

---

## Reward Inferred Mineral Resource Summary Details

26 July 2006

ASX Code: HEG  
HEGOA

---

On 21 June 2006 Hill End Gold Limited announced its first mineral resource estimate for the Reward area at the Hill End Project in New South Wales, Australia. The preliminary estimate follows four years of historical research, geological data collection and modeling, underground exploration and surface diamond and reverse circulation drilling.

This summary provides further detail for that resource estimate, which covers part of the Steven's, Paxton's, Mica and Phillipson's vein sets in the Reward area.

The Inferred Mineral Resource estimate for the Reward area stands at:

**680,000 tonnes at 6 g/t Au for 130,000 ounces gold (at 0 g/t Au cut-off grade)**

Hill End is a historical goldfield that produced about 1.5 Moz of gold during the period 1850 to 1920 from surface and underground workings. Much of the historical production came from the Hawkins Hill Zone, which yielded over 400,000 ounces of gold often grading two ounces per tonne or more. In 1872 the world's largest mass of gold ever hoisted to the surface, the Holtermann Nugget, was discovered at Hawkins Hill and weighed some 285 kg. Current exploration is focused along strike from Hawkins Hill to the Reward Zone with diamond drilling indicating mineralisation at Reward similar to that observed at Hawkins Hill.

Successful diamond drilling has shown that the gold mineralisation in the Hawkins Hill - Reward mine sequence is more extensive and more continuous than previously anticipated so that the original target area has been expanded. The vein sets are stacked in an en-echelon array within the structurally controlled mineralised corridor, and additional stacked veins with gold mineralisation are expected to be found at depth and along strike.

Visible gold is reported in many of the recent drill intersections at Reward. This coarse gold mineralisation is typical of many mesothermal vein systems including those seen in Bendigo and Ballarat (Australia), Dolgellau (UK), Valdez (Alaska), Mother Lode (USA) and Yellowknife (Canada). Such deposits are known to be challenging to evaluate due to their inherent high-nugget effect. Their gold distribution is generally strongly heterogeneous and structurally controlled, and as a result, ore reserves are best defined with bulk sampling.

The Reward area resource estimate is reported in accordance with the 2004 JORC Code and is classified as an Inferred Mineral Resource. The estimate is based on diamond drilling in an area of approximately 300 metres along strike by 100 metres width to a maximum depth of 300 metres below surface. The average width of the vein sets is 3.3 metres and the dip length is approximately 50 metres. All of the vein sets are open along strike and some appear to be open both up and/or down dip.

**Table 1 – Hill End Reward Zone Gold Resource**

<b>INFERRED MINERAL RESOURCES – JUNE 2006</b>			
<b>Vein Set</b>	<b><sup>(1)</sup>Tonnage (tonnes)</b>	<b><sup>(2)</sup>Gold Grade (g/t Au)</b>	<b>Contained Gold (ounces)</b>
Steven's	230,000	3	23,000
Paxton's	65,000	7	13,500
Mica	215,000	7	48,500
Phillipson's	170,000	8	45,000
<b>TOTAL</b>	<b>680,000</b>	<b>6</b>	<b>130,000</b>

<sup>(1)</sup>Tonnage figures are rounded to the nearest 5,000 tonnes.

<sup>(2)</sup>Global grade figure is rounded to the nearest whole g/t Au.

HEG's understanding of grade and geological continuity, and the nuggetty nature of the deposit, indicates that the amount of contained gold is likely to be under called. It is generally understood that diamond drilling assay results for coarse gold-bearing veins can understate the true grade by potentially 50% or more.

Deposits similar to Hawkins Hill and Reward, such as the Central Victorian Bendigo and Ballarat reefs have seen significant upgrade factors determined for diamond drill core assays by correlating drillhole results with proximal bulk samples taken from ore development. Previous mining activity at Reward revealed very high-grade gold pods that had a limited strike and dip extent with a local increase in the mining grade to 10's oz/t Au or more. Such restricted, but highly economic pods, are unlikely to be resolved other than by underground development and sampling.

Drilling is planned to recommence at Reward during July 2006 with 2,000 metres of diamond drilling planned in six holes. It is expected that this program will extend each vein set along strike and down dip, test for en-echelon repeat vein sets, and further enhance the robustness of the geological model.

# June 2006 Reward Area Mineral Resource Estimate

## Notes Accompanying the Mineral Resource Disclosure

As this is the initial resource estimate for the Hill End Gold Project Reward Area, the following provides the relevant background information for the estimate.

### CRITERIA, SAMPLING TECHNIQUES AND DATA

#### Geology

The Hill End mineralisation is characterised by mesothermal gold-quartz veins hosted within black shales of Palaeozoic age. Individual veins are generally laminated in nature, a number of which may form lenses or pods that can reach up to 20 metres in width. Economic mineralisation at Hawkins Hill and Reward is hosted within a mineralised corridor that is located on the eastern limb of a NS-trending anticlinal structure. The gold-quartz veins appear to have good continuity over 100's metres. Gold mineralisation within these veins appears to be focused within a 60 metre thick structural corridor dipping 80°W. Repeated sets of bedding parallel and leader spur quartz veins within shale tops of the turbidite sequence continue to be mineralised within the mineralised corridor to at least the current depth of drilling.

#### Drilling Techniques

Results from three generations of drilling were used in this resource estimate. Drilling was conducted by Northern Gold in 1984-86 (7 holes), Nugget Resources in 1996-97 (2 holes) and recently by HEG in 2005-06 (11 holes). All 20 drill holes used in the estimation provided diamond core, 5 being NQ diameter and 11 of the remaining 15 HQ diameter cored holes (recent drilling) being of HQ triple tube core diameter. Collars of the recent drill holes were measured by Differential GPS, as were previous holes that could be located. All holes were surveyed using an Eastman single shot down-hole camera, recent holes at 30 metres (or at the end of reverse circulation pre-collars) and then every 50 metres to the end of holes. For the recent drilling the continuous Ballmark<sup>®</sup> orientation device was used. Core recovery (total core recovery) averaged >99% and the average of RQD's was 94%.

#### Sampling Techniques

All mineralised core was split using a diamond saw, with recent core split on the long axis of the orientation line with the same half of each core sample being submitted for analysis. Variable interval sizes were chosen for assay based on geological criteria.

#### Logging

All HEGL core has been logged for geological and geotechnical parameters, with data collected digitally and transferred directly to the database. The eleven holes were logged in detail for alteration, lithology, structure, vein style and mineralisation by the Competent Person (M Quayle) with data being plotted and

interpreted on section during drilling. High quality digital photographs are available for all recent core. Core from 13 of the holes is stored undercover at HEGL's site office and selected intersections of the 7 Northern Gold holes are stored at the Silver Orchid mine site.

The standard of geological logging for the Northern Gold holes is considered to be good, and core for the two Nugget Resources held by HEGL has been re-logged.

HEGL has a set of standard operating protocols for drill core/RC sampling that documents sample collection, logging and shipping/sample security procedures.

### **Quality of Assay Data**

All HEGL core samples are analysed by the screen fire assay technique at the ALS Chemex Laboratory in Orange, NSW. Each core sample is submitted to the laboratory, weighed, dried, and then pulverised in its entirety in an LM2 to a P85 of -75 microns. Results from the assaying of selected blank quartz flushes from between samples, has shown that no significant contamination or loss of gold has occurred. The entire sample is weighed and wet screened using -75 micron disposable nylon screen. The +75 micron fraction is dried in aluminium trays, weighed and fire assayed to extinction. The -75 micron fraction is collected using flocculant, the liquor then decanted and the fines sample dried in an oven. This is homogenised in the LM2, weighed and fire assayed in duplicate using a 50 g charge. The assays for the -75 micron fraction are averaged and a weighted average is calculated with the +75 micron fraction. The screen fire assay technique is generally considered to be the most appropriate for coarse gold-bearing material.

Assaying of the Northern Gold drill holes was undertaken using a conventional fire assay on 0.5 metre long samples not constrained by geology. Nugget Resources used screen fire assay techniques.

For HEGL, Reverse Circulation drilling produced 1 metre samples which initially were all submitted for fire assay with any intervals returning elevated gold being re-assayed by screen fire assay. Post-December 2005, RC samples containing quartz were assayed by screen fire assay. Each tenth sample was accompanied by a field duplicate. No RC intervals are used in the resource calculations, however the duplicate data are valid for laboratory QA/QC.

Checks on the duplicates from firing and on duplicates from every tenth RC sample show repeatable gold values.

### **Verification of Samples and Assays**

Each sample core or RC (from a dataset of all 25 HEGL holes over the expanded Reward area and 5 Nugget Resources holes) has a duplicate 50 g firing from the -75 micron fraction. This dataset of 1,086 samples produces a correlation coefficient of 96%. There were 37 duplicate samples taken (from every tenth 1 metre RC sample). The correlation coefficient between the sum of the above two charges, and the sum of the two charges from the original sample taken was 99.9%. A Half Absolute Relative Distance analysis was performed which gives results for the percentage of sample assays lying within a

percentage variability of each other and is a measure of the repeatability of both the sample and the assay process. In the coarse gold environment a variability of 70% at +/- 15% or better is considered acceptable. For the 1,086 data pairs, 65% are +/-15% or better. If the dataset is filtered to remove the <0.1g/tAu samples then the dataset is reduced to 253 samples, and the variability is reduced to 76% at +/-15% or better, which is considered acceptable. The high variability of the low grades is a common though not easily explained phenomenon however it does not have a major impact on the global resource.

ALS Chemex runs a standard assay sample every 20 samples and may use up to 3 standards per batch. Similarly with every 20 samples, an internal duplicate [Certified Reference Material] is run, and every 25<sup>th</sup> sample is duplicated. One blank is analysed per batch. These data are returned within a QC Certificate with the results for each submission and are checked by the HEGL geologist. HEGL has a set of standard operating protocols for sample QA/QC that documents methodologies, KPI's and remedial actions. No significant issues have arisen to date.

### **Data Spacing & Distribution**

Drilling has been conducted on 25 metre spaced sections over a 300 metre strike length, with holes between 40 and 50 metres apart on most sections. Thirty two drill holes with 129.76 metres of intersection occur within the block models, giving 392 assayed samples.

### **Orientation of Data in Relation to Geological Structure**

Drilling is principally oriented perpendicular to the strike trend and generally at an angle of between 60° and perpendicular to the 60-70°E dipping mineralisation.

### **Audits/Reviews**

A review of the Hill End Project was conducted by Snowden Mining Industry Consultants Ltd in January 2006. A Canadian NI 43-101 review was conducted in December 2005 on HEGL's Hill End tenements by a North American consultant on behalf of Senator Minerals Inc. Both reviews were prior to this resource estimate. As part of the upcoming Scoping Study, Snowden will review in detail the current resource estimate.

### **Database Integrity**

Analytical results are received in digital form from the ALS Chemex Laboratory and are matched to digitally logged sampling data. Results are cross-checked against core and visually verified by plotting data on sections. Old assay data and drill hole locations are visually checked by geological criteria on sections and plan. All recent collars are picked up by Differential GPS, and survey discs are signed-off by the geologist and the holes are visually checked with expected position and geological integrity on plans and sections.

### **Geological Interpretation**

A Micromine block model was constructed using wireframes for each vein set. These wireframes were developed from cross-section, long-section and plan

interpretations incorporating lithology, alteration, structure and vein style. Cross-section outlines of the vein sets were digitised by snapping to the drill hole assay intervals.

## **Dimensions**

The four mineralised envelopes are each about 300 metres in strike, 50 metres in dip and average 3.3 metres in horizontal thickness. They strike due north and dip at about 70°E and currently lie between 100 metres and 300 metres below surface.

## **Estimation and Modeling Techniques**

Block grades were estimated using inverse distance squared (IDW2) weighted interpolation into blocks measuring 10 metres along strike, 1 metre across strike and 2.5 metres vertically, and using sub blocks of 2 metres by 0.5 metre by 0.5 metre. Block modeling was tested on blocks half the size and twice the size of those used to check block size sensitivity. The results show no significant difference in tonnage or contained metal related to the size of blocks. Inverse distance to the power 3 and 4 was also trialled, which has the effect of reducing the influence of distant values, so that by increasing the power weighting, a manual polygonal style estimation result is approximated. Because of the nuggety nature of this deposit, the actual intersection values are considered to be highly variable with little direct relationship with each other although there is a global relationship between assay values and nearby zones of mineralisation. Variations in results due to increased inverse power value and decreased maximum points show an increase in the grade. This adds confidence that the power used does not result in the overestimation of grade. Only values that lie within the wireframe are used in the modeling process, and intervals not assayed are given a 0g/tAu value. A search ellipse of 120 metres by 30 metres by 10 metres was used for each vein set. Various other search ellipse dimensions were tested and the resulting block models were cross-checked visually against drilling and assay values to make this choice.

## **Cut-off Parameters**

A limiting gram.metre contour was generated to form the basis for the extremities of cross-section outlines and their subsequent wireframes. Using geological interpretation and horizontal pierce point data, a long section contour of 1.25 gam.metres Au (horizontal projection of interval x weighted average grade of gold in g/tAu) was constructed. No actual mining or breakeven cut-off was used in the block modeling process and no top-cut was applied. The resource estimate is a global estimate effectively reported at a zero cut-off grade. Some high values have been intersected, however due to the highly nuggety nature experienced historically they can be expected to be real.

## **Mining Factors/Assumptions**

Given that the current resource is reported at a zero cut-off grade, the estimate assumes that the entire resource would be mined out. This is potentially unrealistic, and a level of selectivity would be expected in any operation. However, until the planned underground exploratory development is undertaken, the small-scale continuity of any high-grade pods will not be

understood fully. HEGL believes that a substantive part of the resource will be mineable.

### **Metallurgical Factors**

The mineralogy of the Hill End veins is relatively simple with most gold being free and hosted within quartz. Preliminary metallurgical testing suggests that much of the gold is likely to be free milling and recoverable using gravity techniques.

### **Bulk Density**

Average bulk density figures were applied to each vein set. These were based on laboratory determinations ALS Chemex (Method code OA-GRA08) of 101 samples of unmineralised and mineralised quartz veins and wall rocks. The relative abundance of each rock type was factored into the resulting mean of 2.7 t/m<sup>3</sup> for all vein sets with the exception of Phillipson's, which has a value of 2.8 t/m<sup>3</sup>.

### **Classification**

The Reward resource has been classified as Inferred to convey its level of confidence given the available data. The drill spacing does not permit the resolution of small-scale geological and grade continuity, though HEGL considers that the global geological continuity between drill holes is good. A high level of assumption is made of the continuity of grade between drill holes. This is consistent with the definition of the Inferred category.

### **Relative Accuracy/Confidence**

The confidence in this resource is relatively low given its classification as an Inferred Mineral Resource. This estimate has been prepared to assist in identifying the controlling features of the mineralisation and to assess the potential for expansion of the current outlined resource.

The information in this report that relates to Exploration Results or Mineral Resources is based on information compiled by Mike Quayle who is a Member of The Australian Institute of Geoscientists. Mr Quayle is a full-time geological contractor for the company and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (The JORC Code). Mr Quayle consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.

Yours faithfully

**Philip Bruce**

**Managing Director**

**For further information:** Philip Bruce 0412 409555