Gladstone Tin Pty Ltd
Scotia Project, Northeast Tasmania
Review of Exploration Progress July 2008-August 2009

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Contents

Summary

A program of 36 vertical holes drilled with a modern advancing casing dual rotary-rotary system was completed over the southern end of the Scotia deep lead in October 2008. Although the cost per metre was relatively high and the drill sample size varied as much as with alternative drilling methods, the fast drilling rate of 684 metres in 13 days and the professional way in which the program operated, produced cost effective results which represent by far the most reliable grade data available for evaluating the resource component of the Scotia Project.

Simple calculations, combining geology and grade for the purpose of gauging the scale and scope of the Scotia Project, indicate that the 350 metres of lead length tested by the 2008 drilling contains approximately 100 tonnes of 70% Sn concentrate recoverable by gravity separation methods, within basal gravel wash ranging from 1-10 metres thick and averaging 4.6 metres thick. This basal mineralised sequence has a mean grade of 820 gm 70% Sn concentrate per bank cubic metre and is overlain by a sand and clay overburden sequence resulting in a stripping ratio of approximately 5:1. The 2008 drilling covers only 7% of the 5km of Scotia-Lochaber lead within mining lease 15M/2004 and these results must be validated and integrated with drilling results from previous campaigns over the entire deep lead system.

A comprehensive scoping study is required to evaluate the economics of the project. In addition to a full compilation of archived drill hole grade data from pre 2008 drilling, a substantial block of the basal wash needs to be mined and processed to generate both a reconciliation of the 2008 drilling and to quantify the heavy mineral composition of potential ore. It is essential that maximum objectivity and specialised expertise be applied to quantifying the total resource and to the costing of alternative mechanical and hydraulic mining methods.

Introduction

As part of the restructuring process for the former Van Dieman Mining Ltd (VDM) alluvial tin project based at Gladstone, northeast Tasmania, K C Morrison Pty Ltd is engaged to compile and interpret the results of recent exploration work on the Scotia-Lochaber deep lead system (Scotia Project), which is the site of the resource evaluation and mine development works undertaken by the company to date (Figure 1).

In July 2008 AMC Consultants Pty Ltd (AMC) conducted a desk top review of the Scotia Project for the Trafigura Group subsidiary, Galena Asset Management (Galena), which covered all work done up until the time of writing (AMC, 2008). Since then, a substantial drilling program has been conducted over a portion of the Scotia deposit, some on-going earthworks and plant modifications have occurred on-site and some minor resource estimation calculations have also been carried out.

The primary aim of this current report is to review the drilling program conducted in September-October 2008 and to comment on the contribution of the new drilling data towards a fresh understanding of the key geological and resource criteria which exert fundamental controls on the viability of the Scotia Project.

GLADSTONE TIN PTY LTD

ML 15M/2004 - SCOTIA PROJECT

LOCATION MAP

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K. Morrison	G. Bennett	11/08/2009	ML-Loc 200k.wor

Scale:		Datum :	Figure No
1:200,000	0 2 4 8 km	MGA Z55 (GDA 94)	1

Supplementary discussion of some aspects of previous resource estimation and observations made during a tour of the pit and mill are also focussed towards better understanding the nature of the Scotia Project economic potential. The report is intended to help guide the current Board and investors towards a realistic feel for the scope and scale of the Scotia Project in the context of developing an improved understanding of the nature of the in-ground resource. It is understood that a more comprehensive scoping study, including an updated resource estimate for the entire Scotia-Lochaber lead system and an assessment of additional deposits held by the company in northeast Tasmania, may be undertaken over the next few months.

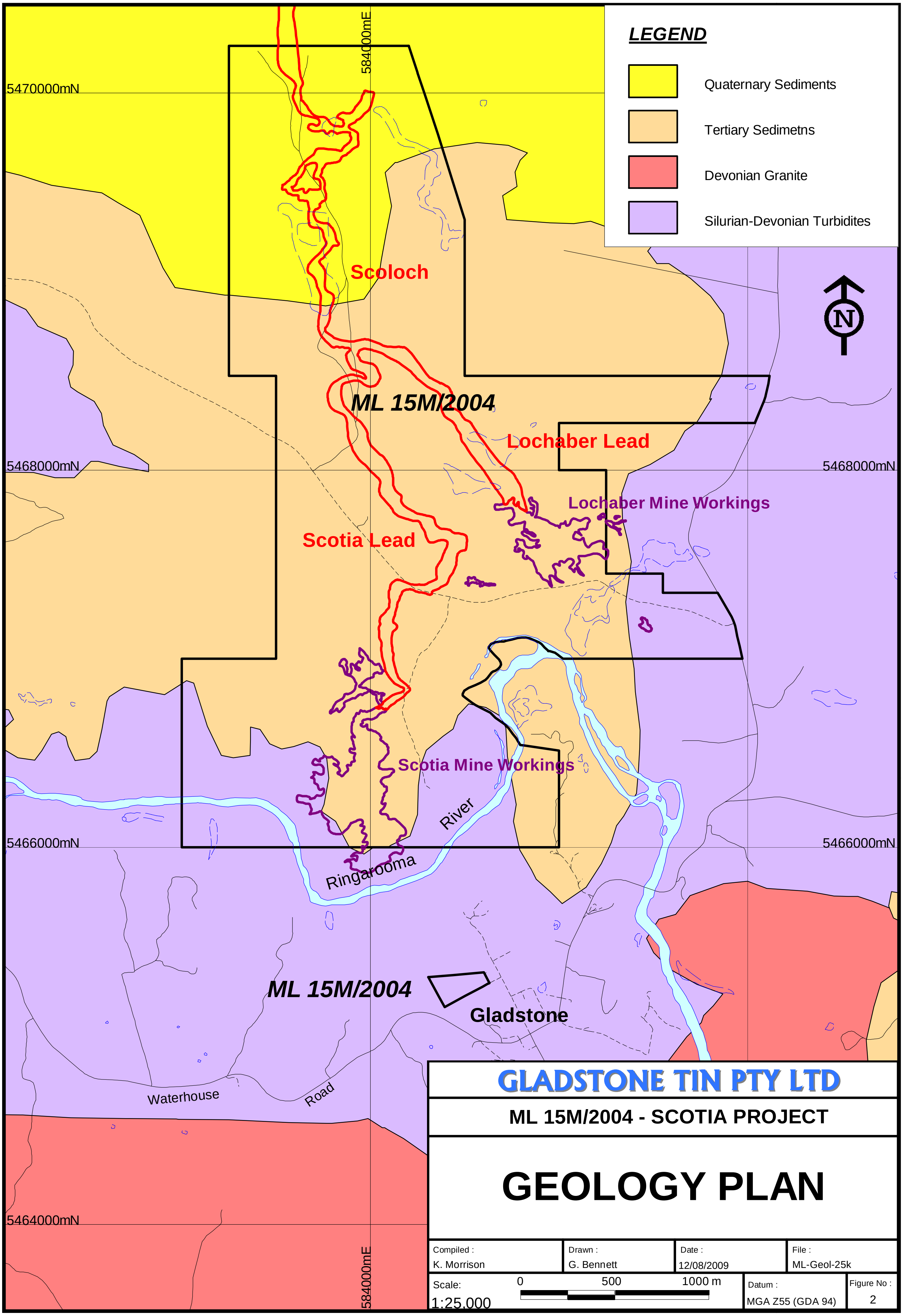
The assistance of Harry Stacpoole, Olivia Davies, Brad Davies and Simon Rigby in providing data, background information and a site inspection during a three day stay at Gladstone in August 2009 is gratefully acknowledged.

Scotia-Lochaber Deep Lead System

The Scotia Project alluvial tin deposit is contained in buried Tertiary sediments deposited in sinuous channels incised into sandstone-slate basement rocks of the Silurian-Devonian Mathinna Supergroup (Figure 2). The channel-fill sediments are the basal unit of a major episode of braidplain sedimentation. The deposit sediments, including cassiterite (tin oxide) and accessory heavy minerals, were eroded from Devonian granites, the remnants of which outcrop on Mt Cameron, south of Scotia. Most of the tin mineralisation is concentrated in gravels and sands at the base of the sedimentary sequence and is confined by distinct margins to the basement channels. These basal gravel-rich sediments (wash) range from 1-10 metres thick at Scotia and constitute the potential ore body. They are buried beneath an overburden sequence of sands and clay lenses, including minor lignite, up to 30 metres thick and carrying low grades of diffusely distributed fine grained tin, which will almost always be sub economic to mine. The land surface overlying the deposit is a flat coastal plain adjacent to the Ringarooma River. The deposit is saturated with ground water, the management of which will be an important issue for both overburden stripping and ore mining.

Minor exposures of the basal mineralised gravels exist in abandoned workings at the southern end of the Scotia and Lochaber leads but the geometry of the unmined lead system is defined entirely by exploration drilling. Records searched from the Mineral Resources Tasmania library indicate a total of 1389 drill holes since 1902, including the 2008 VDM drilling. The lead system has been traced for more than 7 km total length (Scotia and Lochaber combined) and is open to the north but sparse drilling results over the northern 2 km suggest a serious decline in grade (AMC, 2008), so for the purpose of this review it is assumed that the Scotia Project resource base is restricted to the 5 km of lead within Mining Lease 15M/2004 (Figure 3).

Plant fossils from Scotia (Bigwood and Hill, 1985) and radiometric dating of zircons and basalt in the Blue Tier-Ringarooma Valley region (Sutherland and Wellman, 1986, Yim *et al*, 1985) all indicate a Middle-Late Eocene age for the deposit (approximately 47-34 million years before present). Dating the deposit is important because it explains the near absence of sapphires and gold in the major deep leads of the Ringarooma Valley. Sapphires and gold are prominent accessories to tin only in the younger near-surface deposits related to the present day drainage system, which in turn is controlled by basalts extruded approximately 16 million years before present (Morrison, 1980).



LEGEND
Quaternary Sediments
Tertiary Sedimetns
Devonian Granite
Silurian-Devonian Turbidites
N
5470000mN
5468000mN
5466000mN
5464000mN
584000mE
Scoloch
ML 15M/2004
Lochaber Lead
Lochaber Mine Workings
Scotia Lead
Scotia Mine Workings
River
Ringarooma
ML 15M/2004
Gladstone
Waterhouse
Road
GLADSTONE TIN PTY LTD
ML 15M/2004 - SCOTIA PROJECT
GEOLOGY PLAN
Compiled : K. Morrison
Drawn : G. Bennett
Date : 12/08/2009
File : ML-Geol-25k
Scale: 1:25,000
0
500
1000 m
Datum : MGA Z55 (GDA 94)
Figure No : 2

GLADSTONE TIN PTY LTD

ML 15M/2004 - SCOTIA PROJECT

DEEP LEADS and PRE 2008 DRILLING

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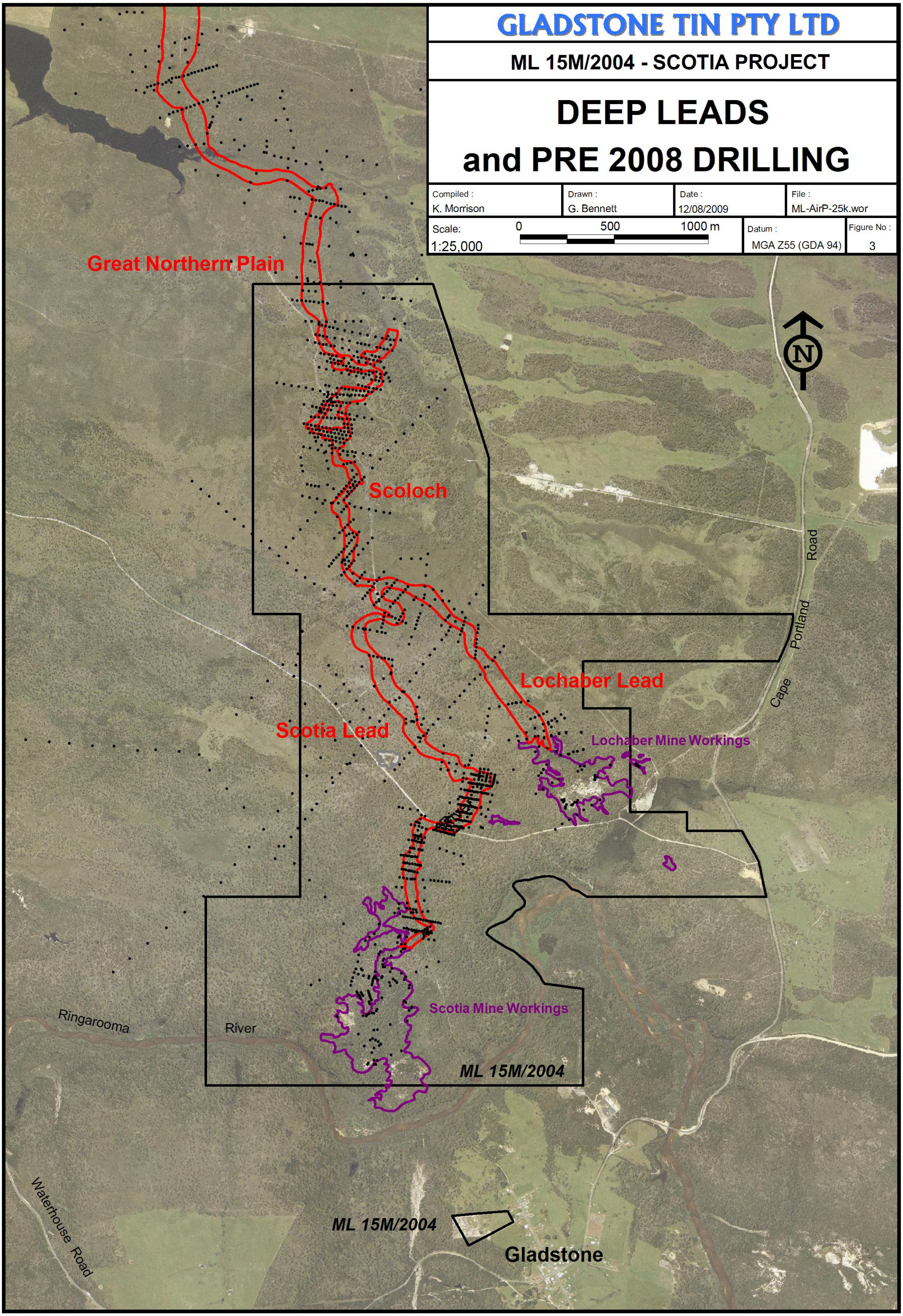


The Scotia-Lochaber deep lead system is one of several larger scale deep lead alluvial tin deposits in the Ringarooma Valley, NE Tasmania (Morrison, 1989, Yim *et al*, 1985). Mining in the district commenced in the early 1870s and the largest alluvial deposit, Briseis at Derby, produced over 20,000 tons of alluvial tin concentrate prior to closure in the1930s. In the early 1900s alluvial tin concentrate production from NE Tasmania was over 1000 tons per year (Roberts, 2007). In comparison to the other major deep leads in the Ringarooma Valley (Arba, Briseis, Pioneer and Endurance), Scotia-Lochaber has the advantage of the lowest overburden: wash stripping ratio and the least removal of resource by previous mining.

2008 Drilling Program

In September-October 2008, 36 vertical holes (684 metres) were drilled along five east-west fences across the southern end of the Scotia lead (Figure 4). This drilling achieved coverage over the southern 350 metres of the Scotia lead and produced the only modern high quality grade data which can be validated to normal industry standards for the entire Scotia Project resource. It therefore provides a vital opportunity to assess the scale of the resource over that 350 metres of strike length and, by comparison with results from earlier drilling, predict the likely scope of the entire 5km of lead within 15M/2004.

The program was designed and supervised by consultant geologist, Lindsay Newnham, and the holes were drilled by contractor Gerald Spaulding Drillers, from Devonport, Tasmania.

Drilling Method

Spauldings used a truck-mounted DR24 dual rotary-rotary/percussion drill rig with a three man crew. The dual system incorporates two drive heads; a lower rotary drive which rotates a 150 mm diameter steel casing with a casing shoe cutting tool, and a top drive head for either a rotary tricone or a down hole hammer string inside the casing. The casing advances in front of the bit, sealing off a cylinder of sediment which is drilled by the hammer or tricone and delivered through a flexible return pipe to a cyclone, which was set up a few metres from the rig to enable handling of the relatively large volumes of wet sample. In principle the method is similar to the old traditional cable tool percussion rigs used on alluvial deposits but the DR24 system, with its powerful motors, modern hydraulics and high pressure air delivery, has a much faster rate of penetration and sample lifting power. It is a continuous process, in contrast to the stop-start process of hammering casing then baling out the sample used by the cable tool method. At Scotia, the DR24 operated in rotary-rotary mode and the tricone successfully rotary drilled into solid rock basement. The 36 holes were drilled in 13 working days between September 15 and October 1, 2008, ie an average of 52.6 metres per shift. Typical cable tool drilling rates on Ringarooma Valley deep leads were in the order of 90% less than that achieved by Spauldings and no other drilling method in the past has more successfully sampled the mineralised gravel wash. All holes were drilled one or two metres into basement and the maximum total depth drilled was 27 metres.

The drilling was not cheap. Direct costs paid to the contractor equate to $A171 per metre, compared to typical rates for reverse circulation percussion drilling of about $A95 per metre. When the costs of sample preparation, assays and geology are considered it is estimated that the program cost would have totalled approximately $A150,000.

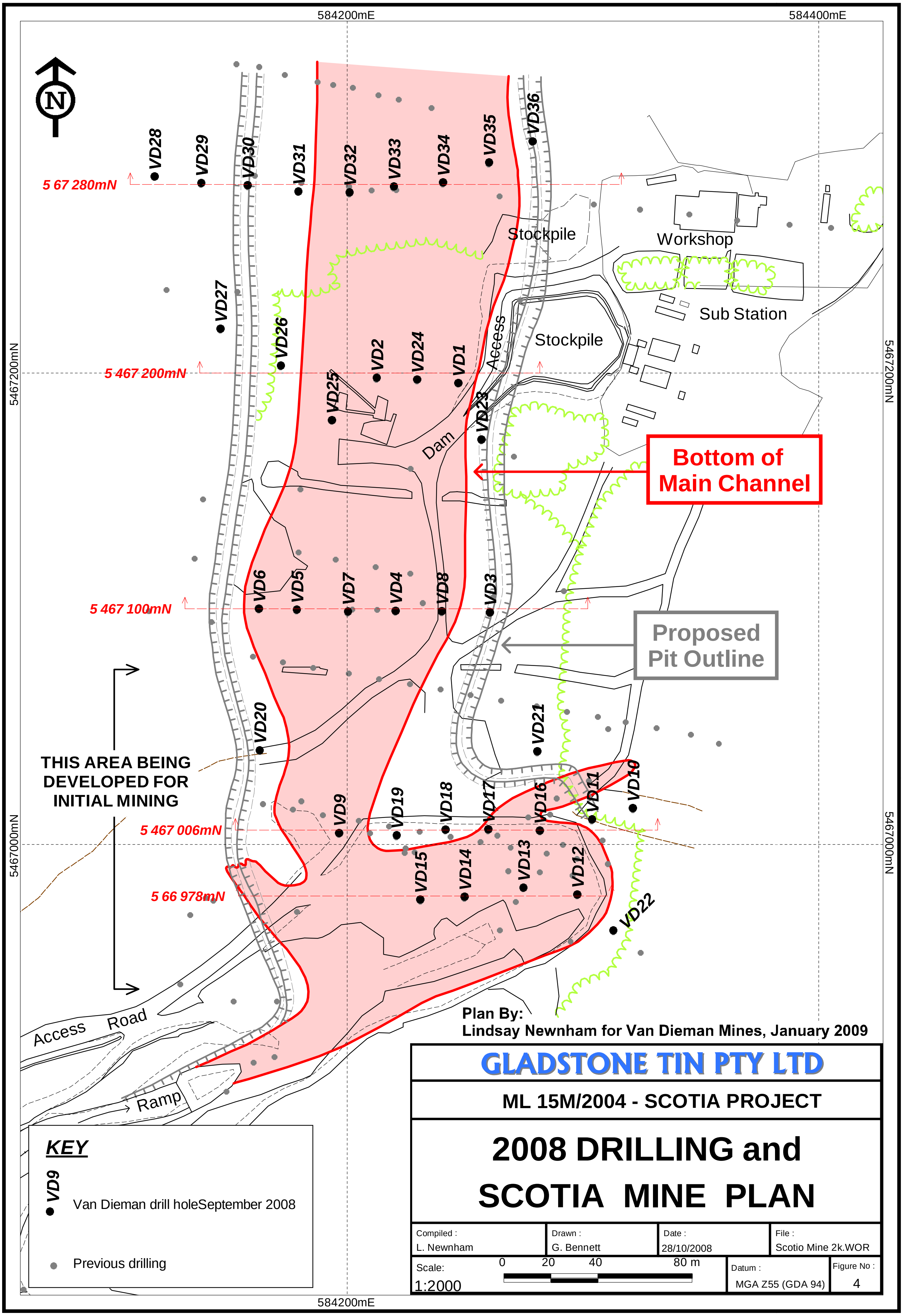
Sampling & Assay Methods
Samples of wet sediment were taken from the cyclone into plastic buckets and tagged at one metre intervals. Excess water was carefully decanted and the samples were weighed and their volumes measured. Samples were then wet screened through a 3 mm mesh and the +3 mm fraction was dewatered, bagged, tagged, weighed and stored. The -3 mm fraction was separated on a half size Wilfley table, producing a low grade concentrate and tailings. Excess water was again decanted from the tails which were then bagged, tagged, weighed and stored. The concentrate was also dewatered, bagged into either one metre samples or two metre composites (depending on visual assessment of the cassiterite show on the table), tagged and weighed. These samples were delivered to Burnie Research Laboratories, Burnie, Tasmania, where they were dried, pulped, split, weighed and assayed for tin by fusion XRF.

Sample recovery varied widely, as unfortunately is normally the case with alluvial drilling, but volumes and weights were logged and it appears that the main control on sample density is water content rather than sample size. Samples were logged as "dry, damp, wet or very wet" and densities are fairly consistent within each category.

The sampling and assaying program is based on the principle that the mass of tin calculated from the assay represents the entire tin content of the parent one or two metre drill interval, the volume of which has been measured. It is therefore a simple calculation to determine the grade of the drill sample, which in this case was presented in gm tin oxide (SnO_2 assuming a 78% Sn content in the mineral cassiterite) per cubic metre of drill sample. No information has been located so far in the Gladstone office indicating the use of an expansion factor relating decanted drill sample volumes to *in situ* pit volumes (bank cubic metres), so it remains unclear as to whether the grades plotted on the cross sections discussed below relate to bank cubic metres or drill sample volumes. It is clear however that the accepted grades relate to actual drill sample volumes and not to theoretical volumes derived from the volume inside the drill casing. Because the grades are calculated and plotted against linear depth metres on the drill hole traces, it is not essential to know the expansion factor.

The use of SnO_2 as the tin unit requires careful monitoring to distinguish it from 70% Sn concentrate, ie the normal sales product from an alluvial mine. This issue is discussed further in the next section.

Discussion of Results & Resource Implications
All the documentation available at Gladstone indicates that the 2008 drilling program was very professionally managed and executed. A high degree of quality control was applied to the drill sampling and the preparation of concentrates for assaying. Given the inherent difficulties in drilling alluvial deposits and achieving any JORC compliant estimation greater than Inferred level of confidence, the data from this program are probably as good as could realistically be achieved by exploration drilling. The drill hole density achieved over the approximately 350 metres of lead strike length has enabled sufficient definition of vertical grade distribution, and the channel edges containing the highest grade mineralisation, for successful mine planning over that part of the Scotia lead (Figures 4 & 5).


584200mE
584400mE
N
5 67 280mN
5 467 200mN
5 467 100mN
5 467 006mN
5 66 978mN
5467200mN
5467000mN
VD1
VD2
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VD24
VD25
VD26
VD27
VD28
VD29
VD30
VD31
VD32
VD33
VD34
VD35
VD36
Stockpile
Workshop
Sub Station
Stockpile
Access
Dam
Bottom of Main Channel
Proposed Pit Outline
THIS AREA BEING DEVELOPED FOR INITIAL MINING
Access Road
Ramp
Plan By:
Lindsay Newnham for Van Dieman Mines, January 2009
GLADSTONE TIN PTY LTD
ML 15M/2004 - SCOTIA PROJECT
2008 DRILLING and SCOTIA MINE PLAN
Compiled : L. Newnham
Drawn : G. Bennett
Date : 28/10/2008
File : Scotio Mine 2k.WOR
Scale: 1:2000
0 20 40 80 m
Datum : MGA Z55 (GDA 94)
Figure No : 4
KEY
VD9 Van Dieman drill holeSeptember 2008
Previous drilling

Although the program is considered cost effective by comparison with other drilling methods available, it only covered 7% of the Scotia Project total lead length at an estimated total cost of approximately $A150,000 so clearly it would not be viable to drill out the entire lead system. It may not be necessary to do any more exploration drilling. With over 1300 drill holes on the project area, albeit some apparently with poorly documented results, there is real potential to use the 2008 program results to calibrate against any down hole grade data which can be extracted from the old logs and sections. A thorough compilation of archived drill data is a priority recommendation if the decision to proceed with a new total resource estimation is triggered, and it is understood that a substantial part of this task may have already been done. Any further resource estimation work should avoid calculating total in-hole tin which inevitably leads to estimating unrealistically high tonnages of contained tin, diluted to an average grade which is uneconomic. Within the bounds of common sense it is better to lean towards sacrificing some tin rather than diluting the head grade to the plant. Plant through-put and maintenance down time is the same on ore or waste. A competent person should be able to map the top of an ore unit on drill hole sections, using a combination of logged lithology (wash versus sand and clay), drill interval grade and the vertical continuity of grade.

This approach has been applied to the sections on Figure 5 resulting in an assigned width to potential ore across each section and an assigned thickness and average grade to the potential ore zone in each drill hole. In plan dimension the margins to potential ore essentially agree with the channel edges mapped by Lindsay Newnham in 2008 (Figure 4). This approach to mapping the resource edges excludes low grade zones where it is practical to do so (eg on Section 5467000N) but where mining would be seriously disrupted then some low grade material is diluted into the resource (eg holes VD31 and VD32 on Section 5467280N). Simplistic calculations based on mean values for width, thickness and grade indicate a relatively high grade basal wash zone (potential ore body) of approximately 130,000 bank cubic metres, grading 820 gm 70% Sn concentrate per bank cubic metre, and with vertical thickness ranging from 1-10 metres and averaging 4.6 metres. The wash zone contains approximately 100 tonnes of 70% Sn concentrate beneath the 350 metres of lead strike length tested by the 2008 drilling.

Although taking mean values lumped across a large block of resource seems a primitive non quantitative approach, experience at the Pioneer mine in the early 1980s showed that the method has merit. At Pioneer, predicting tin production ahead of the pit face from resource polygons around drill hole centroids always gave unreliable outcomes. In contrast, reconciliation surveys demonstrated that the average grade of the block mined had been reasonably well predicted by the average grade of all drill intercepts within that block. In other words, each drill intercept had equal probability of occurring anywhere inside the block of ore, so long as it was ore and not overburden. Similarly, semi variograms through the drill data showed no coherent relationship between grade and drill hole spacing. Close spaced sampling and sedimentary facies mapping in the pit showed extreme variation in grade over short distances such that it was not practical to drill holes sufficiently close spaced to define


W
WASH ZONE - 100m
E
SECTION 5 467 280N
WASH ZONE - 40m
SECTION 5 467 200N
WASH ZONE - 75m
SECTION 5 467 100N
W
WASH ZONE - 120m
E
B
B1
SECTION 5 467 006N
WASH ZONE - 120m
Newhaven Workings
A
A1
SECTION 5 466 978N
50mRL
25m RL
fine grained basement sediments
Grades shown are gms SnO_2/cubic metre
GLADSTONE TIN PTY LTD
ML 15M/2004 - SCOTIA PROJECT
SCOTIA MINE DRILLING PROFILES
Sections By: Lindsay Newnham for Van Dieman Mines, January 2009
Compiled : Lindsay Newnham
Drawn : Gillian Bennett
Date : 06/01/09
Datum : MGA Z55 (GDA 94)
Scale: Approx 1:500
File : SM DrillingProfiles 08-09
Figure No : 5

high grade zones in the mine. The exploration drilling was critical in defining the top and the edges to the ore body, and the mean grade, but the point data from drill holes had an area of influence of metres or less, rather than tens of metres.

More rigorous numbers than those used here are required in the comprehensive scoping study anticipated to follow. Seamless integration of the 2008 drilling results with data from the several generations of older drilling, and reconciliation of the widely varying resource estimates for the total lead system which have been produced in the past, will be the major tasks for the resource component of a full scale scoping study.

Several instances of unclear notation regarding the distinction between tin oxide, tin concentrate and cassiterite were noted in drilling results and resource estimation calculations in documents at Gladstone. An example is the summary table of resource calculations from the Tasmanian Department of Mines Scotia–Lochaber drilling (Blake, 1955, page 65), where the average grade from all holes in a block of the lead system is reported in units of tin oxide oz. per cubic yard, but a check of the calculations shows that the numbers represent 70% Sn concentrate, as is correctly labelled in the subsequent column listing concentrate tons. The AMC report carries the same mistake in their resource table on page 10. The atomic weight of tin is 118.7 and the molecular weight of stoichiometrically pure cassiterite is 150.7, so pure cassiterite contains 78.8% tin. For the same tin assay there will be approximately 12.6% more tonnes of 70% concentrate than of tin oxide. The grade data presented on the sections from the 2008 drilling (Figure 5) are expressed in gm SnO_2 (78% Sn) per cubic metre and the average grade calculated from the drill intercepts judged to be within the potential ore body equates to approximately 820 gm 70% Sn concentrate per cubic metre. The use of 78% Sn, rather than 78.8%, presumable is due to the fact that natural cassiterite will always include minor impurities within the crystal lattice.

Pricing of alluvial tin has traditionally been based on a 70% concentrate and up until the early 1980s "The Examiner" newspaper in Launceston published daily prices per unit for 70% concentrate, thus reflecting the historic importance of alluvial tin to the economy of NE Tasmania. A unit is equivalent to one seventieth of a tonne, or 3.5 units per 50kg bag of concentrate, so the unit price was the key number for the small scale alluvial miners. In the late 1970s-early 1980s there were consistently 10-20 family scale mines operating in the district, in addition to the Amdex operation which employed about 65 people on the Pioneer deep lead and three small shallow mines. From 1980-1982 the price paid for Pioneer concentrate, which typically graded 72% tin, averaged about $A10,000 per tonne. As a "rule of thumb" this equated to about 50% of the gazetted LME tin metal price but obviously the exchange rate and the specific contract terms are important factors controlling the concentrate price on any given project.

The main point to be made here is that because the miner normally pays transport and smelting costs, and because the mechanics of drilling and sampling alluvial tin are similar to mine scale concentrate production, it is better to use concentrate prices rather that tin metal prices adjusted to SnO_2 when comparing costs to revenue during project scoping studies.

Potential Accessory Mineral Credits

There has been a persistent view through the history of the project that sapphires in particular, and also gold, exist as significant heavy mineral accessories to cassiterite at Scotia and will contribute to earnings from the mine. There is no evidence from reports of previous mining or exploration drilling, and from direct observations during the last phase of deep lead mining in the district, of significant sapphires or gold in any of the major Early Tertiary deep leads in the Ringarooma Valley. Significant accessory gold and minor small sapphires do occur in shallow deposits controlled by Late Tertiary volcanism and present day drainage geomorphology. For example, the Ringarooma River terrace gravels worked by the Dorset Dredge and the Riverside deposit held by Kangaroo Metals Ltd near South Mount Cameron contain significant accessory gold and minor small sand-sized sapphires in their heavy mineral concentrates. Riverside was worked by Amdex Mining in the early 1980s (as part of the Pioneer project) and produced approximately one ounce of gold per tonne of tin concentrate. The fine detrital gold was clearly visible on the Wilfley table and was recovered by running the tin concentrate over a copper-mercury plate; an effective but labour intensive operation with health and environmental issues in the context of present day standards. Gold at Riverside would contribute 10-15% of the sales revenue at current prices.

Although the Scotia lead sediments and heavy minerals are predominantly granite-derived, Scotia differs from the other deep leads in the district in that it sits on a sandstone-slate basement. The others all have granite basement. Quartz veins in the sandstone-slate unit (Mathinna Supergroup) are the source of all known gold mineralisation in NE Tasmania and small reefs were historically mined around Gladstone, so conceptually there is a possibility that minor gold has been eroded from the basement rocks at Scotia and incorporated into the basal heavy mineral suite. Any detrital gold concentrated in a placer deposit, and able to be recovered by gravity separation methods, will be in hydraulic equivalence with the other heavy minerals in the assemblage, so will be coarse enough to see with the naked eye during the final tin dressing stage. It is highly unlikely that ultra fine gold would concentrate with cassiterite sand but it is prudent to check every possibility with a few assays.

The only accessory mineral in the Scotia concentrate requiring further explanation at present is monazite. Monazite is a yellowish rare earth thorium phosphate mineral, derived from tin granites and a well known accessory to cassiterite in the Ringarooma Valley deep leads. The value of monazite depends on its precise rare earth and thorium composition, which varies between deposits, but it is the main ore mineral for several rare earth elements, which are normally traded as oxide powders. At Pioneer, the most recently mined deep lead in the district, monazite comprised 6% of the heavy mineral assemblage and was considered a nuisance rather than a credit. A quick look at the heavy mineral concentrates produced to date at Gladstone from the overburden sequence suggests a surprisingly high monazite content (perhaps >20%). This visual interpretation of monazite needs validation by microscopic examination and assaying. It must be stressed here that none of the high grade basal wash has yet been exposed in the pit so neither the heavy mineral composition of the potential ore unit nor the performance of the jig-spirals plant on ore have yet been tested.

There are also some negative aspects of monazite. It is not a mainstream commodity and would require niche marketing. It is usually radioactive because it usually contains thorium. Thorium emits alpha and beta particles and although its radiation is not as penetrative as that from uranium, there may be OH&S issues and product transport issues to manage. Monazite also has the potential to contaminate the tin concentrate if it is not effectively separated from the cassiterite. At the laboratory bench top scale magnetic separation can produce a fairly pure monazite product from a cassiterite-ilmenite-monazite-zircon concentrate.

The abundance, chemical composition and radioactivity of Scotia monazite needs quantifying as soon as possible, initially by assaying spirals concentrate already produced from the overburden sequence and available at Gladstone. Some gold checks could be done at the same time. The precise heavy mineral composition of the potential ore body will not be proven until a large bulk sample of the basal wash unit in the Scotia pit is mined and processed to sales concentrate quality. Expert advice on the likely market value of small batches of monazite concentrate may be available from Galena people and this would determine the worth of pursuing the monazite potential more aggressively.

Viability of the Scotia Project must be determined on the basis that it is a tin deposit and any analysis of the potential for monazite, gold or other accessories should be seen in the context that it is not core business. If it does eventuate that some monazite concentrate can be produced and sold then it becomes a bonus, in the same way as the occasional few tonnes of ore grade tin that may from time to time be picked up during the overburden stripping process.

Conclusions & Recommendations

The 2008 drilling program has produced a good quality set of exploration data across the southern end of the Scotia lead and no further drilling is necessary at present.

Two tasks stand out as being required to advance the resource estimation process by the addition of some firm numbers for use in a comprehensive scoping study of the Scotia Project.

- A new set of maps and sections incorporating all pre 2008 drilling which reported down hole grades against specific depth intervals. It is understood that some of this work has already been done in Sydney and the process of retrieving that data is underway. Data without depth interval control is useless for this purpose and it is critical that the tin grade units are standardised and that resource estimation calculations incorporate all internal dilution due to intercepts below the any assigned cut-off grade.

- A substantial block of basal wash needs to be excavated down to basement and across a width of the lead tested by the 2008 drilling. The ideal site for this is at the southern end of Scotia which has already been stripped down to approximately 33 metres RL and is therefore almost down to the top of the wash. The site also has drilling control from 4 of the 2008 holes (VD12, 13, 14 and 15). The proposed mining and milling trial would help determine which overburden and ore mining methods are physically viable in the wet sediments and help generate real cost numbers on the alternatives. It would also allow reconciliation of the drilling results and determine conclusively proportions of heavy mineral species in the potential ore unit. According to

Figures 4 and 5 and the resource estimate outlined above, a box cut of 80 metres east-west x 10 metres north-south x 12 metres deep would expose basement and excavate approximately 10,000 bank cubic metres of sediment at 5466978N (GDA 94). The excavated material would comprise approximately 50% overburden and 50% basal wash containing 3-4 tonnes of 70% Sn concentrate which should be saleable. An exposed 80 metre long wall of potential ore should be considered as a field exhibit component of a data room.

Previous resource estimates vary wildly and there is anecdotal evidence from reports and maps at Gladstone that part of the lead system north of the 2008 drilling may carry higher grade than the area of existing development, however it is not clear in both cases how some of the numbers were generated. An objective new estimate based on a combination of geology and grade from drill logs and sections should be a straightforward but time consuming exercise, providing sufficient detail exists in the pre 2008 drilling records.

The other major variable in need of rigorous analysis is the cost and practicalities of alternative methods of mining overburden and ore. For example, given the narrow channel-like lead system saturated with ground water, is there potential to mine the basal wash with a dredge and thereby avoid lifting the ore by truck or pump, and moving the plant each year? Input from people expert in the area of dredge and hydraulic mining is critical for the next stage of a scoping study.

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