over the top of them along shallow dipping thrusts, and granites may have intruded at relatively shallow depths to the East. This model involves granites acting as a heat source to mobilise gold from nearby gold bearing sequences and force it to travel along major structures prior to deposition in a favourable repository. The Reward Creek area rocks may have been such a repository or they may be merely a near surface leakage indication of a more substantial deposit at depth.

042015



NEWNHAM EXPLORATION AND MINING SERVICES		
JANE RIVER AREA	DRAWN	L.A. Newnham
	TRACED	
POSSIBLE PRIMARY	DATE	20 July 90
GOLD MODELS	SCALE	

Fig. 3

7. EVALUATION PROGRAMS

7.1 Secondary Resource

Recently completed pitting and bulk sampling on the secondary material demonstrated the presence of an undefined gold resource which under normal circumstances would justify further studies to determine its commercial viability. It is not possible on the basis of the data available to indicate the size or grade of this resource.

7.2 Primary Resource

Widespread geochemically anomalous gold recorded in bedrock samples, together with other encouraging geological and geophysical features detailed in this report combine to suggest that the Reward Creek area is a most significant opportunity for the discovery of a primary gold deposit.

Under normal land tenure and access conditions, this primary deposit potential would certainly be persued. Detailed below is an evaluation program that would be recommended in such normal circumstances. The program design recognised factors of fundamental importance:

a) Environmental impact would have to be negligible.
b) The lack of baseline data and the potential complexity of the geological model would demand the application of state-of-the-art exploration techniques and data gathering methods under the direction of experienced personnel.

A minimum two stage program over two years would be proposed. It would extend to three years if results from the first two years were encouraging. All field work would be undertaken in summer and be helicopter supported.

It is clear from the sampling results obtained in 1989 by the Division of Mines and Mineral Resources, that the primary gold anomalous area extends well beyond the immediate Reward Creek area. These results confirmed the impression given by earlier workers in the field that most of the drainages in the Algonkian and Ridge Creek drainage system West of Gum Ridge, carried alluvial gold.

Hence the program of work is designed to initially cover an area of four kilometres by four kilometres (16 sq kms) centered on Reward Creek.

The first (Year 1) stage program would include a variety of geological, geochemical and geophysical programs designed to adequately guide a second (Year 2) stage of core drilling. A brief outline and budget of the program structure is given below:

Stage 1 (Year 1) Program

The following projects would be undertaken sequentially:

i) Base Map Preparation
There are currently no reliable small scale contoured base maps. Assuming the existing aerial photographic coverage is adequate, these maps could be photogrammetrically prepared prior to the first field season on scales of 1:5000 and 1:2000.

ii) Geological and Geochemical Studies
The 16 sq kilometre area should be thoroughly mapped and chip sampled, with the resultant geological, geochemical and petrographic data being plotted on the new base maps.

iii) Grid Cutting
Using the mapped geological data as a guide, a system of grid lines should be hand cut at 200 m spacings over the 16 sq km area. This would involve approximately 80 kms of cutting. Some survey control would be necessary.

iv) Geophysical Surveys
Because of the possibility of a gold-pyrite primary association, an I.P. survey would be recommended on the grid. Gravity and magnetic surveys would assist with detailing structure and geology in this area of generally poor outcrop.

v) Geochemical Sampling
Bedrock soil sampling should be undertaken on the whole grid, with samples assayed for gold, tungsten and possibly other elements determined to be associated with the primary gold from the previously completed chip sampling program.

vi) Access and Logistics
It would be proposed that all field work be completed in the months December-March and that field crews be ferried to the area daily by helicopter.

Stage 2 (year 2) Program

This program would involve core drilling areas of encouragement based on Stage 1 results. The drill rig would be a relatively small rig - mobilised, manned and moved entirely by helicopter, with the crews being flown daily to site.

All drilling would be HQ-NQ in order to maximise recovery and to provide a relatively large sample. A program of six, moderately shallow (150 m) holes should be sufficient at this Stage to decide whether further work is justified.

Such a program would take six weeks to complete between mid-January to March.

Follow up drilling in subsequent years would depend wholly on the results of the first drilling program.

BUDGET STAGE 1

Item	$
Base map preparation	10,000
Mapping, sampling and petrography	10,000
Track cutting (80 kms)	45,000
Geophysical surveying (I.P., Map., Grav.)	50,000
Geochemical surveying (Bedrock - Soil)	20,000
Helicopter Hire (100 hours)	70,000
Assaying	20,000
Travel and Accommodation	5,000
Salaries and Wages	20,000
Contigencies	10,000
TOTAL	$260,000

Stage 1 Schedule: Office work October-December
Field work January-March
Office work April

BUDGET STAGE 2

Item	$
Drilling (6x150m, HQ-NQ)	65,000
Supplies (trays, bags etc.)	5,000
Drill pad preparation	10,000
Helicopter Hire (100 hours)	70,000
Assaying/splitting etc.	10,000
Salaries and wages	20,000
Contigencies	10,000
TOTAL	$190,000

Stage 2 Schedule: Mid January to March

8. CONCLUSIONS

Over a century of prospecting and intermittant mining in the remote Reward Creek area in South West Tasmania has traditionally concentrated on the secondary alluvial and elluvial gold potential of the area.

In recent years, geophysical data and rock chip sampling programs have indicated that there is significant scope in the immediate Reward Creek area for the discovery of a primary gold deposit.

Under normal land tenure conditions, this primary potential would be investigated by way of modern exploration programs conducted in an environmentally sensitive manner.

9. REFERENCES

1. Blake, F. 1935, "Preliminary Report on Jane River Goldfield" Unpublished Rep. Dep. Mines Tasmania.

2. Blake, F. 1936, "Report on District Between Jane River and Prince of Wales Range" Unpublished Rep. Dep. Mines Tasmania.

3. Solomon, M. 1968, "Preliminary Report on the Jane River Goldfield, Tasmania." Unpublished Rep. for New Mount Costigan Mines Limited.

4. Jennings, D.J. 1972, "Visit to Warnes Lookout, Jane River Area" Tech. Rep. Dep. Mines Tasmania No. 17 (1974)

5. "Reject Fraction of Gold Concentrates from Jane River" R647, Tech. Rep. Dep. Mines Tasmania No. 17 (1974).

6. Rhodes, L.J. 1976, "Gold Recovery, Jane River" Ore Dressing Investigation Dep. Mines Tasmania R718.

7. "Inspection Report on Reward Creek Gold Area for Jane River Syndicate" by Douglas McKenna and Partners Pty Limited, 1976.

8. Leaman, D.W. et al, "Tasmania - the Gravity Field and its Interpretation" Rep. Dep. Mines Tasmania 1980/36.

9. Green, G.R. 1985, "The Potential for the Discovery of Economic Mineral Resources in South Western Tasmania" Rep. Dep. Mines Tasmania 1985/47.

10. Richardson R.G. and Leaman, D.E. 1987, "Tasgrow: The Tasmanian Gravity Data Base" Rep. Dep. Mines Tasmania 1987/02.

11. "Jane River Goldfield Development Plan" John Miedecke and Partners Pty Limited, Dec 1980

12. Bourill, R.S. 1989, "Mineralogy of Heavy Concentrates, Jane River Goldfield" Rep. Dep. Mines Tasmania 1989/28

13. Bacon,C. 1989, "A Brief History of the Jane River Goldfield" Rep. Dep. Mines Tasmania 1989/32

14. Turner, N. 1989, "Jane River Goldfield - Rock Analysis and Preliminary Account of Investigation" Division of Mines and Mineral Resources Report 1990/16.