Hill End Gold Limited [HEG]

HEG is resuming gold production from the historic 1.5Moz Hill End goldfield, which lies in a major gold province hosting world-class operations.

The 400,000oz Hawkins Hill underground gold mine (HEG 100%) had an average grade of ~250g/t.

WHIS has a base case minimum appraised value for HEG of approximately A$0.30 per share.

PER of 4.4 times and EPS of A6¢ expected in FY05.

CAPITAL STRUCTURE

ASX Code	HEG
Share price	A$0.25
Market capitalisation[1]	A$9.0m
Shares on issue[2]	36,175,471
Options on issue[2]	9,515,728
Unlisted options	950,000
12-month low-high	A$0.185-A$0.28
12-month volume	7,669,756

[1]Undiluted, [2]includes escrowed. *Source: IRESS*

DIRECTORS

Non-exec Chairman	Alf Paton
MD/CEO	Graham Reveleigh
Executive Director	Philip Bruce
Non-exec Director	Ian Sloan

TOP 5 SHAREHOLDERS

Graham Reveleigh	10.7%
Philip Bruce	6.6%
Mr & Mrs Turner	3.1%
Mr Eduardo Siao	2.9%
First Assoc. Inv. Inc	2.6%

Source: HEG

REGISTERED OFFICE

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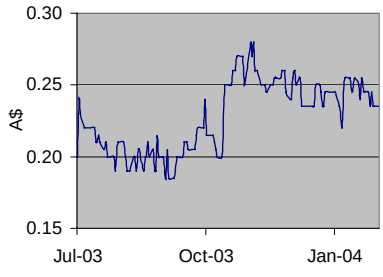
12 MONTH PRICE CHART



Source: IRESS

KEY POINTS

- The Hill End goldfield is located in the north-east of the Lachlan Fold Belt, an area which has 25Moz gold in development and historic production.
- HEG holds 880km^2 of tenements over a 35km length of old gold workings along the strike of the Hill End Anticline.
- HEG has intersected high grade gold mineralisation of up to 547g/t over 0.33m at the Reward area, which may represent an unmined northerly extension of the Hawkins Hill deposit, which had around 400,000oz of gold production **at an estimated grade of 250g/t** during the 1870s.
- HEG aims to have production from a redeveloped Hawkins Hill by end-MQ04 and from the Reward area by early-2005.
- The Red Hill and Clines Gully projects, where HEG is outlining shallow oxide resources, have a combined strike length of around 6km (four times Hawkins Hill-Reward). Both projects could also yield down plunge repetitions of Hawkins Hill-type mineralisation and are considered potential 'company makers'.
- Red Hill-Clines Gully development decisions are expected by mid-2004, with production possible by mid-2005.
- ***There has been virtually no modern exploration in the rest of the Hill End goldfield and in addition to repetitions of high grade mineralisation, HEG also sees good potential for larger tonnage, Telfer-style gold deposits.***
- ***Hawkins Hill-Reward and the recent oxide discoveries offer potential gold production over the next 2-3 years, during which time longer term strategies for the under-explored goldfield can be assesed.***
- ***The Company's market capitalisation of just A$9.0m provides shareholders with excellent leverage to imminent high grade gold production and potential large scale gold discoveries.***

EARNINGS FORECAST

Year end 30th June		FY04E	FY05F	FY06F
Revenue	*A$m*	0.5	6.8	11.0
EBITDA	*A$m*	0.3	4.6	6.8
Net earnings	*A$m*	0.2	3.2	3.7
EPS	*A¢*	0.4	6.0	7.0
PER	*times*	66.8	4.4	3.8
Shares on issue*	*m*	45.8	55.3	55.3

**Assumes current placement fully subscribed, SPP 30% subscribed, all options exercised and no further rasings.* *Source: WHIS estimates*

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Profile

HEG listed on the ASX in July 2003 (A$2.7m IPO) and has evolved from several joint ventures that began in the early 1980s. The existing mining leases were initially consolidated by small local and Canadian companies while some mine redevelopment was carried out by ASX listed Northern Gold NL during the 1980s. BHP Exploration drilled for extensions to the old Hawkins Hill workings, while more recent efforts have also outlined open cut potential. Total exploration expenditure between 1983 and 1995 was approximately A$6m.

Hill End was the site of the first reef gold mining in Australia and since its discovery in the 1850s, has yielded around 1.5Moz from high grade ore and associated alluvials. Production at the 400,000oz Hawkins Hill deposit peaked in 1872, at which time it was known as the 'Richest Quarter Mile in the World', with an estimated recovered grade of approximately 250g/t (80z/t) gold.

Alluvial production of around 1Moz is recorded and a further 200,000oz is reported from reefs at Red Hill and Clines Gully. Hawkins Hill was very rich, often with yields of several hundred ounces per tonne, but the large number of small leases (10-40m strike lengths) prevented effective mining.

Leases were consolidated during the early 1980s and by 1983, Silver Orchid Pty Ltd held 80% and First Tiffany 20% (non-contributing) of the MLs and ELs that covered the main area of old workings. Although First Tiffany retains a 15% interest in certain parts of EL5868, this does not cover the Hawkins Hill-Reward area.

HEG expects the first gold production to come from stope fill during MQ04, with new stope mining likely to commence by end-2004, producing at least 20,000oz p.a. from high-grade ore.

HEG's Hill End tenements

Tenement	*Area*	*Ownership*
EL 5868[1]	324km^2	HEG 100%
EL 6119	300km^2	HEG 100%
EL 6125	255km^2	HEG 100%
GL 5846	2.044 ha	HEG 100%
ML 49	1.618 ha	HEG 100%
ML 50	3.02 ha	HEG 100%
ML 315	6.671 ha	HEG 100%
ML 316	8.846 ha	HEG 100%
ML 317	7 ha	HEG 100%
ML 913	22 ha	HEG 100%
ML 914	21.69 ha	HEG 100%
ML 915	13.27 ha	HEG 100%
ML 1541	279ha	HEG 100%
MLA 1116	15.71 ha	HEG 100%

[1]First Tiffany retains a 15% interest in certain southern parts of EL5868, but not including Hawkins Hill-Reward.
Source: HEG

Directors

Non-executive Chairman, Alfred Paton: Engineer with over 50 years of experience and current chairman of AustPac Resources NL. Former MD and chairman of Placer Pacific Ltd and Kidston Gold Mines Ltd and director of Placer Dome Inc.

MD, Graham Reveleigh: Geologist with 37 years of experience. Previously with Northern Gold NL at Hill End, Elders Resources at Red Dome (QLD), Cyprus Gold Australia Corp. (NT), Arimco at Gold Ridge (Solomons) and Pacific Delta for Kennecott (Lihir).

Executive Director, Philip Bruce: Mining engineer with 25 years of experience. Former CEO of PT BHP Indonesia and director of Buka Minerals Ltd, Ausmelt Ltd, MD of Triako Resources Ltd and GM – Development for Plutonic Resources Ltd.

Non-executive Director, Ian Sloan: Mechanical engineer previously with Nauru Phosphate Corporation and National Manufacturing Manager for Harbison ACI Pty Ltd.

Top 10 shareholders

Name	*Shares*	*%*
G E Reveleigh & Co Pty Ltd (Graham Reveleigh)	3.87m	10.7
Diazill Pty Ltd (Philip Bruce)	2.39m	6.6
Mr Gary Michael Turner & Mrs Gillian Turner	1.11m	3.1
Mr Eduardo Siao	1.04m	2.9
First Associates Investments Inc	0.93m	2.6
Mr Nigel Kirwan	0.81m	2.2
CDS & Co	0.69m	1.9
AT McDonald & WM McDonald	0.66m	1.8
Mr Robert Wallace McRae	0.65m	1.8
BMO Nesbitt Burns Inc	0.55m	1.5

Source: HEG

Financial history

Year end 30th June		2002	2003
Gross assets	*A$m*	1.59	1.61
Net assets	*A$m*	1.11	1.36
Debt	*A$m*	0.00	0.00
Cash*	*A$m*	0.02	0.02
Earnings	*A$m*	-0.59	-0.29

**Cash at end-DQ03 A$1.7m* *Source: HEG*

Investment Review

Hill End Gold Ltd (HEG) holds 880km^2 of tenements over the Hill End Anticline, a highly prospective geological structure located in the north-east of the world class Lachlan Fold Belt.

HEG aims to have gold production from the redeveloped high grade Hawkins Hill deposit by end-MQ04 and from the newly identified Reward area (where drilling results include 17.6oz/t gold over 0.33m) by early-2005.

The 1.5Moz Hill End goldfield should be seen in the context of the large gold endowment discovered to date in the north-east of the Lachlan Fold Belt – it is only 50km from Cadia-Ridgeway (>20Moz) and 25km from Lewis Ponds (0.6Moz gold equivalent). As at Bendigo and Ballarat, gold mineralisation is hosted by an anticlinal system and grades are often extremely high – e.g. Hawkins Hill reported production of 0.4Moz at ~250g/t.

Recent shallow oxide discoveries at Red Hill-Clines Gully are very encouraging. These cover a much longer strike length of the Hill End Anticline and given the depth potential, could yield major 'company making' gold operations. Development decisions are expected by mid-2004 and production is possible by mid-2005.

Hawkins Hill-Reward covers a strike length of around 1.5km, however, a 35km strike length of the Hill End Anticline has yielded gold. There has been virtually no modern exploration over this area and in addition to repetitions of substantial high grade shoots, HEG also sees good potential for larger Telfer style gold deposits.

Valuation

At Hawkins Hill-Reward HEG will initially operate a small high grade underground gold mine feeding a 50,000t p.a. gravity mill, with more than 20,000oz p.a. production likely from ore grading at least 15g/t.

Scenario	grade g/t	Prodn. oz gold p.a.	Ore body as % of Hawkins Hill[1]	After tax cash flow p.a.	Project after tax NPV$_{10\%}$	Appraised Value[2]	Per share[3]
Base Case	15	22,000	55% (220koz)	A$5m	A$22m	A$14m	A$0.30
Higher Grade	25	36,000	90% (360koz)	A$10m	A$45m	A$25m	A$0.55
Bulk Mining	7.5	55,000	130% (520Koz)	A$15m	A$60m	A$34m	A$0.75

[1]Estimate of size of ore body required to sustain 10 year operation, [2]assumes a 50% likelihood of HEG developing the operation in question, [3]undiluted

Source: WHIS estimates

WHIS has a conservative minimum Base Case appraised value for HEG of A$0.30 per share (undiluted).

This assumes a 50% likelihood that a 10 year, ~20,000oz p.a. Hawkins Hill-Reward operation is developed.

In this scenario annual operating cash flow (after tax) from mid-2005 should be around A$5m (US$400/oz or A$506/oz gold price), leaving HEG on a cash flow multiple of 1.8 times.

The 15g/t used in the WHIS Base Case is far less than the historic average for Hawkins Hill (250g/t) and therefore significant upside remains – a 'Higher Grade' scenario has an appraised value of A$0.55 per share.

It is unlikely that a longer-term operation would produce at 250g/t (lower-cost bulk mining would probably be more viable and lead to dilution), however, significantly higher grades may occur in the early years.

If sufficient resources are outlined at Hawkins Hill-Reward then low cost bulk mining may be viable and WHIS has an appraised value for a 'Bulk Mining' scenario of A$0.70 per share (N.B. if the Hawkins Hill deposit was found today it would probably be a bulk minebale 3Mt at 10g/t for 1Moz).

Although a 0.5Mt p.a. Red Hill-Clines Gully open pit operation has an NPV of A$15-20m, WHIS is assigning a total option value of A$3m for its appraisal pending further drilling successes. Nevertheless, both projects offer potential major long term growth, especially if down plunge Hawkins Hill repetitions are intersected at depth.

HEG's relatively small market capitalisation of around A$9.0m leaves shareholders with excellent leverage to high grade gold production and a good chance of future gold discoveries.

Valuation matrix

A$m unless stated Year end 30th June	FY02	FY03	FY04E	FY05F	FY06F	Book value A$m	Book value A$/sh	Appraised value[2] A$m	Appraised value[2] A$/sh
Hawkins Hill-Reward[1]	-	-	0.3	4.5	6.6	1.5	0.04	16.7	0.36
Red Hill-Clines Gully[1]	-	-	-	-	-	-	-	3.0	0.07
Net 'other items'	-0.6	-0.3	-0.1	-0.2	-1.2	-0.2	0.00	-1.1	-0.02
Net interest	0.0	0.0	0.0	-0.2	-0.2	-	-	-0.2	0.00
Pre-tax	**-0.6**	**-0.3**	**0.2**	**4.2**	**5.3**	**1.4**	**0.04**	**18.4**	**0.40**
Income tax	0.0	0.0	0.0	-1.0	-1.6	-	-	-4.4	-0.10
After tax	**-0.6**	**-0.3**	**0.2**	**3.2**	**3.7**	**1.4**	**0.04**	**13.9**	**0.30**

[1]EBIT, [2]Base Case scenario – see above.

Source: HEG and WHIS estimates

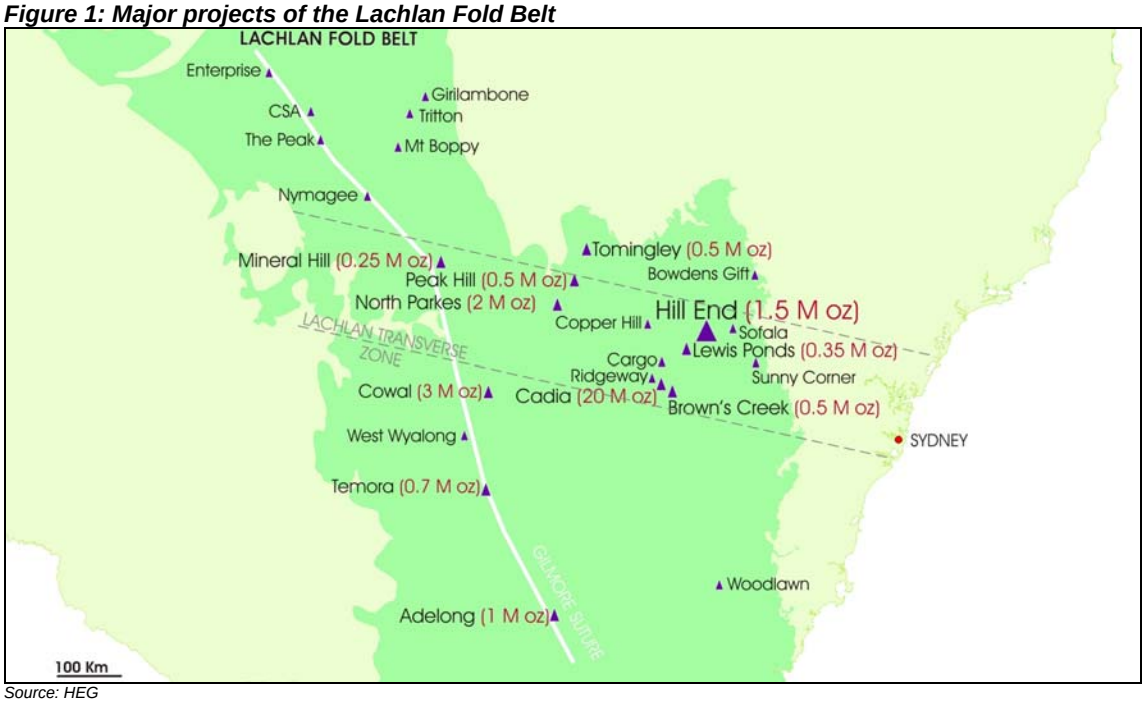
The Lachlan Fold Belt

The Hill End goldfield is located in the north-east of the Lachlan Fold Belt, a mineral province that is Australia's fastest growing gold producing area with over 20Moz in new projects developed since the 1980s.

Significant projects include Cadia-Ridgeway, Cowal, Browns Creek, Lewis Ponds, Sunny Corner, Cargo, Tomingley, Peak Hill, Northparkes, Mineral Hill and the deposits near Hill End such as Sofala, Wattle Flat, Hargraves and Bowdens Gift.

Gold deposit types in the Hill End Trough include volcanic-hosted massive sulphide, low-sulphur orogenic gold, intrusive related skarns, epithermal and porphyry hosted gold.

Figure 1: Major projects of the Lachlan Fold Belt



Source: HEG

Since exploration took off in the late 1970s the north-eastern Lachlan Fold Belt has quickly become one of the most important regions of economic mineralisation in Australia and now hosts a number of epithermal and world class porphyry associated mineral deposits.

The most important Lachlan Fold Belt gold deposits tend to be large tonnage and moderate grades, although all contain high grade zones (N.B. Newcrest's Cadia-Ridgeway deposits have some of the highest gold grades of any known porphyry associated copper-gold ore bodies in the world).

The LFB is an excellent example of tectonic plate subduction and continental accretion through andesitic volcanism and 'island arc' formation. Volcanism has produced strings of volcanic peaks that become islands, with limestone reefs around their edges and classic turbidites, shales and slates within inter island sedimentary basins. Porphyries (plutonic intrusive bodies) are common and, along with the volcanics, provide mineralising fluids of which have typically exploited faulting along volcanic-sediment contacts.

The Hill End Zone represents the north-eastern section of the Lachlan Fold Belt and is a sedimentary trough with several north-south trending anticlinal fold belts. Mineralising fluids from volcanics and intrusions have found hosts in the volcanics and intrusives themselves and also sedimentary units.

Despite a long history of mining and the obvious prospectivity of the north-eastern Lachlan Fold Belt, it still remains significantly under-explored when compared to other Australian mineral provinces.

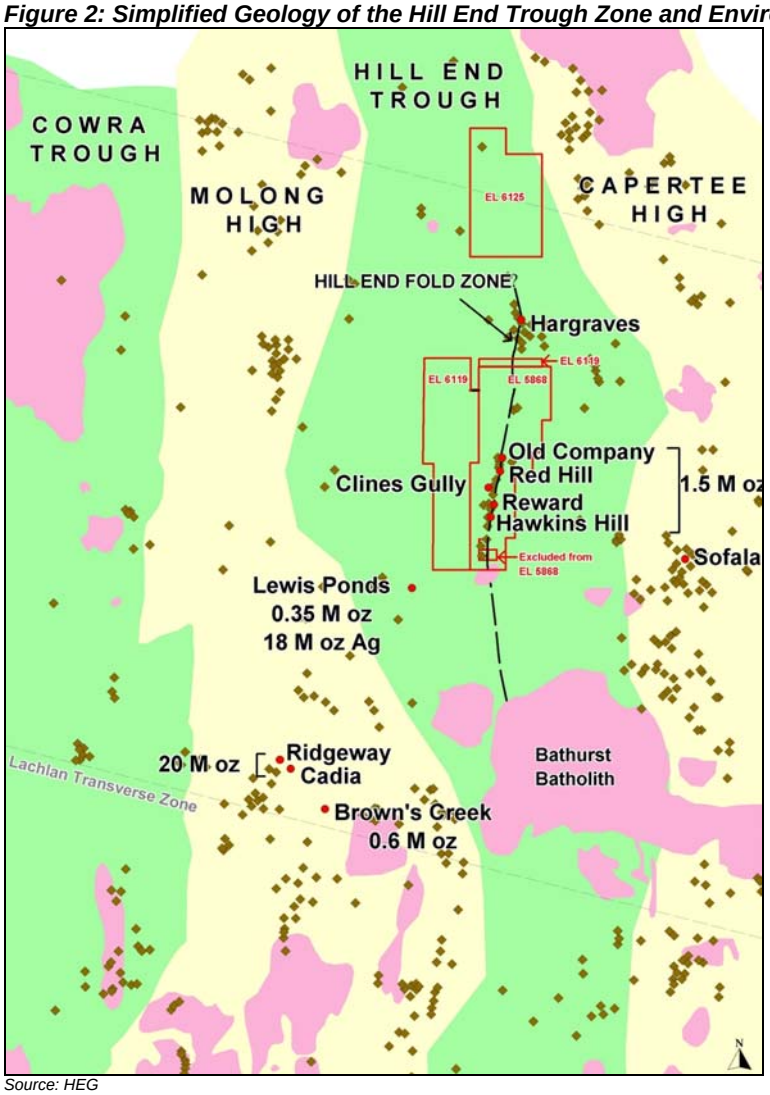
The application of new exploration techniques and a greater geological understanding of the area should lead to further discoveries in this highly prospective region.

Hill End Anticline

The Hill End goldfield is located within the Hill End Trough, a northerly trending sedimentary basin formed between the middle-Silurian and middle-Devonian periods approximately 400 million years ago (400Ma).

The Hill End mineral system is the largest of its kind within the Hill End Trough with a known strike length of approximately 35km, with most of its gold mines hosted by an 8km section. Gold production from the Hill End goldfield since the mid-1800s is estimated at 1.5Moz, with 400,000oz from Hawkins Hill.

Figure 2: Simplified Geology of the Hill End Trough Zone and Environs



Green – Younger trough volcanics and sediments
Yellow – Older volcanics and intrusives
Pink – Later igneous intrusives

Source: HEG

The regional picture clearly shows both the strong north-south trend of gold mineralisation and the proximity of HEG's ground to major gold deposits, including Cadia-Ridgeway, just 50km to the south west.

HEG has tenements covering 35km (880km^2) of the Hill End Anticline, with EL5868 along the main axis of the anticline and covering the Company's immediate targets, and EL6119 adjacent to the west.

EL6125 is located to the north in an area adjacent to old gold workings near Mudgee.

The Hill End Anticline – continued

Gold mineralisation at Hill End is controlled by the Hill End Anticline (~8km wide and at least 70km long), which was formed during the early Carboniferous (~350Ma) when the Hill End Trough underwent east-west compression.

During the Middle Carboniferous (20-30Ma), the Bruinburn Granite was intruded into the axis of the anticline, around 15km to the south of the Hill End township. This intrusion seems to be related to the Lachlan Transverse Zone, a basement feature controlling mineralising fluid flow, and the much larger Bathurst Granite, which crops out 20km further to the south and covers an area of around 200km^2.

In the Hill End area, the Hill End Anticline plunges 10° to the north and has a maximum dip on its limbs of 60°.

Gold mineralisation:

Some of the world's highest grade gold ore was mined at Hawkins Hill, with the reported 400,000oz of production during the 1870s estimated to have been mined at an average grade of 250g/t (8oz/t).

Most of the area's gold mineralisation is associated with a series of bedding parallel quartz veins that occur near to the axial plane of the Hill End Anticline along both the eastern and western limbs, although minor production has also come from other mineralisation styles including cross courses and saddle reefs.

These strongly mineralised zones are typically 50-100m in width and several kilometres in length and have recently been identified in the Red Hill and Clines Gully project areas.

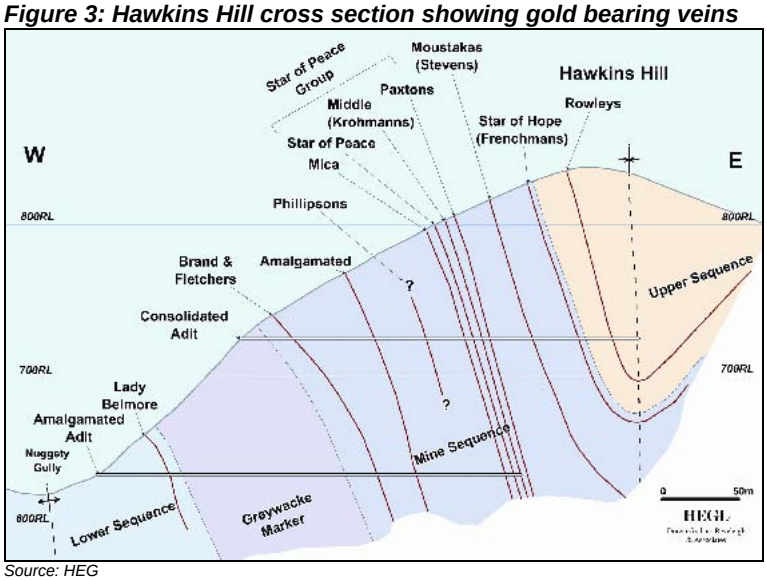
Gold mineralisation is controlled by the structural competency of the host rocks, the depth of burial and the rock chemistry and favourable stratigraphy in HEG tenements crops out over a strike length of 35km, from Chambers Creek in the south to Dun Dun in the north.

Free gold occurs as discrete grains, typically 30µm (microns) to 10s of mm in size, and in rich ore shoots it forms narrow seam-like zones. It is typically encountered with quartz, muscovite or calcite and although it can be found in contact with sulphides (pyrrhotite, galena and chalcopyrite) it is not refractory in nature.

Given the lack of exploration and the new understanding of the structural controls of mineralisation, HEG believes there is a good chance of repetitions of the surface deposits along strike and at depth.

Most of the historic production from the Hill End goldfield came from a relatively short section of the Hill End Anticline, in an area referred to as Hawkins Hill. Mineral deposition is thought to have occurred in a number of stages, with most of the gold deposited after the major stage of quartz vein mineralisation.

Figure 3: Hawkins Hill cross section showing gold bearing veins



Source: HEG

At Hawkins Hill up to eleven separate veins are recognised in the eastern limb of the anticline.

The majority of past production came from the Mica, Star of Peace, Middle Workings and Paxton veins, which occur within a 15-20m wide central zone.

If it was discovered today, this zone would probably be a 1Moz bulk mineable proposition with 3Mt at around 10g/t.

This is the potential model for the Reward area and the as yet unidentified depth extensions at Red Hill and Clines Gully.

Red Hill Project

The Red Hill Project is located approximately 5km north of the Hill End township, on the eastern flank of the Hill End Anticline. The project area had minor high grade gold production in the late 1800s of around 100,000-200,000oz from similar quartz veins to Hawkins Hill. Significantly these are not at the same stratigraphic level as those mined at Hawkins Hill.

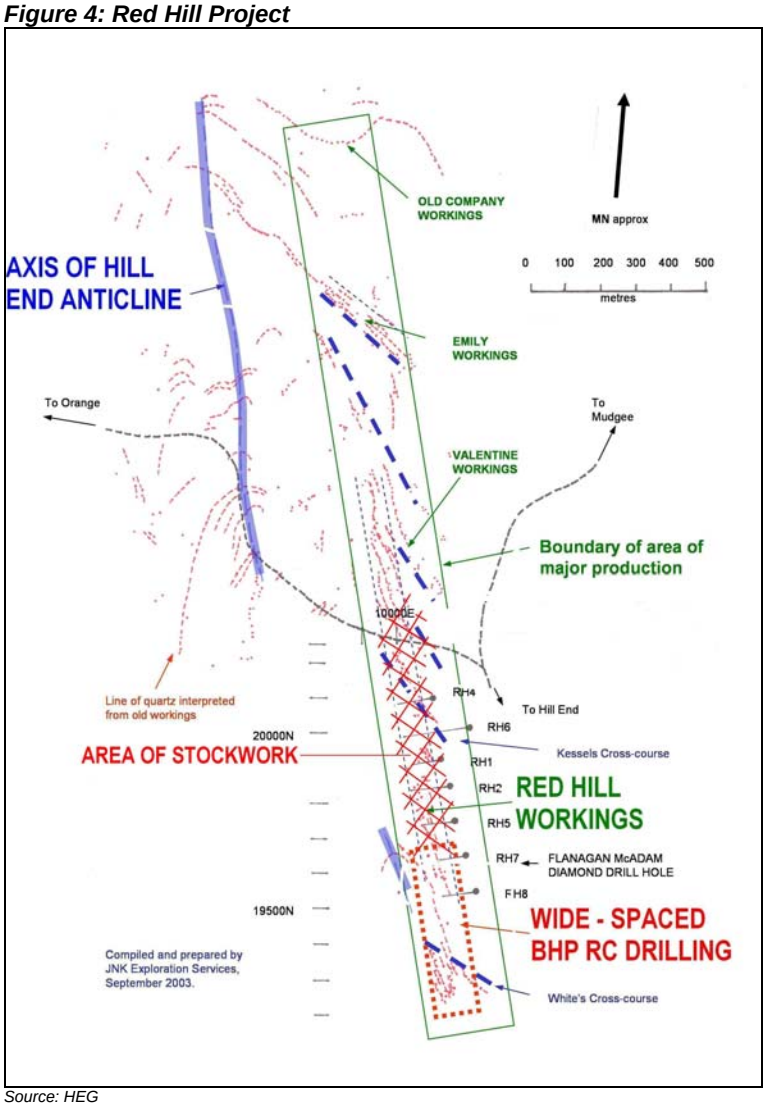
Historically, the Red Hill operations were operated by small enterprises mostly using funding from successes at Hawkins Hill. When the Hawkins Hill operations began to scale back in the late 1800s as the workings became deeper (i.e. more expensive to pump water), the Red Hill mines, which were also deepening, could not be sustained by the limited production.

During exploration in DQ03, HEG sampled an outcrop of stockwork style gold mineralisation at the northern end of the project area and composite grab samples assayed 46.6g/t gold (repeat 21.6g/t), 3.1g/t and 12.1g/t.

This has extended the strike length of the known zone of stockwork mineralisation by approximately 700m to the north of the shallow oxide prospect outlined by BHP Exploration in 1989.

The Red Hill-Old Company structural zone is approximately 3km in strike length, 50-100m in width and is deeply weathered to around 70m.

Figure 4: Red Hill Project



Source: HEG

During the mid-1980s, Red Hill Exploration completed eight HQ diamond drill holes on the Red Hill project (1,674m).

These were designed to intersect down dip projections of surface workings and five of the holes returned high grade, narrow intersections. The best result was 117.5g/t over 0.11m from 113.37m, with visible gold noted.

In 1989, BHP drilled 28 RC holes (2,248m) in 13 traverses to a depth of around 80m and gold in excess of 1g/t was intersected in 20 of them (southern end of figure 4).

The most significant result was from hole HERH 7, where an 18m intersection at 1.51g/t from 59m included 4.99g/t over 3m.

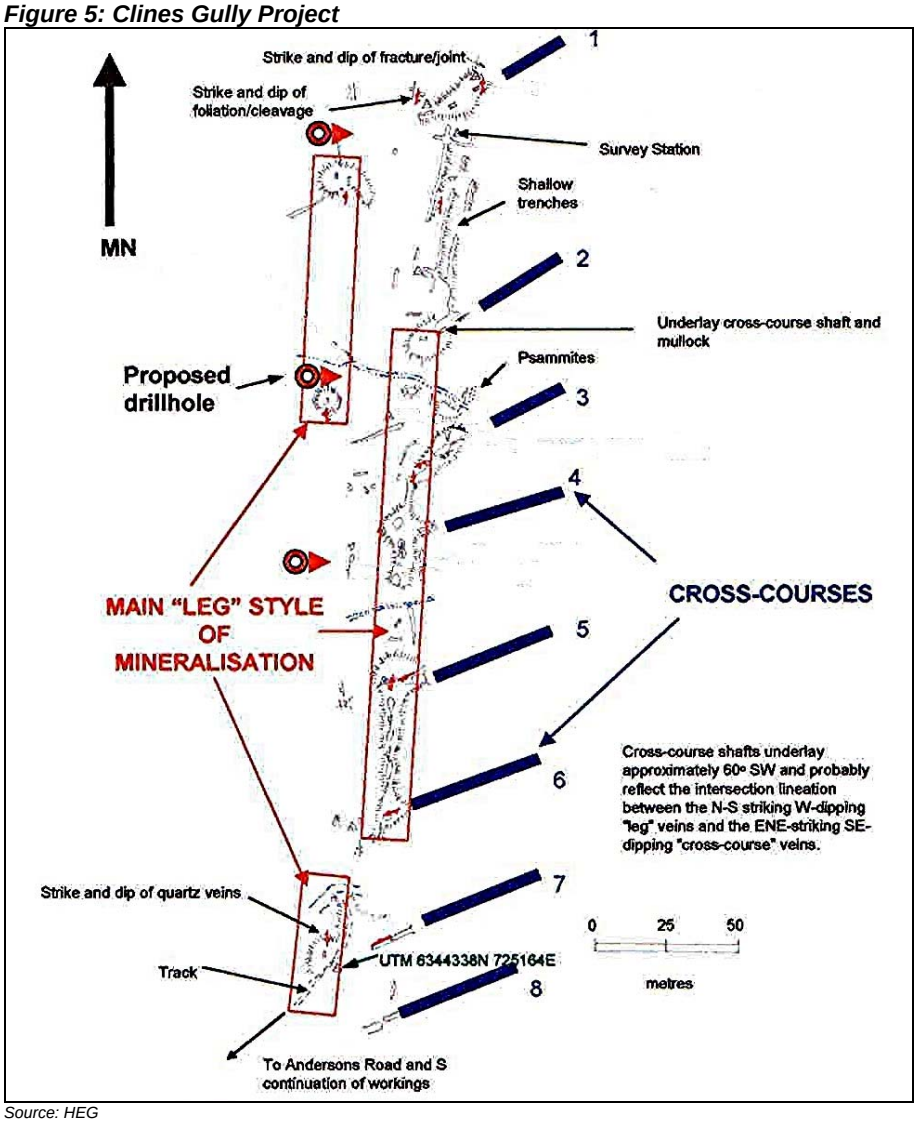
Clines Gully Project

The Clines Gully project is located 2km north-west of the Hill End township, on the Hill End Anticline's western flank. At present known mineralisation covers an area of about 3km by 50-100m although it is open along strike and down dip.

Production at Clines Gully pre-dated Hawkins Hill, therefore the lack of early success was such that the operations were all but abandoned when the rich veins to the south-east were discovered. This is significant as most mineralisation since then has been outlined on the eastern flank, although there is no clear reason why the western flank should not be as well endowed.

Mineralisation at Clines Gully itself is found where a cross-cutting mineralised structural zone (cross-course) intersects bedding parallel veins. Although the area was mined in the mid-1800s, the old timers seem to have focused on the bonanza grade ore shoots, which occur at the immediate intersection of the cross-courses and bedding. The weathered mineralisation halo and *in situ* veins were left because of their lower grade.

Figure 5: Clines Gully Project



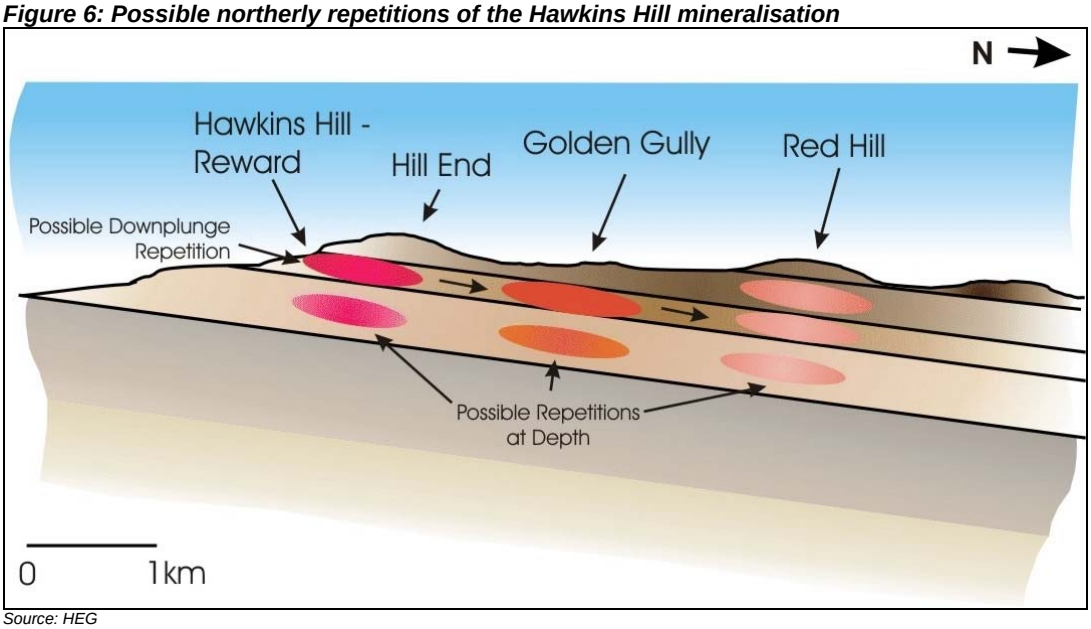
Source: HEG

Red Hill-Clines Gully Summary

- *Early miners at both Red Hill and Clines Gully faced similar problems. Small lease holders were capital constrained and therefore unable to effectively manage the pumping requirements nor develop below around 70m (i.e. the level of oxidation). Furthermore, shafts on small leases had to deepen at similar rates to prevent water ingress and of course the limited initial successes did not help.*

- *It is worth noting that down plunge stratigraphic continuation of the Hawkins Hill bonanza grade mineralisation would pass beneath the Red Hill area at around 500m below surface – well within the bounds of modern underground mining but significantly deeper than the early miners reached.*

Figure 6: Possible northerly repetitions of the Hawkins Hill mineralisation



Source: HEG

- *At these projects HEG has the advantage of being able to outline resources because they are easier to drill being near surface and also the gold mineralisation is more disseminated due to oxidation.*

- *Operating costs should be relatively low for both projects given that mineralisation appears to be near surface. Capital costs will need to cover a new plant capable of treating oxide ore (i.e. not the existing plant for the underground operation), although they are unlikely to exceed A$5-7m.*

- *An initial diamond and RC drilling programme is underway over both the Red Hill and Clines Gully projects and resource drilling and engineering studies will follow as appropriate.*

- *A development decision is expected by mid-2004, with production possible by mid-2005.*

- *The combined strike lengths of Red Hill-Clines Gully are around 6km (four times Hawkins Hill-Reward), however, the associated vein systems are known to extend for at least 35km. There has been virtually no modern exploration in the rest of the goldfield therefore the potential for further discovery is high.*

Hawkins Hill-Reward

The recent Reward drilling proves that additional, unmined mineralisation occurs in Hawkins Hill.

These shoots show the same narrow veins and very high grades that were mined previously and although their existence proves that the predictions of repetitions in this area were correct, early miners did not develop at sufficient depth nor in the right location.

N.B. intersections of 546g/t (17.6oz/t) over 0.33m, 99g/t (3.2oz/t) over 0.10m and 72g/t (2.3oz/t) over 0.15m.

Reward drilling carried out by HEG in 1995

Hole No.	From (m)	To (m)	Intersection (m)	Grade (g/t)	Grade (oz/t)
NRI 5	193.45	193.59	0.14	24.41	0.82
	220.32	220.50	0.18	16.67	0.54
	220.87	221.20	0.33	**546.00**	17.60
	242.2	242.30	0.10	**42.00**	1.35
NRI 6	No significant value in veins.				
NRI 7	No significant values, however, hole stopped short of target veins.				
NRI 8	212.65	212.75	0.10	**98.70**	3.17
	235.25	235.40	0.15	9.76	0.31
NRI 9	199.17	199.25	0.08	11.80	0.38
	202.15	202.49	0.34	5.70	0.18
	220.18	220.25	0.07	12.70	0.41
	262.60	262.75	0.15	**71.60**	2.30

Source: HEG

HEG's development proposal for the Reward-Hawkins Hill can be summarised as follows:

1) Complete redevelopment of Amalgamated Adit ✓
HEG completed this in early February, at a cost of around A$100,000. The Amalgamated Adit can now be used as the main exploration tool for the initial integrated Hawkins Hill-Reward operation.

2) Redevelopment of Hawkins Hill including clearing and processing of stope fill
This will include the redevelopment of the Consolidated Adit, which will provide a second level of access for the integrated Hawkins Hill-Reward operations.

The removal of some stope fill from Hawkins Hill will allow improved access and it is expected that this will be carried out in parallel with general redevelopment of the mine and its stopes.

The Amalgamated Adit will allow HEG to remove and process stope fill, which could contain up to 100,000oz gold at 5-10g/t. Stope fill will be processed in the A$200,000 gravity plant located at the entrance to the Amalgamated Adit. Recoveries of more than 90% are expected with the plant initially operated on a batch basis, well below its capacity of around 20t/hour (~50,000t p.a.). Both mining and processing costs should be low at around A$10/t each, i.e. A$20/t total (whole ore basis).

Production from stope fill is likely to be carried out for at least 6-12 months.

3) Production from new stopes at Hawkins Hill
Furthermore, given the nature of the ore body and the difficulties that were faced by the old timers, HEG believes there is a good chance of encountering additional mineralisation both on the way to the Reward area (e.g. the Mica Vein is exposed in the adit at 375m from the portal) and within the Hawkins Hill deposit itself. It is possible that Hawkins Hill could yield a further 400,000oz, albeit at a lower grade.

Production from new stopes within Hawkins Hill is likely to commence within 6-9 months.

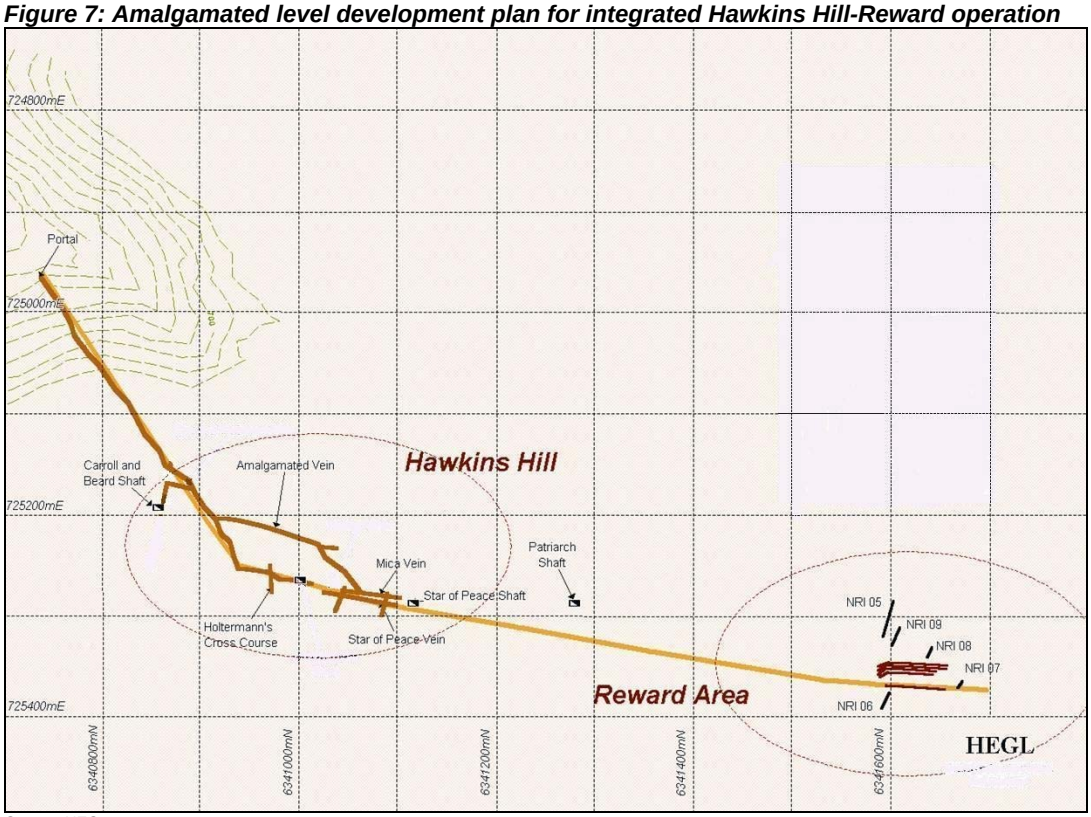
Hawkins Hill-Reward – continued

4) Access Reward area using existing and new development

The coarse grained nature of the area's gold mineralisation is such that reserves cannot readily be estimated, however, drilling to date has outlined high grade gold bearing quartz veins over a 100m by 100m area. This compares to the 400m by 200m area that yielded 400,000oz at Hawkins Hill.

HEG is to proceed to the Reward area using new development from the existing workings and then commence bulk sampling (effectively small scale mining) in order to delineate the scope of the Reward area and to assess the potential for further extensions.

Figure 7: Amalgamated level development plan for integrated Hawkins Hill-Reward operation



Source: HEG

Developing to the Reward area will cost around A$1m.

Access is expected by mid-2004, with production conservatively assumed to have started by early-2005.

Once the Amalgamated level has been extended to the Reward area (~400m beyond the known extent of development) it will be around 250m below surface and more than 100m deeper than previous development. The Amalgamated level is to be developed just beneath the interpreted down plunge extension of the Hawkins Hill mineralisation, while the Consolidated level is to be developed within it.

Hawkins Hill-Reward – continued

5) Mine the new Reward area

HEG believes that the Reward area may represent a 400,000-1Moz repetition of the high grade Hawkins Hill gold deposit. As already mentioned, outlining ore reserves by drilling at Hawkins Hill-Reward is not practical, therefore HEG needs to commence bulk sampling, effectively start mining.

HEG proposes to develop and delineate the Reward zone using a combination of tracked and trackless equipment and shrinkage stoping methods.

Within the Hawkins Hill deposit there are four main quartz lodes in a 20m thick zone, which contained some 75% of the gold produced. Repetitions of these lodes may be individually mined at Reward or, if a larger deposit similar to Hawkins Hill is delineated then bulk-mining techniques may enhance productivity.

Metallurgical test work indicates that the gold mineralisation is clean and free milling at a coarse liberation size, with recoveries of over 90% expected using a conventional gravity circuit. The treatment plant will not use a cyanide-based process.

Mined material will be screen upgraded through a static grizzly, with some underground waste discarded as blocky material and around 50% of mined material rejected from plant feed. Although it has a capacity of around 20t/hour (50,000tpa), the process facility will probably initially operate at less than 10t/hour.

It is proposed that the tailings storage facility will be located approximately 1.5km from the plant and that tailings water will be reclaimed to the plant or discharged into the drainage system as permitted.

Within 6-12 months the 50,000tpa capacity will likely be approached and at this rate around 20,000oz p.a. would be produced from ore grading around 10-15g/t, although this may be much higher, given the coarse nature of the gold mineralisation.

Operating costs should be little more than A$70/t for mining and A$5-10/t for milling giving a total cash cost around A$80/t or A$180/oz at 15g/t. WHIS has estimated the following operating earnings based on a 50,000tpa operation, 90% recovery, A$80/t operating costs and a A$400/oz (A$506/oz) gold price:

Gold grade g/t	Gold recovered ounces	After tax cash flow A$m	After tax cash flow multiple*
15	22,000	5	1.8 times
20	29,000	8	1.2 times
25	36,000	10	0.9 times
50	72,000	23	0.4 times
100	144,000	49	0.2 times

**At market capitalisation of A$9.0m* *Source: WHIS estimates*

6) Bulk mining at Hawkins Hill-Reward

If HEG is able to outline around 200,000-300,000oz of resources at Hawkins Hill then a bulk mining operation may be viable. This would involve building a new processing facility (probably around 250,000t p.a.), however, bulk mining techniques would significantly reduce operating costs to around A$15-20/t.

As already mentioned, if the Hawkins Hill ore body mined during the late 1800s was found today, the 15-20m central zone, from which most of the production was sourced, would probably be a more viable bulk mineable proposition of 3Mt at around 10g/t for nearer 1Moz than the reported 400,000oz.

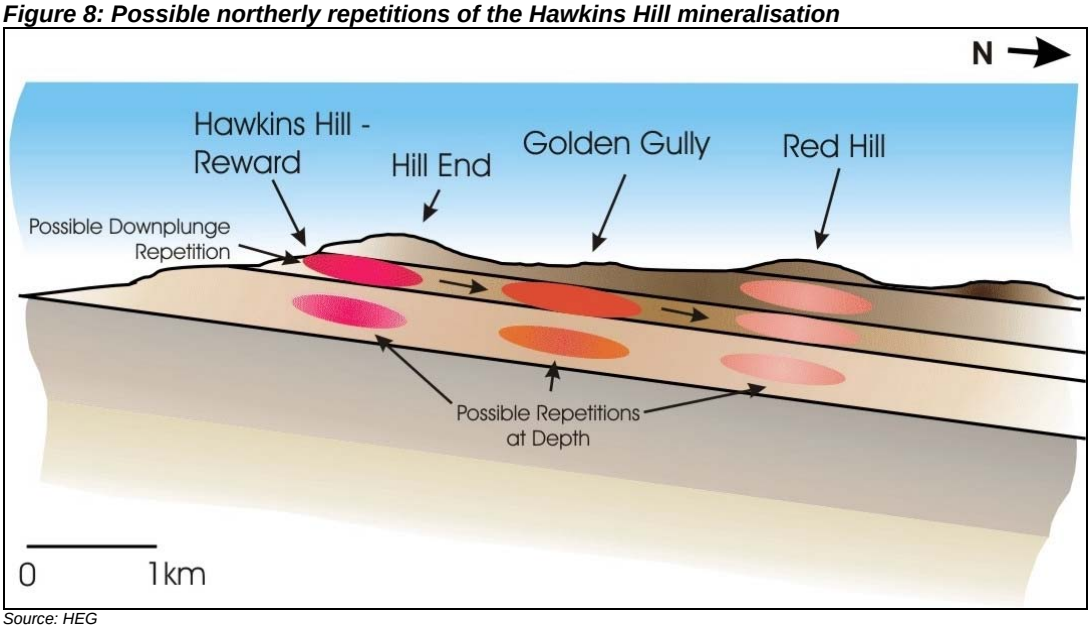
Hawkins Hill-Reward – continued

7) Ongoing northerly exploration using Amalgamated Adit

The Hill End vein system is known to extend north into the Golden Gully and Red Hill areas and therefore the newly identified Reward area mineralisation could extend for a significant distance at depth (as mentioned these could pass beneath the Red Hill area at approximately 500m below surface).

This model of downplunge and depth repetitions is similar to that being applied to the Bendigo, Fosterville and Ballarat goldfields of Victoria.

Figure 8: Possible northerly repetitions of the Hawkins Hill mineralisation



Source: HEG

The Amalgamated Adit will allow relatively low cost exploration for any northerly extensions of the gold bearing veins already mined at Hawkins Hill – cash flows from what could quickly become a significant NSW gold producing operation will provide funding.

History

Alluvial gold was first discovered in the Hill End area in the 1850s and by 1865 shallow rich veins were being mined at Hawkins Hill to the south of the Hill End township and in the Golden Gully area to the north.

During the 1860-70s the Hawkins Hill deposit yielded some of the world's richest ever gold ores, for example in 1872 4,200oz were recovered from just 2 tonnes in the Paxtons Claim, while the 300kg Holtermanns Nugget contained around 3,000oz of gold.

Between 1870 and 1879 more than 300,000oz of gold was recovered from just twelve of the Hawkins Hill claims, which covered a strike length of around 300m. It has been estimated that over 40,000t of ore was mined at an average grade of 250g/t gold, thus it became known as the 'Richest Quarter Mile in the World'

Figure 8: The multiple leases of the 'Richest Quarter Mile in the World' at Hawkins Hill (c.1872)

Source: HEG

It is important to remember that because Hill End was the site of the first reef mining in Australia, leases were issued as per the more common placer style deposits, i.e. cutting across the deposit with short strike lengths.

The close spacing of the claims seems to have influenced both the grade of ore mined and the extent of development. The deepest shafts went to 250m and due to water problems, particularly in the north of the field, they were often much shallower. This may have prevented early miners fully developing the deposit and could explain why the Reward area was missed.

In 1909 the Cornelian and Exhibition shafts were rehabilitated and a connection driven between them at the 97m level. This improved drainage and allowed a number of new stopes to be developed on the newly identified Frenchmans vein. Operators at the time believed that repetitions of this mineralisation would be intersected below workings to the north, and that the veins already mined to the south could be accessed by a westerly crosscut (HEG believes these veins comprise the Reward area). However, the necessary extension of the Amalgamated Adit was not undertaken and the mine was closed in 1919.

Accurate records were not kept for gold production between 1851 and 1920, and early estimates range from 214,520oz to 381,333oz. However, HEG believes that these figures are very conservative and thinks it is more likely to be in the region of 434,000oz.

Although small-scale operations were undertaken during this period, regional exploration was not possible due to the many small, individually held leases. In 1980, however, Silver Orchid Pty Ltd consolidated many of these leases and after limited initial exploration, entered into joint ventures with Northern Gold Exploration and Flanagan McAdam between 1983 and 1986 and BHP Gold Mines Ltd in 1988 (two year joint venture).

Gold mineralisation was encountered, however, all the joint ventures ended fairly abruptly and no exploration took place until 1993, when HEG acquired its option on the Silver Orchid areas (see Profile, page 3). Initial work comprised the mapping and surveying of old workings and some redevelopment, however, in a second drilling programme carried out in 1996 bonanza grade gold mineralisation was intersected in the Reward area.

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