



ASX Release – 9 February 2009

VALE DELIVERS STRONG KNP PRE-FEASIBILITY REPORT

Highlights

- Project sized for up to 36,000 tpa of nickel in intermediate product with a mine life estimated at 34 years.
- High pressure acid leach (HPAL) flow sheet selected as the best leaching technology for the project with high Ni and Co extractions of approximately 96% and 93% respectively, and low acid consumption of approximately 280 kg/t.
- Cash operating cost estimate of US\$4.42 per pound of nickel (including cobalt credits).
- Capital cost estimate of US\$1.5 billion dollars.
- Heron notes Vale has only considered 4 of the 14 deposits defined by Heron to 2004 that make up the KNP within the Pre Feasibility Study (PFS).
- Heron believes additional project enhancement will be obtained through the inclusion of the remaining 10 deposits and other optimisation opportunities.
- Vale has estimated the cost of a Bankable Feasibility Study (BFS) to be US\$50.5 million. Vale has until 30 July 2009 to commence the BFS.
- New resource estimates have been produced for Highway, Goongarrie Hill, Goongarrie South and Siberia North deposits. These estimates have added approximately 25% more tonnes and 16% more Ni metal compared with previous Heron 2004 estimates.

Heron Resources Limited (ASX:HRR Heron) is pleased to announce initial summary details of its Kalgoorlie Nickel Project (KNP) contained in Vale Inco's, a wholly owned subsidiary of Companhia Vale do Rio Doce (Vale), Pre-feasibility Study report received on 30 January 2009. Vale's study indicates a project producing up to 36,000 tonnes of mixed nickel cobalt hydroxide product via the high pressure acid leach (HPAL) process, with a capital cost of US\$1.5 billion and an operating cost of US\$4.42 per pound of production based on a 0.75 USD:AUD exchange rate. Vale's study is based on a project treating 2.5Mt of beneficiated leach feed ore per annum through a two autoclave leaching circuit over a project life of 34 years.

The PFS document does not include project financial analysis which will be undertaken by Vale and Heron independently. Vale will assess the findings of the PFS during the next six month review period prior to it having to make a decision whether to commence the BFS.

The report identifies the following areas for review:

- Further optimisation of the mining schedule incorporating mining multiple pits concurrently;
- Smoothing the Ni production profile in order to reduce project capital cost and maximise capital utilisation;
- Consideration of a third autoclave train as a staged expansion to maintain nickel output in the projects later life, and
- Selection of the most favourable intermediate product; MHP or MSP.

In addition, Heron believes that considerable scope exists for further enhancement of the project through the inclusion of resources not considered by the current study, as well as optimisation of ore beneficiation and ore transport options. The additional resources may allow increased project capacity (to approximately 50,000 tpa Ni in intermediate product) with associated improved project economics. During the next six months, Heron will complete a detailed review of the PFS and will undertake project financial analysis, using its in house project team which has recently completed the Jump-up Dam and Yerilla nickel laterite studies.

A summary of Vale's PFS details follow:

The Pre-feasibility Study is a culmination of some 170,000 hours of work and to date has consumed AU\$34.5M in approved funding, and represents the end product of Step 3 of the Kalgoorlie Nickel Project Laterite Farm-in and Joint Venture Agreement. Heron wishes to acknowledge the efforts of the Vale Team in completing this program.

The report states that Heron Resources owns one of the most prospective nickel laterite tenement packages in the world, containing a potential resource of 7Mt of nickel metal. The project has some strategic aspects that made it attractive to Vale Inco: (1) good local Infrastructure; (2) low sovereign risk; (3) access to a skilled labour pool; (4) low environmental risk for tailings disposal; (5) supportive government, environment agencies and community.

More than 90,000 m of RC and 5,000 m of sonic was drilled from 2005 to 2008 to test the assumptions presented by Heron in 2004. The priority targets within the KNP tenements during the PFS were Highway, Goon Hill, Goon South and Siberia North with additional work completed on a number of other prospects.

Mineral resources were defined for the priority targets and have been classified in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC, 2004) and are shown below in Table 1, with the details of each deposit set out in Table 2. The classification of Mineral Resources for all deposits was based principally on data density and geological confidence criteria generated by Vale.

Table 1: Total Mineral Resources for Highway, Goon Hill, Goon South and Siberia North within ore envelope at 0.5% Ni (dry tonnes)

Total Resource (Highway/Goon Hill/Siberia North/Goon South)								
Category	Ktonnes	Ni%	Co%	Si%	Al%	Fe%	Mg%	Mn(ppm)
Measured								
Indicated	292,184	0.68	0.05	22.82	0.96	18.68	3.42	2,404
Inferred	74,449	0.69	0.05	20.67	1.67	19.53	4.91	2,558
Total	366,633	0.68	0.05	22.38	1.11	18.85	3.72	2,435

Notes: Figures are for Dry tonnes, using Clay Upper and Clay Lower material only and a 0.5% Ni cutoff

Table 2- Mineral Resources Within Ore Envelope at 0.5% Ni (dry tonnes)

Highway								
Category	Ktonnes	Ni%	Co%	Si%	Al%	Fe%	Mg%	Mn(ppm)
Measured								
Indicated	51,296	0.63	0.04	27.93	0.66	10.22	5.77	1,616
Inferred	36,237	0.74	0.06	18.90	2.43	24.56	3.19	3,219
Total	87,533	0.68	0.05	24.19	1.39	16.16	4.70	2,280

Goon Hill								
Category	Ktonnes	Ni%	Co%	Si%	Al%	Fe%	Mg%	Mn(ppm)
Measured								
Indicated	40,419	0.64	0.04	29.24	1.00	12.13	3.63	1,675
Inferred	24,347	0.65	0.03	21.82	0.86	12.02	8.99	1,667
Total	64,766	0.64	0.04	26.45	0.94	12.09	5.64	1,672

Siberia North								
Category	Ktonnes	Ni%	Co%	Si%	Al%	Fe%	Mg%	Mn(ppm)
Measured								
Indicated	78,806	0.64	0.04	24.56	0.72	17.5	3.03	2,175
Inferred	4,001	0.63	0.04	24.99	0.77	19.04	2.37	2,499
Total	82,807	0.64	0.04	24.59	0.72	17.58	2.99	2,191

Goon South								
Category	Ktonnes	Ni%	Co%	Si%	Al%	Fe%	Mg%	Mn(ppm)
Measured								
Indicated	121,663	0.74	0.06	17.4	1.24	25.19	2.61	3,126
Inferred	9,864	0.58	0.04	22.58	1.24	19.76	2.2	2,353
Total	131,527	0.73	0.06	17.79	1.24	24.78	2.58	3,068

Notes Figures are for Dry tonnes, using Clay Upper and Clay Lower material only and a 0.5% Ni cutoff

As part of the PFS, a number of sulphuric acid leaching process routes were studied to obtain the optimal flow sheet including; heap leaching, atmospheric leaching, HPAL and sulphation atmospheric leaching.

The flow sheet recommended for Highway, Goon Hill and Siberia North ore utilises a beneficiation circuit to upgrade the nickel for autoclave feed. The Goon South ore does not beneficiate as well as the other prospects however the separated minus 6.35mm fraction can be ground and fed directly to the leaching circuit. The selected leaching process is High Pressure Acid Leaching (HPAL) with neutralisation, solid-liquid separation through counter-current decantation (CCD), secondary neutralisation, and metal precipitation to produce mixed hydroxide precipitate (MHP) or mixed sulphide precipitate (MSP).

Unit operations downstream of secondary neutralisation (ie MHP and MSP circuits, product handling and tailings disposal) were designed using technical information from existing commercial plants. No test work was conducted for these unit operations, as sufficient knowledge exists to support the PFS level study. If the project moves to the bankable feasibility study, such test work should be conducted to define detailed design criteria for all downstream unit operations.

The mineable resources and beneficiated feed material at the different prospects are shown below:

Highway 22.8 Mt @ 0.87% Ni upgrades to 7.8 Mt @ 1.48% Ni;

Goon Hill 21.7 Mt @ 0.77% Ni upgrades to 9.5 Mt @ 1.14% Ni;

Siberia North 18.1 Mt @ 0.79% Ni upgrades to 10.5 Mt @ 0.99% Ni; and

Goon South 64.1 Mt @ 0.86% Ni upgrades to 53.6 Mt @ 0.92% Ni.

The integrated mine plan has a 34 year mine life with mining commencing at Highway and progressing to Goon Hill, Siberia North and Goon South. HPAL feed grade falls below 1.2% Ni after eight years due to the poor beneficiation performance of the material from Siberia North and Goon South.

The KNP has some potential issues with supply of sufficient water and gas and an issue with the currently proposed Goongarrie Conservation Park which covers some of the resource areas all of which are to be addressed during future feasibility studies. Based upon the information collected during Step 3 and knowledge of other similar laterite projects, the optimal material throughput has been defined as 2.5 Mt of beneficiated material for autoclave feed (based on a two autoclave scenario). The maximum nickel production from the project is anticipated to be 36 ktpa of metal in intermediate product in the fourth year, reducing to 21ktpa after year thirteen. Life of mine average nickel production will be 23ktpa.

An economic evaluation was not scoped as part of this report. For the base case, the CAPEX has been estimated as AUD 1,994 million for a plant to create MHP; versus AUD 2,192 million for a plant to create MSP. The average operational cost over the life of mine has been estimated to be \$US 4.42 per pound of Ni in MHP; versus \$US 4.59 per pound of Ni in MSP.



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The information in this report that relates to Highway and Goon Hill Mineral Resources is based on information compiled by Dr Sia Khosrowshahi who is a Member of the Australian Institute of Mining and Metallurgy. Dr Sia Khosrowshahi is an employee of Golder Associates and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration, and to the resource estimation activity that he is undertaking to qualify as Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Dr Sia Khosrowshahi consents to the inclusion in this report of the matters based on his information in the form and context that it appears. Note that Mineral Resources that are not Ore Reserves do not have demonstrated viability.

The information in this report that relates to Siberia North and Goon South Mineral Resources is based on information compiled by Ian Hart who is a Member of the Australian Institute of Geoscientists. Ian Hart is an employee of Vale Exploration and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration, and to the resource estimation activity that he is undertaking to qualify as Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Ian Hart consents to the inclusion in this report of the matters based on his information in the form and context that it appears. Note that Mineral Resources that are not Ore Reserves do not have demonstrated viability.