

## **QUARTERLY ACTIVITIES REPORT** For the Quarter Ended 31 March 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

- A significant molybdenum (Mo) discovery was made at the Anthony prospect. The discovery has the potential to be a large molybdenum deposit (conceptually 100 million tonnes) and a 'company making' discovery.
- 13 reverse circulation ('RC') drill holes were completed with visible molybdenum mineralisation noted in 11 holes.
- A maximum value of 3015 parts per million ('ppm') (0.302%) Mo was returned over 6 metres ('m') from 114m in hole RC08A 012.
- The 12 holes analysed to date all contain intercepts greater than 200ppm Mo, the cut-off grade for some molybdenum mines and new developments.
- For the next stage in defining the deposit the Company is planning a diamond and RC percussion drill program to allow a resource estimation by the end of 2008.
- A new application has been lodged for a tenement, 30km southwest of Anthony, containing an aeromagnetic anomaly similar to the Anthony anomaly. Other potential porphyry molybdenum targets are being identified.
- A Share Purchase Plan (SPP) for shareholders registered on 28 March 2008 has been announced. It aims to raise a maximum of \$1.818 million at an issue price of 8c per share. The price for the new shares is a 10.1% discount to the average price prior to the announcement to the ASX on 25 March 2008. Closing date for application for the new shares under the SPP is 22 April 2008.

## **Exploration Overview**

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

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

## **Exploration Activities**

Exploration during the March 2008 quarter was concentrated on the Anthony prospect to follow up a large molybdenum soil anomaly outlined in the December quarter. An exceptional wet season limited exploration on the other projects to a ground magnetic survey, geological mapping and limited soil sampling.



Figure 1 Location of major prospects

## Porphyry Molybdenum Targets

## Anthony Prospect

An initial 13 hole (total 1,924m) scout RC percussion drilling program was successfully undertaken. Visible molybdenite ( $MoS_2$ ) was observed in 11 of the holes and all of the 12 holes assayed to date contain intersections with Mo grades greater than 200ppm. Detailed announcements were made to the ASX on 12 March 2008 and 8 April 2008.

The results detailed in Table 1 are outstanding for a first program and indicate that the discovery is a very significant molybdenum deposit. Fig 2 shows the locations of the drill holes superimposed on the geochemical contour plan

The mineralisation 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. A deposit of this type would be mined by open pit methods.

The deposit is weathered to an average depth of 70m and research has commenced on the oxidised mineralisation to facilitate the development of an appropriate treatment process.

Currently the deposit is open in all directions and at depth and the Company is planning to undertake diamond and RC percussion drilling programs to fully evaluate the discovery. The holes, completed to date, extend over 550m east-west and about 250m north-south. The mineralisation extends to the east beneath the Gregory Highway and for logistical reasons the deposit is yet to be drilled east of the highway.

As part of the on-going assessment of the deposit, a ground magnetic survey was undertaken during the March quarter as a means of assisting with the delineation of the geology of the area.

The diamond drilling program being planned is aimed at defining the geology, extending the known mineralisation beyond the initial program and providing preliminary metallurgical samples for the sulphide mineralisation. The diamond drilling is expected to test the mineralisation to a depth of at least 250m.

In conjunction with the diamond drilling, an RC percussion drill program to test the mineralisation on 100m drill centres is being planned. The Company aims to have an initial resource estimate by the end of 2008.



Figure 2 Anthony prospect molybdenum soil geochemistry and drill hole locations (ZGM drill holes A01 to A13, CRA (1994) drill holes DBT 19 to DBT 24)

# TABLE 1 – ANTHONY RESULTS SUMMARY

HOLE NO	DEPTH	FROM	то	WIDTH	Mo (ppm)	COMMENTS
RC08A 001	150	0	150	150	514	
		0	60	60	478	weathered
		60	150	90	538	all sulphide
	including	96	135	39	642	
		123	126	3	1430	
RC08A 002	150	0	150	150	497	
		0	81	81	515	weathered
		81	150	69	475	all sulphide
	including	81	120	39	603	
		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
	including	33	39	6	684	
		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
	including	63	84	21	827	transition
		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	
		147	150	3	Low	<b>37.3g/tAg</b> , 0.67%Pb, 0.18g/tAu
RC08A 010	150	0	111	111	400	weathered
DODDADIA	450	111	150	39	268	sulphide
RC08A011	150	0	150	150	483	
		0	63	63	251	weathered
		63	96	33	430	transition
	to also altern	96	150	54	654	suiphide
DCORAGE		144	147	3	1625	
RC08A012	150	0	150	150	860	y south and d
		0	/5	75 <b>75</b>	61/	weathered
	in al calina a	75	150	/5	1103	suiphide
	including	78	ŏ4	0	1/1/	
		93	111	18	1458	
		114	120	0	3015	
		141	144	3	1035	

## Mistake Creek and Other New Porphyry Molybdenum Prospects

A new tenement application was made over the Mistake Creek aeromagnetic anomaly about 30km south west of the Anthony discovery (Figure 3). Past drilling by Western Mining Corporation and Cyprus Gold Australia has indicated very low grade sulphide mineralisation in a porphyry setting. Molybdenum was amongst the anomalous metals recorded. The data is being assessed. When granted the area will be explored for porphyry molybdenum-copper-gold deposits utilising the expertise gained from the Anthony prospect.

Another aeromagnetic anomaly exists within ZGM's tenements south of Anthony. This anomaly may also be the magnetic expression of a buried intrusion with the potential to host porphyry style mineralisation (Figure 3). This anomaly will be investigated during the 2008 dry season.



Figure 3 Aeromagnetic Image showing prospects

## Porphyry (or Skarn) Gold–Copper Targets

## Sally Ann Prospect

The Sally Ann prospect has been subject to small scale historic mining and limited exploration by earlier companies. Small mineralised quartz veins and gossans occur in an intermediate volcanic sequence. Gossan sampling by ZGM returned gold assays of 38g/t and 9g/t.

Results of soil sampling undertaken by ZGM in the September 2007 quarter have highlighted a number of discrete copper and gold-copper anomalies.

A detailed ground magnetic survey has been undertaken to elucidate geological structures within the volcanic sequence. Geological mapping has commenced over the prospect.

The data generated to date indicate the possible presence of skarn gold-copper mineralisation in andesitic volcanics underlain by a mineralising intrusion.

A drilling program is being planned.

#### **Quartz-Pyrite Reef Gold Targets**

Quartz-pyrite reef gold was previously mined at 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 effective exploration techniques. Approximately 15km of strike of the probable thrust will be explored over the 2008 dry season.

West Lucky Break and Frankfield Hill are two prospects associated with the probable thrust that have been identified to date and warrant drill testing.

#### West Lucky Break

An MMI soil survey in 2007 outlined a strong 300m x 300m gold and silver anomaly. A three line Induced Polarisation (IP) survey completed across the anomaly indicated a possible west dipping target associated with the soil anomaly.

Drill testing of the West Lucky Break Anomaly is being planned.

## Frankfield Hill

At Frankfield Hill, an MMI soil survey identified strong gold and silver anomalies and drill testing is being planned.

#### **Epithermal Gold Targets**

#### Mount Rolfe Caldera

The large Mount Rolfe Caldera is a geological setting that may host very large gold systems.

The aeromagnetic image (Figure 3) shows the 15 x 7 km Mount Rolfe Caldera and highlights a ring feature plus other fractures and faults as zones of demagnetisation. These demagnetised zones may be the focus for movement of potentially gold-bearing hydrothermal fluids.

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 interpreted to be an upper portion of the structural setting for a possible high-grade epithermal gold deposit at depth.

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.

A ground magnetic survey designed to further refine the structural setting of the **Nivram** target was disrupted by poor weather conditions.

During the quarter ZGM submitted an application for a Queensland Government grant under its Collaborative Drilling Initiative to drill test the Nivram target.

For and on behalf of the Board,

Colin Seal

*Colin Seaborn Executive Director* 

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.

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