



21 Close Way, Kalgoorlie WA 6430  
PO Box 1280, Kalgoorlie WA 6430

Phone 618 9091 9253  
Facsimile 618 9091 9256  
Email [heron@emerge.net.au](mailto:heron@emerge.net.au)  
Website <http://heronresources.com.au>

20 July 2001

The Company Announcement Officer  
Australian Stock Exchange Limited  
Post Office Box H224 - Australia Square  
SYDNEY NSW 2000

Dear Sir / Madam

**HERON RESOURCES LIMITED, QUARTERLY REPORT, PERIOD ENDING 30 JUNE 2001**

**QUARTER HIGHLIGHTS**

- ***All key Mining Leases at Goongarrie have been granted and are open to mining.***
- ***At the Pamela Jean Zone, June Quarter drill results at a 0.75% Ni cut-off are spectacular, including:***

<b><i>GSRC907</i></b>	<b><i>89m at 1.19% Ni and 0.13% Co</i></b>
<b><i>GSRC912</i></b>	<b><i>86m at 1.23% Ni and 0.08% Co</i></b>
<b><i>GSRC924</i></b>	<b><i>51m at 1.55% Ni and 0.18% Co</i></b>
<b><i>GSRC990</i></b>	<b><i>75m at 1.33% Ni and 0.09% Co</i></b>
<b><i>GSRC1001</i></b>	<b><i>70m at 1.25% Ni and 0.15% Co</i></b>
<b><i>GSRC1012</i></b>	<b><i>67m at 1.28% Ni and 0.08% Co</i></b>
<b><i>GSRC1022</i></b>	<b><i>75m at 1.61% Ni and 0.09% Co</i></b>
<b><i>GSRC1025</i></b>	<b><i>118m at 1.31% Ni and 0.12% Co</i></b>
- ***Goongarrie's status as a "World Class" orebody is confirmed. The uniformity of high grades, premium low magnesia metallurgical style, and ore zone continuity is remarkable.***
- ***Goongarrie RC drilling continues on a 40x20m pattern. Preliminary resource calculations confirm a high grade resource of 16.6 million tonne at 1.6% Ni and 0.16% Co, which is of strategic significance given that it alone represents a potential 30 year ore supply to the 0.5mtpa Cawse Nickel Operation.***
- ***The Receivers and Managers to Centaur Nickel Pty Ltd ("Centaur") and Centaur Mining & Exploration Limited ("CME") are seeking to sell Cawse. This has generated considerable corporate interest in Heron's Goongarrie Nickel Project, due to the synergy between the two projects.***
- ***Heron lodged a 90 days Notice of Termination for the Heron-Centaur Strategic Alliance Agreement ("SAA") on 30 April 2001. On 27 June 2001, the Receivers and Managers to Centaur and CME gave notice of a dispute or difference concerning the right of Heron to terminate the SAA.***
- ***Planning is advanced to "spin-off" Heron's non-nickel assets into a 100% owned subsidiary known as Avoca Resources Limited ("Avoca"). It is planned to transfer from Heron to Avoca 216 tenements in 23 projects, including 15 Joint Ventures with an aggregate of A\$9 million in farm-out expenditure and a substantial royalty portfolio. Projects to be owned 100% by Avoca will include Mungari Gold, south along strike on the Zuleika Shear from the recent Frogs Leg gold discovery, and platinum-palladium soil geochemical targets 20km northwest of Mungari at the Powder Sill.***

## 1. SUMMARY

### Ore Supply Studies

- As at 30 June 2001, Heron's total undiluted Inferred and Indicated Mineral Resource at a **0.5% Ni cut-off is 406 million tonne at 0.8% Ni and 0.06% Co**. Significant additional geological resource potential exists on Heron tenements awaiting grant.

The total undiluted Inferred and Indicated Mineral Resource at a **0.75% Ni cut-off is 180 million tonne at 1.05% Ni and 0.08% Co**.

- Work by Heron is focussed on advancing Heron's future ore supply to local PAL nickel laterite plants (including Cawse):**
  - Reverse Circulation ("RC") drilling for the Quarter amounted to 137 holes drilled at the Goongarrie South Prospect for an advance of 9,045m. Holes averaged 66m deep, reflecting the deeper weathering profile within the Pamela Jean Zone. Heron's total RC drilling since 1998 for the Goongarrie, Ghost Rocks and Kalpini Projects is now 92,746m.
  - For mining purposes, Heron is now aiming for a head grade exceeding 1.5% Ni, which requires a 1.25% Ni cut-off grade. The Goongarrie South 1.25% Ni cut-off resources listed by ore category are:

<b>Category</b>	<b>Million Tonne</b>	<b>% Ni</b>	<b>% Co</b>	<b>% Ni4Co</b>	<b>SG</b>	<b>Proportion</b>
Inferred	4.7	1.61	0.13	2.11	1.4	27%
Indicated	8.7	1.54	0.18	2.25	1.4	54%
Measured	3.2	1.53	0.16	2.15	1.4	19%
<b>Total</b>	<b>16.6</b>	<b>1.56</b>	<b>0.16</b>	<b>2.19</b>		

### Non-nickel Joint Ventures

- It is planned to transfer Heron's Joint Venture portfolio to its wholly owned subsidiary **Avoca Resources Limited**. Avoca as Registered Holder has additionally pegged 22 gold tenements in the Eastern Goldfields.

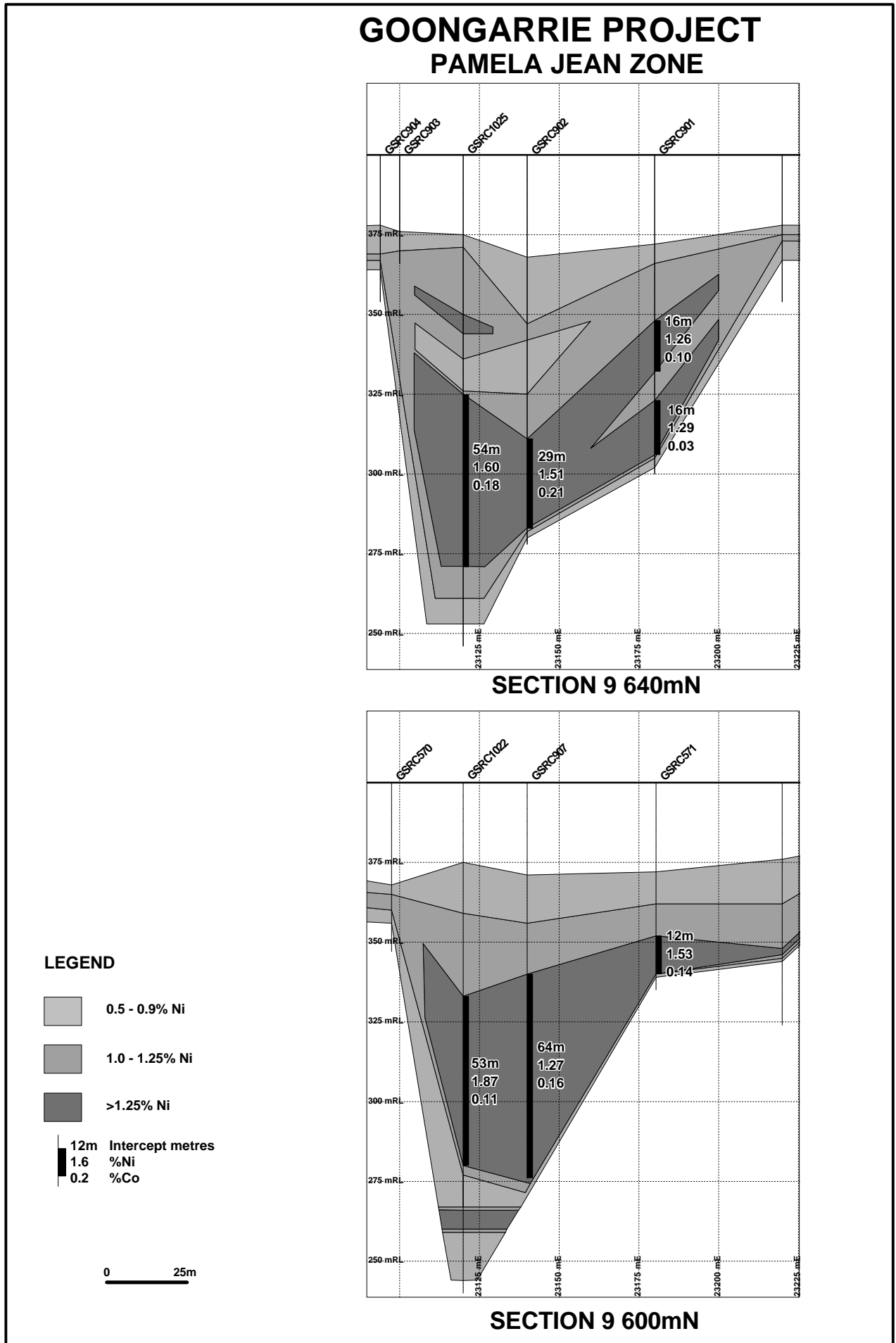
Subject to market conditions, the aim is to list Avoca at a future date on ASX. In such a circumstance, the intention of Heron is for its shareholders to receive ASX-listed shares in Avoca. The proposed re-structure will leave Heron as a listed entity entirely focussed on nickel acquisition, exploration and production.

- Gold joint venture negotiations are being finalised for the Blister Dam, Kurnalpi and Kookynie Projects. It is intended that the projects will be held by Avoca. Heron will retain Nickel Laterite rights.

### Corporate

- On 30 April 2001, Heron served a Notice of Termination on the Centaur and CME Administrators and Receivers and Managers to terminate the SAA. Under the terms of the SAA, Centaur had the right to complete a Bankable Feasibility Study ("BFS") on or before 19 August 2001 in order to secure toll milling entitlements in relation to Heron's Goongarrie, Ghost Rocks and Kalpini Projects. The nominated SAA Practical Termination Date is 30 July 2001. On 27 June 2001, the Receivers and Managers gave notice to Heron of a dispute or difference concerning the right of Heron to terminate the SAA. There has been no further action involving this alleged dispute.
- Anaconda has withdrawn all of the caveats it lodged against Heron's Nickel Laterite tenements, with legal costs awarded to Heron. Heron is now free to deal on unencumbered tenements.

Figure 1 Goongarrie South Drill Sections, 1.25% Ni cut-off.



## 2. EXPLORATION REVIEW

### 2.1 KALGOORLIE NICKEL PROVINCE

#### Resource Drilling Program and Project Development

In-fill Resource Definition drilling on a 40x20m pattern continued at Goongarrie South, to facilitate pit designs at the **Pamela Jean Zone**.

The Pamela Jean mineralisation as drilled to date has a N-S strike length of 2,000m, consisting of metallurgically uniform Limonite Ore assaying less than 1% MgO. Mineralisation width at a 1.25% Ni cut-off is typically 240m. Drilling has confirmed that depths to the base of ore consistently exceed 80m vertical.

RC drilling has defined a discrete zone of remarkably deep weathering. Drill holes have been completed to depths of up to 160m, and confirm complete alteration and weathering of the ultramafic host rock into limonitic clay to depths of up to 144m (GSRC1025). This zone, termed the **Pamela Jean Deeps**, has now been defined over a strike length of 360m and remains open to the north and south.

The ultramafic bedrock underlying the Pamela Jean Limonite Ore contains a structurally complex zone of brecciation and shearing. Discrete zones of talc-carbonate and talc-chlorite schist separated by bleached but otherwise undeformed olivine adcumulate are present. Significant disseminated and stringer sulphide mineralisation (typically 5%) has been identified within the shear zones.

**The Pamela Jean Zone has been confirmed as the basis of Heron's long-term cost-competitiveness in the Eastern Goldfields Nickel Laterite industry.**

#### 2.1.1 Goongarrie Nickel Project

Heron 100%.  
Nickel (-gold).

#### Goongarrie South Prospect

*Metallurgical Studies - X-ray Diffraction Study ("XRD")*

There is a strong correlation of mineralogy with ore grades and metallurgical performance. The ore zones have a remarkably uniform mineralogy, related to three separate cycles of duricrust formation:

Duricrust Cycle	Associated Ore Type	XRD Mineralogy
Upper Carbonate Cycle	not applicable	calcite-ankerite-quartz
Middle Ferricrete Cycle	Laterite Ferruginous	goethite-alunite-kaolin
Lower Goethite Cycle	Clay Upper	gibbsite-goethite
Lower Goethite Cycle	Clay Upper Pyrolusitic	goethite-gibbsite
Lower Goethite Cycle	Clay Upper Ferruginous	goethite-kaolin-maghemite
Lower Goethite Cycle	Clay Upper Siliceous	quartz-maghemite-goethite
Magnesia Discontinuity	Clay Lower Siliceous	antigorite-chlorite-talc-quartz

#### *Reverse Circulation Drilling*

During the Quarter, drilling commenced targeting selected zones of High Grade ore at the Pamela Jean Zone. Target areas encompass contiguous intercepts of greater than 1.25% Ni.

<b>Table 2</b>									
<b>GOONGARRIE SOUTH PROSPECT, PAMELA JEAN ZONE</b>									
<b>RC Drilling Significant Interceptions, 0.75% Ni Cut-Off</b>									
<b>Hole Number</b>	<b>North m</b>	<b>East m</b>	<b>From m</b>	<b>To m</b>	<b>Interval m</b>	<b>Ni %</b>	<b>Co %</b>	<b>Ni4Co %</b>	<b>Ni4Co M%</b>
<b>GSRC907</b>	<b>69600</b>	<b>3140</b>	<b>35</b>	<b>124</b>	<b>89</b>	<b>1.19</b>	<b>0.131</b>	<b>1.71</b>	<b>152.17</b>
<i>including at 1.25% Ni</i>			60	71	11	1.48	0.146	2.06	22.70
<i>including at 1.25% Ni</i>			110	124	14	1.56	0.125	2.06	28.84
<b>GSRC912</b>	<b>69560</b>	<b>3140</b>	<b>38</b>	<b>124</b>	<b>86</b>	<b>1.23</b>	<b>0.081</b>	<b>1.55</b>	<b>133.71</b>
GSRC916	69520	3140	41	90	49	1.25	0.108	1.68	82.35
<i>including at 1.25% Ni</i>			67	82	15	1.79	0.217	2.66	39.90
GSRC919	69480	3220	16	49	33	1.51	0.138	2.06	68.14
<i>including at 1.25% Ni</i>			19	49	30	1.56	0.148	2.15	64.59
<b>GSRC924</b>	<b>69440</b>	<b>3220</b>	<b>21</b>	<b>72</b>	<b>51</b>	<b>1.55</b>	<b>0.179</b>	<b>2.27</b>	<b>115.77</b>
<i>including at 1.25% Ni</i>			23	52	29	1.67	0.214	2.53	73.24
GSRC942	69200	3220	21	64	43	1.34	0.112	1.78	76.61
<i>including at 1.25% Ni</i>			29	58	29	1.52	0.142	2.09	60.57
GSRC954	69080	3260	24	58	34	1.41	0.108	1.84	62.56
<i>including at 1.25% Ni</i>			30	47	17	1.58	0.160	2.22	37.72
<i>including at 1.25% Ni</i>			54	58	4	2.09	0.058	2.32	9.29
GSRC957	69080	3140	24	72	48	1.31	0.052	1.52	72.92
<i>including at 1.25% Ni</i>			31	47	16	1.50	0.093	1.87	30.00
GSRC963	69000	3260	18	52	34	1.44	0.191	2.21	74.97
<i>including at 1.25% Ni</i>			24	52	28	1.54	0.203	2.35	65.81
GSRC966	69000	3140	18	57	39	1.13	0.291	2.30	89.56
<i>including at 1.25% Ni</i>			42	50	8	2.03	1.147	6.62	52.96
GSRC970	68960	3140	21	46	25	1.30	0.425	2.99	74.86
<i>including at 1.25% Ni</i>			32	45	13	1.54	0.775	4.64	60.36
GSRC973	68920	3220	22	41	19	1.58	0.315	2.84	53.97
<i>including at 1.25% Ni</i>			25	38	13	1.81	0.424	3.50	45.54
GSRC989	69400	3200	21	53	32	1.42	0.052	1.63	52.02
<i>including at 1.25% Ni</i>			33	48	15	1.60	0.075	1.90	28.57
<b>GSRC990</b>	<b>69380</b>	<b>3200</b>	<b>17</b>	<b>92</b>	<b>75</b>	<b>1.33</b>	<b>0.086</b>	<b>1.67</b>	<b>125.35</b>
<i>including at 1.25% Ni</i>			66	85	19	1.43	0.097	1.82	35.53
GSRC991	69380	3180	26	90	64	1.15	0.076	1.45	92.74
<i>including at 1.25% Ni</i>			47	53	6	1.50	0.358	2.93	17.58
<i>including at 1.25% Ni</i>			63	75	12	1.84	0.073	2.13	25.53
GSRC992	69360	3200	18	66	48	1.41	0.127	1.92	92.06
<i>including at 1.25% Ni</i>			21	51	30	1.57	0.128	2.08	62.44
<i>including at 1.25% Ni</i>			58	65	7	1.62	0.204	2.44	17.05
GSRC995	69320	3200	22	64	42	1.53	0.052	1.74	72.91
<i>including at 1.25% Ni</i>			24	62	38	1.58	0.056	1.80	68.47
<b>GSRC1001</b>	<b>69720</b>	<b>3140</b>	<b>42</b>	<b>112</b>	<b>70</b>	<b>1.25</b>	<b>0.151</b>	<b>1.85</b>	<b>129.76</b>
<i>including at 1.25% Ni</i>			77	112	35	1.56	0.244	2.54	88.73
GSRC1008	69800	3100	38	101	63	1.23	0.057	1.46	91.93
<b>GSRC1012</b>	<b>69840</b>	<b>3060</b>	<b>30</b>	<b>97</b>	<b>67</b>	<b>1.28</b>	<b>0.076</b>	<b>1.58</b>	<b>106.08</b>
GSRC1017	69880	2980	15	51	36	1.32	0.080	1.64	59.19
GSRC1020	69680	3120	29	81	52	1.41	0.087	1.76	91.35
<i>including at 1.25% Ni</i>			43	80	37	1.55	0.110	1.99	73.66
<b>GSRC1022</b>	<b>69600</b>	<b>3120</b>	<b>66</b>	<b>141</b>	<b>75</b>	<b>1.61</b>	<b>0.090</b>	<b>1.97</b>	<b>147.75</b>
GSRC1023	69560	3120	30	87	57	1.28	0.101	1.68	96.04
<b>GSRC1025</b>	<b>69640</b>	<b>3120</b>	<b>26</b>	<b>144</b>	<b>118</b>	<b>1.31</b>	<b>0.123</b>	<b>1.80</b>	<b>212.64</b>
<i>including at 1.25% Ni</i>			80	108	28	1.75	0.086	2.10	58.74
<i>including at 1.25% Ni</i>			118	129	11	2.31	0.598	4.70	51.75

### *Precious Metal Assessment*

Composites from specific Goongarrie South gold and nickel sulphide target zones have been submitted for gold and PGM Fire Assay analysis. No results are as yet available.

### *Hydrological Studies*

Hydrological studies at the Pamela Jean Zone are well advanced. A confined aquifer is present below 60m at the base of the ore profile, associated with Clay Lower Siliceous. Water quality is 38,000-50,000 mg/l TDS, which is comparable to the process water currently in use at Cawse. The good water quality indicates the aquifer is not being recharged from surrounding hypersaline lake systems.

The Limonite ore zones do not carry significant water, and there should be no wet mining difficulties.

### *Ore Genesis*

The Pamela Jean deep drilling has encountered brecciated and sulphide-bearing olivine adcumulate bedrock. This mineralogy has promoted particularly intense weathering conditions. Petrological studies of the sulphide zones are current, to determine the potential for nickel sulphide occurrences.

The breccia zones provide a conduit for ground water, allowing oxidising fluids to percolate below the limit of normal near-surface weathering. The groundwater will also remove oxidation products, such as dolomite/magnesite and silica, leaving behind a residual nickel-cobalt bearing goethite.

Detailed multi-element geochemical analysis has been completed to elucidate ore genesis, and assist in ore correlation and metallurgical interpretation. Results have validated the XRD study.

A contract was awarded for August 2001 for an integrated geophysical program, to evaluate bedrock structures and identify sulphide targets for deep diamond drill testing and down-hole EM.

## **2.1.2 Ghost Rocks Nickel Project**

Heron 100%.  
Nickel (-gold).

During the Quarter, final 1m check assays were received confirming the intercepts previously reported. Resource estimation studies continue, evaluating screened grade estimation methods. Ghost Rocks ore styles are predominantly siliceous and thus beneficiate when screened.

## **2.1.3 Kalpini Nickel Project**

Heron 100%.  
Nickel (-gold).

Metallurgical evaluation of Saprolite Ore has continued. Joint venture discussions continue with parties interested in the Nickel Sulphide and Gold potential of the Kalpini tenement package.

Several new tenements have been pegged, such that Heron now has a near contiguous landholding from Kookynie in the north to Transline in the south, an ultramafic strike of 150km. This includes from north to south the Boomerang, Binti Binti, Kalpini, Acra, Transline and Cowarna Rocks Nickel Laterite and of greater significance, Nickel Sulphide prospects. The demonstrated sulphide endowment of the Kalpini belt is an important exploration guide for Nickel Sulphide.

## 2.2 ZULEIKA SHEAR ZONE PROVINCE

### 2.2.1 Frances Lesley Project

Heron 100%. Another entity has rights to gold.  
Nickel.

Heron is negotiating with a Nickel Sulphide producer to form a joint venture. Additional tenements covering favourable Nickel Laterite and Sulphide targets continued to be pegged during the Quarter.

### 2.2.2 Blister Dam Joint Venture Project

**(proposed Avoca Resources asset)**

Heron 100%.  
Gold (-nickel).

Heron is finalising a Joint Venture for the Blister Dam and Dunnsville Projects on the Zuleika Shear Zone. The Zuleika Shear hosts significant gold mineralisation to the south at Kundana, including the recently discovered Raleigh and Frogs Leg deposits. Heron will retain all nickel rights.

### 2.2.3 Mungari Northwest Platinum Project

**(proposed Avoca Resources asset)**

Heron 100%.  
Platinum (- gold).

Open file literature reviews and regional studies by Heron have generated a Platinum Group Metal ("PGM") target associated with fractionated basal layers of the Powder Sill gabbro. A well defined platinum in soil anomaly is present, peaking at 41ppb Pt with coincident 16ppb Pd. Avoca's Powder Sill exploration target is a "Lac des Iles" brecciated gabbro PGM system.

### 2.2.4 Mungari Gold Project

**(proposed Avoca Resources asset)**

Heron 100%.  
Gold.

Avoca has lodged tenement applications 10km SSE along strike from the Frogs Leg gold discovery on the ore hosting Zuleika Shear Zone. This is a prime structural setting, hosting from north to south the Kundana, Raleigh, Kurrawang, Rubicon, Hornet and Frogs Leg gold occurrences.

The **Mungari Prospect** has abundant quartz vein float. Aeromagnetic interpretation indicates dolerite/gabbro intruding felsic volcanics. Mungari will be an Avoca exploration focus.

### 2.2.5 Widgiemooltha Project

Heron 100%.  
Nickel (-gold).

An advanced stage Nickel Sulphide target has been generated at the **Pioneer Prospect**. Field checking has confirmed a felsite-sulphidic black shale footwall contact overlain by sulphide-bearing komatiite. Stream geochemistry is anomalous, with 700ppm Ni and 16ppb Pd. Gridding has commenced for a ground EM survey which has been designed for drill targeting.

Aeromagnetic data was acquired which confirms three well defined ultramafic units striking north-south. The eastern-most ultramafic correlates with the highly mineralised Mariners-Redross nickel sulphide line. The western-most ultramafic unit is a well exposed ridge of tremolite-actinolite-chlorite-biotite schist. Significant rock-chip anomalism indicative of nickel sulphide settings was identified, with up to 0.23% Ni, 0.03% Cu, 25ppb Pt and 18ppb Pd.

### 2.2.6 Jimberlana PGM Project

(proposed Avoca Resources asset)

Heron 100%.

PGM-nickel (-gold).

The Jimberlana Dyke is a layered mafic/ultramafic intrusion emplaced into the granite-greenstone terrain of the Yilgarn Craton. The Dyke is Lower Proterozoic in age and exhibits many similarities to the Great Dyke of Zimbabwe, which hosts PGM resources of over 300 million ounces. Similarities to the Great Dyke include; host rocks, age, strike length, width, cross sectional shape and magmatic stratigraphy.

Open file research undertaken by Heron has identified significant PGM occurrences within the Jimberlana Dyke on Heron project areas (tenements originally acquired for Oil Shale). Drilling of the Jimberlana Dyke by previous explorers in the 1970s north of Norseman included an intercept of **1.52m grading 0.39g/t Pt and 2.7g/t Pd**. The mineralisation was associated with zones of disseminated sulphide mineralisation located within a layered dunite-norite sequence.

At the time of 1970s exploration, PGM analytical techniques were apt to record low estimates. Subject to confirmatory sampling, Avoca has planned a deep stratigraphic diamond hole to assess the hard-rock PGM potential.

Metallogenic models have also been developed involving Tertiary-aged PGM ore occurrences derived from the Jimberlana Dyke.

## 2.3 SCOTIA KANOWNA PROVINCE

### 2.3.1 Kurnalpi Nickel Project

Heron 100%.

Nickel (- gold).

Major tenement acquisitions have been completed, securing 10km of lateritised ultramafic stratigraphy at Boomerang North and 20km of lateritised ultramafic stratigraphy at Bulong East. Significant additional resource potential is thus indicated for the Kalpini-Kurnalpi project area.

### 2.3.2 Menzies East Project

Heron 100%.

Gold (-nickel).

Sampling of the **Paramount Prospect** gold workings returned 0.3-13.3g/t gold, associated with quartz veined porphyry. Follow up is planned.

### 2.3.3 Gindalbie Terrain Joint Venture Project

(proposed Avoca Resources asset)

Heron 100%, Delta Gold Limited right to earn 70% in gold.

Heron retains 100% of all nickel rights.

Joint venture partner Delta has completed a blanket regional coverage Vacuum soil program, to target the northern extension of the Mulgarrie East gold mine structure. Data interpretation and in-fill sampling is current. The quality of Delta's Gindalbie exploration work has been very high.

## 2.4 AVOCA SHEAR PROVINCE

### 2.4.1 Kurnalpi Gold and Nickel Sulphide Joint Venture Project (proposed Avoca Resources asset)

Heron 100%. Farm-in Partner right to earn 80% in Gold and Nickel Sulphide.

Heron retains all Nickel Laterite rights.

Heron and a Farm-in Partner have reached agreement to explore for Gold and Nickel Sulphide as part of an Eastern Goldfields drive by the Farm-in Partner to generate new large projects. The project area covers 260km<sup>2</sup> with an excellent Emu Fault-Avoca Shear Zone structural association and areas of historical gold mining activity.

### 2.4.2 Transline Joint Venture Project (proposed Avoca Resources asset)

Heron 100%. Harmony Gold Limited right to earn 80%.

Gold (-nickel).

Harmony has commenced systematic pedogenic carbonate sampling, with 1,500 samples collected. Several coherent soil gold anomalies were defined, peaking at 45ppb Au.

Reconnaissance drilling programs have commenced, with initial results including 4m at 1.24g/t Au.

### 2.4.3 Kalpini Gold Project

Heron 100%.

Gold.

The main target is the **GMQ Prospect** located on the GMQ Shear Zone. Mineralisation is extensive, as indicated by large metal detector scrapes and pits to assess alluvial deposits. Old workings are developed on large alteration systems containing zones of quartz-sulphide stockworking. Heron sampling has identified highly anomalous gold-arsenic zones, with carbonated brecciated chert and sheeted and ladder quartz vein systems assaying 0.1-0.5g/t Au and 0.1-0.3% As.

At the **Anti Dam Prospect**, a Volcanogenic Massive Sulphide ("VMS") target has been identified, with a 1.3km strike length gossan horizon located within a felsic volcanic-black shale sequence.

## 2.5 KEITH KILKENNY PROVINCE

### 2.5.1 Kookynie Joint Venture Project (proposed Avoca Resources asset)

Heron 100%.

Nickel (-gold).

The project area is on the western margin of the Keith Kilkenny Tectonic Zone, adjoining the Apollo Hill gold mining centre. The Carasue gold mining centre occurs some 100km south within a comparable rift margin structural setting. A gold joint venture Heads of Agreement is in preparation.

The main regional target in the project area is the **Ulster Prospect**, an historic gold mine. Sulphidic quartz float is present, linking a series of old shafts that extend over a strike length exceeding 300m. The mineralisation strikes east west, which is significant in that regionally the Butterfly-Tampa gold mineralisation is hosted by similar trending flat lying shears.

At the **Tampa and Mount Melita East Prospects**, residual laterite with quartz vein float is present. Lag samples were collected on a 400x400m offset grid pattern. Results are awaited.

### 2.5.2 Edjudina Nickel Project

Heron 100%.  
Nickel (-gold).

Field visits have been completed to the Lake Rebecca, Aubils and Monk Well Prospects as part of a Nickel Saprolite assessment. Detailed open file research was completed (450 separate reports).

In the course of field work at the **Yerilla Prospect**, nickel sulphide settings were identified, with gossan assays of up to 0.23% Ni, 0.17% Co, 0.04% Cu, 8ppb Pt and 18ppb Pd. Additionally, semi-massive pyrite was located, being associated with felsic volcanics. A VMS setting has been identified, which is confirmed by anomalous regional lag samples of 203ppm Cu and 395ppm Zn. Gossan assays of up to 0.23% Co, 0.05% Cu and 0.14% Zn are associated with the soil anomaly.

At the **Mount Catherine South Prospect**, a major east-west trending quartz vein returned highly anomalous results in the 50-600ppb Au range. Pervasively altered granite (haematite-carbonate-epidote) is present, indicative of a large scale alteration system.

### 2.5.3 Edjudina-Laverton Joint Venture Project (proposed Avoca Resources asset)

Heron 100%. Croesus Mining NL right to earn 80% in gold projects only.  
Heron retains 100% of all nickel rights.  
Gold.

RAB and Aircore drilling for the Quarter totaled 18 holes for 914 metres at **Yabboo Hill East**. Of interest, 10m at 0.12g/t Au was recorded from transported cover. Interpretation of results is awaited.

### 2.5.4 Southern Laverton Tectonic Zone Joint Venture Project (proposed Avoca Resources asset)

Heron 100%. Gutnick Resources NL right to earn 80%.  
Heron retains 100% of all nickel rights.  
Gold.

The Southern Laverton Tectonic Zone Project is located approximately 150km NE of Kalgoorlie, extending from the Anglo-Saxon gold mines in the south (170,000oz) to Red October in the north (340,000oz). The Laverton Tectonic Zone Gold Province, which also hosts the Granny Smith, Sunrise and Wallaby mines, has a published resource base that exceeds 22 million ounces of gold.

A drill program has been designed to test the **Yundamindera Flash Prospect**, generated by auger and surface soil sampling programs. This target is defined by a threshold value of 15ppb Au against a background of <4ppb. Significant soil spikes consistent with near surface gold development are present, with **peak gold values to 290,000ppb (290g/t)**.

### 2.5.5 Mulgabbie Nickel Project

Heron 100%.  
Nickel (-gold).

Advanced discussions are current and previous metallurgical work has been re-assessed indicating Saprolite Ore at Lake Rebecca may be suited to smelter ferro-nickel production. The ore chemistry is comparable to Nickel Saprolite Ores being smelted in the Pacific Rim region.

Drill site rehabilitation was completed. Applications were lodged for Mining Lease amalgamation.

### 2.5.6 Karonie South Joint Venture Project

(proposed Avoca Resources asset)

Heron 100%. WMC right to earn 80%.  
Gold (- nickel - base metals).

Additional tenements have been offered to WMC for inclusion in the Joint Venture. Base data collection is now complete and results are being compiled and drill targets generated.

During the Quarter a 2,300 soil sample in-fill program was completed. The entire project now has broad spaced soil geochemical coverage. An ultra-detailed 50m line spacing aeromagnetic survey was flown. Several high priority follow-up gold targets have been generated:

- HSK1, 1.2km soil gold anomaly, peak 29ppb Au against a <2ppb background, dolerite setting.
- HSK2, 4.6x2.5km soil gold anomaly, peak 27ppb Au against a <2ppb background, dolerite-sediment contact in a major regional structural setting.
- HSK3, 2.5km soil gold anomaly, peak 30ppb Au against a <2ppb background, granite contact.

The Karonie South project area is a contiguous 1,350km<sup>2</sup> tenement holding located on the southern extension of the gold-endowed Keith Kilkenny Tectonic Zone in an area of minimal previous exploration. This style of project, with an established joint venture to manage the relatively high risk of early stage of exploration, is very much the *modus operandi* for Avoca Resources.

## 2.6 LEONORA LAVERTON PROVINCE

### 2.6.1 Laverton Nickel Project

Heron 100%. Another entity has rights to gold.  
Nickel.

#### Merolia and Mineral Patch Hill Prospects

Mineral Patch Hill is immediately northwest along strike of the Cogleia Well Nickel Laterite deposit, with Merolia sinistrally displaced further northwest some 40km. Detailed aeromagnetic interpretations indicated olivine adcumulate ultramafic targets, which have now been confirmed in Heron's reconnaissance drilling.

At the **Mineral Patch Hill Prospect**, the host adcumulate sequence has a 7km strike and 0.7-1.4km width. Significant tonnage potential is indicated. Importantly, Limonite and Siliceous Ore were present in Heron's March 2001 Quarter drilling.

At the **Merolia Prospect**, 43 stratigraphic drill holes were completed on a 1280x80m pattern for a total advance of 1,390m (MERC001 to 043). A dominantly talc-chlorite schist and olivine orthocumulate stratigraphy was recorded, generating a goethite-talc laterite mineralogy. A potential nickel sulphide setting would appear to be present. Assay results are awaited.

#### Mount Perseverance and Mount Zephyr Prospects

An aeromagnetic target is located in the southern project area overlain by sheetwash. Sparse subcrop includes komatiite with silica cap. Data compilation has identified a Nickel Laterite profile, with RAB intercepts in previous drilling of up to 8m at 1.2% Ni. Gold prospectivity is high, due to the presence of the Celia Tectonic Zone (hosts the Mount Morgans gold mining centre 60km SE).

**2.6.2 Laverton Joint Venture Project** (proposed Avoca Resources asset)

Heron 100%. Metex Resources NL right to earn 70%.  
Gold (-nickel).

Metex intends assigning these tenements to another joint venture mining entity within the district. Heron has also considered the exchange of this predominantly gold project for nickel targets in the Keith Kilkenny Tectonic Zone.

**2.6.3 Victory Joint Venture Project** (proposed Avoca Resources asset)

Heron 100%. WMC right to earn 80%.  
Gold (-nickel).

A farm-in Heads of Agreement has been concluded with WMC Exploration Limited. The exploration target is Nickel Sulphide, and gold along strike from the developing Thunderbox gold discovery. Detailed data compilation has commenced, with field checking of targets.

**2.7 ILLAARA PROVINCE**

**2.7.1 Lawrence Find Joint Venture Project** (proposed Avoca Resources asset)

Heron 100%. Mount Burgess Mining NL right to earn 70%.  
Gold (-copper - zinc - nickel - sulphur - platinum).  
Heron retains Nickel Laterite rights

Since the establishment of the joint venture, work completed includes a review of previous exploration, the acquisition and interpretation of aeromagnetic and Landsat 7 data, field mapping and re-sampling of holes drilled by previous explorers. A soil sampling program is current.

Field reconnaissance was completed with Prospector Jack Otway to sample targets discovered by Jack 30 years ago during the "Nickel Boom". Results are awaited.

**2.8 KAMBALDA DOMAIN PROVINCE**

**2.8.1 Binduli East Joint Venture Project** (proposed Avoca Resources asset)

Heron 100%. AngloGold Australasia Limited has the right to earn 75%.  
Gold (-nickel).

Infill auger soil sampling has better defined geochemical anomalies, with further sampling on a 200x50m grid. Results have substantiated five broad anomalous zones with values above 50ppb Au.

**2.8.2 Boorara Shear Project** (proposed Avoca Resources asset)

Heron 100%.  
Gold (-PGM-nickel).

At the **Kurramia South Prospect**, several extremely large old gold mine shafts are present on two separate NW trending lines of lode. Drill follow up is to be planned.

Of greater interest, six separate sulphide gossan localities were sampled. Peak assays were 0.5% Ni, 0.6% Co, 22ppb Pt and 31ppb Pd. Interestingly, the host lithology for the gossans is a siliceous breccia. Further geological studies are required by Avoca, to design drilling programs.

## 2.9 SOUTHERN CROSS PROVINCE

### 2.9.1 Bungalbin Iron Ore Royalty Project (proposed Avoca Resources asset)

Heron 100%. Portman Limited right to acquire Iron Ore rights through providing Heron an Iron Ore Production Royalty.

Heron retains all other mineral rights, notably gold-nickel.

The target ore type at Bungalbin is low-phosphorous Iron Ore. Following geological reinterpretation, there is scope to greatly increase the Iron Ore resources. Portman has approached Heron to have further Iron Ore tenements within the Bungalbin area included in the Royalty Project.

At the **Mount Jackson J4 Deposit**, 12 wide spaced drill holes were completed, intersecting predominantly limonite-goethite ore assaying 57.2% Fe. Resource models are currently being prepared, as part of Portman's Koolyanobbing-Bungalbin feasibility studies.

## 2.10 BREMER-EUCLA PALAEO-DRAINAGE PROVINCE

### 2.10.1 Balladonia and Ravensthorpe-Norsemen Oil Shale Projects

Heron 100%.

Oil shale-sulphur-limestone.

The 5,638km<sup>2</sup> Balladonia and Ravensthorpe-Norsemen project areas are located 200km S of Kalgoorlie. There are substantial oil shale and lignite resources, with recent Heron acquisitions increasing the resource potential to in excess of 2.6 billion tonne at an indicative oil yield of 133l/t and strip ratio of 4:1.

Heron is evaluating a range of development options, involving the joint production of syncrudes, electricity, sulphuric acid and limestone.

## 2.11 FRASER RANGE PROVINCE

### 2.11.1 Fraser Range Project (proposed Avoca Resources asset)

Heron 100%

Nickel-copper-PGM-gold.

A research project was completed by Heron for the Albany-Fraser Province which aimed to identify Voisey's Bay style nickel-copper sulphide targets (comparable to the WMC West Musgrave discovery). Elevated Cu, Ni, Co, Cr, Au and Pd soil geochemical targets have been identified in association with interpreted anorthosite and troctolite layered complexes.



Ian Buchhorn  
MANAGING DIRECTOR

The information is based on, and accurately reflects, information compiled by Ian James Buchhorn, who is a Member of the Australasian Institute of Mining and Metallurgy.



1.13 Total operating and investing cash flows (brought forward)	(991)	(3,430)
<b>Cash flows related to financing activities</b>		
1.14 Proceeds from the issue of shares, options, etc.		2,800
1.15 Proceeds from the sale of forfeited shares		
1.16 Proceeds from borrowings		
1.17 Repayment of borrowings		
1.18 Dividends paid		
1.19 Other (provide details if material) - Share Issue Expenses		(151)
<b>Net financing cash flows</b>	Nil	2,649
<b>Net increase (decrease) in cash held</b>	(991)	(781)
1.20 Cash at beginning of quarter/year to date	4,135	3,925
1.21 Exchange rate adjustments		
<b>1.22 Cash at end of quarter</b>	3,144	3,144

**Payments to directors of the entity and associates of the directors**

**Payments to related entities of the entity and associates of the related entities**

	Current Qtr A\$'000
1.23 Aggregate amount of payments to the parties included in item 1.2	80
1.24 Aggregate amount of loans to the parties included in item 1.10	
1.25 Explanation necessary for an understanding of the transactions	
Directors fees, salaries and superannuation (A\$64,000). Provision of secretarial services by director related entities (A\$1,000). Provision of office accommodation by director related entities (A\$15,000).	

**Non-cash financing and investing activities**

2.1 Details of financing and investing transactions which have had a material effect on consolidated assets and liabilities but did not involve cash flows

--

2.2 Details of outlays made by other entities to establish or increase their share in projects in which the reporting entity has an interest

See attached schedule
-----------------------

### Financing facilities available

Add notes as necessary for an understanding of the position

	Amount available A\$'000	Amount used A\$'000
3.1 Loan facilities		
3.2 Credit standby arrangements		

### Estimated cash outflows for next quarter

	A\$'000
4.1 Exploration and evaluation	700
4.2 Development	0
<b>Total</b>	<b>700</b>

### Reconciliation of cash

Reconciliation of cash at the end of the quarter (as shown in the consolidated statement of cash flows) to related items in the accounts as follows.

	Current Quarter A\$'000	Previous Quarter A\$'000
5.1 Cash on hand and at bank	48	151
5.2 Deposits at call	3,096	2,989
5.3 Bank Overdraft		
5.4 Other (provide details) Bank Bills		995
<b>Total: cash at end of quarter (Item 1.22)</b>	<b>3,144</b>	<b>4,135</b>

### Changes in interests in mining tenements

Tenement reference	Nature of interest (note (2))	Interest at Beginning of Quarter	Interest at End of Quarter
6.1 Interests in mining tenements relinquished, reduced or lapsed	See attached schedule		
6.2 Interests in mining tenements acquired or increased	See attached schedule		

### Issued and quoted securities at end of current quarter

Description includes rate of interest and any redemption or conversion rights together with prices and dates.

	Number Issued	Number quoted	Par value (cents)	Paid-up value (cents)
<b>7.1 Preference securities</b> (description)				
7.2 Issued during Quarter				
<b>7.3 Ordinary securities</b>	100,958,727	100,958,727		
7.4 Issued during Quarter				
<b>7.5 Convertible debt securities</b> (description)				
7.6 Issued during quarter				
<b>7.7 Options</b> (description)			Exercise Price	Expiry Date
	100,000	Nil	\$0.25	28/08/2001
	150,000	Nil	\$0.25	01/09/2001
	350,000	Nil	\$0.25	15/12/2001
	50,000	Nil	\$0.25	05/03/2002
	200,000	Nil	\$0.25	19/12/2002
	200,000	Nil	\$0.35	19/12/2002
	200,000	Nil	\$0.45	19/12/2002
	200,000	Nil	\$0.55	19/12/2002
	200,000	Nil	\$0.65	19/12/2002
	100,000	Nil	\$0.25	04/02/2004
	785,000	Nil	\$0.35	19/10/2004
	785,000	Nil	\$0.50	19/10/2004
7.8 Issued during Quarter				
7.9 Exercised during Quarter				
7.10 Expired during Quarter				
<b>7.11 Debentures</b> (totals only)				
<b>7.12 Unsecured notes</b> (totals only)				

**Compliance 2.2      Details of outlays made by other entities to establish or increase their share in projects in which the reporting entity has an interest.**

1. Metex Resources NL has the right to earn a 70% equity interest in the Laverton Joint Venture Project tenements through sole funding the initial \$500,000 of exploration.
2. Metex Resources NL has earned a 70% equity interest in the Mount Morgans Joint Venture Project tenements through sole funding the initial \$200,000 of exploration.
3. Barra Resources Ltd (previously Connemara Gold Mines Pty Ltd) has the right to earn a 70% equity interest in the Snake Hill Joint Venture Project tenements through sole funding the initial \$300,000 of exploration.
4. Gutnick Resources NL has the right to earn an 80% equity interest in the Southern Laverton Tectonic Zone Joint Venture Project tenements through sole funding the initial \$1,200,000 of exploration expenditure. Gutnick Resources will continue to sole fund exploration until a Decision to Mine is made.
5. Croesus Mining NL has the right to earn an 80% equity interest in the Edjudina and Laverton Joint Venture Project tenements through sole funding the initial \$1,000,000 of exploration expenditure. Croesus will continue to sole fund exploration until a Decision to Mine is made.
6. Portman Limited has entered into an option to purchase the Bungalbin and Mount Jackson Project tenements for \$25,000 and a minimum \$250,000 exploration expenditure. Heron will retain a FOB royalty on any Iron Ore sold from the tenements, and Heron will retain all other mineral rights.
7. WMC Resources Ltd has the right to earn an 80% equity interest in the Karonie South Joint Venture Project tenements through sole funding the initial \$300,000 of exploration expenditure. WMC will continue to sole fund exploration until a Decision to Mine is made.
8. Delta Gold NL has the right to earn a 70% interest in the Scotia Kanowna Joint Venture Project tenements through sole funding the initial \$1,000,000 of exploration expenditure. Delta will continue to sole fund exploration until a Decision to Mine is made.
9. Harmony Gold Limited has the right to earn an 80% interest in the Transline Joint Venture Project tenements through sole funding the initial \$800,000 of exploration expenditure. New Hampton will continue to sole fund exploration until a Decision to Mine is made.
10. AngloGold Australasia Limited has the right to earn a 75% interest in the Binduli Joint Venture Project tenements through sole funding the initial \$500,000 of exploration expenditure. AngloGold will continue to sole fund exploration until a Decision to Mine is made.
11. WMC Resources Ltd has the right to earn an 80% equity interest in the Victory Joint Venture Project tenements through sole funding the initial \$125,000 of exploration expenditure. WMC will continue to sole fund exploration until a Decision to Mine is made.
12. Mt Burgess Mining NL has the right to earn a 70% equity interest in the Illaara Joint Venture Project tenements through sole funding the initial \$500,000 of exploration expenditure. Heron and Mt Burgess will continue to fund further exploration on a pro-rata basis.
13. A farm-in partner has the right to earn an 80% equity interest in the Kurnalpi Joint Venture Project tenements through sole funding the initial \$300,000 of exploration expenditure. The farm-in partner will continue to sole fund exploration until a Decision to Mine is made.

## 6.1 Interests in Mining Tenements relinquished, reduced or lapsed

<i>Tenement Reference</i>	<i>Nature of Interest</i>	<i>Interest Beginning Quarter</i>	<i>Interest End of Quarter</i>
E28/426	Registered Holder	100	0
E28/459	Registered Holder	100	0
E28/638	Registered Holder	100	0
E28/967	Registered Holder	100	0
E28/995	Registered Holder	100	0
E29/129	Registered Holder	100	0
E29/210	Registered Holder	100	0
E29/211	Registered Holder	100	0
E31/304	Registered Holder	100	0
E31/483	Registered Holder	100	0
E39/648	Registered Holder	100	0
E39/699	Registered Holder	100	0
E39/758	Registered Holder	100	0
E39/813	Registered Holder	100	0
E39/881	Registered Holder	100	0
E77/978	Registered Holder	100	0
M24/844	Registered Holder	100	0
M31/118	Registered Holder	100	0
P24/3566	Registered Holder	100	0
P24/3567	Registered Holder	100	0
P24/3568	Registered Holder	100	0
P24/3569	Registered Holder	100	0
P26/2818	Registered Holder	100	0
P27/1448	Registered Holder	100	0

## 6.2 Interests in Mining Tenements acquired or increased (Registered Holders Heron or Avoca)

<i>Tenement Reference</i>	<i>Nature of Interest</i>	<i>Interest Beginning Quarter</i>	<i>Interest End of Quarter</i>
E15/726	Registered Applicant Avoca	0	100
E16/269	Registered Applicant Avoca	0	100
E25/254	Registered Applicant Avoca	0	100
E25/256	Registered Applicant Avoca	0	100
E27/260	Registered Applicant Heron	0	100
E27/264	Registered Applicant Heron	0	100
E28/1187	Registered Applicant Heron	0	100
E28/1188	Registered Applicant Heron	0	100
E28/1191	Registered Applicant Heron	0	100
E28/1192	Registered Applicant Heron	0	100
E28/1199	Registered Applicant Avoca	0	100
E29/503	Registered Applicant Heron	0	100
E30/267	Registered Applicant Heron	0	100
E31/575	Registered Applicant Heron	0	100
E31/576	Registered Applicant Heron	0	100
E31/579	Registered Applicant Heron	0	100
E31/581	Registered Applicant Heron	0	100
E31/582	Registered Applicant Heron	0	100
E31/584	Registered Applicant Heron	0	100
E39/927	Registered Applicant Avoca	0	100
E39/928	Registered Applicant Avoca	0	100
E40/186	Registered Applicant Avoca	0	100
E69/1742	Registered Applicant Balladonia	0	100
E69/1743	Registered Applicant Balladonia	0	100
E77/1071	Registered Applicant Heron	0	100
M29/303	Registered Applicant Heron	0	100
M29/304	Registered Applicant Heron	0	100

M31/312	Registered Applicant Heron	0	100
P15/4464	Registered Applicant Heron	0	100
P15/4472	Registered Applicant Heron	0	100
P15/4475	Registered Applicant Avoca	0	100
P16/2123	Registered Applicant Heron	0	100
P16/2124	Registered Applicant Heron	0	100
P16/2125	Registered Applicant Heron	0	100
P25/1720	Registered Applicant Avoca	0	100
P25/1721	Registered Applicant Avoca	0	100
P25/1722	Registered Applicant Avoca	0	100
P29/1734	Registered Applicant Heron	0	100
P29/1735	Registered Applicant Heron	0	100
P39/4127	Registered Applicant Avoca	0	100
P39/4128	Registered Applicant Avoca	0	100
P39/4129	Registered Applicant Avoca	0	100
P39/4130	Registered Applicant Avoca	0	100
P39/4131	Registered Applicant Avoca	0	100
P63/1160	Registered Applicant Avoca	0	100
P63/1161	Registered Applicant Avoca	0	100
P63/1162	Registered Applicant Avoca	0	100
P63/1163	Registered Applicant Avoca	0	100

### Statement

1. This statement has been prepared under accounting policies which comply with accounting standards as defined in the Corporations Law or other standards acceptable to ASX (see note 4).
2. This statement does give a true and fair view of the matters disclosed.



Sign here:

for \_\_\_\_\_  
Company Secretary

Date: 20/07/01

Print name:

Ian Buchhorn

### Notes

1. The quarterly report is to provide a basis for informing the market how the activities of the entity for the past quarter have been financed and the effect on its cash position. Any entity wanting to disclose additional information is encouraged to do so, in a note or notes attached to this report.
2. The "Nature of Interest" (items 6.1 and 6.2) includes options in respect of interests in mining tenements acquired, exercised or lapsed during the reporting period. If the entity is involved in a joint venture agreement and there are conditions precedent which will change its percentage interest in a mining tenement, it should disclose the change of percentage interest and conditions precedent in the list required for items 6.1 and 6.2.
3. The definitions in, and provisions of, AASB 1022: Accounting for Extractive Industries and AASB 1026: Statement of Cash Flows apply to this report.
4. **Accounting Standards** ASX will accept, for example, the use of International Accounting Standards for foreign entities. If standards used do not address a topic, the Australian standard on that topic (if any) must be complied with.