

### **QUARTERLY ACTIVITIES REPORT** For the Quarter Ended 30 June 2008

Zamia Gold Mines Limited (ASX-ZGM) is an Australian-based molybdenum, gold and base metals exploration company which continues to focus exclusively on the Clermont region in Central Queensland.

## **Highlights**

### Anthony Molybdenum (Mo) Discovery

- Analyses of the initial 13 reverse circulation (RC) percussion holes (mostly to a vertical depth of 130m) have been completed.
  - All holes contained Mo intercepts greater than 200ppm Mo. 0
  - A number of 3m sections exceeded 1000ppm Mo.
- Diamond drilling has demonstrated increased mineralisation at depth:
  - Three holes have been completed to a depth of 300m (approx 250m vertical).
  - Mineralisation is present at the end of each hole.
- Potential by-product: The primary sulphide Mo mineralisation contains • minor but significant amounts of rhenium.
- Further analysis of hole RC08A009 returned 96.6g/t silver, 0.6g/t gold, • 2.0% lead and 0.15% copper at the end of the hole. A diamond drill extension is planned.
- An extensive RC percussion drill program is planned to commence in • the September guarter.
- Consultant group Hellman and Schofield Pty. Limited has been engaged to develop:
  - a relational database for the deposit, and to 0
  - advise on quality assurance measures to verify the drilling data.
- Expressions of interest are being sought from metallurgical laboratories for the development of an appropriate treatment process for the oxidised mineralisation.

## **Gold Projects**

ZGM was successful in its application for a Queensland Government grant under its Collaborative Drilling Initiative to drill test the Nivram gold target, within the Mt Rolfe Caldera.

## Corporate

A Share Purchase Plan (SPP) for shareholders registered on 28 March 2008 raised \$453,000 and resulted in the issuing of 5,662,500 shares at eight (8) cents each. Subsequently a placement to sophisticated investors of 5,500,000 shares at 18 cents raised \$990,000.

## **Exploration Overview**

ZGM's exploration program is directed towards **molybdenum**, **gold and base metal deposits** in a range of geological settings.

A significant porphyry style molybdenum deposit was discovered at the **Anthony** prospect in the March quarter.

The Company is following up on two other potential molybdenum targets.

ZGM's other projects include:

- Porphyry style (or skarn) copper-gold mineralisation Sally Ann
- Epithermal gold deposits (similar to the Nancy Vera deposits in the northern part of the Drummond Basin) Mount Rolf Caldera Nivram
- Quartz-pyrite vein gold deposit West Lucky Break and Frankfield Hill.



Fig 1 Location of major prospects

## **Exploration Activities**

### Porphyry Molybdenum Mineralisation

### Anthony Prospect

The Mo mineralisation at the Anthony prospect occurs in a porphyry complex, in common with most of the world's major deposits, and ZGM believes a conceptual target of around 100 million tonnes of mineralisation (range 50Mt to 150Mt) is realistic. Currently the holes now extend over 650m east-west and about 300m north-south. A deposit of this type would be mined by open pit methods.

All analyses for the initial highly successful RC drilling program have been received and compiled. Visible molybdenite ( $MoS_2$ ) was observed in 11 of the holes and all of the 13 holes contained intersections with Mo grades greater than 200ppm. (See Table 1, which includes previously released intersections for completness) A sample interval of three metres was used by compositing the one metre samples. Limited follow-up one metre samples were analysed and these confirmed the values in the three metre composite samples.

Rhenium (Re), a high melting point metal used in the aerospace industry, is associated with the molybdenite and values at Anthony are proportional to the Mo with grades of 0.2g/t Re occurring in mineralisation approximately grading 600ppm Mo Re, which currently sells for more than \$US10/gram is likely to be recovered in a Mo sulphide concentrate and is therefore likely to be a valuable by-product.

As a follow-up to the initial highly successful 13 hole RC percussion drilling program a diamond drilling program has commenced. Three holes at an angle of -60degrees have been completed to 300m. The proposed eight hole drill program has several aims:

- To better understand the geological units and their structural relationship so that future drilling programs can be optimised to produce meaningful results;
- To confirm that molybdenum mineralisation exists to at least 250m vertical depth by drilling at least 5 holes to 300m depth;
- To provide samples for metallurgical test work;
- To twin at least one RC percussion hole (RC08A012) in order to test for any variability in results between the two drilling methods;
- To extend existing RC percussion holes, in particular RC08A009 which ended in silver-lead mineralisation and CRAE holes 94DBT 22 and 94DBT 23 which ended in Mo mineralisation; and assist in
- To assist in the development of a model for the mineralisation.

Holes DD08A014 and DD08A015 tested the Mo mineralisation northeast of the Gregory Development Road, an area not previously tested. The holes contain stockwork vein mineralisation throughout in hornfelsed Anakie metasediments. The Mo analyses are summarised in Table 2. While the Mo intercepts are not as continuous as on the western side of the highway, the presence of mineralisation at the bottom of the holes is encouraging. Additional RC percussion holes will be drilled to fully evaluate this area.

Hole DD08A016 is located east of the previously reported high grade western zone and has tested the prospect north of RC08A007. Mo assays to a hole depth of 210m received so far are also reported in Table 2.

As reported previously, a scout hole approximately 500 metres south of the main Mo anomaly, RC08A009, ended in silver-lead sulphide mineralisation. The final three

metre composite sample from 147m to 150m graded 37.3g/t silver, 0.18g/t gold and 0.67 lead. Single metre samples from this section indicated that all the high metal values were at the end of the hole with the sample from 149m to 150m grading 96.6g/t silver, 0.60g/t gold, 2.0% lead and 0.15% copper. A diamond drill extension to this hole will test the mineralisation beyond 150m (130m vertical depth).

In 1994 CRA Exploration Pty Limited (CRAE) explored the area and drilled a line of six shallow RC percussion holes (average depth about 120m). Two of those drill holes (94DBT 22 and 94DBT 23) reported significant Mo grades over wide intervals. A review of the analytical methods used by (CRAE) suggests that the Mo values reported in these holes may be significantly understated. The collars of these 1994 holes appear to be in good condition and it may be possible to extend the holes with diamond drilling.



Fig 2 shows the locations of the drill holes relative to the geochemical contours.

Figure 2 Anthony Prospect Molybdenum Soil Geochemistry and Drill Hole Locations (ZGM drill holes A01 to A17, CRAE (1994) drill holes DBT 18 to DBT 24)

The deposit is weathered to an average depth of 70m. Following some preliminary examination of the oxidised mineralisation, expressions of interest have been sought from metallurgical laboratories for development of an appropriate treatment process for the oxidised mineralisation. Quotations for initial flotation test work for the sulphide mineralisation are also being sought.

ZGM has engaged well respected consultant firm Hellman and Schofield Pty Limited to advise it on database development and quality assurance measures to verify the drilling results. This advice should help expedite the estimation of resources when sufficient drilling has been completed either late 2008 or early 2009.

A second program of RC percussion drilling is expected to start in the September quarter. This program will be designed to provide sufficient samples to produce an initial resource estimate.

# TABLE 1 – ANTHONY RC PERCUSSION DRILLING RESULTS SUMMARY

| HOLE NO   | DEPTH (m) | FROM | то  | WIDTH | Mo (ppm) | COMMENTS                                 |
|-----------|-----------|------|-----|-------|----------|--|
| RC08A 001 | 150       | 0    | 150 | 150   | 514      |  |
|           |           | 0    | 60  | 60    | 478      | weathered                                |
|           |           | 60   | 150 | 90    | 538      | all sulphide                             |
|           |           | 123  | 126 | 3     | 1430     |  |
| RC08A 002 | 150       | 0    | 150 | 150   | 497      |  |
|           |           | 0    | 81  | 81    | 515      | weathered                                |
|           |           | 81   | 150 | 69    | 475      | all sulphide                             |
|           |           | 105  | 108 | 3     | 1065     |  |
| RC08A 003 | 150       | 0    | 150 | 150   | 514      |  |
|           |           | 0    | 78  | 78    | 466      | weathered                                |
|           |           | 78   | 150 | 72    | 566      | sulphide                                 |
|           | including | 114  | 117 | 3     | 1850     |  |
| RC08A 004 | 150       | 24   | 27  | 3     | 222      | weathered                                |
|           |           | 132  | 135 | 3     | 264      | sulphide                                 |
|           |           | 141  | 147 | 6     | 232      |  |
| RC08A 005 | 150       | 0    | 150 | 150   | 345      |  |
|           |           | 0    | 69  | 69    | 346      | weathered                                |
|           |           | 69   | 150 | 81    | 344      | sulphide                                 |
| RC08A 006 | 150       | 0    | 12  | 12    | 236      | weathered                                |
|           |           | 81   | 84  | 3     | 275      | transition                               |
|           |           | 138  | 141 | 3     | 388      | sulphide                                 |
| RC08A 007 | 132       | 0    | 69  | 69    | 389      | weathered                                |
|           |           | 72   | 84  | 12    | 237      | sulphide                                 |
|           |           | 93   | 96  | 3     | 287      |  |
|           |           | 105  | 108 | 3     | 326      |  |
| RC08A 008 | 144       | 0    | 144 | 144   | 590      |  |
|           |           | 0    | 63  | 63    | 608      | weathered                                |
|           |           | 63   | 144 | 81    | 576      | all transition and sulphide              |
|           |           | 69   | 72  | 3     | 1480     |  |
|           |           | 117  | 120 | 3     | 1920     | sulphide                                 |
|           |           | 129  | 132 | 3     | 1390     |  |
| RC08A 009 | 150       | 0    | 9   | 9     | 255      | all weathered                            |
|           |           | 54   | 60  | 6     | 208      |  |
|           |           | 149  | 150 | 1     | Low      | 96.6g/t Ag, 0.60g/t Au, 2.0% Pb, 0.15%Cu |
| RC08A 010 | 150       | 0    | 111 | 111   | 400      | weathered                                |
|           |           | 111  | 150 | 39    | 268      | sulphide                                 |
| RC08A011  | 150       | 0    | 150 | 150   | 483      |  |
|           |           | 0    | 63  | 63    | 251      | weathered                                |
|           |           | 63   | 96  | 33    | 430      | transition                               |
|           |           | 96   | 150 | 54    | 654      | sulphide                                 |
|           | including | 144  | 147 | 3     | 1625     |  |
| RC08A012  | 150       | 0    | 150 | 150   | 860      |  |
|           |           | 0    | 75  | 75    | 617      | weathered                                |
|           |           | 75   | 150 | 75    | 1103     | sulphide                                 |
|           | including | 78   | 84  | 6     | 1717     |  |
|           |           | 93   | 111 | 18    | 1458     |  |
|           |           | 114  | 120 | 6     | 3015     |  |
|           |           | 141  | 144 | 3     | 1035     |  |
| RC08A013  | 150       | 18   | 30  | 12    | 320      | weathered                                |
|           |           | 69   | 150 | 81    | 583      | all sulphide                             |
|           |           | 120  | 126 | 6     | 1498     |  |
|           |           | 132  | 135 | 3     | 2060     |  |
|           |           | 138  | 141 | 3     | 2250     |  |

| HOLE No. | DEPTH (m) | FROM | то   | WIDTH | Mo (ppm) | Comment                  |
|----------|-----------|------|------|-------|----------|--------------------------|
| DD08A014 | 303.6     | 0    | 81.1 | 81.1  | 297      | Oxide                    |
|          |           | 99   | 121  | 22    | 359      | Sulphide                 |
|          |           | 139  | 145  | 6     | 421      |                          |
|          |           | 221  | 227  | 6     | 326      |                          |
|          |           | 278  | 281  | 3     | 892      |                          |
| DD08A015 | 300       | 3    | 69   | 66    | 362      | Oxide                    |
|          |           | 69   | 81   | 12    | 682      | Sulphide                 |
|          |           | 87   | 126  | 39    | 337      |                          |
|          |           | 165  | 225  | 60    | 347      |                          |
|          |           | 231  | 255  | 24    | 542      |                          |
|          | including | 252  | 255  | 3     | 2070     |                          |
|          |           | 276  | 279  | 3     | 2230     |                          |
| DD08A016 | 300       | 0    | 100  | 100   | 429      | Oxide                    |
|          | including | 44   | 66   | 22    | 710      |                          |
|          | including | 56   | 58   | 2     | 1495     |                          |
|          | including | 84   | 98   | 14    | 501      |                          |
|          |           | 100  | 210  | 110   | 486      | Sulphide                 |
|          | including | 120  | 128  | 8     | 657      |                          |
|          | including | 150  | 164  | 14    | 625      |                          |
|          | including | 176  | 184  | 8     | 673      |                          |
|          | including | 180  | 182  | 2     | 1110     |                          |
|          |           | 210  | 300  | 90    |          | Assays not yet available |

## TABLE 2 ANTHONY DIAMOND DRILLING RESULTS SUMMARY

## **Other Molybdenum Projects**

Compilation of data on past exploration in the Mistake Creek exploration permit application has commenced.

Reconnaissance exploration over aeromagnetic targets on the Mazeppa tenement approximately 15km south Anthony, is planned for the September quarter.

## Porphyry (and skarn) Style Copper- Gold Projects

### Sally Ann Prospect

The Sally Ann Prospect was first identified by prospectors and has been subjected to limited exploration by earlier companies. Small mineralised quartz veins and gossans occur in an intermediate volcanic sequence. Gossan sampling in 2007 by ZGM returned gold assays of 38 g/t and 9g/t. Results of ZGM soil sampling highlighted a number of discrete copper and gold-copper anomalies. The data generated to date suggest the possible presence of skarn copper – gold mineralisation in andesitic volcanics underlain by a mineralising intrusion.

Following a pause in exploration due to other work commitments geological mapping has recommenced. Follow-up by trenching and/or drilling of the target is envisaged.

### **Quartz-Pyrite Reef Gold Discovery Potential**

Quartz-pyrite reef gold was previously mined from Lucky Break and Belyando.

ZGM has identified a probable regional thrust within the Anakie Metamorphics close to the contact with the Drummond Basin that is prospective for this style of mineralisation. Much of the zone is covered by a thin veneer of later sediments. Mobile Metal Ion (MMI) soil geochemistry, geological mapping and prospecting, are considered as effective exploration techniques. Approximately 15km of the probable thrust will be explored over the 2008 dry season.

West Lucky Break and Frankfield Hill are two prospects associated with this probable thrust have been identified to date and warrant drill testing. Geological mapping will be undertaken at Frankfield Hill in the September quarter. RC percussion drilling will

be undertaken at West Lucky Break and Frankfield Hill when a suitable rig is available.

A third area of interest has been identified to the northwest of West Lucky Break. Follow-up sampling is currently in progress to define an anomalous zone on the western edge of the current sampling grid.

### **Epithermal Gold Potential**

#### Mount Rolfe Caldera

The large Mount Rolfe Caldera (15km x7km) is a geological setting that may host very large gold systems. Several structural features within and surrounding the Caldera may have provided favourable sites for epithermal gold deposition.

Such caldera structures host many high-grade epithermal gold systems. Examples include Lihir, Papua New Guinea (44 million ounces of gold) and the Emperor mine in Fiji (6 million ounces of gold).

To date, ten prospects associated within the Caldera and its surrounds have been subject to initial ground assessment including remote sensing interpretation followed by reconnaissance mapping, MMI soil geochemical sampling and IP geophysical surveys.

The **Nivram** target is the most advanced target and is interpreted to be an upper portion of the structural setting for possible underlying high-grade epithermal gold mineralisation. The potential for concealed gold mineralisation at depth has been enhanced by results of an IP survey. This highlighted a strong "bulls eye" resistivity anomaly with east-west linears which represents a potential deep target that will require drilling to a minimum depth of 200m.

ZGM's application to the Queensland Government for a grant under its Collaborative Drilling Initiative to drill test the Nivram target, has been successful and the Company will receive up to \$24,000 towards the cost of two diamond holes to test the target. Necessary environmental clearances are being sought to allow the drilling to proceed.

For and on behalf of the Board,

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R N (Sam) Lees Executive Director -Technical

Mr R N (Sam) Lees (FAIG, FAusIMM), compiled the technical aspects of this report. Mr Lees is Technical Director, Zamia Gold Mines Limited. Mr Lees is a Fellow of the Australian Institute of Geoscientists and has sufficient experience that is relevant to the style of mineralisation and type of deposits under consideration and to the activity that is being reported on to qualify as a Competent Person as defined in the September 2004 edition of the "Australasian Code of Reporting of Mineral Resources and Ore Reserves". Mr Lees consents to the inclusion of the matters in the form and context in which it appears.