Allegiance Mining NL

AVEBURY NICKEL SULFIDE PROJECT

EL 28/1988 - WESTERN TASMANIA

RESOURCE REPORT

and

PROJECT DEVELOPMENT RECOMMENDATIONS REPORT

July 2001

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862003

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862004

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1. SUMMARY

1. This report on the Avebury deposit deals with two matters:

   (a) re-estimation of identified resources based on new drilling results acquired on South Avebury since completion of the Scoping Study in January 2001

   (b) an alternative approach to further evaluate and develop Avebury to that contained in the Scoping Study

2. The re-estimation of resources produced the following figures:

Deposit	Category	Tonnes	% Ni	Contained Ni (t)
North Avebury	**Indicated**	**1,150,000**	**1.6**	**18,400**
South Avebury				
- **North Lens**	**Inferred**	**1,350,000**	**1.5**	**20,250**
- **South Lens**	**Inferred**	**550,000**	**1.5**	**8,250**
TOTALS		**3,050,000**	**1.54**	**46,900**

The estimate was undertaken using a manual isoline (non-geostatistical) method.

The main variation between this estimate and that of McKeown (November 2000) is the result of subsequent drilling undertaken on South Avebury.

Additional drilling is required to improve the level of confidence in this current estimate and to permit elevation of the resources to higher confidence categories; eg, to the measured resource category.

This need for additional drilling is greatest at South Avebury as implied by the current "inferred category".

No resource was estimated for Central Avebury because of limited knowledge.

3. Whilst there is clearly excellent potential to identify additional resources, either as extensions of the known deposits or distal opportunities such as East Avebury, Bismark, West Avebury, etc, it is strongly recommended that near-term evaluation and development strategies be focused on the existing identified Avebury resource area.

   This focused strategy should consist of two stages of further work.

4. **Stage 1** would have three (3) objectives:

   (a) Elevate the South Avebury resource to the Indicated Resource Category by a limited **initial drilling program**.

   This is seen as a prerequisite to Stage 2 evaluation.

   (b) Test the shallow resource potential of North and Central Avebury by a limited **initial drilling program**.

   (c) Rework and refine existing technical studies to demonstrate the commercial viability of an Avebury development with particular emphasis on a larger tonnage operation than envisaged in the Scoping Study; eg, 500,000 tpa for 6 years producing 7,000-8,000 tpa Ni.

   Stage 1 is estimated to cost $450,000.

5. **Stage 2** would entail a decision to further evaluate Avebury by way of an exploratory decline access followed by underground drilling and exposure of mineralisation.

   A decline development would facilitate:

   - less expensive definition drilling
   - acquisition of bulk samples of mineralisation
   - detailed studies of mineralisation continuity and grade necessary for estimation of ore reserves
   - detailed studies of mining characteristics

   The decline (recommended for investigation in Stage 1) would be approximately 400 m shorter than that in the Scoping Study. It would be developed in such a manner as to be suitable for full scale mine production.

6. A Stage 2 cost estimate is difficult until the Stage 1 initial drilling program is completed, but would be approximately $4M-5M. A more accurate estimate would be made in Stage 1.

7. This two-stage approach to completion of a full feasibility study and project development is markedly different to that contained in the Scoping Study.

   Main differences are:

   - Minimal district exploration with the majority of work focused on Avebury. (***Note:*** Melba is viewed as a totally separate project and not addressed in this proposal.)

   - Detailed definition and characterisation of the resource from an exploratory decline, rather than from surface.

8. Principal benefits of this alternative approach are:

   - expenditure saving in district exploration of approximately $0.75M pa over 2 years

   - reduction in resource definition drilling costs of approximately 50%

   - better technical outcomes by detailed examination of mineralisation from underground

   - potential cost savings of $1.0M-1.5M in decline development if the southern route is suitable

   - potential to either accelerate the pre-production period from 3 years to 2 years, or space evaluation stages at intervals which the Company can accommodate; ie, there are more, smaller steps on the way to production

   - greater appeal to investors because large surface programs will be replaced by underground development

9. Options are emerging to reduce mill development capital costs and construction time by either the relocation or utilisation of an existing idle mill.

10. These milling options, together with the alternative approach to resource evaluation and mine development, present opportunities to develop Avebury at substantially reduced

capital costs than envisaged in the Scoping Study.

Lower capital costs, combined with lower operating costs and higher revenues achieved by up-sizing the operation, enhance Avebury as an investment proposition.

2. RESOURCE ESTIMATE

2.1 Introduction:

Allegiance Mining NL has discovered a deposit of nickel sulfides at a prospect known as Avebury, seven (7) kilometres due west of Zeehan on the west coast of Tasmania (Fig 1).

Between January 1998 and September 2000 twenty-four (24) cored drill holes and four (4) wedged intersections totalling 10,000 m were drilled into this deposit.

On the basis of information gained from this drilling, Allegiance completed a Scoping Study to determine the economic merits of the project and to guide the direction of future work.

Part of this Scoping Study was a resource report titled:

> *"Avebury Nickel Project Mineral Resource Report, November 2000"*, prepared for Allegiance Mining NL by Michael V McKeown of McKeown Mining Pty Limited

Since completion of that report, a further four cored drill holes totalling 1,330 m have been completed into the South Avebury deposit.

Based on information gained from these holes, the geological interpretation of South Avebury has been modified substantially from that contained in the McKeown report (above).

It was, therefore, decided by Allegiance that the Avebury mineral resource should be re-estimated. The task was undertaken by this writer applying a substantially different methodology to the geostatistical one applied by McKeown.

2.2 Data Acquisition and Presentation:

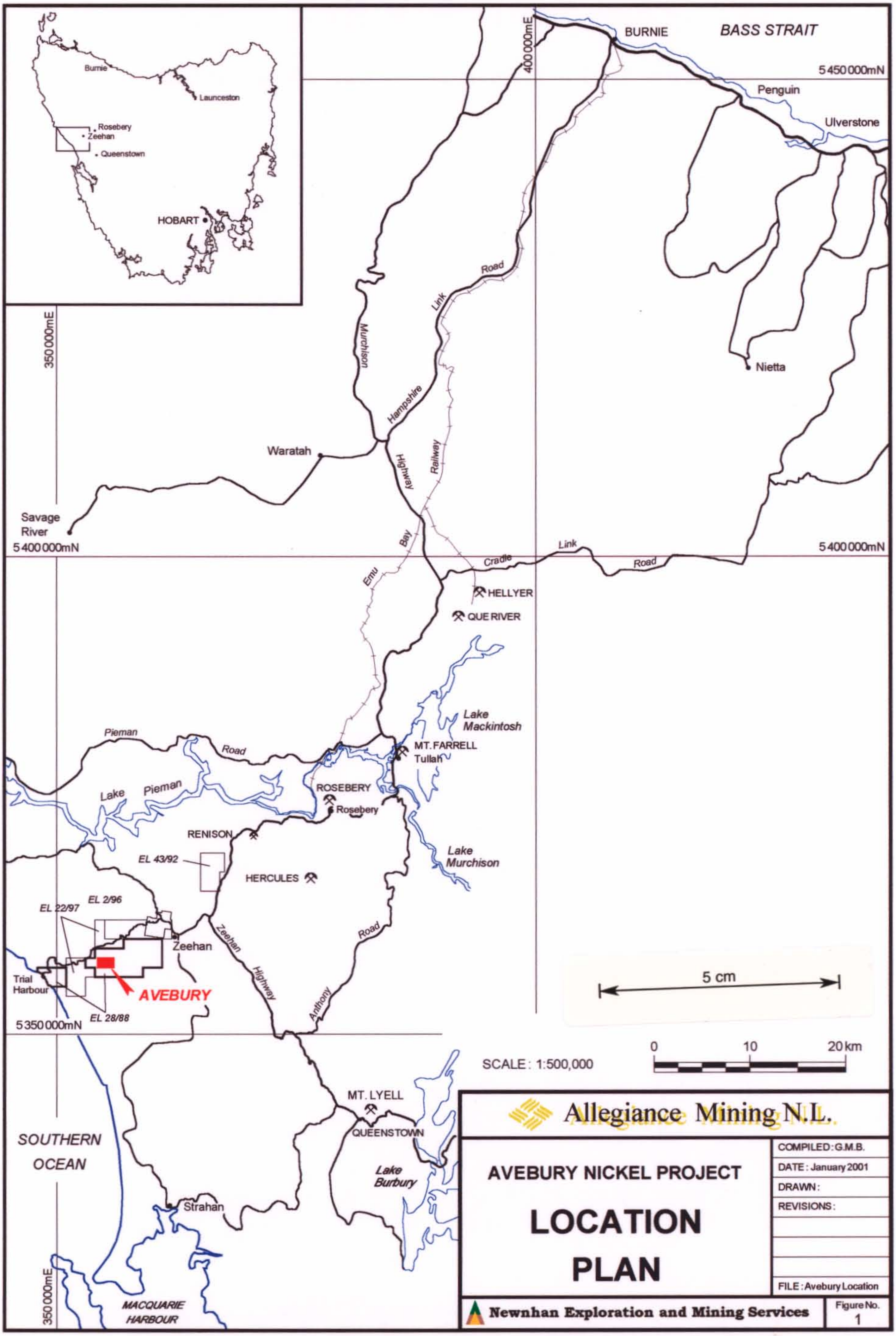
2.2.1 Drilling:

Drilling has been undertaken by Zeehan-based contractors Almac Drilling Pty Limited and Diamond Drilling (Tas) Pty Limited, using HQ-NQ coring equipment.

Most intersections of mineralisation were NQ size.

Wedged intersections were obtained by running a daughter NQ hole off

862010



Allegiance Mining N.L.

AVEBURY NICKEL PROJECT

LOCATION PLAN

COMPILED: G.M.B.
DATE: January 2001
DRAWN:
REVISIONS:
FILE: Avebury Location

Newnhan Exploration and Mining Services

Figure No. 1

a Hall-Rowe wedge placed in the parent hole. All core is stored at Newnham Exploration & Mining Services' depot in Zeehan.

2.2.2 Surveying:

Base maps were developed by Hydro Consulting using 1:16,000 aerial photography flown in 1999. The grid system is based on Map Grid of Australia UTM Zone 55.

All roads and drill collars were surveyed by licenced surveyor Ian Green of Campbell Smith Phelps Pedley (CSPP). In most cases, drill hole collar rods were also surveyed by Green.

Down hole surveys were by single shot Eastman camera, at no greater than 50 m intervals.

Some drill holes, particularly the later ones, were also surveyed with a Maxibore instrument provided by Diamond Drilling (Tas).

Down-hole camera surveys were effected by the presence of magnetite. A method was developed to modify down-hole surveys to allow for these effects and this is described in detail in Appendix 4 of the McKeown report.

All drill hole survey data used by McKeown and contained within the project database was also used without amendment for this report.

2.2.3 Core Logging:

The first 26 drill holes (A001-A026) were logged by Mick McKeown.

Of the four holes completed since the McKeown report, three (A027, A028, A034) were logged by this writer, and A029 by McKeown.

Petrological descriptions of core samples were provided by Wally Fander of Central Mineralogical Services as requested. Petrological descriptions up to Hole A026 are provided as Appendix 2 in the McKeown report. Subsequent petrological work is attached herein as Appendix 1.

2.2.4 Assaying:

A complete description of the sampling and assaying protocol appears in the McKeown report as Appendix 3.

All sampling and assaying procedures are considered to be of a high standard and adequate for this report.

Subsequent to the McKeown report, check assaying has been undertaken on A026 and A028 by Amdel Laboratories. The comparative Analabs-Amdel results are attached herein as Appendix 2.

2.2.5 Data Base:

All Avebury digital data is centralised with Gillian Bennett in Burnie.

Hard copies of drill logs are held in the Exeter and Zeehan offices of Newnham Exploration & Mining Services.

Digital survey data is maintained in Launceston by CSPP, and computer logs are maintained by McKeown (A001-A026 and A029) and Newnham (A027, A028, A034).

All drafting for this report has been completed by Gillian Bennett using a combination of Autocad and MapInfo.

2.3 Geology:

2.3.1 District Geology: (Fig 2)

The Avebury district is underlain by a sequence of Cambrian sediments and mafic volcanic rocks unconformably (?) overlying a deformed sequence of Precambrian siliceous sediments.

Ultramafic units, commonly associated with coarse conglomeratic units are present within the Cambrian formations.

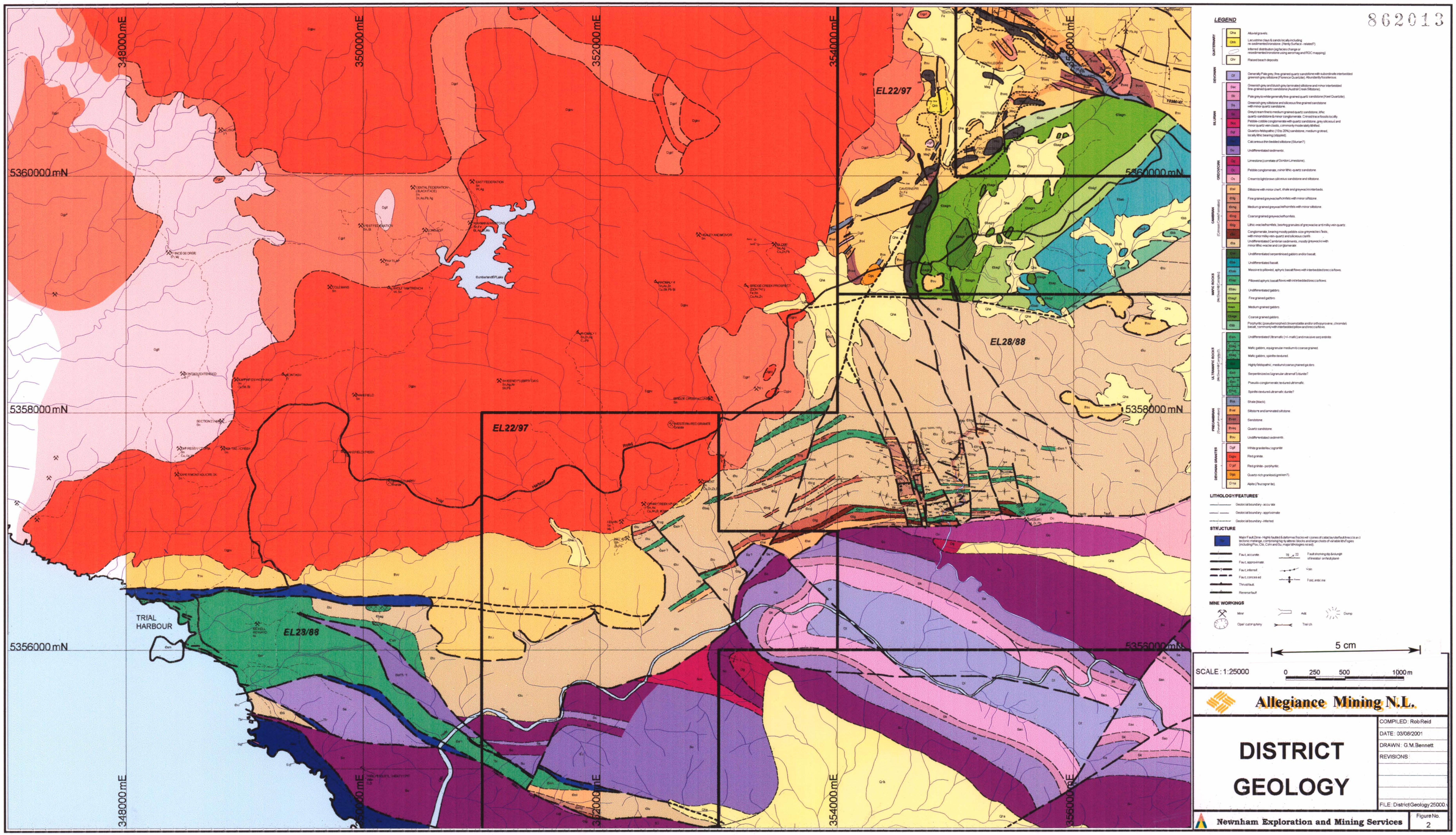
The Cambrian formations in turn are overlain by a thick sequence of Ordovician-Devonian sediments deposited in the Henty Basin.

Major tectonism in the upper Devonian-lower Carboniferous was accompanied by intrusion of the Heemskirk Granite. A broad contact aureole of metasomatic alteration was developed adjacent to this intrusion.

2.3.2 Local Geology: (Figs 3, 4)

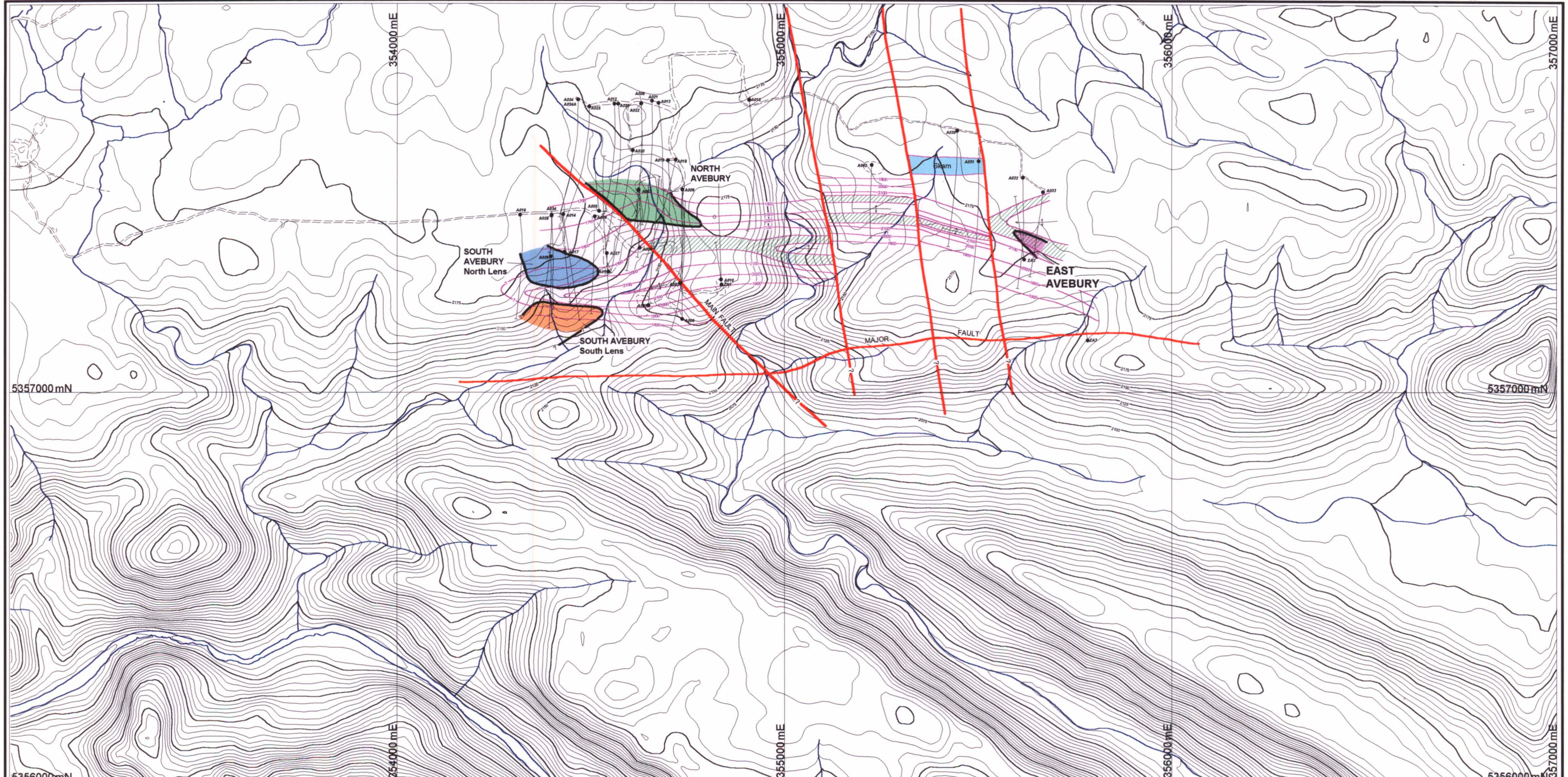
In the local area, a package of Cambrian sediments has been tightly folded along E-W axes and disrupted by a series of NW-SE and N-S faults.

Within this package of sediments, there is an apparently conformable ultramafic-mafic unit. The upper surface of the ultramafic is commonly associated with a mafic conglomeratic unit and it is possible that the ultramafic was emplaced in a small rift valley



862013
LEGEND
5360000mN
5358000mN
5356000mN
348000mE
350000mE
352000mE
354000mE
EL22/97
EL28/88
TRIAL
HARBOUR
LITHOLOGY/FEATURES
STRUCTURE
MINE WORKINGS
Mine
Adit
Dump
Trench
5 cm
SCALE: 1:25000
0
250
500
1000 m
Allegiance Mining N.L.
DISTRICT
GEOLOGY
COMPILED: Rob Reid
DATE: 03/08/2001
DRAWN: G.M.Bennett
REVISIONS
FILE: District Geology 25000
Newnham Exploration and Mining Services
Figure No.
2

862014



LEGEND

NORTH AVEBURY	Known zones of nickel sulfide mineralisation
	Outcrop of serpentinised ultramafic host rock
	Major fault
	Structural contours of ultramafic host
	Drillholes

5 cm

SCALE: 1:10000 — 0 100 200 400 m

Allegiance Mining N.L.

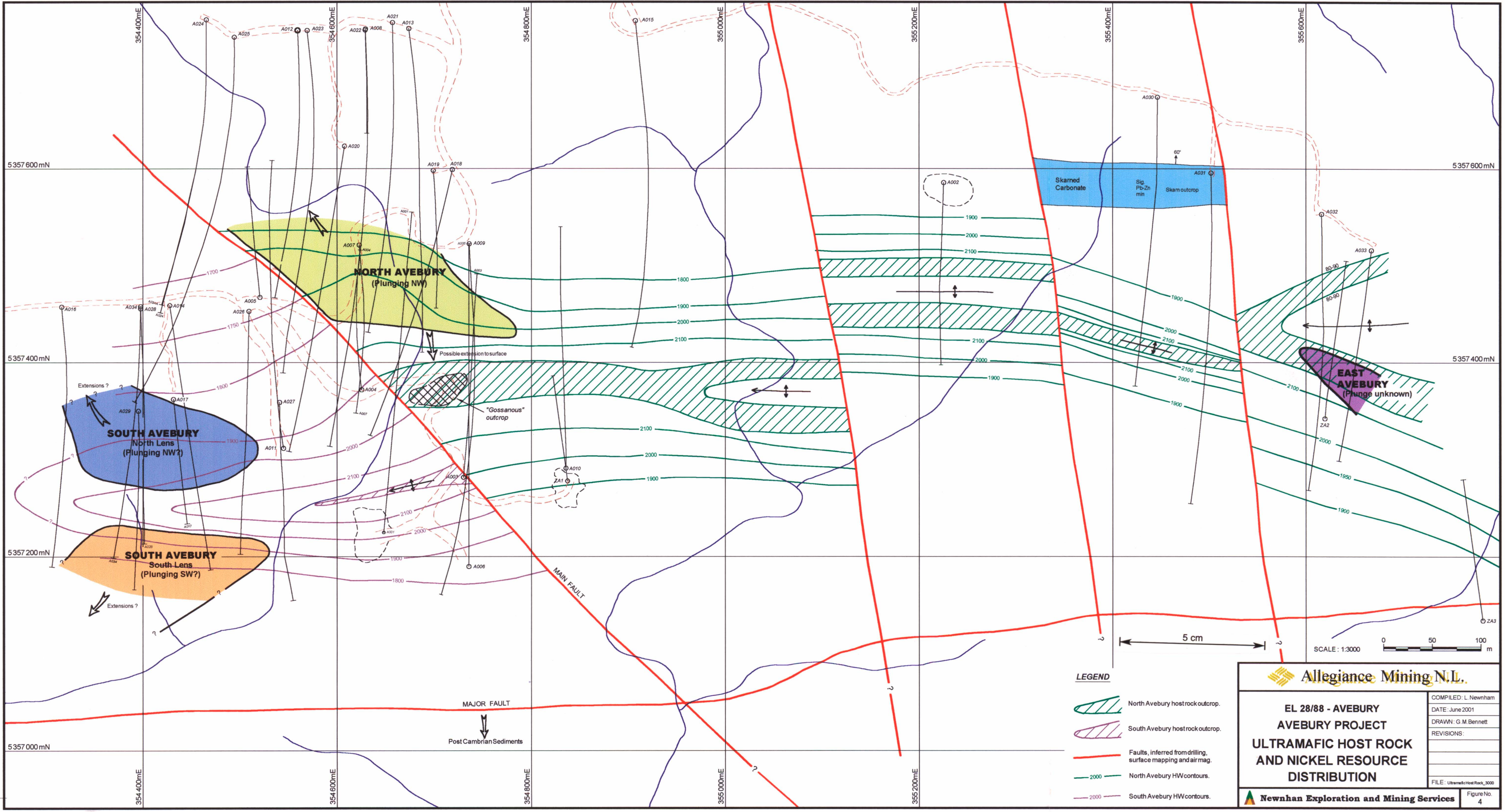
EL 28/88 - AVEBURY
AVEBURY PROJECT
RESOURCE & DRILL HOLE LOCATION PLAN

COMPILED: L. Newnham
DATE: 5/8/2001
DRAWN: G.M.Bennett
REVISIONS:
FILE: Avebury SC25000

Newnham Exploration and Mining Services

Figure No. 3

862015


354 400mE
354 600mE
354 800mE
355 000mE
355 200mE
355 400mE
355 600mE
5 357 600 mN
5 357 400 mN
5 357 200 mN
5 357 000 mN
NORTH AVEBURY
(Plunging NW)
Possible extension to surface
SOUTH AVEBURY
North Lens
(Plunging NW?)
SOUTH AVEBURY
South Lens
(Plunging SW?)
Extensions ?
EAST AVEBURY
(Plunge unknown)
Skarned Carbonate
Sig. Pb-Zn min
Skarn outcrop
"Gossanous" outcrop
MAIN FAULT
MAJOR FAULT
Post Cambrian Sediments
5 cm
SCALE : 1:3000
0 50 100 m
LEGEND
North Avebury host rock outcrop.
South Avebury host rock outcrop.
Faults, inferred from drilling, surface mapping and air mag.
North Avebury HW contours.
South Avebury HW contours.
Allegiance Mining N.L.
EL 28/88 - AVEBURY
AVEBURY PROJECT
ULTRAMAFIC HOST ROCK AND NICKEL RESOURCE DISTRIBUTION
COMPILED: L. Newnham
DATE: June 2001
DRAWN: G.M.Bennett
REVISIONS:
Newnhan Exploration and Mining Services
Figure No. 4

developed in this area in the early Cambrian.

The Cambrian formations are separated from the upper Palaeozoic Henty Basin sediments to the south by a major E-W fault.

The area lies within the contact aureole of the Heemskirk Granite and has been strongly metasomatised. Siliceous sediments have been strongly hornfelsed with widespread development of cherts. Calcareous sediments have been converted into various styles of skarns, and mafic and ultramafic members have been extensively serpentinised. Boron metasomatism in the form of tourmaline and axinite development is pervasive.

2.3.3 Avebury Geology:

In the Avebury resource area, a sequence of altered sediments overlying a strongly serpentinised ultramafic has been anticlinally folded along an E-W axis. This fold is interpreted as plunging west and disrupted by a near-vertical north-west trending fault named Main Fault.

The sediments overlying the ultramafic are dominated by cherts and strongly hornfelsed units. Tourmaline and axinite are common. Minor mafic beds are present.

Intense alteration of the underlying ultramafic results in the development of either a dark green-black serpentinite or a lighter gray-white mottled calc-silicate rock (intense silica-carbonate alteration).

2.3.4 Mineralisation:

Several phases of sulfide and iron dominated metasomatic mineralisation have accompanied the intrusion of the Heemskirk Granite.

Magnetite is common within the ultramafic but also has been noted in hornfelsed sediments overlying the ultramafic. Several phases of magnetite development are interpreted.

Sulfide mineralisation is dominated by pyrrhotite and pentlandite with minor amounts of nickel arsenides such as nicolite and gersdorffite.

It accumulates within the ultramafics close to the sharp contacts with hornfelsed sediments. Sulfide mineralisation is nearly always accompanied by magnetite, but magnetite is not always accompanied by sulfides. Studies to date suggest there may have been an early phase of magnetite followed by a stage of sulfide with or without magnetite, and then a late stage of magnetite.

Whilst there are very large accumulations of sulfides within the apical sections of the ultramafic anticline, sulfides do extend down the ultramafic flanks to considerable depths (below the depth of current drilling).

Substantial zones of sulfides have also been noted both in the hornfelsed sediments in the hangingwall of the ultramafics and within the main body of the altered ultramafic, remote from the contact accumulations.

The distribution of nickel arsenides appears restricted to erratic zones in the high level, apical zones of the ultramafic.

Insufficient drilling data exists to gain a clear picture of the distribution of nickel sulfides and total sulfides within the contact zone accumulations. Where data density is greatest, the data can be interpreted to suggest steeply plunging shoots of higher grade nickel sulfide within broader zones of lower grade nickel mineralisation, but not necessarily lower total sulfides.

At this early stage of evaluation, drilling information is understandably sparse. However, three major zones of nickel sulfide mineralisation have been identified:

- North Avebury
- South Avebury North Lens
- South Avebury South Lens

North Avebury is developed on the north dipping contact of the ultramafic north of the Main Fault.

South Avebury North Lens is developed on the north dipping contact of the ultramafic south of the Main Fault.

South Avebury South Lens is developed on the south dipping contact of the ultramafic south of the Main Fault.

A fourth zone known as **Central Avebury** is possibly developed on the south dipping flank of the ultramafic north of the Main Fault, but insufficient data exists to permit a resource estimate at this stage.

2.4 Resource Estimate:

This section describes, firstly, the methodology used to estimate the resource and, secondly, the resource estimate for each of the three principal mineralised zones listed above.

2.4.1 Methodology:

The method used in this estimate is known as a manual isoline method. It is a particularly useful method for application on deposits where drilling data is sparse and geological controls are not definitively known.

It permits the user to input a high level of personal interpretation into the geological controls and grade distribution of the deposit without the constraints of more mathematically rigid methods (polygonal and geostatistical).

The principal steps in the methodology are:

(a) The results of each drill hole are examined to determine **resource intersections**. This is done on a combination of structural contour plans, sections and longitudinal projections. Each intersection is assessed with reference to the geology of both the individual drill hole and that of its neighbours. This provides a reasonable assurance of geological continuity of resource intersections between drill holes.

(b) The resource intersection determined for a drill hole is a combination of the geological interpretation ([a] above), grade and width. The grade and width parameters applied for this estimate are detailed below.

(c) The centre of a drill hole resource intersection is plotted on a longitudinal projection, along with its weighted average grade (% Ni) and the estimated horizontal width (m).

For each of the three resource areas, the longitudinal projection was orientated grid E-W.

Horizontal width is used because:

(horizontal width) x (vertical plane distance) = (true width) x (deposit dip distance)

Small conservative errors are inherent in this formula if the strike of the deposit does not parallel the longitudinal projection.

Horizontal width was estimated in two ways:

(i) by measurement on section

(ii) by calculation using the formula:

Horizontal width = drill hole width x sin
(180° - dip drill hole - dip lode) ÷ sin dip lode

(d) Geological features which limit the extent of the mineralisation are then transferred to the longitudinal projection; eg, intersection of Main Fault and the mineralisation.

(e) The drill hole intersection grades and horizontal widths are then manually contoured in a manner which reflects the current geological interpretation and thinking on the resource.

(f) Resource estimate boundaries not defined by geological limiters are then defined by a combination of grade and thickness.

Because there is no history of production costs at Avebury, the selection of a grade cut-off can only be based on anticipated revenues and costs.

A 1% Ni cut-off grade on composited intersections was selected because data from the Scoping Study suggested that a mill head grade of 1% would generate approximately $80 of revenue/tonne ore. Anecdotal data from other mining operations on the west coast of Tasmania suggests this would be of the right order to cover operating and capital costs.

A minimum horizontal width-x-grade factor of 2 per cent metres was then also applied to drill hole intersections; ie, if an intersection was at the cut-off grade of 1%, it could only be included in the resource if its minimum width was 2 m.

(g) By applying the above geological, grade and width factors, a resource estimate boundary was defined on the longitudinal area.

This resource area was then covered by a series of 20 m x 20 m blocks and each block manually assigned a grade and horizontal width factor based on the underlying contours.

(h) A tonnage for each block was then estimated using the formula:

tonnage = 20 x 20 x horizontal width x density
= 400 x horizontal width x density

(i) The density factor used was 3. This was derived from a combination of calculations completed by McKeown (see McKeown report) using both displacement and a direct weighing of whole drill core methods, supported by density determinations completed by Metcon on composite samples used for metallurgical test work.

(j) Total resource tonnages were then estimated by summing all the blocks within the resource area.

Average grade was determined as the weighted average of the individual blocks.

(k) Estimates for each identified resource are "geological" estimates only; ie, while there is an appropriate confidence in continuity between drill holes, no grade or tonnage allowances have been made for dilution or mining methods.

2.4.2 Resource Classification:

The resource estimates contained in this report are classified as a combination of inferred and indicated resources as defined in the JORC Code.

To support the relevance of these classifications to this estimate, their definitions are reproduced in full below:

> "An *Inferred Mineral Resource* is that part of a Mineral Resource for which tonnage, grade and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and assumed but not verified geological and/or grade continuity. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes which may be limited or of uncertain quality and reliability.
>
> An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource.
>
> The category is intended to cover situations where a mineral concentration or occurrence has been identified and limited measurements and sampling completed, but where the data are insufficient to allow the geological and/or grade continuity to be confidently interpreted. Due to the uncertainty which may attach to some Inferred Mineral Resources, it cannot be assumed that all or part of an Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource as a result of continued exploration. Confidence in the estimate is usually not sufficient to allow the appropriate application

of technical and economic parameters or to enable an evaluation of economic viability. Caution should be exercised if this category is considered in economic studies."

"An *"Indicated Mineral Resource"* is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pit, workings and drill holes. The locations are too widely or inappropriately spaced to confirm geological and/or grade continuity but are spaced closely enough for continuity to be assumed.

An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource, but has a higher level of confidence than that applying to an Inferred Mineral Resource.

Mineralisation may be classified as an Indicated Mineral Resource when the nature, quality, amount and distribution of data are such as to allow confident interpretation of the geological framework and to assume continuity of mineralisation. Confidence in the estimate is sufficient to allow the appropriate application of technical and economic parameters and to enable an evaluation of economic viability."

2.4.3 North Avebury:

Indicated Mineral Resource estimate: 1,150,000 t 1.6% Ni

No additional information has been acquired on this deposit since the McKeown estimate in November 2000. Applying geostatistical methods, McKeown estimated an indicated mineral resource of 990,000 t 1.7% Ni.

A view has been expressed that North Avebury should be classified as an inferred resource. Whilst the arguments in support of that view have merit, this writer is of the opinion that an indicated classification is appropriate.

North Avebury resource data is presented on attached sections (Figs 6[b] to 6[k]), structural contour plan (Fig 5) and longitudinal projections (Figs 7, 8).

North Avebury Geology:

The North Avebury sulfide deposit is developed on the northern margin of an E-W trending anticlinally folded (?) serpentinised ultramafic.

The deposit dips north at approximately 60°. It is terminated to the west by the near vertical north-west striking Main Fault and progressively weakens to the east. Up-dip its limit is poorly known, and it is possible it may extend close to surface beneath the prominent outcrop at 354,700E. The depth limit of the deposit is not known.

Mineralisation consists mainly of pyrrhotite-pentlandite-magnetite. The sulfides appear to be a late stage hydrothermal mineralising event, occurring as irregular masses and vein infillings, predated and postdated by phases of magnetite development.

The ratio of pyrrhotite : pentlandite is variable and erratic. Based on sulfur and nickel assays, the ratio is generally in the vicinity of 1:1 but there are large areas where pyrrhotite is the dominant sulfide.

The hangingwall of North Avebury is generally sharp and close to the ultramafic-hornfelsed sediment contact.

The footwall is less well defined and is generally selected on the basis of Ni grade. In the northern section of the deposit, the sulfidic zone tends to be quite wide (20-30 m) and carries one or two "fingers" of higher grade Ni.

These fingers, termed "north" and "south" fingers, are illustrated on the accompanying sections. There appears to be a regular pattern to their development between drill holes A003, A004, A008, A018, A019 and A020. And, for this reason, continuity of higher grade mineralisation between these holes within these fingers is assumed. For this estimate exercise, the fingers in each drill hole have been combined as shown on the longitudinal projection. If, in practice, they could not be selectively mined, either the grade would be maintained at the expense of tonnes or more tonnes would be mined at the expense of grade.

The two shallowest holes into the North Avebury zone, A007 and A009, intersected only a north finger zone in which the modest amounts of nickel present were mainly in nickel arsenides. This suggests, firstly, that the strength of the sulfide system is weakening up-dip (narrowing) and that there is a zonal distribution of arsenic with values increasing towards the top of the system.

Such a zonation pattern is further supported by composite samples from A018A and A019A which averaged 0.06% As.

The matter of grade variation was dealt with geostatistically by McKeown. Basically, there are too few drill intersections to have a high degree of understanding of variation. However, an important insight into variation over short distances was gained from comparing the assays of A018 and A019 with assays on wedged holes A018A and A019A obtained during metallurgical testing. The wedged holes are estimated to be <1m from the parent holes.

	Interval	Width	% Ni	% S
A018	214.4-221.2	6.8	1.20	0.92
A018A	213.9-221.5	7.6	1.35	1.25
A019	241.8-251.0	9.2	2.55	2.81
A019A	240.5-250.4	9.9	3.48	4.19

Resource Estimate:

The North Avebury resource estimate is based on eleven (11) drill hole intersections within the resource area, and eight (8) influencing drill hole intersections adjacent to, but outside, the resource area.

The nickel grade and horizontal width contouring of the resource are shown on longitudinal projection as Fig 7. The estimation grid is illustrated at Fig 8, and the block estimates attached as Appendix 3.

There are some very large gaps in the drilling pattern and, consequently, this contouring represents just one of many possible interpretations.

The grade pattern as shown is dominated by two high grade (>2% Ni) zones, plunging steeply to the west, within a broader lower grade (>1% Ni) envelope.

There are only two (2) drill holes in each of these high grade zones and, clearly, their better definition would be important to the future direction of this project.

The resource area has an overall steep west dipping plunge. It is approximately 250 m wide (west to east) and 240 m deep, with the top of the area 160 vertical metres below surface at 2,040 RL.

The western boundary of the resource area is defined by the interpreted intersection of Main Fault and the northern margin of the serpentinite (see structural contour plan).

The eastern and upper boundaries are defined by grade and lack of drill holes. The lower boundary at 1,800 RL is arbitrarily defined by lack of drill holes.

It is useful to note that the two deepest holes into North Avebury both exceed 2% Ni.

To better understand the lower grade envelope (>1% Ni) surrounding the two high grade zones requires substantial further drilling. Whilst the isoline contouring technique as applied suggests a large lower grade envelope, closer examination of individual intersections highlights areas of <1% Ni within the envelope.

At this early evaluation stage (only 11 holes) a range of alternative interpretations are possible. Further drilling is required and this is reviewed in the development recommendations section below.

2.4.4 South Avebury:

Inferred Mineral Resource Estimate:

South Avebury - North Lens	**1,350,000 tonnes**	**1.5% Ni**
South Avebury - South Lens	**550,000 tonnes**	**1.5% Ni**

In November 2000 when the McKeown resource estimate was undertaken, South Avebury was interpreted as two parallel north-dipping zones of mineralisation, extending relatively close to surface.

Since then, additional drilling has been completed. The geological interpretation and, thus, the resource estimate have been substantially modified as a result of this drilling.

Despite this additional drilling, the resource remains poorly defined; hence its inferred category. Further drilling is required to better define both lenses and facilitate an estimation at a higher level of confidence.

South Avebury resource data is presented on the attached sections (Figs 6[a] to 6[k]), structural contour plan (Fig 5) and longitudinal projections (Figs 9, 10, 11, 12).

South Avebury Geology:

The South Avebury sulfide deposit is interpreted as developed on the margins of an anticlinally folded serpentinised and altered ultramafic. The anticline is displaced in the east by the north-west trending Main Fault and can be interpreted as the fault displaced western continuation of the North Avebury anticlinal structure.

The South Avebury North Lens is developed on the north dipping northern margin of the ultramafic, and South Avebury South Lens on the south dipping southern margin of the ultramafic.

The anticline plunges west and the ultramafic outcrops between 354,650E and 354,700E, close to its intersection with Main Fault.

A very coarse cobble-pebble conglomerate with a mafic matrix is associated with the apical section of the ultramafic. One interpretation of this is that the original ultramafic was emplaced into a small rift valley which was being rapidly infilled with coarse sedimentary material.

The ultramafic has been variably altered with extensive development of black serpentinite (especialy near the margins) and lighter mottled silica-carbonate zones.

Mineralisation is dominantly pyrrhotite-pentlandite and magnetite developed as a late stage hydrothermal deposit in the alteration processes associated with the intrusion of the Heemskirk Granite.

A large volume of sulfides (pyrrhotite, pentlandite) has "pooled" near the apex, or top, of the ultramafic, and in places has leaked out into the adjacent altered and hornfelsed sediments.

Narrower zones of mineralisation extend from this "apical pool" down along the north and south margins of the ultramafic in contact with hornfelsed sediments.

Pyrrhotite appears more abundant at South Avebury than at North Avebury, both in the apical pool and along the ultramafic flanks.

Adjacent to the apical section of the ultramafics, mafic conglomerates and hornfelsed sediments have been intensely altered and faulted (high stress field?) and zones of sulfide (pyrrhotite dominant) are common in these areas; ie, outside the ultramafics.

South Avebury is perhaps best regarded as a major body of pyrrhotite mineralisation containing large zones of significant pentlandite mineralisation. Thus, in addition to the South and North Lens resource areas, there are other zones containing significant pentlandite, but their extent or continuity is uncertain because of lack of drilling.

These key features of South Avebury mineralisation are well illustrated by A028 and A034 on section 354,400E and A026 on section 354,500E.

Nickel arsenides were intersected in A028 between the North and South lenses.

Determination of the continuity of high grade nickel zones between drill holes within the broader sulfidic accumulations of South Avebury is problematical with the current number of drill holes. For example, the high grade North Lens shoot in A034 on the ultramafic contact has been correlated with a high grade zone in A028 which lies within the same sulfide envelope but not on the contact. This may/may not be a legitimate thing to do. Drilling is required to resolve this and other similar issues.

Insufficient drilling exists to comment meaningfully on grade continuity.

A wedged hole intersection off A014 South Avebury North Lens drilled for metallurgical test work highlighted potential grade variations over short distances (<1 m).

A wedged hole off A024 South Avebury North Lens provided information on grade variations over somewhat larger distances (10 m).

	Intersection	Width	%Ni	%S
A014	254.7-268.3	13.6	1.57	2.81
A014A	254.7-267.3	12.6	2.04	3.38
A024	548.1-550.4	2.3	1.01	1.13
A024A	548.2-550.0	1.8	2.69	3.93

Resource Estimate:

South Avebury North Lens:

The North Lens estimate is based on four drill hole intersections within the resource area and influenced by 12 intersections outside, but adjacent to, the area.

The nickel grade and horizontal width contouring of the resource are illustrated on longitudinal projection as Fig 9. The estimate grid is illustrated as Fig 10, and the block estimates attached as Appendix 3.

The resource area is interpreted as a gently west plunging body. The upper limit corresponds with the ultramafic anticlinal axis and is approximately 110 m vertically below surface at its shallowest. All other boundaries are knowledge boundaries reflecting the very wide drilling pattern.

Deep intersections of mineralisation in A024, A024A and A012 were omitted from the resource estimate purely on the basis of their substantial distance from other mineralised intersections. Because of the wide drill pattern, the available grade data could alternatively have been contoured as steeply dipping shoots to include these drill holes, which would have produced a grade pattern not dissimilar to that of North Avebury.

However, this writer is of the opinion that the South Avebury mineralisation has been focused and concentrated towards the apical section of the anticline, and its plunge may well reflect the plunge of the anticline; ie, gently to the west.

The current drilling pattern is insufficient to permit any of the resource to be classified above the inferred level. Additional drilling is recommended in the recommendations section below.

South Avebury South Lens:

The South Lens resource estimate is based on only two (2) drill hole intersections within the resource area and six (6) influencing holes adjacent to the area.

The very limited number of drill holes into South Lens reflects the fact that drill holes initially designed to test North Avebury or South Avebury North Lens would be very long (and deep) if extended to South Lens. To better test South Lens, future drill holes will either have to be drilled from south to north or designed specifically to test South Lens and be drilled from north to south.

Nickel grade and horizontal width contouring of the resource are illustrated on longitudinal projection as Fig 11. The estimate grid is shown on Fig 12 and the block estimates attached as Appendix 3.

Given the minimal data available, the shape of the resource area was selected to mirror North Lens on the north flank of the anticline; ie, a south dipping, gently west plunging body, extending down beneath the ultramafic anticlinal axis.

The resource zone was extended down plunge close to drill hole A034 because that hole intersected a broad strongly pyrrhotitic zone, including 10 m of semi-massive pyrrhotite containing 0.4% Ni - that intersection is considered a "near miss".

All other boundaries are defined not by drilling knowledge but simply by a prudent distance from the two drill hole intersections.

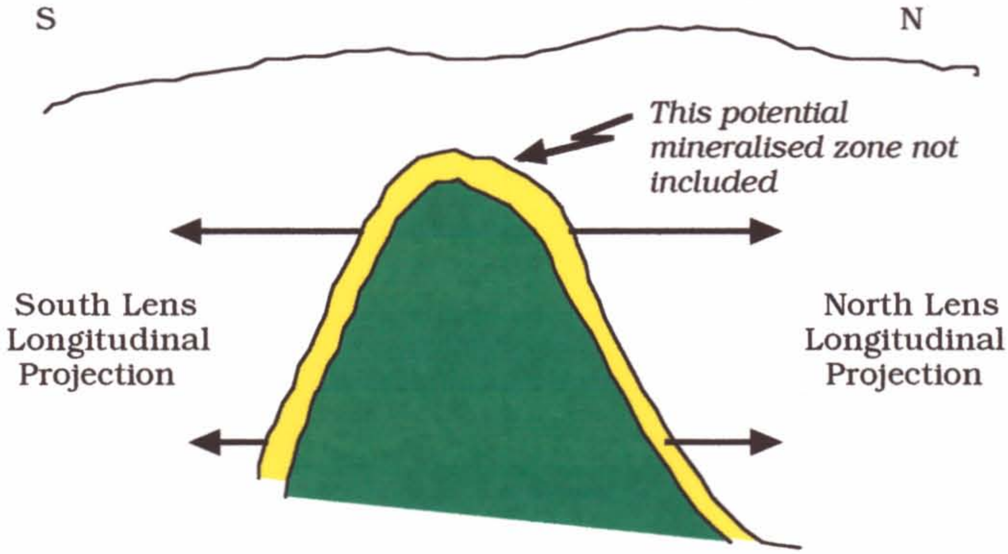
Clearly, other interpretations and resource estimates are possible on this scant information including, again, steeply dipping high grade shoots within a much larger envelope of lower grade mineralisation.

The estimate is classified as an inferred resource.

Additional Comment:

The resource estimation methodology used on South Avebury is appropriate for moderate-steeply dipping deposits; ie, projecting data horizontally onto vertically orientated longitudinal projections. It is an inappropriate technique when the deposit is flat dipping. In such cases, the data should be projected vertically onto horizontal plans, and vertical (not horizontal) widths used.

At South Avebury, if the South and North lenses flatten and join in the apical zone of the anticline, there could be a substantial amount of mineralisation in that flat zone which has not been accounted for in this resource estimate. Again, more drilling is required to quantify this possibillity.



SOUTH AVEBURY

2.4.5 Other Resources:

Variations to the above resource estimates will arise with further drilling and possible underground exposure. There are certainly opportunities for locating additional resources as extensions of the three resource areas identified in this report. Equally, there may be some losses within these three areas.

Drilling to date has also shown several opportunities for identifying additional resources outside the current three resource areas, but within the immediate Avebury resource area.

These include:

- Central Avebury
- mineralised zones within the serpentinite
- mineralised zones in altered hangingwall sediments

Central Avebury:

Several drill holes have intersected significant nickel sulfide mineralisation on the south dipping southern flank of the ultramafic anticline which hosts North Avebury.

In the drilled area, much of this margin of the ultramafic has been faulted off by Main Fault. If the theory outlined previously suggesting that South Avebury North Lens is the fault displaced western extension of North Avebury, South Avebury South Lens might represent the fault displaced western extension of Central Avebury.

To date there are insufficient drill intersections to permit a Central Avebury resource estimate. However, available data is presented on a longitudinal projection as Fig 13. The two most interesting intersections to date fall on section 354,650E as a "scissor pair" in A001 and A018.

A001:	10 m	1.5% Ni
A018:	8.2 m	1.9% Ni

As seen from the longitudinal projection, if the zone intersected in these holes was a steeply dipping high grade shoot, it may extend towards surface on section 354,700E near the prominent "gossanous" outcrop, which was suggested previously as the possible surface expression of one of the North Avebury high grade shoots.

This could represent an accumulation of sulfides in the apical section of the North Avebury ultramafic anticline, similar to that described at South Avebury, quite close to surface.

The opportunity is discussed further in the recommendations section below.

Mineralised Zones Within the Serpentinite:

The drill hole intercepts used for the resource estimate were selected on the basis of reasonable probability of continuity between drill holes.

However, there were other intercepts of +1% Ni outside the resource area, but within the serpentinite, which were not included in the estimate because continuity between holes was not evident. Often this is due to lack of drilling data rather than a geological feature.

Two areas where such intercepts were notable are in the apical zone of South Avebury, and the broad sulfidic zone on the northern end of North Avebury.

Often these isolated intercepts occur within a broader zone of sulfide with variable but generally lower grade nickel. If the nickel cut-off grade was lowered to, say, 0.5% Ni, these isolated higher grade intercepts would be incorporated within much broader intersections.

A good example of this is A026 in South Avebury:

Intercept	Interval	m	% Ni
North Lens resource intercept	229.0-241.0	12.0	1.36
Broader North Lens zone	224.5-266.0	41.5	0.88
South Lens resource intercept	297.4-316.4	19.5	1.74
Broader South Lens zone	293.8-331.9	38.1	1.39
Additional zone	262.0-266.0	4.0	1.74

In his report McKeown geostatistically addresses the tonnage effects of varying cut-off grade and established grade-tonnage curves for each of the principal resource areas.

However, additional drilling data is required to both determine the potential for development of additional mineable higher grade zones within the ultramafic and the grade-tonnage implications of combining these with other high grade zones within a broader envelope of lower grade sulfides.

Mineralised Zones in Hangingwall Sediments:

Several drill hole intercepts of high grade nickel sulfide have been obtained in the altered hangingwall sediments adjacent to South Avebury.

No resource estimate was undertaken on these zones because the intercepts were widely spaced and continuity between holes was not established with any degree of confidence.

The following intercepts are noted:

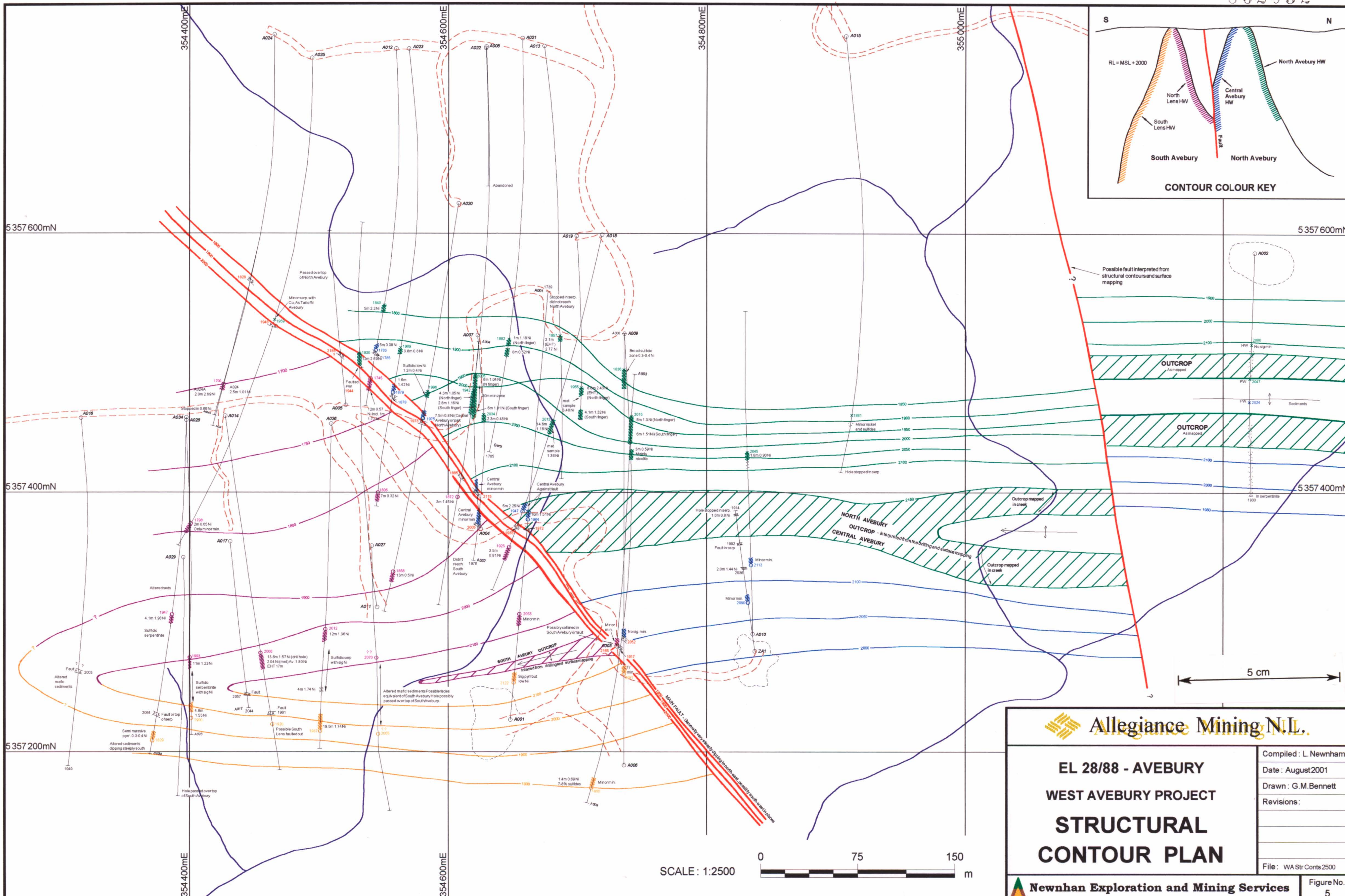
Drill hole	Intersection	width (m)	% Ni
A014	**243.7-246.7**	**3.0**	**1.50**
A024	**497.0-501.4**	**4.4**	**0.53**
A028	**252.0-256.0**	**4.0**	**1.27**

Of additional note is A025 where a zone in the South Avebury hangingwall sediments contained substantial cobaltite:

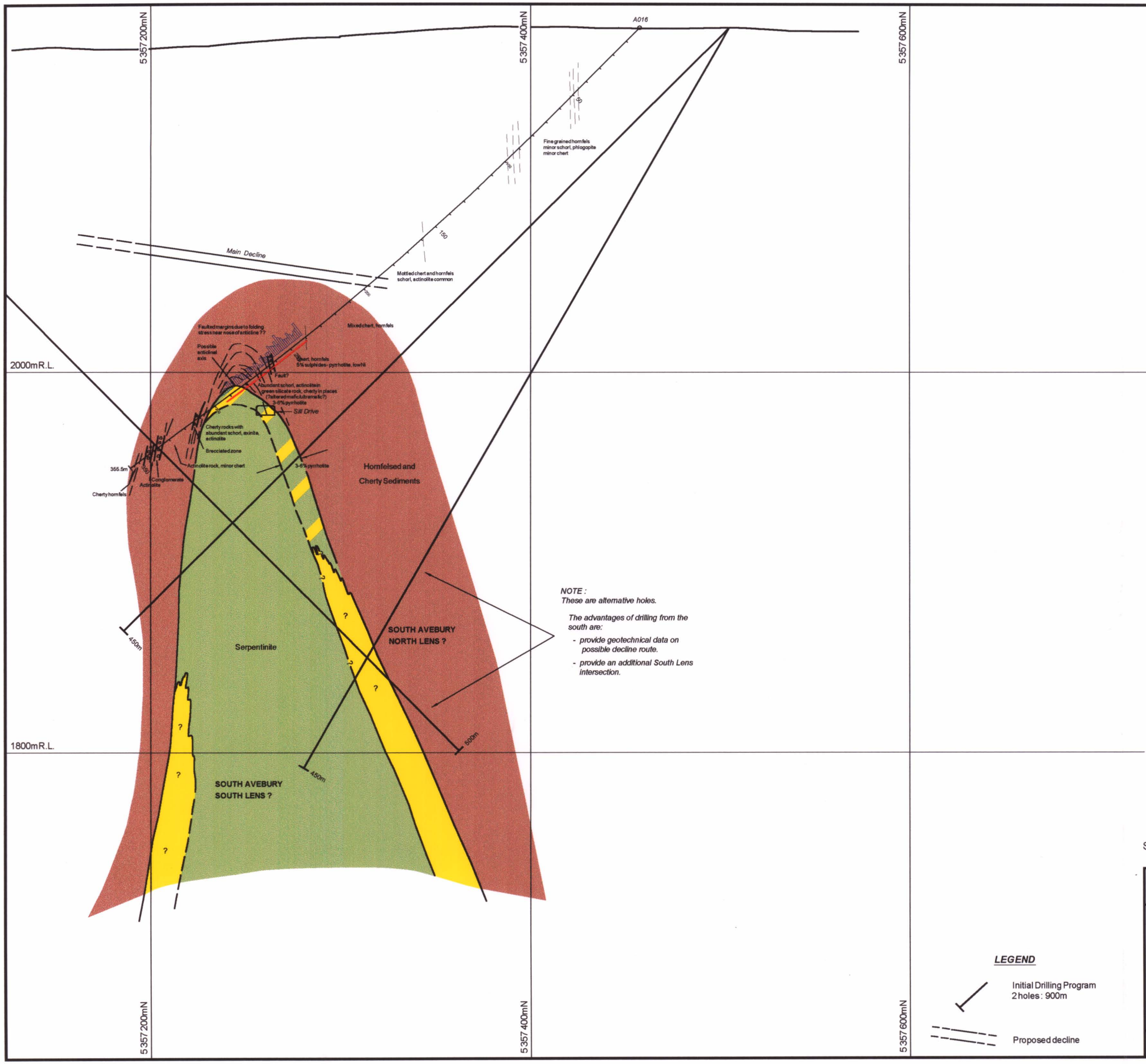
480.0-490.8 m 10 m 0.3% Co 0.39% As
including 1.0 m 1.1% Co

Additional drilling will be required to determine the potential of the above intersections.

862032


354 400mE
354 600mE
354 800mE
355 000mE
5 357 600mN
5 357 400mN
5 357 200mN
S
N
RL = MSL + 2000
North Lens HW
South Lens HW
Central Avebury HW
North Avebury HW
Fault
South Avebury
North Avebury
CONTOUR COLOUR KEY
Possible fault interpreted from structural contours and surface mapping
OUTCROP
As mapped
NORTH AVEBURY OUTCROP - Interpreted from the drilling and surface mapping
CENTRAL AVEBURY
SOUTH AVEBURY OUTCROP
Outcrop mapped in creek
Hole stopped in serp
Minor nickel and sulfides
Abandoned
Passed over top of North Avebury
Stopped in serp did not reach North Avebury
Broad sulfidic zone 0.3-0.4 Ni
Didn't reach South Avebury
Possibly collared in South Avebury or fault
Altered mafic sediments Possible facies equivalent of South Avebury Hole possibly passed over top of South Avebury
Hole passed over top of South Avebury
MAIN FAULT
5 cm
SCALE : 1:2500
0
75
150
m
Allegiance Mining N.L.
EL 28/88 - AVEBURY
WEST AVEBURY PROJECT
STRUCTURAL CONTOUR PLAN
Compiled : L. Newnham
Date : August 2001
Drawn : G.M.Bennett
Revisions :
File : WA Str Conts 2500
Newnhan Exploration and Mining Services
Figure No. 5

862033



LEGEND

- Nickel mineralisation
- Serpentinite
- Hornfelsed and silicified sediments, cherts; extensively altered
- Fault
- Sulphur Histogram 1cm = 5%
- Bedding observed in core
- Nickel Histogram 1cm = 2%

NOTE:
MOST DRILL HOLES ARE OBLIQUE TO SECTION

5 cm

SCALE : 1:2000

0 50 100 m

Allegiance Mining N.L.

EL 28/88 - AVEBURY PROSPECT

CROSS SECTION

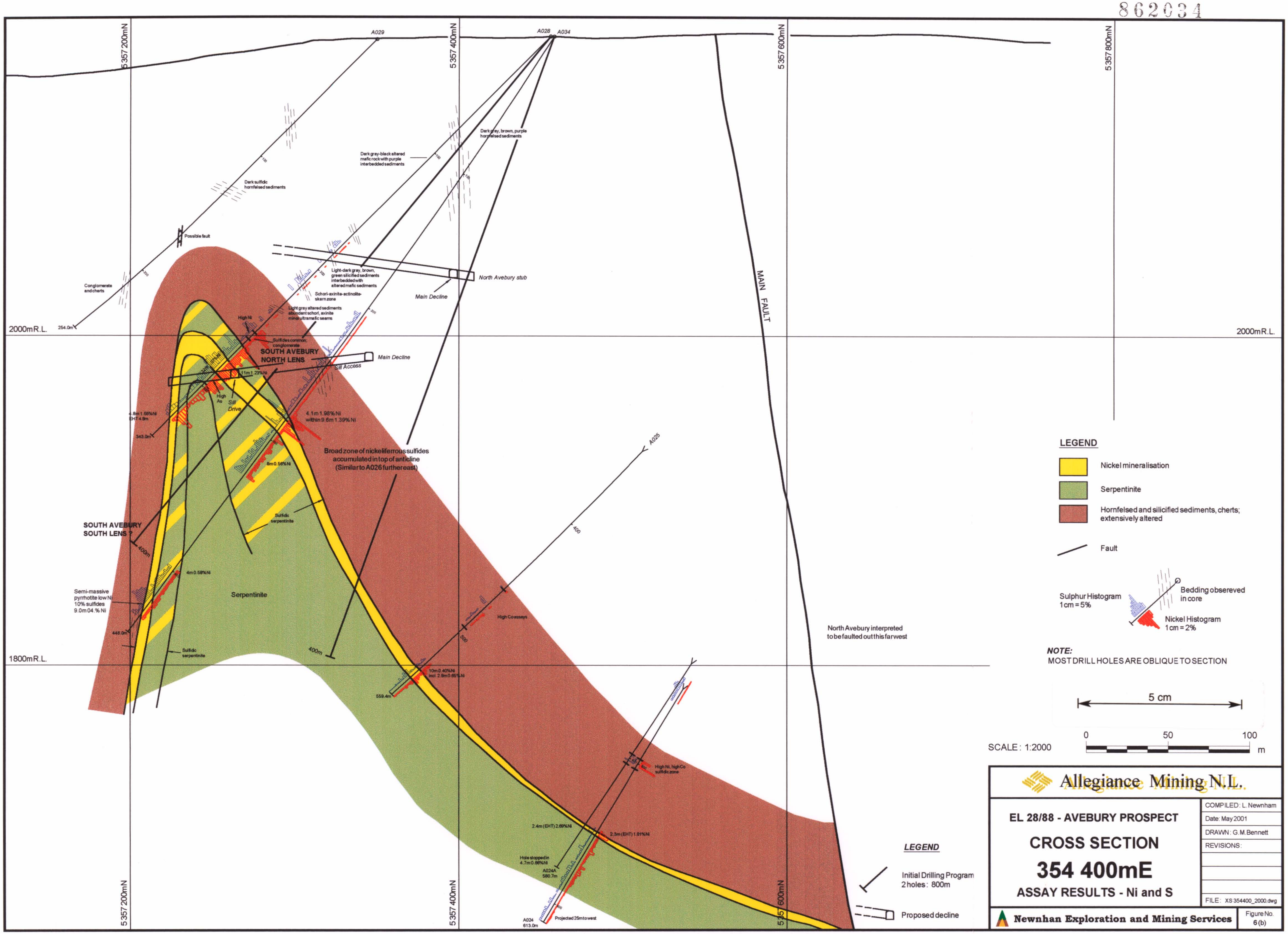
354 300mE

ASSAY RESULTS - Ni and S

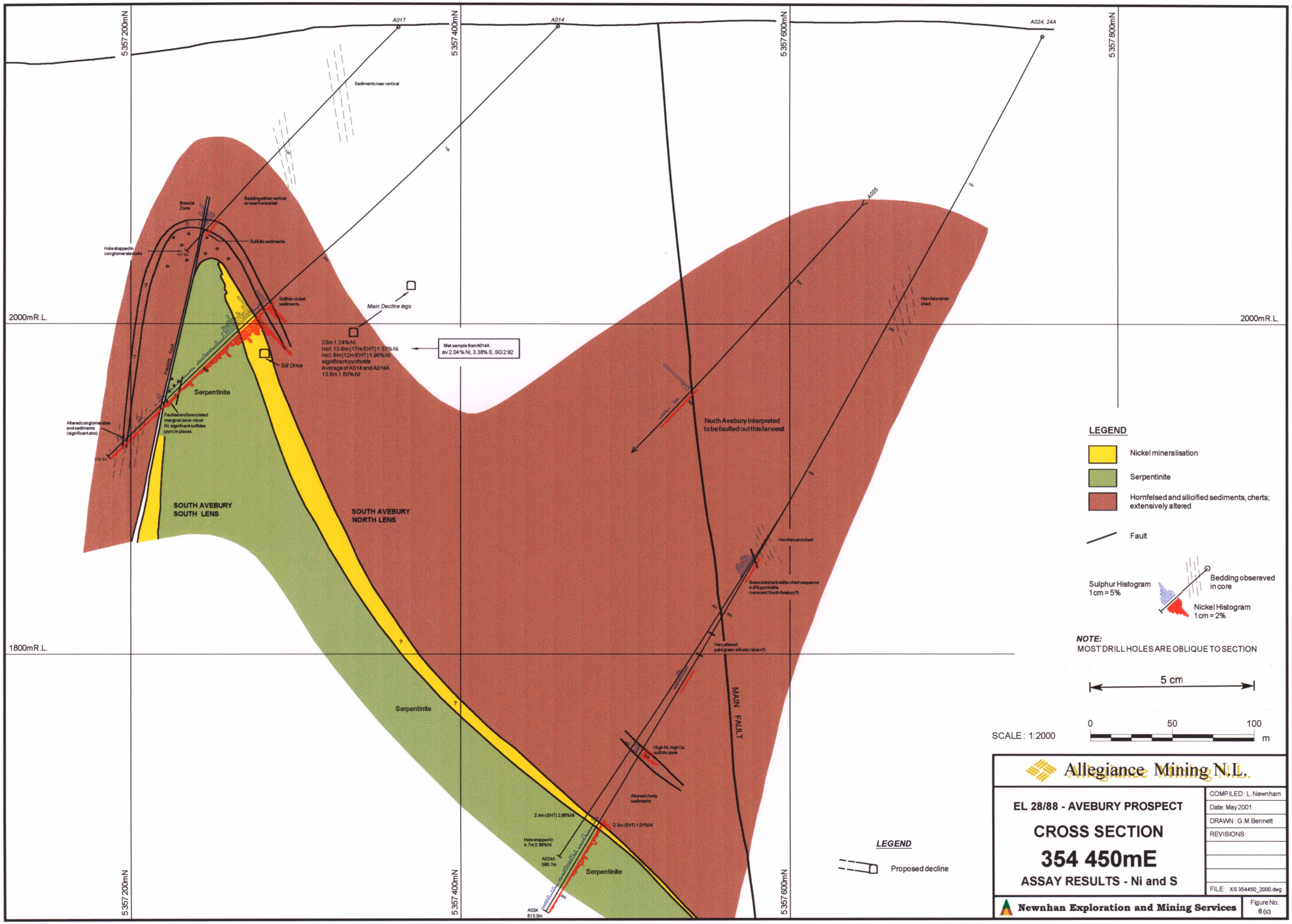
COMPILED: L.Newnham	
Date: May 2001	
DRAWN: G.M.Bennett	
REVISIONS:	
FILE: XS 354300_2000.dwg	

Newnhan Exploration and Mining Services

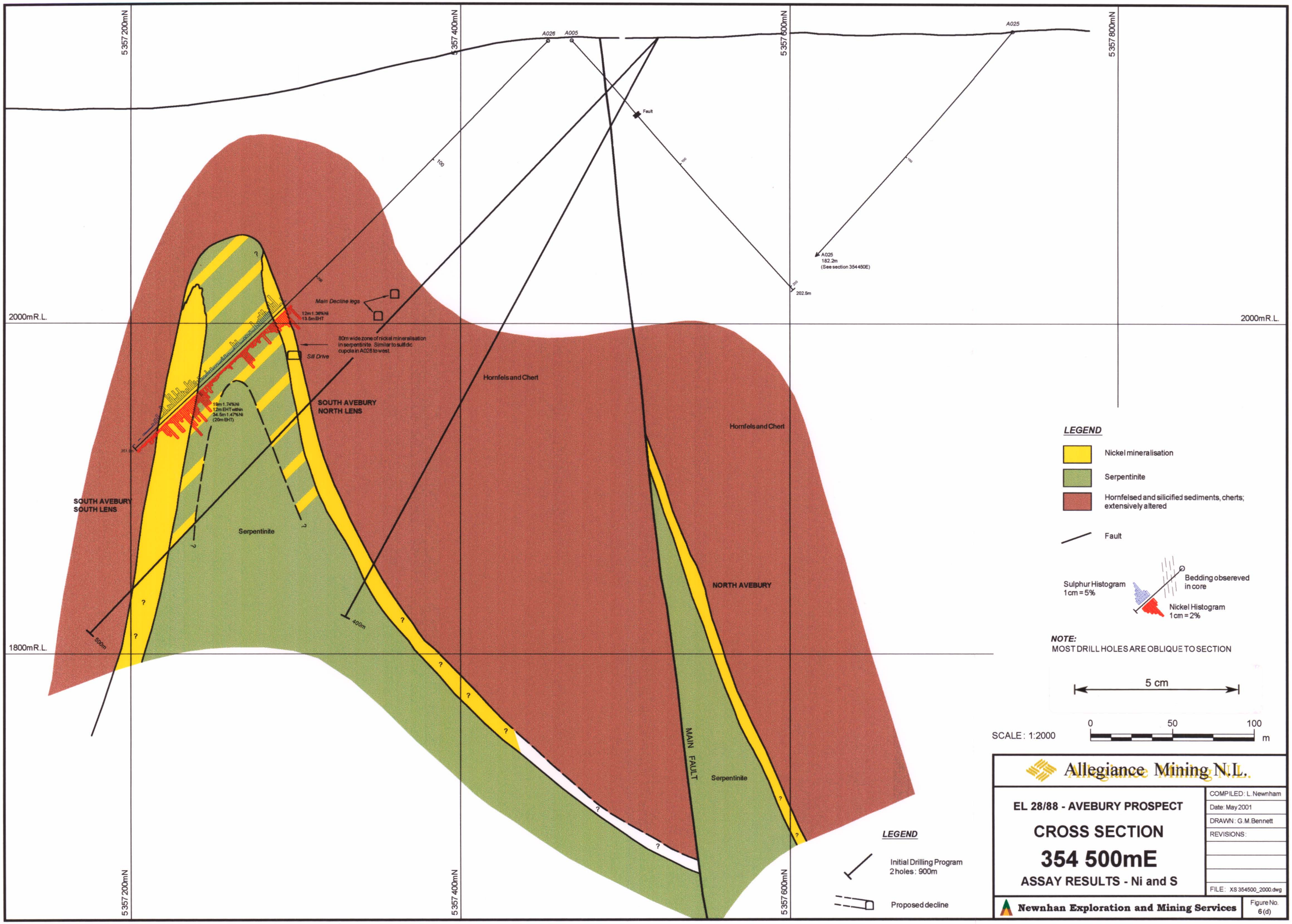
Figure No. 6 (a)


862034
5357 200mN
5357 400mN
5357 600mN
5357 800mN
A029
A028
A034
A025
2000mR.L.
1800mR.L.
Possible fault
Conglomerate and cherts
Dark sulfidic hornfelsed sediments
Dark gray-black altered mafic rock with purple interbedded sediments
Dark gray, brown, purple hornfelsed sediments
Light-dark gray, brown, green silicified sediments interbedded with altered mafic sediments
Schorl-axinite-actinolite-skarn zone
Light gray altered sediments abundant schorl, axinite minor ultramafic seams
North Avebury stub
Main Decline
MAIN FAULT
SOUTH AVEBURY NORTH LENS
Sill Access
Sill Drive
4.1m 1.98%Ni within 9.6m 1.39%Ni
Broad zone of nickeliferrous sulfides accumulated in top of anticline (Similar to A026 further east)
SOUTH AVEBURY SOUTH LENS ?
Semi-massive pyrrhotite low Ni 10% sulfides 9.0m 0 4.% Ni
Serpentinite
Sulfidic serpentinite
High Co assays
North Avebury interpreted to be faulted out this far west
10m 0.40%Ni incl. 2.8m 0.65%Ni
High Ni, high Co sulfidic zone
2.4m (EHT) 2.69%Ni
2.3m (EHT) 1.01%Ni
Hole stopped in 4.7m 0.86%Ni
Projected 25m to west
LEGEND
Nickel mineralisation
Serpentinite
Hornfelsed and silicified sediments, cherts; extensively altered
Fault
Sulphur Histogram 1cm = 5%
Bedding obsereved in core
Nickel Histogram 1cm = 2%
NOTE:
MOST DRILL HOLES ARE OBLIQUE TO SECTION
5 cm
0
50
100
m
SCALE: 1:2000
LEGEND
Initial Drilling Program 2 holes: 800m
Proposed decline
Allegiance Mining N.L.
EL 28/88 - AVEBURY PROSPECT
CROSS SECTION
354 400mE
ASSAY RESULTS - Ni and S
COMPILED: L. Newnham
Date: May 2001
DRAWN: G.M.Bennett
REVISIONS:
FILE: XS 354400_2000.dwg
Newnhan Exploration and Mining Services
Figure No. 6 (b)

862035

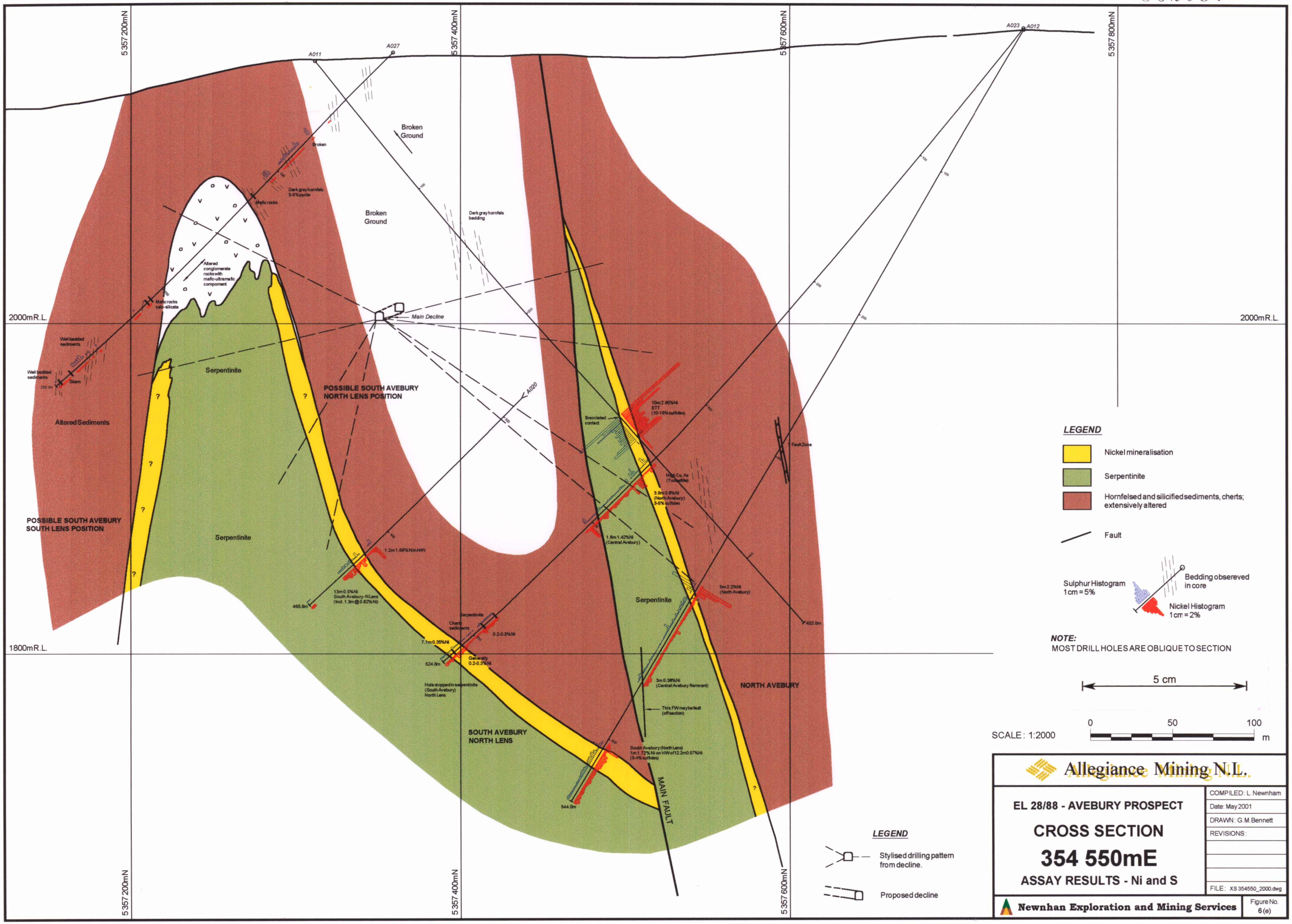

5357 200mN
5357 400mN
5357 600mN
5357 800mN
A017
A014
A024, 24A
A025
Sediments near vertical
Breccia Zone
Bedding either vertical or near horizontal
Sulfidic sediments
Hole stopped in conglomerate rocks
Sulfidic nickel sediments
Main Decline legs
2000mR.L.
23m 1.24% Ni
Incl. 13.6m (17m EHT) 1.57% Ni
Incl. 8m (12m EHT) 1.96% Ni
significant pyrrhotite
Average of A014 and A014A
13.6m 1.80% Ni
Met sample from A014A
av 2.04% Ni, 3.38% S, SG 2.92
Sill Drive
Serpentinite
Altered conglomerates and sediments (significant zinc)
Faulted and brecciated marginal zone minor Ni, significant sulfides (pyrr) in places
Hornfels minor chert
North Avebury interpreted to be faulted out this far west
SOUTH AVEBURY
SOUTH LENS
SOUTH AVEBURY
NORTH LENS
Hornfels and chert
Very altered pale green silicate (skarn?)
1800mR.L.
MAIN FAULT
High Ni, high Co sulfidic zone
Altered cherty sediments
2.4m (EHT) 2.69% Ni
2.3m (EHT) 1.01% Ni
Hole stopped in 4.7m 0.66% Ni
A024A
580.7m
A024
613.0m
LEGEND
Nickel mineralisation
Serpentinite
Hornfelsed and silicified sediments, cherts; extensively altered
Fault
Sulphur Histogram
1cm = 5%
Bedding obsereved in core
Nickel Histogram
1cm = 2%
NOTE:
MOST DRILL HOLES ARE OBLIQUE TO SECTION
5 cm
SCALE : 1:2000
0
50
100
m
LEGEND
Proposed decline
Allegiance Mining N.L.
EL 28/88 - AVEBURY PROSPECT
CROSS SECTION
354 450mE
ASSAY RESULTS - Ni and S
COMPILED: L.Newnham
Date: May 2001
DRAWN: G.M.Bennett
REVISIONS:
FILE: XS354450_2000.dwg
Newnhan Exploration and Mining Services
Figure No.
6 (c)

862036



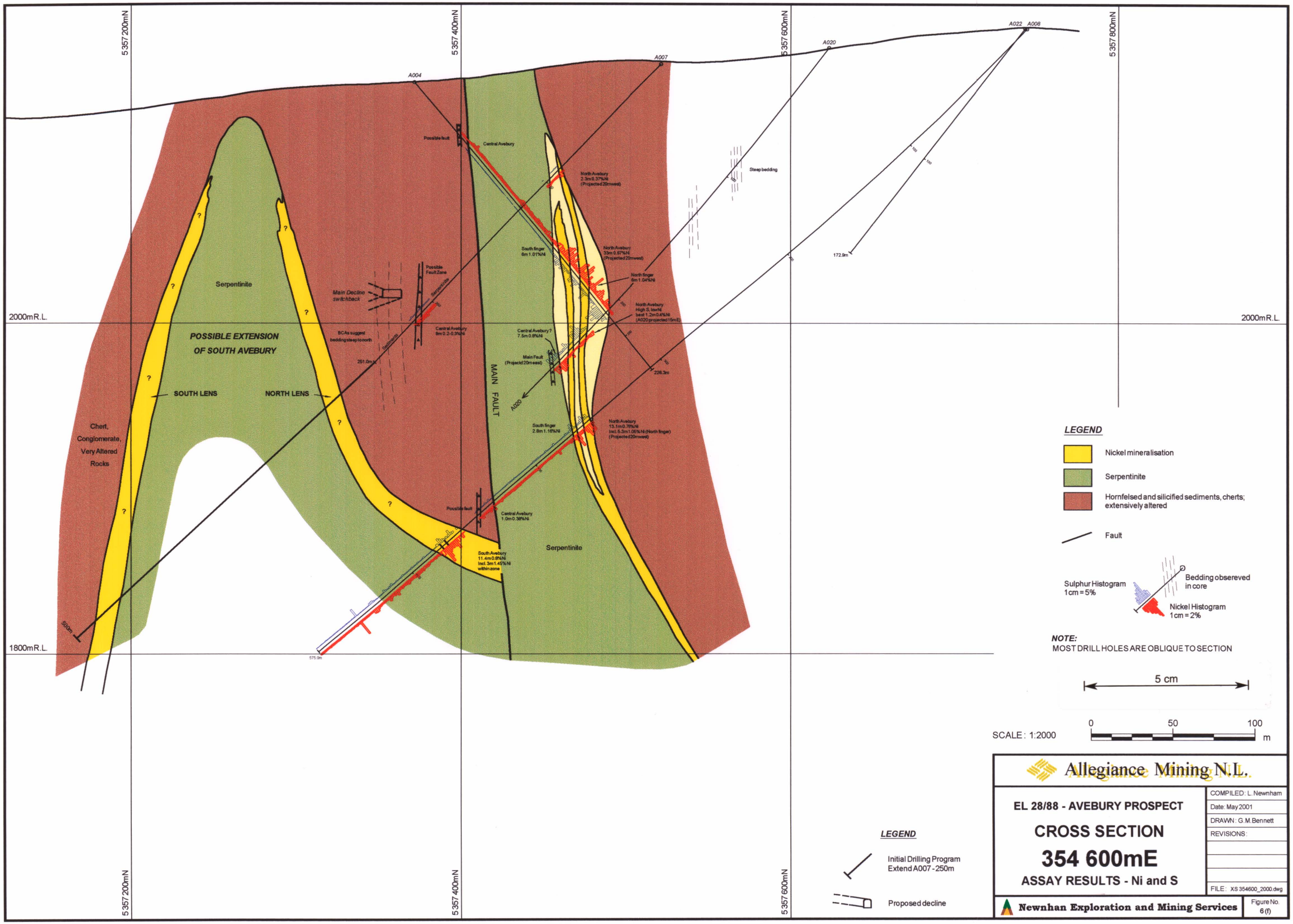
5357 200mN
5357 400mN
5357 600mN
5357 800mN
A026
A005
A025
Fault
100
A025
182.2m
(See section 354450E)
202.5m
2000mR.L.
1800mR.L.
Main Decline legs
12m 1.36%Ni
13.5m EHT
80m wide zone of nickel mineralisation in serpentinite. Similar to sulfidic cupola in A028 to west.
Sill Drive
19m 1.74%Ni
12m EHT within
34.5m 1.47%Ni
(20m EHT)
SOUTH AVEBURY
NORTH LENS
SOUTH AVEBURY
SOUTH LENS
Serpentinite
Hornfels and Chert
Hornfels and Chert
NORTH AVEBURY
MAIN FAULT
Serpentinite
400m
500m
LEGEND
Nickel mineralisation
Serpentinite
Hornfelsed and silicified sediments, cherts; extensively altered
Fault
Sulphur Histogram
1cm = 5%
Bedding obsereved in core
Nickel Histogram
1cm = 2%
NOTE:
MOST DRILL HOLES ARE OBLIQUE TO SECTION
5 cm
0
50
100
m
SCALE: 1:2000
LEGEND
Initial Drilling Program
2 holes: 900m
Proposed decline
Allegiance Mining N.L.
EL 28/88 - AVEBURY PROSPECT
CROSS SECTION
354 500mE
ASSAY RESULTS - Ni and S
COMPILED: L. Newnham
Date: May 2001
DRAWN: G.M.Bennett
REVISIONS:
FILE: XS 354500_2000.dwg
Newnhan Exploration and Mining Services
Figure No.
6(d)

862037

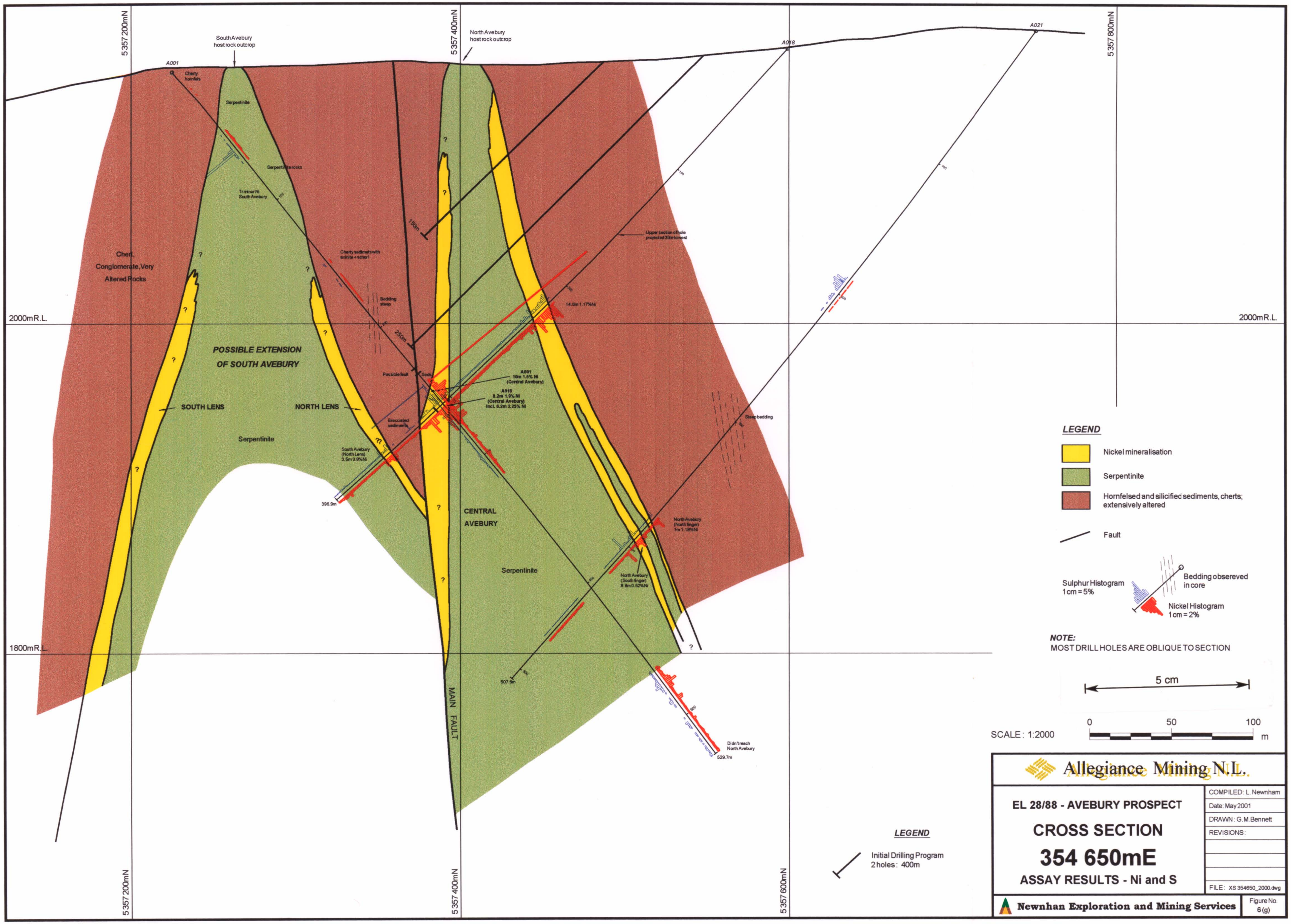


5357200mN
5357400mN
5357600mN
5357800mN
A011
A027
A023
A012
Broken Ground
Broken Ground
Dark grey hornfels bedding
Altered conglomerate rocks with mafic-ultramafic component
Main Decline
2000mR.L.
1800mR.L.
Serpentinite
Serpentinite
Serpentinite
Altered Sediments
POSSIBLE SOUTH AVEBURY NORTH LENS POSITION
POSSIBLE SOUTH AVEBURY SOUTH LENS POSITION
SOUTH AVEBURY NORTH LENS
NORTH AVEBURY
MAIN FAULT
A020
LEGEND
Nickel mineralisation
Serpentinite
Hornfelsed and silicified sediments, cherts; extensively altered
Fault
Sulphur Histogram 1cm = 5%
Bedding obsereved in core
Nickel Histogram 1cm = 2%
NOTE:
MOST DRILL HOLES ARE OBLIQUE TO SECTION
5 cm
SCALE: 1:2000
0
50
100
m
LEGEND
Stylised drilling pattern from decline.
Proposed decline
Allegiance Mining N.L.
EL 28/88 - AVEBURY PROSPECT
CROSS SECTION
354 550mE
ASSAY RESULTS - Ni and S
COMPILED: L. Newnham
Date: May 2001
DRAWN: G.M.Bennett
REVISIONS:
FILE: XS 354550_2000.dwg
Newnhan Exploration and Mining Services
Figure No. 6(e)

862038


5 357 200mN
5 357 400mN
5 357 600mN
5 357 800mN
A004
A007
A020
A022
A008
Possible fault
Central Avebury
North Avebury
2.3m 0.37%Ni
(Projected 20mwest)
Steep bedding
South finger
6m 1.01%Ni
North Avebury
33m 0.67%Ni
(Projected 20mwest)
North finger
6m 1.04%Ni
North Avebury
High S, low Ni
best 1.2m 0.4%Ni
(A020 projected 15mE)
172.9m
Serpentinite
Possible Fault Zone
Main Decline switchback
Serpentinite
Sediments
2000mR.L.
2000mR.L.
POSSIBLE EXTENSION OF SOUTH AVEBURY
BCAs suggest bedding steep to north
Central Avebury
9m 0.2-0.3%Ni
Central Avebury ?
7.5m 0.8%Ni
Main Fault
(Projectd 20m east)
251.0m
226.3m
MAIN FAULT
A020
SOUTH LENS
NORTH LENS
Chert, Conglomerate, Very Altered Rocks
South finger
2.8m 1.16%Ni
North Avebury
13.1m 0.78%Ni
Incl. 5.3m 1.05%Ni (North finger)
(Projected 20mwest)
Possible fault
Central Avebury
1.0m 0.38%Ni
South Avebury
11.4m 0.8%Ni
Incl. 3m 1.45%Ni
within zone
Serpentinite
500m
575.0m
1800mR.L.
LEGEND
Nickel mineralisation
Serpentinite
Hornfelsed and silicified sediments, cherts; extensively altered
Fault
Sulphur Histogram
1cm = 5%
Bedding obsereved in core
Nickel Histogram
1cm = 2%
NOTE:
MOST DRILL HOLES ARE OBLIQUE TO SECTION
5 cm
SCALE: 1:2000
0
50
100
m
LEGEND
Initial Drilling Program
Extend A007 - 250m
Proposed decline
Allegiance Mining N.L.
EL 28/88 - AVEBURY PROSPECT
CROSS SECTION
354 600mE
ASSAY RESULTS - Ni and S
COMPILED: L. Newnham
Date: May 2001
DRAWN: G.M.Bennett
REVISIONS:
FILE: XS 354600_2000.dwg
Newnhan Exploration and Mining Services
Figure No.
6 (f)

862039



Allegiance Mining N.L.

EL 28/88 - AVEBURY PROSPECT

CROSS SECTION

354 650mE

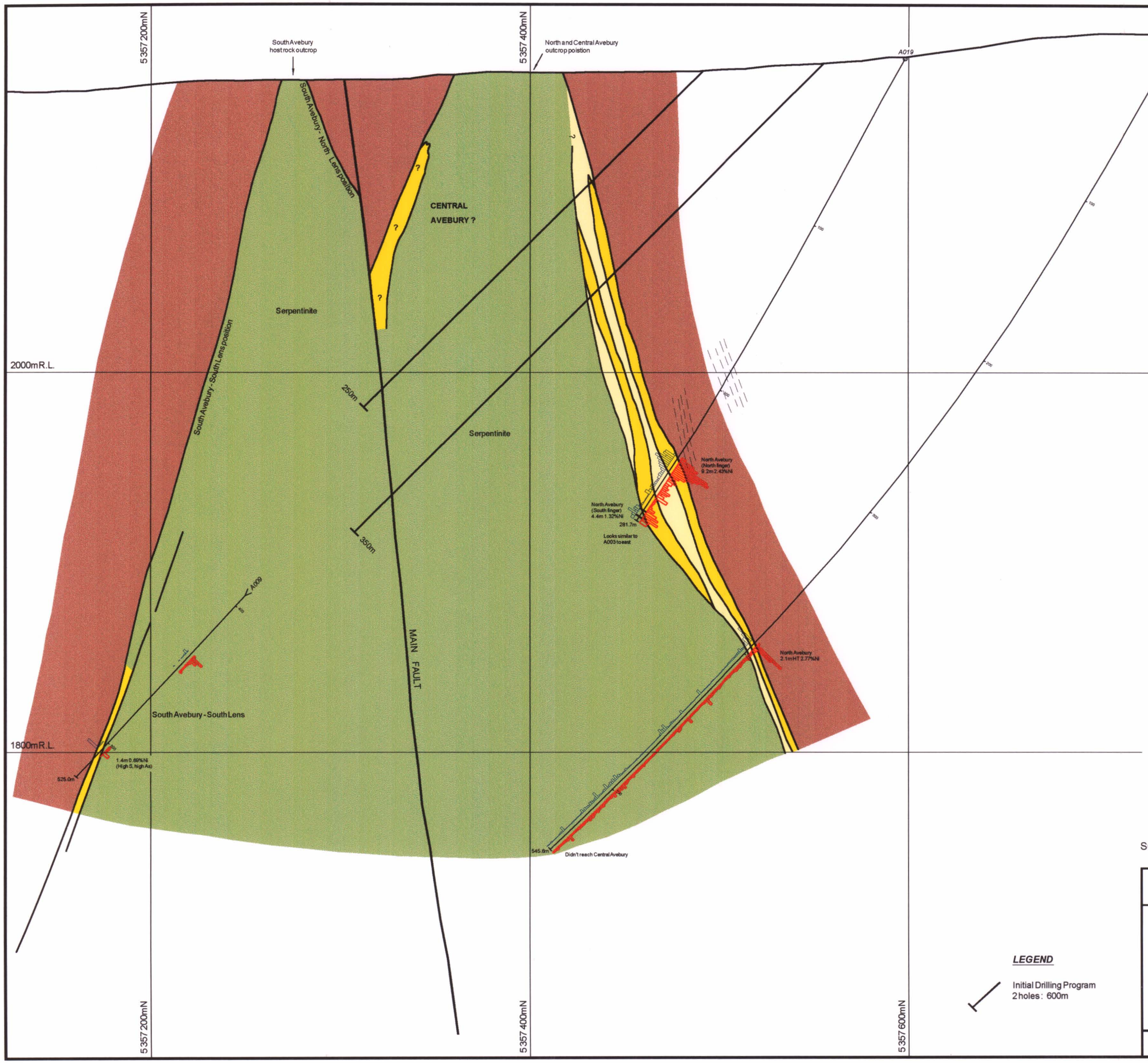
ASSAY RESULTS - Ni and S

COMPILED: L.Newnham
Date: May 2001
DRAWN: G.M.Bennett
REVISIONS:
FILE: XS 354650_2000.dwg

Newnhan Exploration and Mining Services

Figure No. 6(g)

862040



LEGEND

- Nickel mineralisation
- Serpentinite
- Hornfelsed and silicified sediments, cherts; extensively altered
- Fault

Sulphur Histogram
1 cm = 5%

Bedding obsereved in core

Nickel Histogram
1 cm = 2%

NOTE:
MOST DRILL HOLES ARE OBLIQUE TO SECTION

5 cm

SCALE: 1:2000 — 0 50 100 m

Allegiance Mining N.L.

EL 28/88 - AVEBURY PROSPECT

CROSS SECTION

354 700mE

ASSAY RESULTS - Ni and S

COMPILED: L. Newnham
Date: May 2001
DRAWN: G.M.Bennett
REVISIONS:

FILE: XS 354700_2000.dwg

Newnhan Exploration and Mining Services

Figure No.
6 (h)

862041

LEGEND

- Nickel mineralisation
- Serpentinite
- Hornfelsed and silicified sediments, cherts; extensively altered
- Fault

Sulphur Histogram 1cm = 5%

Bedding obsereved in core

Nickel Histogram 1cm = 2%

NOTE:
MOST DRILL HOLES ARE OBLIQUE TO SECTION

5 cm

SCALE: 1:2000 — 0, 50, 100 m

Allegiance Mining N.L.

EL 28/88 - AVEBURY PROSPECT

CROSS SECTION

354 750mE

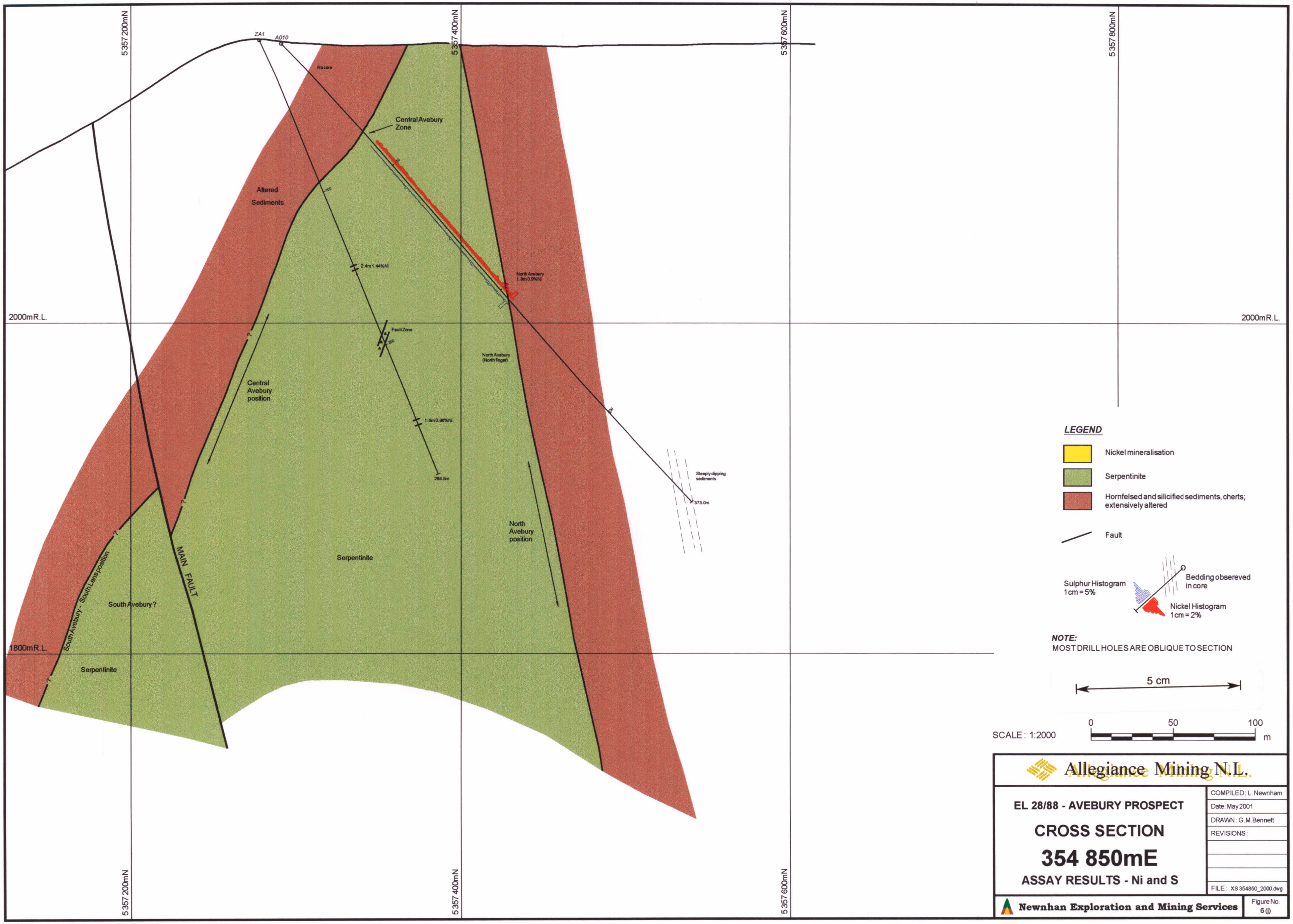
ASSAY RESULTS - Ni and S

COMPILED: L. Newnham	
Date: May 2001	
DRAWN: G.M.Bennett	
REVISIONS:	
FILE: XS354750_2000.dwg	

Newnhan Exploration and Mining Services

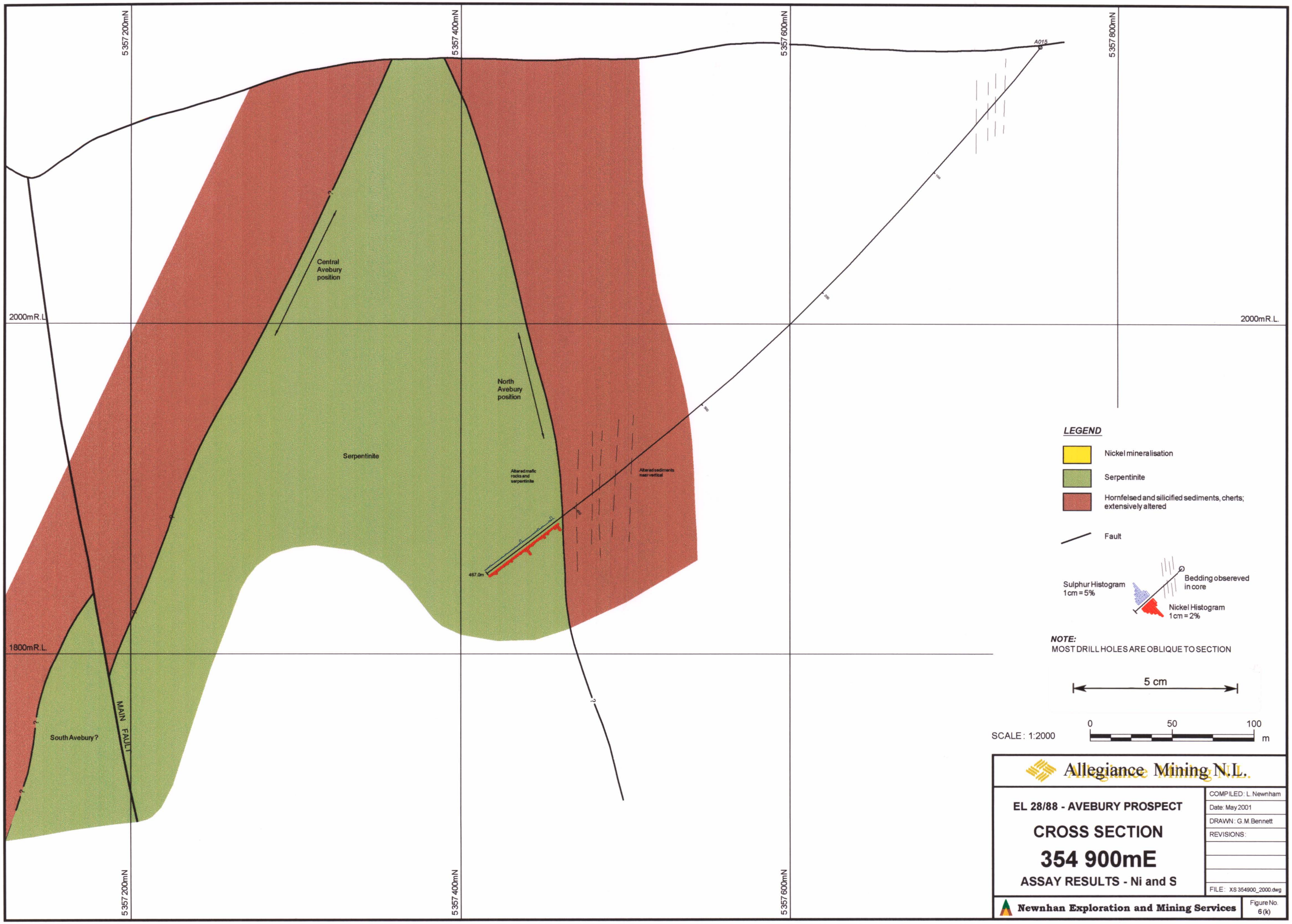
Figure No. 6 (i)

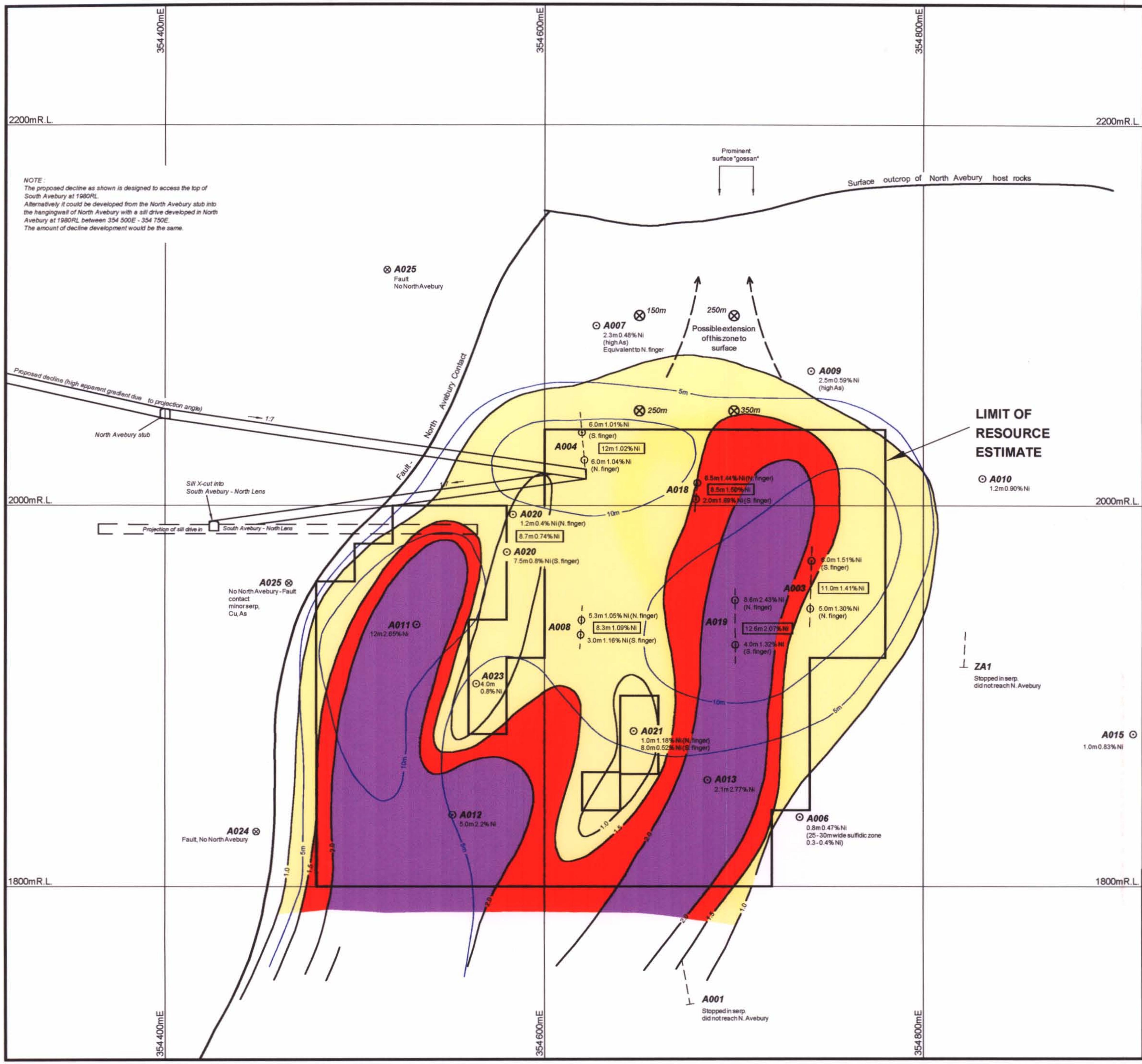
862042

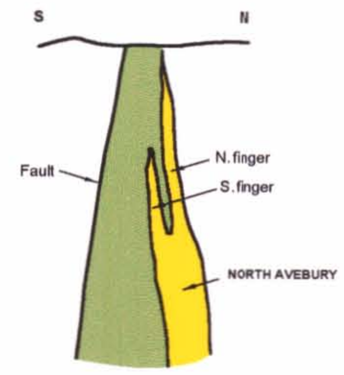


5 357 200mN
5 357 400mN
5 357 600mN
5 357 800mN
ZA1
A010
No core
Central Avebury Zone
Altered Sediments
2.4m 1.44%Ni
North Avebury 1.8m 0.9%Ni
2000mR.L.
Fault Zone
North Avebury (North finger)
Central Avebury position
1.6m 0.86%Ni
284.5m
Steeply dipping sediments
373.0m
North Avebury position
Serpentinite
MAIN FAULT
South Avebury - South Lens position
South Avebury ?
1800mR.L.
Serpentinite
LEGEND
Nickel mineralisation
Serpentinite
Hornfelsed and silicified sediments, cherts; extensively altered
Fault
Sulphur Histogram 1cm = 5%
Bedding obsereved in core
Nickel Histogram 1cm = 2%
NOTE:
MOST DRILL HOLES ARE OBLIQUE TO SECTION
5 cm
SCALE : 1:2000
0
50
100
m
Allegiance Mining N.L.
EL 28/88 - AVEBURY PROSPECT
CROSS SECTION
354 850mE
ASSAY RESULTS - Ni and S
COMPILED: L. Newnham
Date: May 2001
DRAWN: G.M.Bennett
REVISIONS:
FILE: XS 354850_2000.dwg
Newnhan Exploration and Mining Services
Figure No. 6(j)

862043


5357 200mN
5357 400mN
5357 600mN
5357 800mN
A015
2000mR.L.
2000mR.L.
1800mR.L.
Central Avebury position
North Avebury position
Serpentinite
Altered mafic rocks and serpentinite
Altered sediments near vertical
467.0m
South Avebury ?
MAIN FAULT
5357 200mN
5357 400mN
5357 600mN
LEGEND
Nickel mineralisation
Serpentinite
Hornfelsed and silicified sediments, cherts; extensively altered
Fault
Sulphur Histogram 1cm = 5%
Bedding obsereved in core
Nickel Histogram 1cm = 2%
NOTE:
MOST DRILL HOLES ARE OBLIQUE TO SECTION
5 cm
SCALE : 1:2000
0
50
100
m
Allegiance Mining N.L.
EL 28/88 - AVEBURY PROSPECT
CROSS SECTION
354 900mE
ASSAY RESULTS - Ni and S
COMPILED: L. Newnham
Date: May 2001
DRAWN: G.M.Bennett
REVISIONS:
FILE: XS 354900_2000.dwg
Newnhan Exploration and Mining Services
Figure No. 6 (k)





DRILLING PROGRAM KEY

⊗ Initial Drilling Program (7 holes)

5 cm

Resource Estimate (Newnham, June 2001) :

1,350,000 tonnes 1.50 % Ni
Inferred category

LEGEND

⊙ A011 12m 2.51% Ni — Existing drill intersection showing horizontal thickness and nickel grade.

5m — Horizontal thickness

1.0 - 1.5% Ni

1.5 - 2.0% Ni

>2.0% Ni

Limit of resource estimate

Longitudinal Projection parallel to AMG, looking North.
R.L. = M.S.L. + 2000m.

SCALE : 1:2000 — 0 50 100 m

Allegiance Mining N.L.

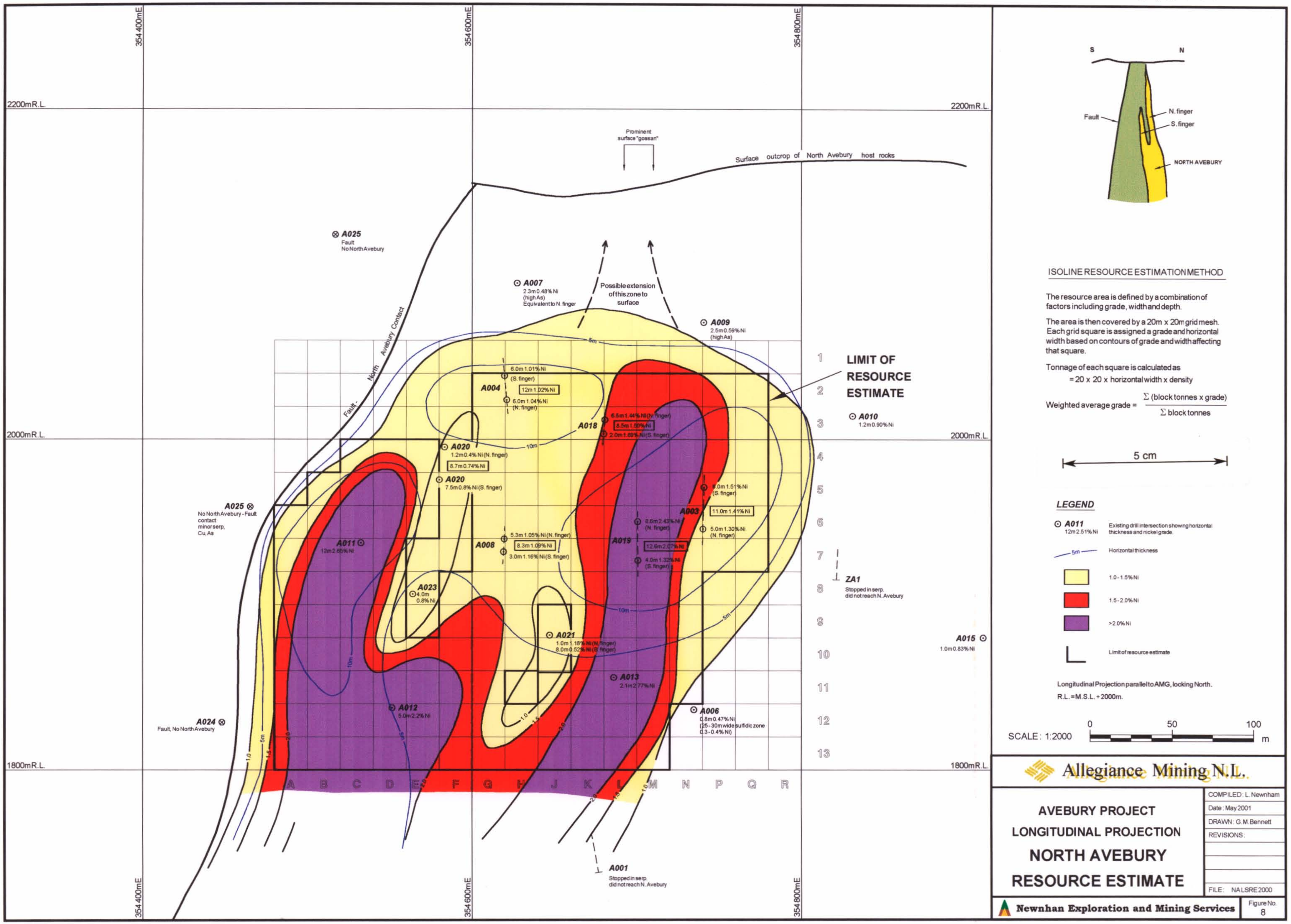
AVEBURY PROJECT
LONGITUDINAL PROJECTION
NORTH AVEBURY RESOURCE OUTLINE

COMPILED: L. Newnham
Date: May 2001
DRAWN: G.M.Bennett
REVISIONS:
FILE: NALSRO2000

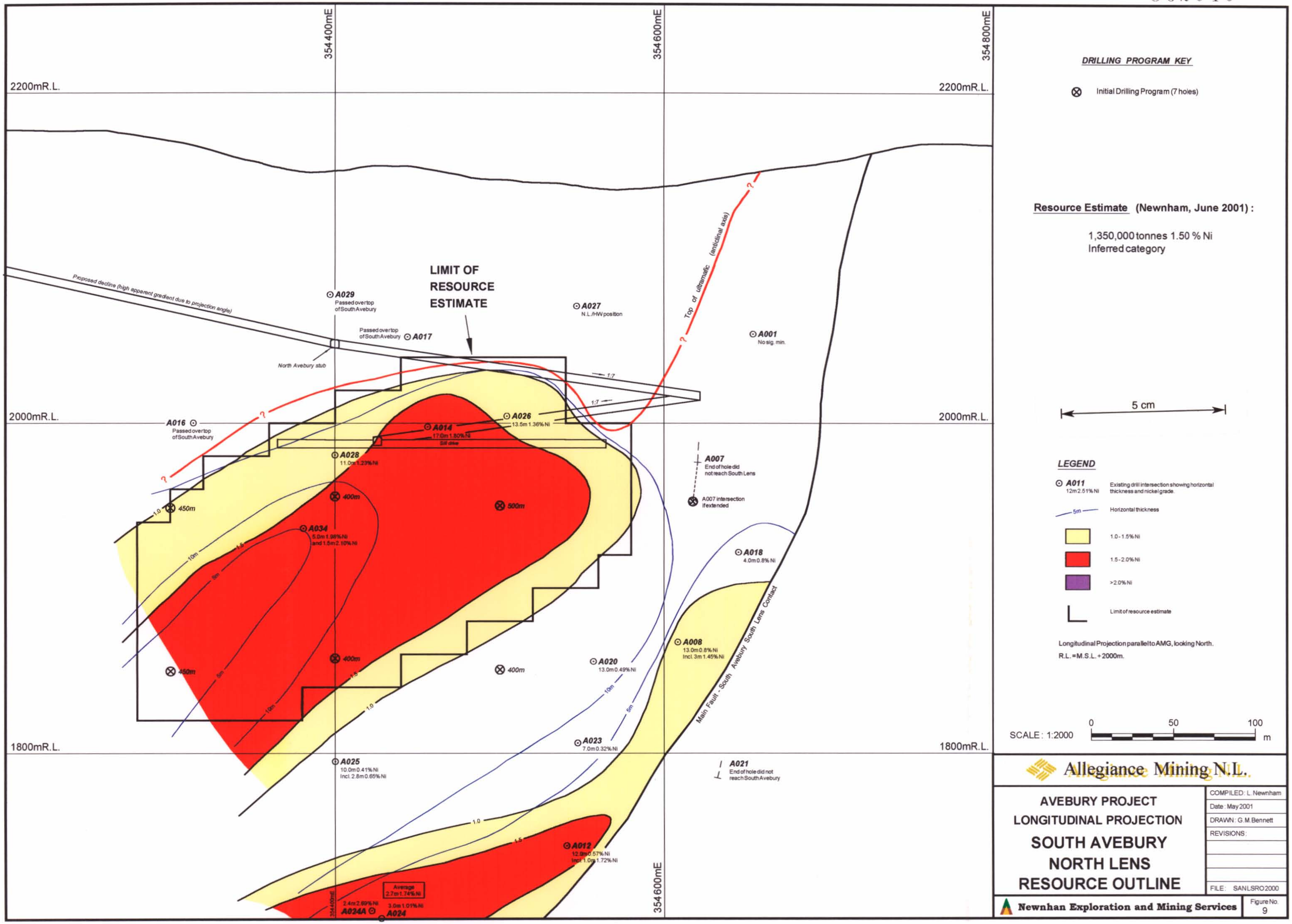
Newnhan Exploration and Mining Services

Figure No. 7

862045

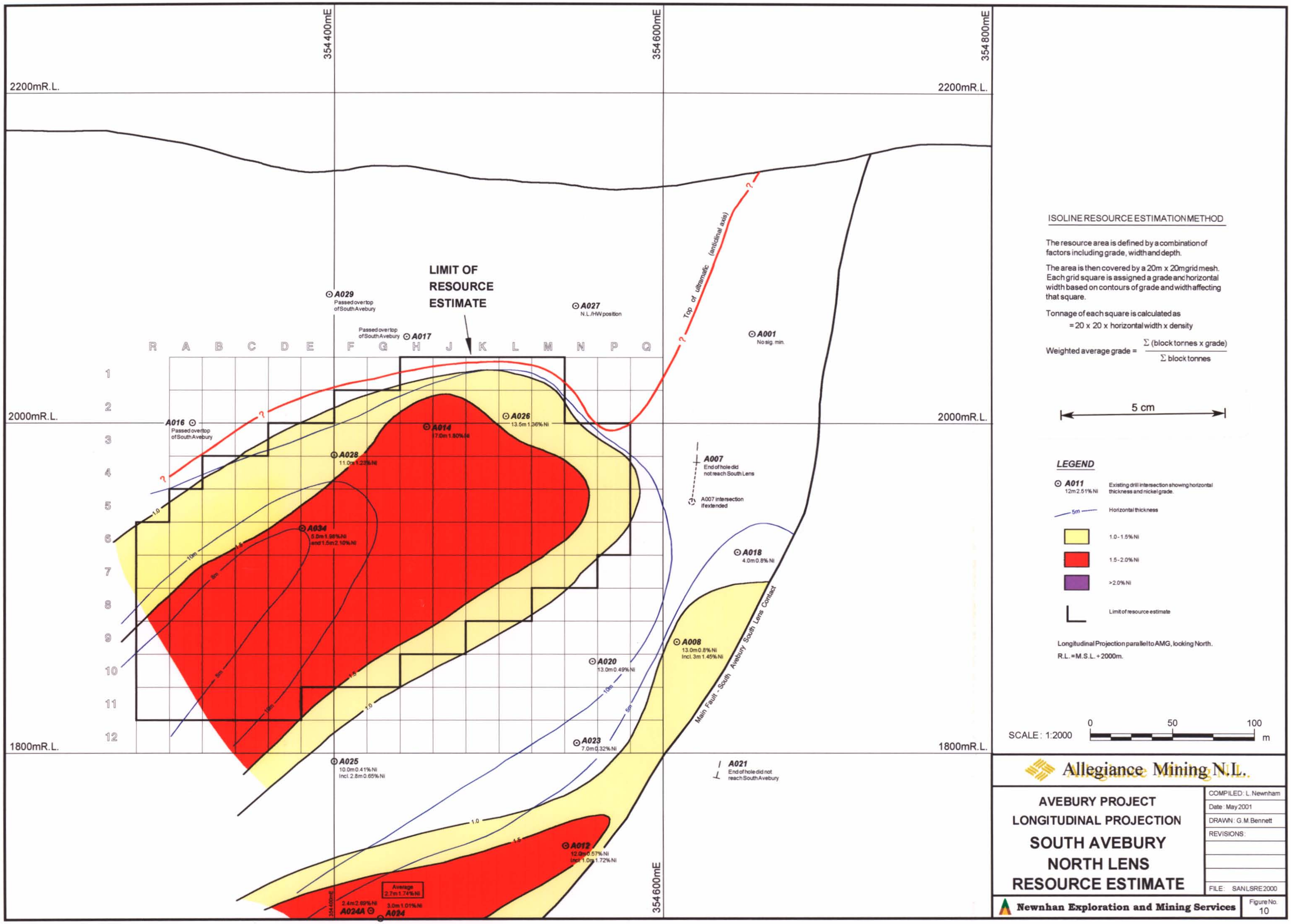

354 400mE
354 600mE
354 800mE
2200mR.L.
2000mR.L.
1800mR.L.
Prominent surface "gossan"
Surface outcrop of North Avebury host rocks
A025
Fault
No North Avebury
Fault - North Avebury Contact
A007
2.3m 0.48% Ni
(high As)
Equivalent to N. finger
Possible extension of this zone to surface
A009
2.5m 0.59% Ni
(high As)
5m
10m
6.0m 1.01% Ni
(S. finger)
A004
12m 1.02% Ni
6.0m 1.04% Ni
(N. finger)
A018
6.5m 1.44% Ni (N. finger)
8.5m 1.50% Ni
2.0m 1.69% Ni (S. finger)
LIMIT OF RESOURCE ESTIMATE
A010
1.2m 0.90% Ni
A020
1.2m 0.4% Ni (N. finger)
8.7m 0.74% Ni
A020
7.5m 0.8% Ni (S. finger)
6.0m 1.51% Ni
(S. finger)
A003
11.0m 1.41% Ni
5.0m 1.30% Ni
(N. finger)
A025
No North Avebury - Fault contact
minor serp,
Cu, As
A011
12m 2.65% Ni
5.3m 1.05% Ni (N. finger)
A008
8.3m 1.09% Ni
3.0m 1.16% Ni (S. finger)
6.6m 2.43% Ni
(N. finger)
A019
12.6m 2.07% Ni
4.0m 1.32% Ni
(S. finger)
ZA1
Stopped in serp.
did not reach N. Avebury
A023
4.0m
0.8% Ni
A021
1.0m 1.18% Ni (N. finger)
8.0m 0.52% Ni (S. finger)
A015
1.0m 0.83% Ni
A013
2.1m 2.77% Ni
A012
5.0m 2.2% Ni
A006
0.8m 0.47% Ni
(25 - 30m wide sulfidic zone
0.3 - 0.4% Ni)
A024
Fault, No North Avebury
1.0
1.5
2.0
1 2 3 4 5 6 7 8 9 10 11 12 13
A B C D E F G H J K L M N P Q R
A001
Stopped in serp.
did not reach N. Avebury
S
N
Fault
N. finger
S. finger
NORTH AVEBURY
ISOLINE RESOURCE ESTIMATION METHOD
The resource area is defined by a combination of factors including grade, width and depth.
The area is then covered by a 20m x 20m grid mesh. Each grid square is assigned a grade and horizontal width based on contours of grade and width affecting that square.
Tonnage of each square is calculated as
= 20 x 20 x horizontal width x density
Weighted average grade = Σ (block tonnes x grade) / Σ block tonnes
5 cm
LEGEND
A011
12m 2.51% Ni
Existing drill intersection showing horizontal thickness and nickel grade.
5m
Horizontal thickness
1.0 - 1.5% Ni
1.5 - 2.0% Ni
>2.0% Ni
Limit of resource estimate
Longitudinal Projection parallel to AMG, looking North.
R.L. = M.S.L. + 2000m.
SCALE: 1:2000
0
50
100
m
Allegiance Mining N.L.
AVEBURY PROJECT
LONGITUDINAL PROJECTION
NORTH AVEBURY
RESOURCE ESTIMATE
COMPILED: L. Newnham
Date: May 2001
DRAWN: G.M. Bennett
REVISIONS:
FILE: NALSRE2000
Newnhan Exploration and Mining Services
Figure No.
8

862046

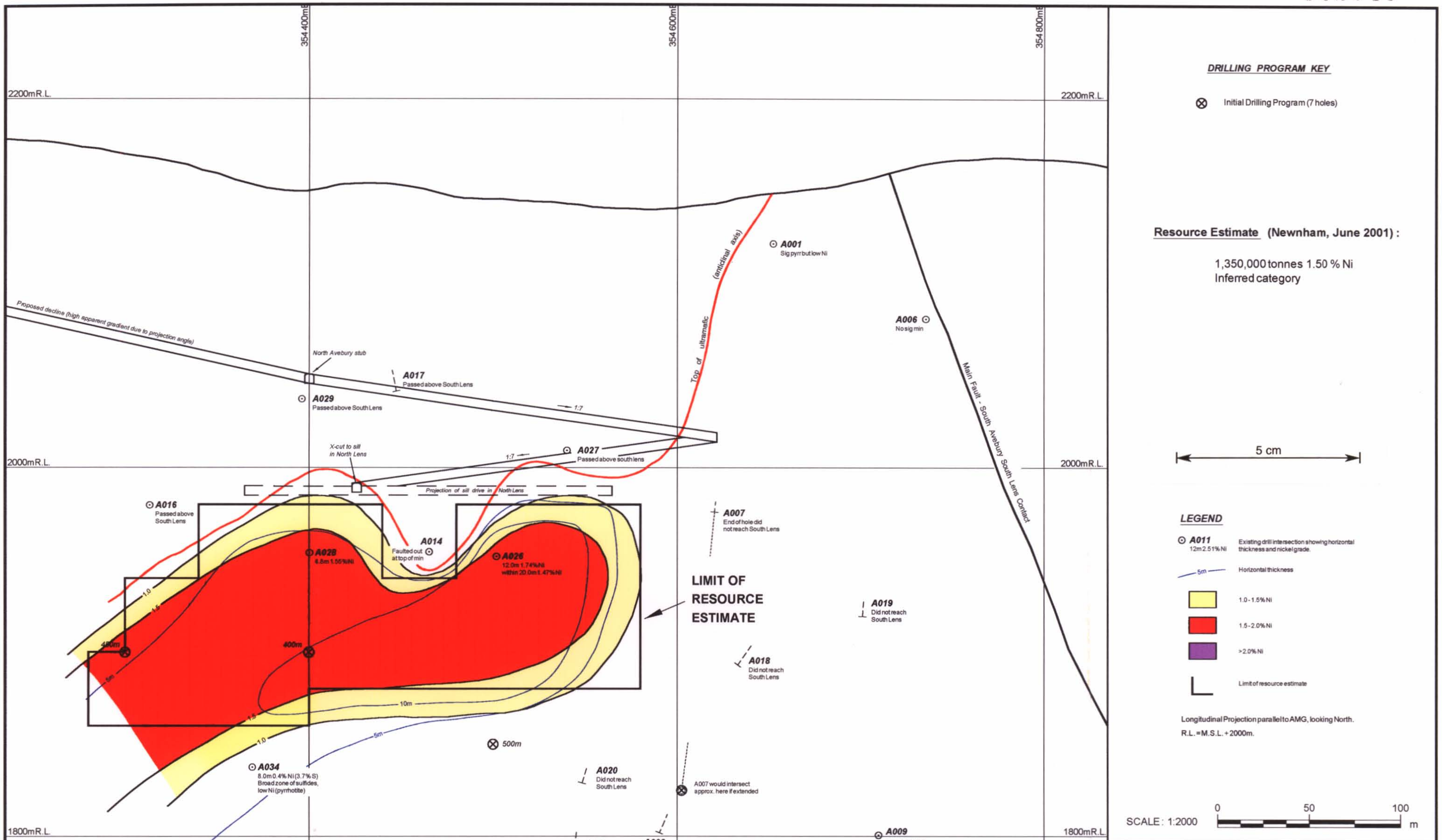


354 400mE
354 600mE
354 800mE
2200mR.L.
2000mR.L.
1800mR.L.
Proposed decline (high apparent gradient due to projection angle)
North Avebury stub
LIMIT OF RESOURCE ESTIMATE
Top of ultramafic (anticlinal axis)
A029 Passed over top of South Avebury
A017 Passed over top of South Avebury
A027 N.L./HW position
A001 No sig. min.
A016 Passed over top of South Avebury
A026 13.5m 1.36% Ni
A014 17.0m 1.80% Ni
Sill drive
A028 11.0m 1.23% Ni
A007 End of hole did not reach South Lens
A007 intersection if extended
A034 5.0m 1.98% Ni and 1.5m 2.10% Ni
400m
500m
450m
400m
450m
400m
A018 4.0m 0.8% Ni
A008 13.0m 0.8% Ni Incl. 3m 1.45% Ni
A020 13.0m 0.49% Ni
Main Fault - South Avebury South Lens Contact
A023 7.0m 0.32% Ni
A025 10.0m 0.41% Ni Incl. 2.8m 0.65% Ni
A021 End of hole did not reach South Avebury
A012 12.8m 0.57% Ni Incl. 1.0m 1.72% Ni
Average 2.7m 1.74% Ni
2.4m 2.69% Ni
3.0m 1.01% Ni
A024A
A024
DRILLING PROGRAM KEY
Initial Drilling Program (7 holes)
Resource Estimate (Newnham, June 2001) :
1,350,000 tonnes 1.50 % Ni
Inferred category
5 cm
LEGEND
A011 12m 2.51% Ni — Existing drill intersection showing horizontal thickness and nickel grade.
5m — Horizontal thickness
1.0 - 1.5% Ni
1.5 - 2.0% Ni
>2.0% Ni
Limit of resource estimate
Longitudinal Projection parallel to AMG, looking North.
R.L. = M.S.L. + 2000m.
SCALE: 1:2000
0 50 100 m
Allegiance Mining N.L.
AVEBURY PROJECT
LONGITUDINAL PROJECTION
SOUTH AVEBURY
NORTH LENS
RESOURCE OUTLINE
COMPILED: L. Newnham
Date: May 2001
DRAWN: G.M.Bennett
REVISIONS:
FILE: SANLSRO2000
Newnhan Exploration and Mining Services
Figure No. 9

862047


354 400mE
354 600mE
354 800mE
2200mR.L.
2000mR.L.
1800mR.L.
LIMIT OF RESOURCE ESTIMATE
A029 Passed over top of South Avebury
A017 Passed over top of South Avebury
A027 N.L./HW position
A001 No sig. min.
A016 Passed over top of South Avebury
A014 17.0m 1.80% Ni
A026 13.5m 1.36% Ni
A028 11.0m 1.22% Ni
A034 5.0m 1.98% Ni and 1.5m 2.10% Ni
A007 End of hole did not reach South Lens
A007 intersection if extended
A018 4.0m 0.8% Ni
A008 13.0m 0.8% Ni Incl. 3m 1.45% Ni
A020 13.0m 0.49% Ni
A023 7.0m 0.32% Ni
A025 10.0m 0.41% Ni Incl. 2.8m 0.65% Ni
A021 End of hole did not reach South Avebury
A012 12.0m 0.57% Ni Incl. 1.0m 1.72% Ni
Average 2.7m 1.74% Ni
2.4m 2.69% Ni
3.0m 1.01% Ni
A024A
A024
Top of ultramafic (anticlinal axis)
Main Fault - South Avebury South Lens Contact
R A B C D E F G H J K L M N P Q
1 2 3 4 5 6 7 8 9 10 11 12
ISOLINE RESOURCE ESTIMATION METHOD
The resource area is defined by a combination of factors including grade, width and depth.
The area is then covered by a 20m x 20m grid mesh. Each grid square is assigned a grade and horizontal width based on contours of grade and width affecting that square.
Tonnage of each square is calculated as = 20 x 20 x horizontal width x density
Weighted average grade = Σ (block tonnes x grade) / Σ block tonnes
5 cm
LEGEND
A011 12m 2.51% Ni Existing drill intersection showing horizontal thickness and nickel grade.
5m Horizontal thickness
1.0 - 1.5% Ni
1.5 - 2.0% Ni
>2.0% Ni
Limit of resource estimate
Longitudinal Projection parallel to AMG, looking North.
R.L. = M.S.L. + 2000m.
SCALE: 1:2000
0 50 100 m
Allegiance Mining N.L.
AVEBURY PROJECT
LONGITUDINAL PROJECTION
SOUTH AVEBURY
NORTH LENS
RESOURCE ESTIMATE
COMPILED: L. Newnham
Date: May 2001
DRAWN: G.M.Bennett
REVISIONS:
FILE: SANLSRE2000
Newnhan Exploration and Mining Services
Figure No. 10

862048



Allegiance Mining N.L.

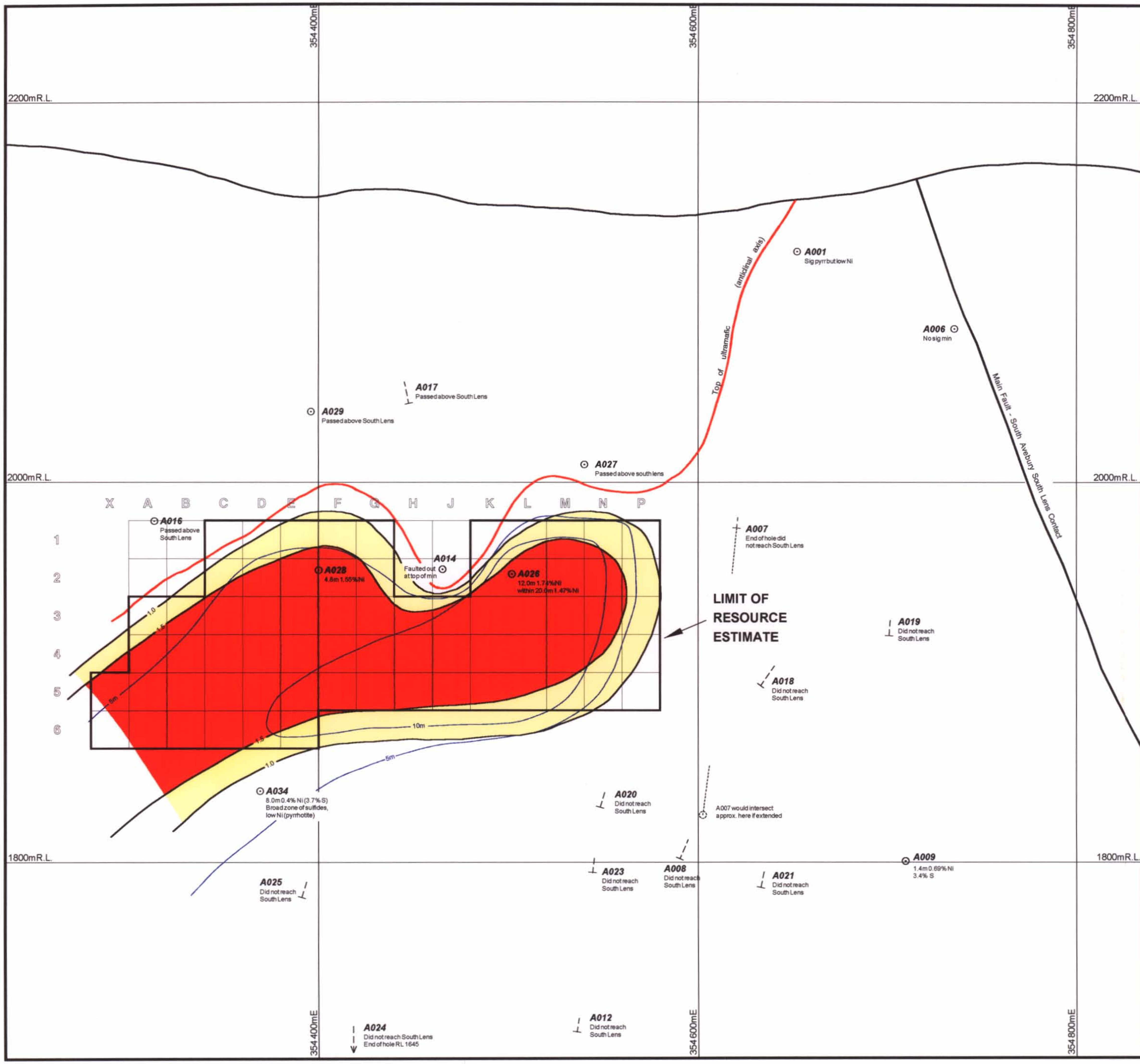
AVEBURY PROJECT
LONGITUDINAL PROJECTION
SOUTH AVEBURY
SOUTH LENS
RESOURCE OUTLINE

COMPILED: L. Newnham	
Date: May 2001	
DRAWN: G.M.Bennett	
REVISIONS:	
FILE: SASLSRO2000	

Newnhan Exploration and Mining Services

Figure No. 11

862049



ISOLINE RESOURCE ESTIMATION METHOD

The resource area is defined by a combination of factors including grade, width and depth.

The area is then covered by a 20m x 20m grid mesh. Each grid square is assigned a grade and horizontal width based on contours of grade and width affecting that square.

Tonnage of each square is calculated as
= 20 x 20 x horizontal width x density

$$\text{Weighted average grade} = \frac{\Sigma\,(\text{block tonnes x grade})}{\Sigma\,\text{block tonnes}}$$

5 cm

LEGEND

- A011 12m 2.51% Ni — Existing drill intersection showing horizontal thickness and nickel grade.
- 5m — Horizontal thickness
- 1.0 - 1.5% Ni
- 1.5 - 2.0% Ni
- >2.0% Ni
- Limit of resource estimate

Longitudinal Projection parallel to AMG, looking North.
R.L. = M.S.L. + 2000m.

SCALE: 1:2000 — 0, 50, 100 m

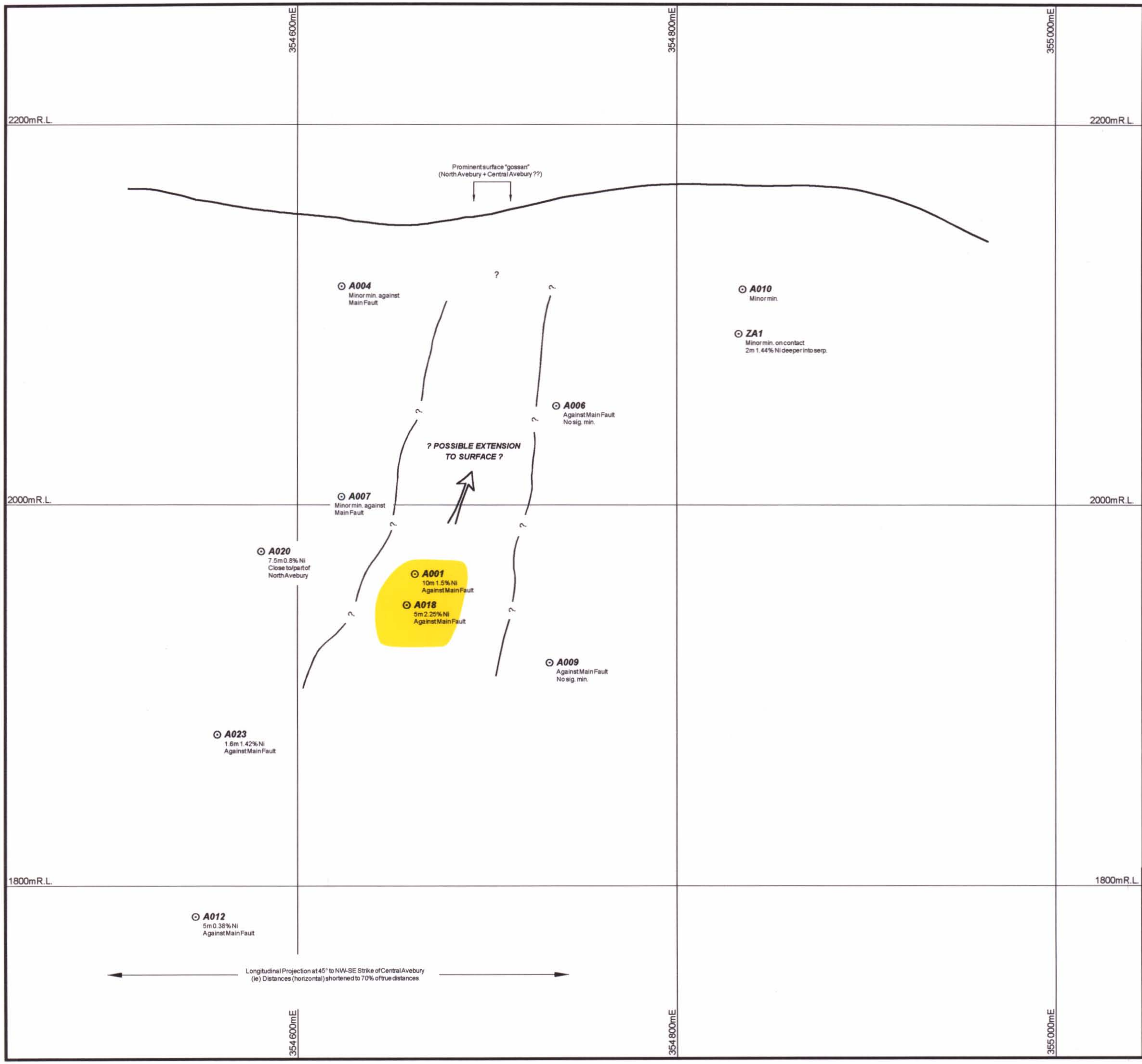
Allegiance Mining N.L.

AVEBURY PROJECT
LONGITUDINAL PROJECTION
SOUTH AVEBURY
SOUTH LENS
RESOURCE ESTIMATE

COMPILED: L. Newnham	
Date: May 2001	
DRAWN: G.M.Bennett	
REVISIONS:	
FILE: SASLSRE2000	
Figure No. 12	

Newnhan Exploration and Mining Services

862050



5 cm

LEGEND

A011 12m 2.51% Ni — Existing drill intersection showing horizontal thickness and nickel grade.

Longitudinal Projection parallel to AMG, looking North.
R.L. = M.S.L. + 2000m.

SCALE : 1:2000 — 0 — 50 — 100 m

Allegiance Mining N.L.

AVEBURY PROJECT

LONGITUDINAL PROJECTION

CENTRAL AVEBURY

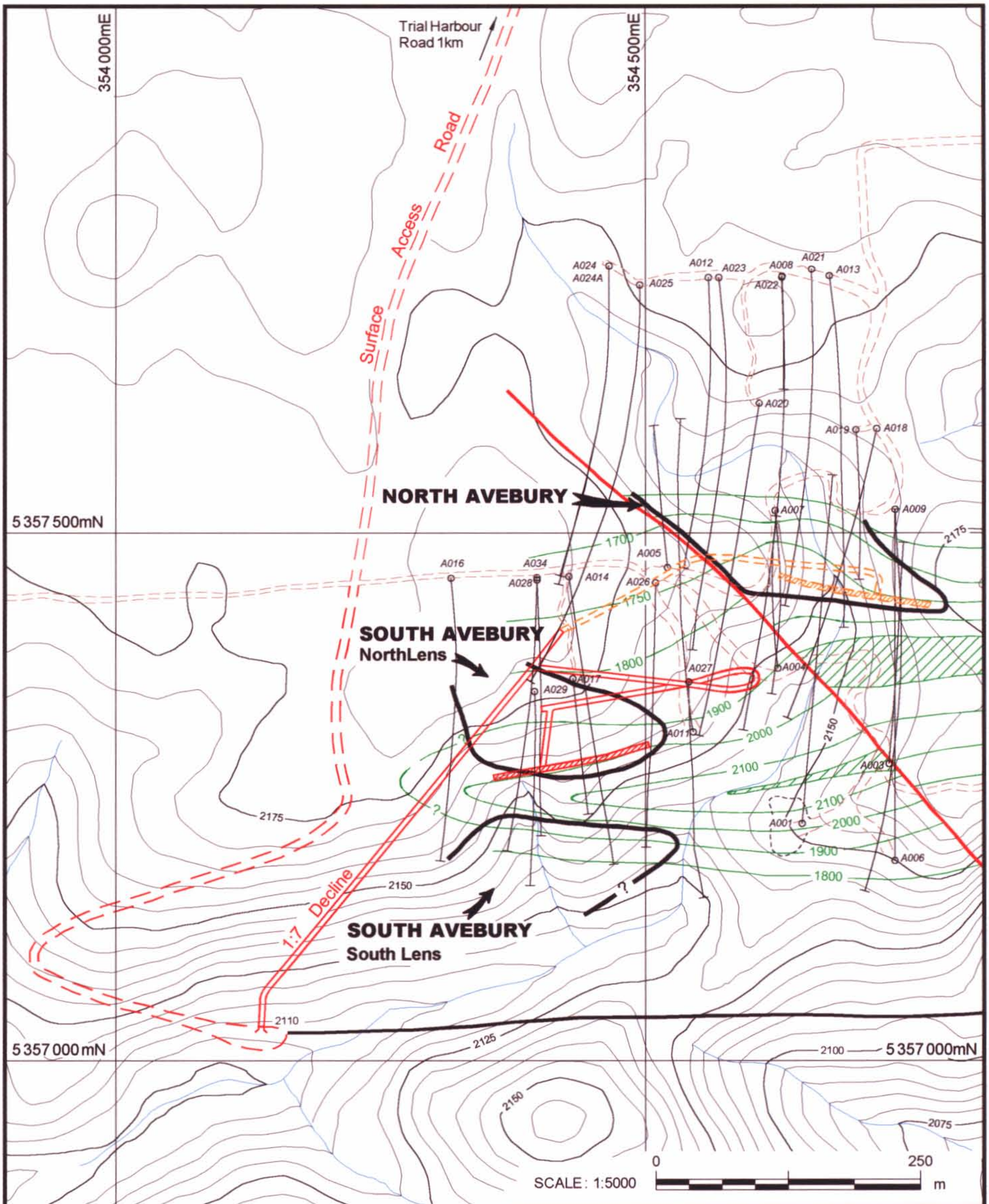
COMPILED: L. Newnham
Date: May 2001
DRAWN: G.M.Bennett
REVISIONS:

FILE: CALS2000

Newnhan Exploration and Mining Services

Figure No. 13

862051



The decline option shown has portal at 2110RL and South Avebury North Lens sill drive at 1990RL.
Total development is approx. 1000m.

An alternative development would involve driving the decline into the North Avebury HW and developing a sill in North Avebury at 1990RL.
In both cases, the decline would facilitate extensive underground drilling.

5 cm

South Avebury Option — North Avebury Option

Allegiance Mining N.L.

AVEBURY PROJECT

DECLINE ACCESS OPTIONS

Compiled: L. Newnham	
Date: July 2001	
Drawn: G. Bennett	
Revisions:	
File: Decline Access Options	

Newnhan Exploration and Mining Services — Figure No. 14

3. PROJECT DEVELOPMENT RECOMMENDATIONS

3.1 The Scoping Study Approach:

The January 2001 Scoping Study conceptualised an operation at Avebury mining 300,000 tpa for 10 years, producing 4,270 tpa nickel in concentrates. Mine production was to be via a decline spiral developed between North and South Avebury, and surface infrastructure was to be established on the plateau area north of North Avebury.

To demonstrate the commercial viability of such an operation, it was proposed to spend $3.2M over a 1-year period on a full feasibility study. A key component of that study was 10,000 m of surface core drilling costing $1.25M to better define the resource.

If the results of this feasibility study were positive, it was estimated that full production would be achieved following a 2-year period of mine and mill development.

In conjunction wth the feasibility study and the early stages of mine development, the Scoping Study recommended a district exploration program costing $0.9M pa designed to identify additional resources which would beneficially impact on the operation if they were higher grade or shallower than Avebury.

3.2 An Alternative Approach:

Since completion of the Scoping Study, considerable technical and financial thinking has been directed towards options for enhancing the attractiveness of the initial concept outlined above.

Financial modelling has demonstrated the substantial advantages of:

- (a) **increasing output**
- (b) **shortening the pre-production period**
- (c) **reducing capital**

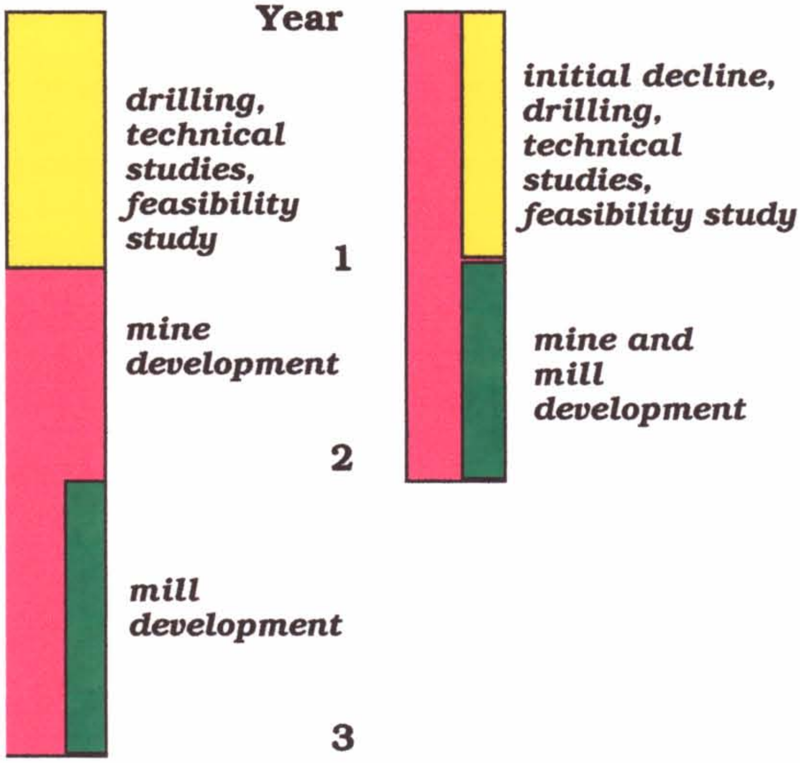
(a) Increasing output:

An alternative operation conceptualises an operation mining 500,000 tpa for 6 years, producing approximately 7,000 tpa of nickel in concentrates. During those six years exploration would be undertaken to attempt to identify additional resources with which to extend mine life.

(b) Shortening pre-production period:

The Scoping Study envisaged a 3-year pre-production period in which to sequentially complete a full feasibility study, develop a decline access for production and construct a mill. An alternative approach would involve completion of the first section of the decline, as part of the full feasibility study. The decline would then be used to acquire necessary data for the feasibility study in a more cost- and technically-effective manner.

This approach would shorten the pre-production period from three years to two years.



The technical details of this approach are outlined in greater detail in Section 3.3 below.

(c) Reducing capital:

The principal capital requirement areas are:

- mine
- mill
- exploration

Options exist to reduce requirements in each of these areas.

The **mine** capital cost can be reduced if the decline is relocated so as to commence at a lower elevation. The longer term off-sets are either slightly higher infrastructure costs or surface haulage costs. The potential cost benefit is approximately $1M and the time benefit approximately four months.

The **mill** capital cost could be influenced by purchasing and relocating an existing mill or transporting crushed ore to an existing idle mill. If neither of these options is available or attractive, then it is difficult to substantially reduce mill capital.

The **exploration** costs could be reduced if, firstly, the bulk of Avebury resource definition drilling was undertaken from underground and, secondly, if district exploration was reduced to the minimum necessary to maintain tenure over areas of major interest. The cost of resource definition drilling would be halved, representing a potential saving of approximately $0.5M. District exploration could be reduced from $0.9M pa, recommended in the Scoping Study, to $0.1M pa.

3.3 Alternative Program Details:

The alternative program consists of four major components:

(i) initial surface drilling program

(ii) initial decline development into either South or North Avebury

(iii) technical programs necessary for full feasibility study

(iv) completion of full feasibility study

3.3.1 Initial drilling program:

This program has two objectives:

(a) Test for shallow up-dip extensions of Central Avebury and North Avebury beneath the prominent outcrop "gossan".

Discovery of even a modest resource tonnage in this area could have a profound impact on the whole development of Avebury. Four (4) holes totalling 1,000 m are recommended as illustrated on Fig 7.

(b) Widely spaced drilling of the two South Avebury lenses to elevate the resource estimate to an indicated category.

The risk element of proceeding with a decline development on the basis of inferred resources is considered too great. Seven (7) holes are recommended, including the extension of A007, totalling 2,850 m. Locations are illustrated on Figs 9, 11.

The western-most hole into South Avebury should be drilled last. If results from the first six holes were supportive of a decline development decision, this seventh hole could be drilled south to north to provide information on decline ground conditions, if developed from the south. This would involve constructing a road to the south which would ultimately serve as the decline access road.

Cost of the initial drilling program (3,850 m) is estimated as $400,000. Program duration would reflect time-value decisions.

3.3.2 Initial decline development:

An initial decline development would have five primary objectives:

(a) facilitate underground resource definition drilling of South and North Avebury necessary for a full feasibility study

(b) expose a section of either North or South Avebury to determine grade and continuity characteristics of the mineralisation

(c) acquire detailed geotechnical information for detailed mine design and costing

(d) acquire bulk samples for metallurgical test work

(e) provide access for full scale production

These objectives are dealt with in greater detail in Section 3.3.3 below.

The Scoping Study decline design provided for a decline spiral to be developed between North and South Avebury with the portal at 2,157 RL.

This recommendation envisages a decline with a portal to the south of South Avebury at 2,105 RL and developed to the north so as to pass the western flanks of South Avebury and North Avebury, thereby avoiding development in ultramafics.

The plan would be to intersect either South Avebury or North Avebury at 2,000 RL and to then drive a 200 m sill drive in mineralisation. The decision on whether to sill in South or North Avebury would be determined by the results of the initial surface drilling program (3.3.1 above) and underground South Avebury drilling.

Total decline distance at 1:7 gradient would be 754 m. With the addition of 200 m of sill driving plus drill cuddies, passing and loading bays, and future development ends, total development would be 1,000 m. A ventilation rise may or may not be required.

A schematic layout is illustrated on Figs 6(a) to 6(f), 7, 9, 11, 14. The principal risk to this decline proposal is lack of knowledge of ground conditions. All existing drilling to date has been to the north of this proposal. Some dedicated drilling along the initial section of the decline would be advisable.

Development of this decline would require some infrastructure development:

- access road
- services and support area
- water, power

A financial assessment would be required to determine whether generators or a state grid extension were the most economical way to provide power.

A decision on the decline development could only be made following completion of the initial drilling program and a mining engineer would be required to complete the detailed design and costing.

At this stage, a cost estimate of $3,000/m is appropriate. **Combined with design and site works, total estimate would be approximately $3.5M.**

3.3.3 Technical Programs:

Early development of the initial decline would facilitate a range of technical programs necessary for completion of a full feasibility study including:

(a) detailed resource definition drilling

(b) examination of in-situ mineralisation grades and continuity

(c) bulk sampling for metallurgical test work

(d) geotechnical studies necessary for detailed mine planning

(a) Resource definition drilling:

The decline would provide a good opportunity for completing resource definition drilling for approximately half the cost of the same drilling from surface.

For every 10,000 m of drilling, this represents a saving of approximately $0.5M.

The style of drilling possible is illustrated on Section 6(e).

The total amount of drilling possible from the decline is difficult to quanitfy at this stage because it depends on whether the sill driving is undertaken in North or South Avebury. However, it would be maximised if the sill drive was in the South Avebury North Lens.

(b) Examination of mineralisation:

A 200 m sill drive at 2,000 RL in mineralisation is recommended as an ideal way to examine grade and continuity characteristics of the mineralisation, at least in one resource lens.

This would permit a higher level of confidence in elevation of resource estimates to reserve estimates, than could be achieved from drill holes only, thus enhancing the credibility of the full feasibility study.

If the sill was developed in South Avebury, the decline would spiral down to 2,000 RL between North and South Avebury before cross-cutting into the mineralisation (Fig 14).

If developed in North Avebury, the decline would be driven past the western end of the zone before declining north in the hangingwall of North Avebury then cross-cutting into the zone (Fig 14).

At this early stage, a sill development in South Avebury North Lens is prefered for 2 reasons:

- Early drilling suggests South Avebury North Lens is consistently higher grade, and potentially more productive, than the other zones. Initial production from this exploratory sill drive would facilitate earliest production. Thus the higher the grade and the more productive it is, the better.

- A sill drive in South Avebury North Lens would facilitate additional pattern drilling of much of North Avebury and South Avebury South Lens.

(c) Bulk sampling:

Whilst some metallurgical test work is possible on drill cores, there is nothing like having bulk samples to test.

A 200 m sill drive, say 5 m x 4 m, would generate 12,000 t of mineralisation. This material could be test crushed on surface with a mobile crusher and sub-sampled for further testing. Information so gathered would be very useful in the feasibility study.

(d) Geotechnical studies:

The decline and sill developments would provide a wealth of geotechnical data. This data would then be used to optimise production development and stoping methods which, in turn, permit accurate cost assessments for the full feasibility study.

As with (b) above this data gathered from actual underground exposures is superior to similar data derived from drill cores alone.

3.3.4 Full Feasibility Study:

The technical programs summarised in 3.3.3 above, combined with infrastructure, environmental and financial studies would form the basis for the Full Feasibility Study.

Infrastructure, environmental and financial studies could be completed in parallel with the underground technical studies to shorten lead time to production. The cost of these studies would be similar to those detailed in the Scoping Study.

3.4 Benefits of an Exisiting Mill:

The Scoping Study provided for the development of a new 300,000 tpa mill on the Avebury site for $16M.

Other opportunities may present themselves in the future:

(a) purchase of an existing mill for relocation to Avebury

(b) transport raw or crushed ore to a nearby idle mill

Opportunity (a) should be investigated as part of a Feasibility Sudy.

Opportunity (b) **may** arise through the future closure of four West Coast mines. The one most distant to Avebury is already idle.

The cost advantages of using an existing mill are:

- early production
- lower capital
- less infrastructure, environmental and tailings disposal costs

The cost disadvantages are:

- ore freight
- treatment charges

The alternative development program outlined above "nests" in very well with potentially taking advantage of an existing mill because of its sequential decision-making structure.

For example if, on completion of the alternative development program, a decision to go to production followed and, if there was a nearby idle mill, production of nickel concentrates could commence almost immediately.

3.5 Evaluation - Development Schedule and Cost:

The schedule for the evaluation and development program outlined above is totally dependent on how Allegiance wishes to advance the project: fast or slow, on its own or with a partner.

The schedule is best expressed as a costed sequence of events which can be compacted or extended as determined by the Company.

This is illustrated as Figure 15.

AVEBURY PROJECT

EVALUATION and DEVELOPMENT PROPOSAL

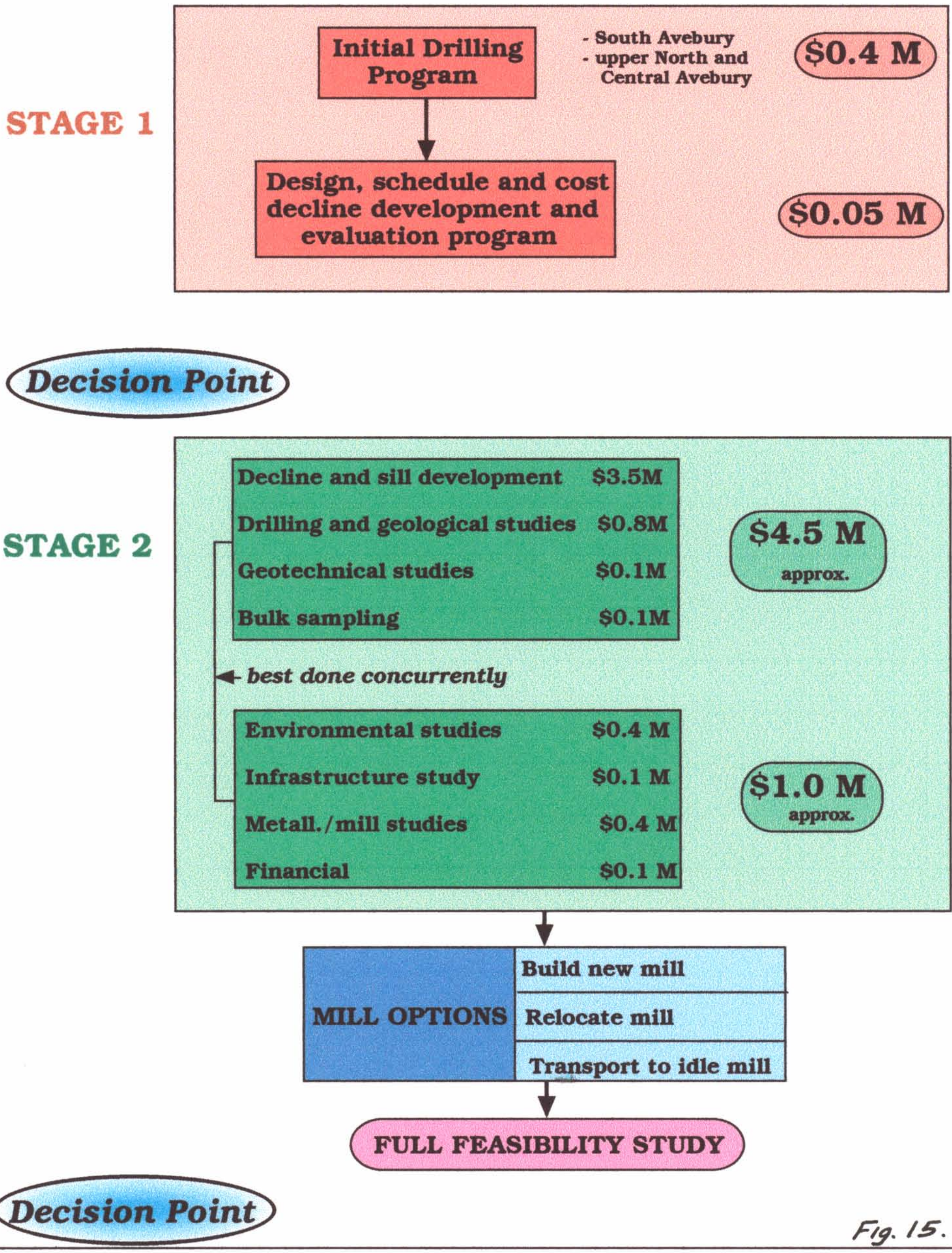


Fig. 15.

862061

APPENDIX 1

Petrological Descriptions

(A027, A034)

862062

Central Mineralogical Services

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CMS

15 December 2000

Mr L. Newnham
Newnham Exploration & Mining Services
PO Box 183
EXETER Tas. 7275

By facsimile (03) 6394 3435 & post

REPORT NO. CMS 00/12/6

YOUR REFERENCE:	Fax 6 December 2000
DATE RECEIVED:	12 December 2000
SAMPLE NOS:	A027
SUBMITTED BY:	L.A. Newnham
WORK REQUESTED:	Petrology

for **H.W. Fander, M. Sc.**

REPORT CMS 00/12/6

A027 DRILL CORE INTERSECTIONS

Ten drill core samples were received for petrological study; thin sections were prepared and examined, and are briefly described below.

All the rocks are very extensively and thoroughly metasomatised, and most details of the original rock have been obliterated; thus interpretations of origin are necessarily tentative and may require review/revision in the light of other information.

164.2m

Metasomatised conglomerate. Generally rounded pebbles and grit-sized grains of various acid to intermediate igneous rocks (including possible fine tuffs), thoroughly penetrated and replaced by coarse to fine diopside, minor wollastonite, younger prehnite and chlorite (replacing diopside) and plagioclase. Could be termed metasomatised volcanomict conglomerate.

178.0m

Metasomatised conglomerate. Rounded pebbles of intermediate to mafic tuffs and lavas/fine intrusives, in a matrix of smaller grains of similar composition, all thoroughly impregnated and extensively replaced by fine fibrous actinolite and in places by prehnite and epidote. This rock is broadly similar to ***164.2m*** but with more mafic source rocks.

191.8m

Metasomatised conglomerate. Pebbles of basalts, other mafic volcanics/tuffs, all extensively replaced by matted-fibrous actinolite, with veins and rosettes of coarser actinolite. A few pebbles appear to have been cherts and are only marginally metasomatised. This rock resembles ***178.0m*** within the limitations due to the intensive metasomatism.

208.0m

Metasomatised ?trachyte. Relict (primary) features are poorly preserved. Now mainly composed of fine matted flakes of pale phlogopite and shreds, patches and veins of actinolite. The phlogopite has replaced primary feldspar, indicating that the rock was of predominantly feldspathic composition; its fabric was fine-grained; diagnostic features are lacking. It may have been intrusive, since the distinctive trachytic flow fabric is absent.

222.8m

Epidotised quartzite, probably originally a limestone which was almost completely silicified, then brecciated, after which patchy epidote developed, possibly replacing unsilicified carbonate. The quartz contains minute carbonate inclusions which is characteristic of silicification of limestones, and there are chromite fragments (cp Gordon Limestone).

235.2m
Metasomatised, sheared ?trachyte or feldspathic tuff; some relict K-feldspar patches occur and fine relict textures are defined by parallel streaks of leucoxene, but actinolite has developed extensively, together with epidote and some prehnite. This intersection is broadly similar to ***208.0m.***

244.0m
Diopside rock, probably a completely metasomatised "limestone". Consists very largely of relatively coarsely-crystalline diopside, with minor interstitial quartz and carbonate; cut by occasional prehnite veins. Contains isolated groups of chromite fragments. There are patches of fibrous-matted tremolite replacing the diopside, representing a retrograde metasomatic phase. Possible Gordon limestone origin?

276.3m
Metasomatised banded tuff. Mainly dark green actinolised lithic-crystal tuff of intermediate composition, with interbedded pale bands of ultrafine altered ?vitric tuff. The lithic-crystal tuff was more reactive (and more permeable) and contains small actinolite lenses which sometimes carry small sulphide (pyrrhotite, possibly others) grains.

280.8m
Diopside-grossularite rock, representing a metasomatised "limestone". Dominantly composed of finely-granular diopside, with random patches of coarser prismatic diopside crystals with associated small grossularite crystals, generally surrounding small residual carbonate patches. Scattered groups of chromite fragments are relatively conspicuous; they are typical of basal Gordon limestone.

285.5m
A thoroughly metasomatised, brecciated ?basalt; poorly-preserved relict textures suggest that the original mafic igneous rock may have been from a chilled margin (or ?submarine flow). It now consists largely of matted-fibrous and radiating needles of actinolite and tremolite with minor intergrown epidote. The rock is cut by fine prehnite-carbonate veinlets; relict small diopside grains occur in the tremolite, and fine sphene is present throughout.

862065

Central Mineralogical Services

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8 May 2001

Mr L.A. Newnham
Newnham Exploration & Mining Services
PO Box 183
EXETER TAS 7275

REPORT NO. CMS 01/5/1

YOUR REFERENCE:	Letter 2.05.01
DATE RECEIVED:	3.05.01
SAMPLE NOS:	AO34 @ 418.2m, 421.8m
SUBMITTED BY:	L..A. Newnham
WORK REQUESTED:	Mineragraphy

H.W. Fander, M. Sc.

REPORT CMS 01/5/1

DDH A034 at 418.2m, 421.8m

Two drill core slabs were received for mineragraphic study; polished sections were prepared and examined.

The host rock in each sample is a very dark, medium-grained serpentinite with fine-grained secondary magnetite (derived from the ferromagnesian minerals during serpentinisation). There is some chromite at ***421.8m***.

418.2m

The sulphides are major pyrrhotite and minor pentlandite, where the pyrrhotite occurs as shapeless masses enclosing pentlandite patches up to 1-2mm across.

Late-stage magnetite has veined and partly replaced the pyrrhotite and has more extensively replaced pentlandite on a very fine scale along cleavage planes (cp previous samples), and also peripherally.

There are traces of molybdenite (!) within the magnetite, and graphite occurs along sulphide margins.

Sulphide deposition postdated serpentinisation and was followed by replacive magnetite.

421.8m

The style of the mineralisation is the same as at ***418.2m*** but was much more extensive. There are larger semi-continuous patches of pyrrhotite containing grains of pentlandite from 0.1mm to 1-2mm – many are in the 0.2mm to 0.5mm range.

Late-stage magnetite was introduced, selectively replacing pentlandite on a fine scale and veining/incipiently replacing the pyrrhotite.

The pentlandite is intergrown with ?mackinawite (FeS) on a very fine scale; this mineral can be an alteration-product of pentlandite, or can be replacive, probably related to the introduction of magnetite in this case.

The mineralisation is very similar to that described previously from this occurrence, though the late-stage magnetite phase is more marked, with resultant complications in terms of metallurgy.

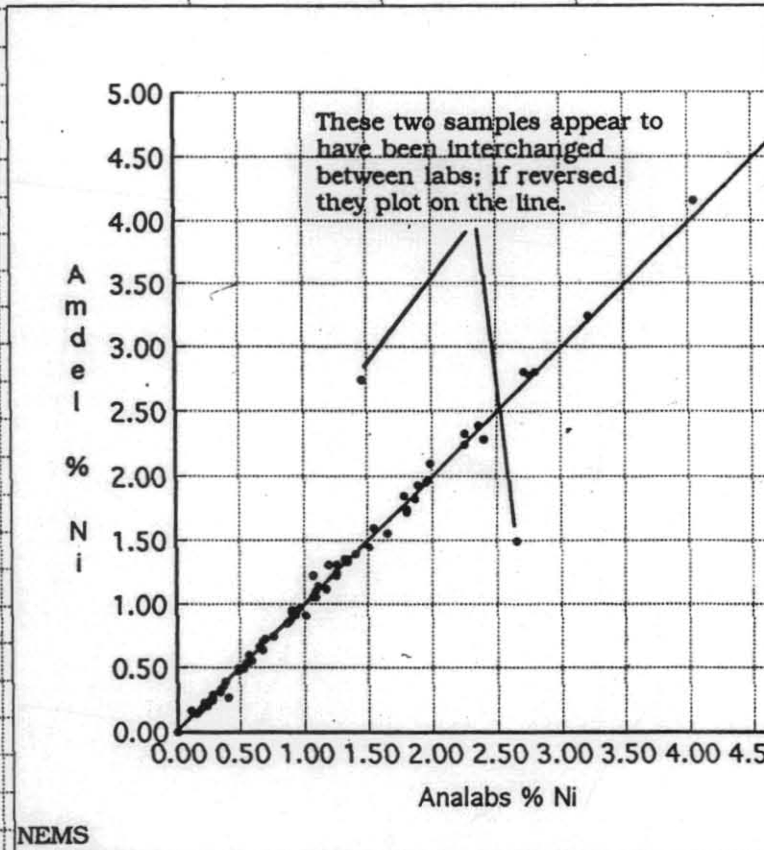
862067

APPENDIX 2

Comparative Assaying

862068

Hole No	From	To	Analabs	Amdel
A 026	224.5	225.5	1.98	2.11
	225.5	226.6	0.14	0.14
	226.6	228.0	0.65	0.67
	228.0	229.0	0.10	0.17
	229.0	230.0	2.75	2.80
	230.0	230.7	1.19	1.31
	230.7	232.0	1.31	1.35
	232.0	233.0	1.78	1.85
	233.0	234.0	1.33	1.33
	234.0	235.0	1.07	1.07
	235.0	236.0	1.17	1.13
	236.0	237.0	1.07	1.22
	237.0	238.0	1.08	1.07
	238.0	239.0	1.39	1.40
	239.0	240.0	0.91	0.92
	240.0	241.0	1.25	1.25
	241.0	242.0	0.89	0.93
	242.0	243.0	0.76	0.76
	243.0	244.2	0.57	0.60
	244.2	245.4	0.48	0.49
	245.4	246.4	0.23	0.21
	246.4	247.6	0.34	0.33
	247.6	248.8	1.65	1.57
	248.8	250.0	0.27	0.26
	250.0	251.0	0.21	0.21
	251.0	252.0	0.28	0.30
	252.0	253.0	0.66	0.65
	253.0	254.0	0.22	0.21
	254.0	255.2	0.39	0.28
	255.2	256.2	0.55	0.55
	256.2	257.0	0.34	0.34
	257.0	258.0	0.52	0.50
	258.0	259.0	0.25	0.24
	259.0	260.0	0.19	0.18
	260.0	261.0	0.22	0.22
	261.0	262.0	0.33	0.31
	262.0	263.0	1.79	1.72
	263.0	264.0	1.00	0.92
	264.0	265.0	1.79	1.76
	265.0	266.0	2.40	2.29
	293.8	295.0	1.10	1.14
	295.0	296.0	0.38	0.39
	296.0	297.4	0.67	0.70
	297.4	298.2	1.34	1.35
	298.2	299.0	0.85	0.85
	299.0	300.0	1.96	1.98
	300.0	301.0	1.94	1.96
	301.0	302.0	1.86	1.83
	302.0	303.0	2.70	2.82
	303.0	304.0	0.59	0.57
	304.0	305.0	0.89	0.96
	305.0	306.0	0.35	0.36

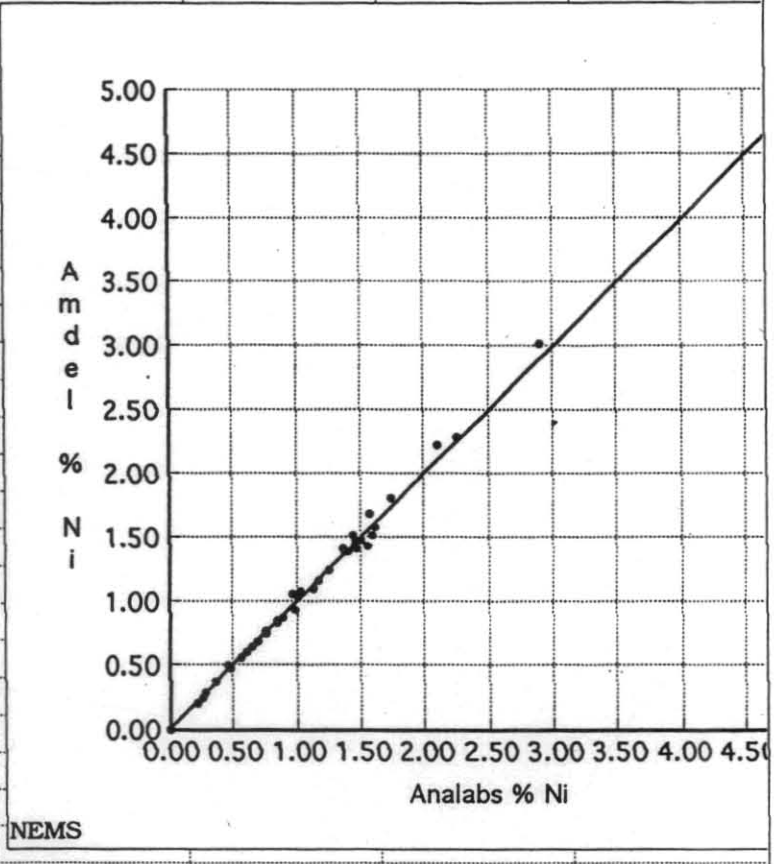


AVEBURY PROJECT
DDH A 026
COMPARATIVE ASSAYS

5 cm

A 026	306.0	307.0	0.94	0.95		
	307.0	308.2	1.49	1.46		
	308.2	309.4	3.20	3.26		
	309.4	310.4	1.88	1.93		
	310.4	311.3	1.45	2.75	) These two samples appear to have been interchanged	
	311.3	312.0	2.65	1.49	) between labs;	
	312.0	313.0	0.68	0.72		
	313.0	314.0	1.09	1.10		
	314.0	315.0	2.80	2.82		
	315.0	316.0	2.35	2.39		
	316.0	316.9	4.05	4.17		
	316.9	318.0	0.91	0.91		
	318.0	319.0	0.95	0.98		
	319.0	320.0	1.25	1.31		
	320.0	321.0	0.17	0.17		
	321.0	322.0	0.88	0.87		
	322.0	323.0	2.25	2.26		
	323.0	324.0	2.25	2.34		
	324.0	325.0	0.48	0.48		
	325.0	326.2	0.28	0.28		
	326.2	327.2	0.20	0.22		
	327.2	328.0	0.19	0.19		
	328.0	329.0	2.35	2.39		
	329.0	330.0	1.08	1.10		
	330.0	331.0	1.55	1.60		
	331.0	331.9	1.24	1.22		

Hole No	From	To	Analabs	Amdel
A028	252.0	253.0	0.95	1.07
	253.0	254.0	1.57	1.68
	254.0	255.0	0.46	0.51
	255.0	256.0	2.10	2.22
	266.0	267.0	1.01	1.04
	267.0	268.0	0.60	0.61
	268.0	269.0	2.90	3.02
	269.0	270.0	1.03	1.08
	270.0	271.0	0.36	0.37
	271.0	272.0	0.28	0.29
	272.0	273.0	0.76	0.76
	273.0	274.0	0.84	0.85
	274.0	275.0	1.37	1.39
	275.0	276.0	0.88	0.88
	276.0	277.0	0.64	0.65
	277.0	278.0	0.83	0.84
	278.0	279.0	1.50	1.47
	279.0	280.0	1.16	1.16
	280.0	281.0	1.59	1.52
	281.0	282.5	1.61	1.58
	282.5	283.8	0.21	0.21
	283.8	285.0	1.35	1.41
	285.0	286.0	1.44	1.52
	286.0	287.0	1.17	1.16
	287.0	288.0	1.25	1.24
	288.0	289.0	1.12	1.11
	289.0	290.0	0.68	0.68
	290.0	291.0	0.61	0.60
	291.0	292.0	0.48	0.48
	292.0	293.0	1.73	1.81
	293.0	294.0	1.55	1.44
	294.0	295.0	0.98	0.94
	295.0	296.0	1.46	1.42
	296.0	297.0	0.25	0.26
	297.0	298.0	1.45	1.48
	318.0	320.0	0.74	0.77
	320.0	321.8	1.01	1.06
	321.8	323.5	2.25	2.29
	323.5	324.8	1.39	1.39
	324.8	326.3	0.56	0.56



AVEBURY PROJECT
DDH A 028
COMPARATIVE ASSAYS

5 cm

APPENDIX 3

Resource Block Data

RESOURCE ESTIMATE CALCULATION SHEET
PROJECT: North Avebury (Fig. 8)

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
			0		
			0		
2G	12	1.0	14,400		
2H	12	1.0	14,400		
2J	10	1.1	12,000		
2K	10	1.3	12,000		
2L	8	1.4	9,600		
2M	6	1.5	7,200		
2N	5	1.5	6,000		
2P	5	1.3	6,000		
2Q	5	1.2	6,000		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**87,600**	**1.21**	**1058**

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
			0		
			0		
3G	10	1.0	12,000		
3H	10	1.1	12,000		
3J	10	1.3	12,000		
3K	8	1.4	9,600		
3L	8	1.5	9,600		
3M	8	1.6	9,600		
3N	9	1.7	10,800		
3P	9	1.4	10,800		
3Q	9	1.2	10,800		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**97,200**	**1.34**	**1304**

RESOURCE ESTIMATE CALCULATION SHEET
PROJECT: North Avebury

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
4C	7	1.4	8,400		
4D	8	1.4	9,600		
4E	8	1.2	9,600		
4F			0		
4G	9	1.0	10,800		
4H	9	1.1	10,800		
4J	8	1.1	9,600		
4K	8	1.4	9,600		
4L	9	1.5	10,800		
4M	10	1.8	12,000		
4N	10	1.9	12,000		
4P	10	1.5	12,000		
4Q	8	1.2	9,600		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**124,800**	**1.39**	**1735**

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
5B	6	1.1			
5C	8	1.7	9,600		
5D	8	1.7	9,600		
5E	5	1.2	6,000		
5F			0		
5G	8	1.0	9,600		
5H	8	1.0	9,600		
5J	8	1.2	9,600		
5K	8	1.5	9,600		
5L	9	1.7	10,800		
5M	10	1.9	12,000		
5N	10	1.8	12,000		
5P	10	1.4	12,000		
5Q	8	1.1	9,600		
			0		
			0		
			0		
			0		
Row			**120,000**	**1.46**	**1751**

RESOURCE ESTIMATE CALCULATION SHEET
PROJECT: North Avebury

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
6A	5	1.1	6,000		
6B	8	1.7	9,600		
6C	12	2.1	14,400		
6D	11	2.4	13,200		
6E	8	1.1	9,600		
6F			0		
6G	8	1.1	9,600		
6H	8	1.0	9,600		
6J	8	1.2	9,600		
6K	9	1.6	10,800		
6L	10	2.0	12,000		
6M	11	2.0	13,200		
6N	11	1.8	13,200		
6P	8	1.4	9,600		
6Q	8	1.2	9,600		
			0		
			0		
			0		
			0		
Row			**150,000**	**1.62**	**2435**

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
7A	5	1.2	6,000		
7B	8	2.0	9,600		
7C	12	2.6	14,400		
7D	8	2.1	9,600		
7E			0		
7F	0	0.0	0		
7G	8	1.1	9,600		
7H	8	1.0	9,600		
7J	8	1.2	9,600		
7K	8	1.4	9,600		
7L	10	1.8	12,000		
7M	12	2.0	14,400		
7N	11	1.7	13,200		
7P	10	1.5	12,000		
7Q	6	1.2	7,200		
			0		
			0		
			0		
			0		
Row			**136,800**	**1.67**	**2286**

RESOURCE ESTIMATE CALCULATION SHEET
PROJECT: North Avebury

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
8A	4	1.3	4,800		
8B	8	2.1	9,600		
8C	10	2.2	12,000		
8D	6	1.4	7,200		
8E			0		
8F	5	1.0	6,000		
8G	5	1.1	6,000		
8H	6	1.0	7,200		
8J	5	1.0	6,000		
8K	6	1.2	7,200		
8L	6	1.8	7,200		
8M	8	2.1	9,600		
8N	7	1.6	8,400		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**91,200**	**1.58**	**1439**

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
9A	6	1.5	7,200		
9B	8	2.1	9,600		
9C	8	2.0	9,600		
9D	5	1.2	6,000		
9E			0		
9F	4	1.2	4,800		
9G	5	1.2	6,000		
9H	4	1.0	4,800		
9J			0		
9K	4	1.2	4,800		
9L	4	2.1	4,800		
9M	5	2.1	6,000		
9N	5	1.4	6,000		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**69,600**	**1.61**	**1120**

RESOURCE ESTIMATE CALCULATION SHEET
PROJECT: North Avebury

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
10A	6	1.5	7,200		
10B	8	2.1	9,600		
10C	7	2.1	8,400		
10D	5	1.3	6,000		
10E	5	1.5	6,000		
10F	4	1.3	4,800		
10G	4	1.1	4,800		
10H	4	1.1	4,800		
10J			0		
10K	3	1.3	3,600		
10L	3	2.2	3,600		
10M	3	2.3	3,600		
10N	4	1.4	4,800		
10P			0		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**67,200**	**1.63**	**1098**

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
11A	6	1.7	7,200		
11B	6	2.2	7,200		
11C	6	2.2	7,200		
11D	5	2.1	6,000		
11E	5	2.0	6,000		
11F	4	1.7	4,800		
11G	4	1.2	4,800		
11H			0		
11J	4	1.2	4,800		
11K	3	2.2	3,600		
11L	2	2.5	2,400		
11M	3	1.5	3,600		
11N	3	1.3	3,600		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**61,200**	**1.83**	**1122**

RESOURCE ESTIMATE CALCULATION SHEET
PROJECT:

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
12A	6	1.8	7,200		
12B	6	2.2	7,200		
12C	6	2.2	7,200		
12D	6	2.2	7,200		
12E	5	2.0	6,000		
12F	4	1.7	4,800		
12G	4	1.1	4,800		
12H	4	1.1	4,800		
12J	4	1.5	4,800		
12K	3	2.2	3,600		
12L	3	2.2	3,600		
12M	4	1.2	4,800		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**66,000**	**1.82**	**1200**

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
13A	6	2.1	7,200		
13B	6	2.1	7,200		
13C	6	2.1	7,200		
13D	5	2.2	6,000		
13E	5	2.1	6,000		
13F	4	1.7	4,800		
13G	4	1.5	4,800		
13H	4	1.4	4,800		
13J	4	2.0	4,800		
13K	3	2.2	3,600		
13L	4	2.0	4,800		
13M	4	1.3	4,800		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**66,000**	**1.92**	**1266**

RESOURCE ESTIMATE CALCULATION SHEET
PROJECT: North Avebury

ROW	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
2		1.21	87,600		
3		1.34	97,200		
4		1.39	124,800		
5		1.46	120,000		
6		1.62	150,000		
7		1.67	136,800		
8		1.58	91,200		
9		1.61	69,600		
10		1.63	67,200		
11		1.83	61,200		
12		1.82	66,000		
13		1.92	66,000		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**1,137,600**	**1.57**	**17809**

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**0**	**#DIV/0!**	**#DIV/0!**

RESOURCE ESTIMATE CALCULATION SHEET
PROJECT: South Avebury - north lens

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
1H	10	1.2	12,000		
1J	10	1.3	12,000		
1K	10	1.3	12,000		
1L	12	1.2	14,400		
1M	12	1.2	14,400		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**64,800**	**1.24**	**802**

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
2F	10	1.3	12,000		
2G	14	1.6	16,800		
2H	16	1.7	19,200		
2J	16	1.7	19,200		
2K	15	1.5	18,000		
2L	13	1.3	15,600		
2M	13	1.3	15,600		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**116,400**	**1.51**	**1753**

RESOURCE ESTIMATE CALCULATION SHEET
PROJECT: South Avebury - north lens

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
3D	10	1.2	12,000		
3E	10	1.2	12,000		
3F	12	1.3	14,400		
3G	16	1.6	19,200		
3H	17	1.8	20,400		
3J	17	1.8	20,400		
3K	15	1.7	18,000		
3L	14	1.4	16,800		
3M	13	1.3	15,600		
3N	10	1.2	12,000		
3P	10	1.0	12,000		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**172,800**	**1.46**	**2525**

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
4B	10	1.2	12,000		
4C	10	1.3	12,000		
4D	10	1.4	12,000		
4E	10	1.5	12,000		
4F	11	1.6	13,200		
4G	12	1.8	14,400		
4H	17	1.8	20,400		
4J	16	1.7	19,200		
4K	13	1.7	15,600		
4L	13	1.5	15,600		
4M	13	1.5	15,600		
4N	12	1.3	14,400		
4P	10	1.2	12,000		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**188,400**	**1.53**	**2876**

RESOURCE ESTIMATE CALCULATION SHEET
PROJECT: South Avebury - north lens

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
5A	10	1.2	12,000		
5B	10	1.3	12,000		
5C	8	1.3	9,600		
5D	6	1.5	7,200		
5E	6	1.8	7,200		
5F	8	1.8	9,600		
5G	10	1.8	12,000		
5H	12	1.7	14,400		
5J	15	1.6	18,000		
5K	13	1.6	15,600		
5L	12	1.5	14,400		
5M	13	1.4	15,600		
5N	11	1.3	13,200		
5P	10	1.2	12,000		
			0		
			0		
			0		
			0		
			0		
Row			**172,800**	**1.50**	**2584**

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
6A	10	1.2	12,000		
6B	8	1.4	9,600		
6C	6	1.9	7,200		
6D	6	1.9	7,200		
6E	6	1.9	7,200		
6F	8	1.8	9,600		
6G	10	1.7	12,000		
6H	11	1.7	13,200		
6J	13	1.5	15,600		
6K	12	1.5	14,400		
6L	12	1.5	14,400		
6M	13	1.3	15,600		
6N	11	1.2	13,200		
6P	10	1.1	12,000		
6R	8	1.2	9,600		
			0		
			0		
			0		
			0		
Row			**172,800**	**1.48**	**2564**

862082

RESOURCE ESTIMATE CALCULATION SHEET
PROJECT: South Avebury - north lens

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
7A	8	1.4	9,600		
7B	6	1.8	7,200		
7C	6	1.9	7,200		
7D	6	1.9	7,200		
7E	6	1.8	7,200		
7F	9	1.5	10,800		
7G	10	1.5	12,000		
7H	10	1.5	12,000		
7J	10	1.4	12,000		
7K	10	1.4	12,000		
7L	10	1.3	12,000		
7M	11	1.2	13,200		
7N	10	1.1	12,000		
7R	8	1.3	9,600		
			0		
			0		
			0		
			0		
			0		
Row			**144,000**	**1.46**	**2096**

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
8A	6	1.5	7,200		
8B	6	1.7	7,200		
8C	6	1.8	7,200		
8D	6	1.8	7,200		
8E	8	1.6	9,600		
8F	10	1.5	12,000		
8G	10	1.5	12,000		
8H	10	1.5	12,000		
8J	10	1.3	12,000		
8K	10	1.2	12,000		
8L	10	1.2	12,000		
8R	6	1.4	7,200		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**117,600**	**1.47**	**1728**

862083

RESOURCE ESTIMATE CALCULATION SHEET
PROJECT: South Avebury - north lens

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
9A	6	1.5	7,200		
9B	6	1.6	7,200		
9C	6	1.7	7,200		
9D	8	1.7	9,600		
9E	10	1.5	12,000		
9F	10	1.4	12,000		
9G	10	1.3	12,000		
9H	10	1.3	12,000		
9J	10	1.2	12,000		
9R	5	1.6	6,000		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**97,200**	**1.45**	**1409**

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
10A	6	1.5	7,200		
10B	6	1.6	7,200		
10C	6	1.6	7,200		
10D	8	1.6	9,600		
10E	10	1.4	12,000		
10F	10	1.3	12,000		
10G	10	1.2	12,000		
10R	6	1.6	7,200		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**74,400**	**1.45**	**1075**

RESOURCE ESTIMATE CALCULATION SHEET
PROJECT: South Avebury - north lens

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
11R	6	1.6	7,200		
11A	6	1.6	7,200		
11B	6	1.6	7,200		
11C	6	1.6	7,200		
11D	6	1.4	7,200		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**36,000**	**1.56**	**562**

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**0**	**#DIV/0!**	**#DIV/0!**

RESOURCE ESTIMATE CALCULATION SHEET
PROJECT: South Avebury - north lens

Row	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
1		1.24	64,800		
2		1.51	116,400		
3		1.46	172,800		
4		1.53	188,400		
5		1.50	172,800		
6		1.48	172,800		
7		1.46	144,000		
8		1.47	117,600		
9		1.45	97,200		
10		1.45	74,400		
11		1.6	36,000		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**1,357,200**	**1.47**	**19997**

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
north		1.47	1,357,200		
south		1.47	543,600		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**1,900,800**	**1.47**	**27942**

RESOURCE ESTIMATE CALCULATION SHEET
PROJECT: South Avebury - south lens

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
C1	4	1.2	4,800		
D1	4	1.4	4,800		
E1	4	1.5	4,800		
F1	4	1.5	4,800		
G1	4	1.2	4,800		
K1	5	1.5	6,000		
L1	8	1.7	9,600		
M1	8	1.7	9,600		
N1	5	1.3	6,000		
P1	5	1.2	6,000		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**61,200**	**1.46**	**893**

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
C2	4	1.4	4,800		
D2	4	1.5	4,800		
E2	5	1.5	6,000		
F2	5	1.5	6,000		
G2	4	1.5	4,800		
K2	10	1.6	12,000		
L2	12	1.7	14,400		
M2	11	1.7	13,200		
N2	10	1.5	12,000		
P2	5	1.2	6,000		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**84,000**	**1.55**	**1304**

862087

RESOURCE ESTIMATE CALCULATION SHEET
PROJECT: South Avebury - south lens

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
A3	4	1.2	4,800		
B3	4	1.3	4,800		
C3	5	1.5	6,000		
D3	5	1.5	6,000		
E3	5	1.5	6,000		
F3	5	1.5	6,000		
G3	6	1.5	7,200		
H3	8	1.5	9,600		
J3	11	1.7	13,200		
K3	11	1.7	13,200		
L3	11	1.7	13,200		
M3	10	1.5	12,000		
N3	6	1.4	7,200		
P3	6	1.2	7,200		
			0		
			0		
			0		
			0		
			0		
Row			**116,400**	**1.52**	**1772**

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
A4	5	1.5	6,000		
B4	5	1.5	6,000		
C4	5	1.5	6,000		
D4	6	1.4	7,200		
E4	6	1.4	7,200		
F4	8	1.4	9,600		
G4	10	1.5	12,000		
H4	10	1.6	12,000		
J4	10	1.6	12,000		
K4	10	1.4	12,000		
L4	10	1.5	12,000		
M4	8	1.4	9,600		
N4	5	1.3	6,000		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**117,600**	**1.47**	**1730**

862088

RESOURCE ESTIMATE CALCULATION SHEET
PROJECT: South Avebury - south lens

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
A5	5	1.5	6,000		
B5	5	1.5	6,000		
C5	5	1.5	6,000		
D5	6	1.4	7,200		
E5	7	1.4	8,400		
F5	10	1.4	12,000		
G5	10	1.4	12,000		
H5	10	1.3	12,000		
J5	10	1.3	12,000		
K5	10	1.3	12,000		
L5	7	1.3	8,400		
M5	7	1.2	8,400		
X5	5	1.5	6,000		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**116,400**	**1.37**	**1592**

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
X6	5	1.5	6,000		
A6	5	1.5	6,000		
B6	6	1.5	7,200		
C6	8	1.5	9,600		
D6	8	1.4	9,600		
E6	8	1.3	9,600		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**48,000**	**1.44**	**691**

RESOURCE ESTIMATE CALCULATION SHEET
PROJECT: South Avebury - south lens summary

Row	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
1		1.46	61,200		
2		1.55	84,000		
3		1.52	116,400		
4		1.47	117,600		
5		1.37	116,400		
6		1.44	48,000		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**543,600**	**1.47**	**7979**

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**0**	**#DIV/0!**	**#DIV/0!**

RESOURCE ESTIMATE CALCULATION SHEET
PROJECT: Avebury Summary

Block	Grade	Tonnes	Av. Grade	Contained Ni
North Avebury	1.6	1,150,000		
		0		
South Avebury		0		
north lens	1.5	1,350,000		
		0		
South Avebury		0		
south lens	1.5	550,000		
		0		
		0		
		0		
		0		
		0		
		0		
		0		
		0		
		0		
		0		
		0		
		0		
Row		**3,050,000**	**1.51**	**45985**

Block	Hor Width	Grade	Tonnes	Av. Grade	Contained Ni
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
Row			**0**	**#DIV/0!**	**#DIV/0!**