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**FOURTH ANNUAL REPORT
TO 13 MARCH 2005
ON
EXPLORATION LICENCE 1/2001
BEACONSFIELD, TASMANIA
NICKEL/COBALT LATERITE PROJECT
FOR
JERVOIS MINING LIMITED**

March 2005

SUMMARY

Jervois Mining Limited was the successful tenderer for ETA 504 “Anderson’s Creek” in December 2000. The area of 32 square kilometres is environmentally sensitive and contains a number of reserves.

The economically important rock types of the area lie within the “Anderson’s Creek Ultramafic Complex” that hosts primary chromite and platinoid mineralisation as well as secondary (lateritic) nickel and cobalt.

Previous exploration for nickel laterite includes the drilling of 37 diamond drill holes by King Island Scheelite 1947 Ltd. in the late 1960’s and 116 air core and 8 diamond drill holes by Allegiance Mining N.L. in 1997. The latter company also metallurgically tested samples by high-pressure acid leach methods.

During the first two years of the licence, the air core holes were re-logged to conform with Jervois’ format; a number of drill hole samples were assayed for the nickel laterite suite of elements and for checking previous results; composite samples were collected and despatched to Reno, Nevada for testing; these samples were subjected to column leaching at atmospheric pressure and ambient temperature; and resources were recalculated, categorised by lithology.

Metallurgical testing at Reno has been discontinued. However, a new process for atmospheric leaching of nickel laterites using hydrochloric acid rather than sulphuric acid is now being tested. The first round of testing of Young NSW laterite samples this year using this process has shown good metallurgical recoveries. Further metallurgical testing on larger samples is about to proceed.

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ACCOMPANYING PLANS

TITLE	SCALE	PLAN No.
Prospect Location	1:5,000,000	
Land Tenure	1:100,000	
Air Photo showing Tenement	1:50,000	BN-48
Regional Geology	1:25,000	BN-01 Regional
Geology – Legend		BN-01a
Barnes Hill: Resources/Lithology/Protected Species	1:5,000	BN 46
Scotts/Vulcan: Resources/Lithology/Protected Species	1:5,000	BN 47

INTRODUCTION

Jervois Mining Limited control considerable resources of nickel/cobalt laterite in Eastern Australia mostly at Young, NSW but also at Beaconsfield, Tasmania. The majority of these resources have been sufficiently drilled to be in the Indicated Category. Hence little field work is required at this stage and the emphasis is on the metallurgical testwork of the laterites. The Beaconsfield laterites have insufficient tonnage to justify the capital needed for a “high pressure acid leach” system. Thus it is important that a cheaper yet efficient metallurgical system be found to treat the laterites.

TENEMENTS

Jervois gained Exploration Licence 1/2001 by being the successful tenderer for ETA 504 “Anderson’s Creek”. The tender was submitted in early December 2000 and accepted by Mineral Resources Tasmania on 20 December 2000.

The licence was issued on 14 April 2001 and is current until 13 April 2006. It covers an area of 32 square kilometres less various existing leases and reserves. The licence applies from the surface to 50 metres below the surface.

The area comprises (see Land Tenure Plan):

- Anderson’s Creek Forest Reserve
- Peaked Hill Forest Reserve
- Dans Hill Forest Reserve
- Proposed Barnes Hill Conservation Area
- Private Property
- State/Multiple Use Forest
- MDC Informal Reserve

GEOLOGY

The Cambrian Anderson’s Creek Ultramafic Complex (ACUC) is the host of primary chromite and platinoid mineralisation associated with specific layers within the complex (A.R. Reed et al). Weathering of the ACUC has produced lateritic profiles that contain nickel and cobalt mineralisation. Erosion has produced Tertiary and Quaternary alluvial concentrations of heavy minerals, especially chromite and to a lesser extent osmiridium and other platinoids.

Reed et al state:

“The Anderson’s Creek Ultramafic Complex (ACUC) is one of 15 ultramafic complexes throughout Tasmania, the ACUC being the easternmost outcropping complex. All the ultramafic rocks are orthopyroxene-rich, separating them from the dominantly clinopyroxene-rich rocks normally

associated with mid-ocean ridge and back-arc environments. The mafic-ultramafic rocks are interpreted to have formed in a forearc setting .

“Rocks comprising the mafic-ultramafic complexes have been subdivided into three groups based on their mineralogy. These are: layered pyroxenite-dunite (LPD), layered dunite-harzburgite (LDH), and layered pyroxenite-peridotite and associated gabbro (LPG).

“Ultramafic-mafic rocks dominate the ACUC and can be subdivided into a layered plagioclase and norite to gabbro-norite and a second unit typically comprising massive to layered orthopyroxenite to pyroxenite (websterite). Varying degrees of alteration of the original ultramafic mineral assemblages is ubiquitous, commonly masking the original rock composition.

“Geophysical data suggests that the ACUC is folded into an anticline with a western limb dipping west beneath allochthonous Proterozoic rocks, and an eastern limb dipping NE approximately concordant with the Beaconsfield stratigraphy. This interpretation is consistent with earlier descriptions of the ACUC forming an antiform, based on variations in the orientation of compositional layering. The age of the folding is unknown but its upright orientation and refolding of earlier D-S2 foliations within the ACUC best fit a Tabberabberan age.

“Several NW-trending and NE dipping Tabberabberan age faults also dissect the ACUC. These faults extend beyond the ACUC into Proterozoic and Palaeozoic rocks. These faults are rather acutely transgressive to the boundaries between the different rock groups, with Proterozoic and possibly early Palaeozoic allochthons emplaced prior to Tabberabberan faulting.”

Other rock types within the complex include quartz-feldspar-biotite rocks, granite, rhodinite, metamorphics and some sediments.

“Tasmanian ultramafic successions are known to be the source of platinum group minerals, gold, copper and nickel. Layered dunite-harzburgite (LDH) contain iridium, osmium and ruthenium (\pm gold), whereas layered pyroxenite-dunite (LPD) rocks contain platinum, palladium and rhodium (\pm gold). There has been no systematic exploration of PGE in the ACUC, although alluvial concentrations of osmiridium (natural alloy of osmium and iridium) occur within Anderson’s Creek.”

Chromite and Iron have both been mined to a certain extent, the chromite from alluvial/eluvial deposits and the iron from concretionary and pisolitic hematitic and goethitic lateritic material.

GEOPHYSICS

Gravity

“A prominent gravity low to the west of Beaconsfield lies over outcropping Anderson’s Creek Ultramafic Complex (ACUC) and Permian sediments, consistent with serpentinised ultramafic rocks having a mean density of 2.5 t/m³. The gravity low extends to the south of the outcropping ultramafics, supporting continuation of the body at depth, although this may also be in part due to Ordovician and Permian sedimentary rocks. Toward the western margins of the outcropping ultramafics the residual Bouguer anomaly becomes more positive, and the northern extension of the body as suggested by regional magnetics implies that the body may continue north under denser lithologies.”

Magnetics

“Regional aeromagnetics flown over the West Tamar district show a dominant NNW structural trend in the region. A long NNW-trending positive magnetic anomaly west of the River Tamar corresponds to the position of the ACUC. The aeromagnetics support the notion that the complex is greater in extent in the subsurface than the outcrop.

“Closer analysis and enhancement of more detailed aeromagnetics flown by AGSO and the Beaconsfield Mine JV in 1988 has revealed the ACUC to be composed of several ultramafic bodies or one complexly faulted and/or folded body. Enhanced magnetics have shown the body to extend a long way north and south of its outcrop extent in the subsurface, relatively unchanged. The outcrop extents of the ultramafic complex to the north and south are marked by faults. Close to and within its outcrop extents the body seems to be divided by an approximately north-south trending fault. The eastern body itself seems to be separated by dextral strike-slip faulting, whilst the western body curves substantially toward the west before encountering a fault and reappearing further south. This fault also marks the southernmost extent of ultramafic outcrop”

PREVIOUS EXPLORATION

The history of exploration of the laterite potential has been competently recorded by Newnham in the Annual Report to April 1997, EL 10/96 for Allegiance Mining N.L. (Allegiance). The exploration by Allegiance is equally well documented in the Annual Report 1998 (although there are some data discrepancies between Progress Reports within this Annual Report).

Because Allegiance only held the rights to explore for nickel and cobalt laterite mineralisation, Newnham’s assessment of reports on other mineralisation such as gold, platinoids and chromite has been less exhaustive. Whilst gold has not been

reported to occur much in the ETA, chromite has been mined (in alluvials) and explored for by a number of companies and Mineral Resources Tasmania (MRT).

Previous explorers of the laterite deposits have drilled 161 holes. King Island Scheelite (1947) Ltd. (KIS) put down 37 diamond drill holes for approximately 580 metres in the late 1960's and Allegiance drilled 1178.4 metres in 116 aircore holes and eight diamond drill holes in 1997. Consequently, the main laterites have been drilled at a density of 100 to 150 metre centres. This is perfectly adequate for an indicated resource, and further definition drilling is not necessary at this stage.

ENVIRONMENT

Some background research had been initiated in the environmental situation when tendering for the ETA. Newnham (in Allegiance's Annual Report (1996-97)) outlines the Dan's Hill RAP (Recommended Area for Protection) which covers the whole of the Mt Vulcan resource and the eastern edge of Scott's Hill resource. Reference is also made to the Mt Vulcan – Simmonds Hill Australian Heritage Act Registered Entry which covers virtually the whole of the serpentinites of the ACUC. The prime reason for these areas is to protect two plant species:-

Tetratheca gunnii

Epacris virgata sensu stricto 'Beaconsfield'

that are listed as Endangered under the Commonwealth Environmental Protection and Biodiversity Conservation (EPBC) Act 1999. This act was passed after Allegiance's field activities.

Information on the occurrence etc. of these plants was forwarded to Jervois by MRT with the assistance of the Threatened Species Unit, Department of Primary Industries, Water and Environment.

Further correspondence with MRT has also been entered into regarding the plant disease "Phytophthora cinnamomi", changes to conservation areas and the "Beaconsfield Strategic Prospectivity Zone".

Correspondence with Environment Australia regarding the EPBC Act has also been initiated.

WORK COMPLETED

1. Field Work

Four sites were marked out for locations for potential bulk sampling. It was envisaged that 15 tonnes of sample would be collected and sent to Reno, Nevada, for metallurgical testing. However this avenue of testing has been discontinued. The sites were to have been inspected by officers of DMR before any work was carried out.

2. Metallurgy

The metallurgical testing that was being conducted in Reno, Nevada, USA on bulk sample from Young, NSW was discontinued last year. This year work commenced on laterite samples using an ACLP (Atmospheric Chlorine Leach Process) process in Canada.

After the TTS work was discontinued, a new avenue for atmospheric nickel laterite treatment was found. This was a process using hydrochloric acid being developed by a Canadian company, Jaguar Nickel. Jervois' metallurgical consultants, International Project Development Services, were commissioned to investigate and report on the process with a view to applying it to Jervois' Australian nickel laterites. This first report has been received and the following are extracts from the Summary:

"A preliminary technical review and desktop study has been carried out on the Jaguar Nickel atmospheric chloride leach process, based on recent technical publications presented on the process in Australia and North America for Jaguar's Sechol laterite leach project in Guatemala. The purpose of the review and study was to assess on a preliminary basis the potential technical and economic viability of the Jaguar Nickel chloride leach process for recovery of nickel and cobalt from weathered serpentinite and saprolite resources in Jervois Mining Limited's laterite project at Young, NSW.

The weathered serpentinite resources at Young were assumed to have a head grade of 0.78% Ni, 0.018% Co, 9.5% Mg, 13.4% Fe and 6.6% Al. The saprolite resources were assumed to be 0.64% Ni, 0.103% Co, 3.6% Mg, 22.2% Fe and 7.6% Al. Corresponding ratios of MgO to Ni were 9-19:1.

Subject to the results of testwork and more advanced process and engineering studies on the Young project, the chloride leach process would appear to offer significant technical and economic benefits for the future development of the Young laterite resource. These benefits should include potentially lower capital cost, generally lower process risks, moderate operating costs, better utilization of low cost existing gas and/or coal supplies in the Young area, and reduced dependence on external reagent supplies though pyrohydrolysis of magnesium chloride for hydrochloric acid and magnesium oxide regeneration and recycle.

Technical Review

No fatal process flaws were uncovered by IPDS from the preliminary technical review undertaken of the Jaguar Nickel atmospheric chloride treatment process for nickel laterites. However, a number of process issues have been identified which require further review and clarification with Jaguar in order to better understand any potential process or economic consequences. Clarification of these issues is likely to require execution of a confidentiality agreement with Jaguar, preliminary testwork on Jervois samples and a review of a preliminary cost study carried out by Jaguar on the Sechol project.

Key findings from the technical review include:

The Jaguar Nickel process is based on laboratory testwork carried out on limonite and saprolite ore types from the El Inicio high-grade start-up pit in Jaguar Nickel's Sechol project in Guatemala.

- An application for world wide patent protection for the process has been made by Jaguar
- Guatemala laterites are reported to be of relatively immature age compared with Western Australia laterites.
- Sechol testwork nickel and cobalt head grades were not clearly identified in the Jaguar publications but were interpreted by IPDS to be of the order of 2.1% Ni and 0.08% Co in both ore types, compared with a resource total grade of 1.4% Ni and 0.08% Co.
- Major Sechol impurities were estimated by IPDS to be of the order of 3.8% Mg, 18.3% Fe and 4.5% Al in the limonite ore type and 7.6% Mg, 7.6% Fe and 4.5% Al in the saprolite ore type. Calculated ratios of MgO to Ni were of the order of 3 to 6:1 in the testwork samples and 9:1 in the mineral resource summary, or substantially below those calculated for the Jervois ore types.
 - Important Jaguar Nickel chloride leach process features include:
 - flexibility to treat all laterite ore types within a resource
 - probable optimum nickel recovery of 80% from a 2-3.5 hour counter current atmospheric leach (to be confirmed by Jaguar)
 - lixiviant composition consisting of a mixture of recycled magnesium chloride and recovered hydrochloric acid at 80-105⁰C and 230 gpl total chloride
 - adjustment of leach free acidity and chloride level used to provide optimum nickel leach extraction, minimize iron dissolution and control magnesium dissolution
 - potential recovery of plus 15% of the nickel in the plant feed from the saprolite leach residue into a magnetic fraction that may be saleable to a ferronickel smelter
 - solid/liquid separation by belt filter
 - purification of the leach solution by oxidizing with chlorine gas and precipitation of iron and other impurities by recycled MgO
 - precipitation of a mixed nickel/cobalt hydroxide product at greater than 90⁰C with recycled MgO
 - vacuum filtration and washing of the mixed hydroxide
 - lixiviant and MgO regeneration by pyrohydrolysis of magnesium chloride
 - reagent and energy usage essentially limited to chlorine, a fossil fuel such as natural gas, limited electrical power, plus start-up magnesium chloride and hydrochloric acid supplies
 - no high pressure acid leach autoclaves required for leaching, as the chloride leach is operated under atmospheric conditions
 - a large scale energy intensive pyrohydrolysis operation is needed for reagent recovery and recycle
 - final products consist of a mixed nickel/cobalt hydroxide for sale to a refinery and a controllable surplus of MgO for potential sale to mining, chemical and water treatment industries

- The possibility of scandium recovery from the Young laterite resources was not investigated, but IPDS believes that there might be an opportunity to selectively precipitate scandium between the iron purification and nickel/cobalt hydroxide precipitation stages. This would need to be the subject of future testwork, if of current interest to Jervois.
- Although testwork has yet to be carried out to establish the chloride leach behaviour of Young laterites, the following positive aspects of chloride leaching at Young are expected to more than outweigh any potentially negative aspects seen for treatment at Young:
 - Pluses: good leach recoveries expected from chloride leaching, relatively more MgO by-product available for sale due to higher MgO:Ni ratio, ready availability of low cost natural gas or coal for energy requirements, possible halving of energy cost through use of coal instead of natural gas and potential for scandium by-product recovery
 - Minuses: possible lower nickel recovery due to lower head grade, higher operating costs for pyrohydrolysis due to higher MgO:Ni ratio, possible higher capital and operating cost due to smectite presence in plant feed, magnesium chloride pyrohydrolysis plant size potentially 10 times larger than the Inco Goro nickel chloride pyrohydrolysis plant size, and unknown potential for magnetic concentrate production from saprolite leach residue.

Recommendations:

The positive outlook from the preliminary review and desktop study of the Jaguar Nickel chloride leach process applied to Young laterites suggests that a more detailed testwork and assessment program on the process would be warranted. The purpose of the additional work program would be to resolve any current potential process issues of concern and to advance the status of the project appraisal to a prefeasibility study level. In particular the following follow-up work program is recommended for review, discussion and potential approval by Jervois:

- Any additional sensitivity cases should be evaluated as part of an extension of the current desktop study
- Preliminary sighter testwork should be conducted by Jaguar Nickel on representative Jervois samples of Young weathered serpentinite and saprolite materials, in order to demonstrate potential metal recoveries, reagent consumptions, leach conditions, solid/liquid separation characteristics and any other factors of potential initial importance for an initial appraisal of the Young resource
- A suitable confidentiality agreement should be entered into with Jaguar Nickel to allow a review to be made of the preliminary engineering study carried out by Jaguar Nickel on the Sechol project and to facilitate a more open dialogue with Jaguar on outstanding potential process issues and costs of potential relevance to development of a Young laterite chloride leach project

- Energy consumption and capital and operating costs currently being developed by Austpac for application of their improved energy efficient pyrohydrolysis process to the Young project should be reviewed and their impact on current study costs determined
- An addendum should be prepared providing an update of the costs for the chloride treatment route for the Young project using any new information available from Jervois on the resource assays, Jaguar on the chloride leach process conditions and Austpac or others on magnesium chloride pyrohydrolysis process options.
- Energy requirements and costs of application of more conventional pyrohydrolysis technology should be compared with that for the energy saving Austpac technology
- A prefeasibility study including Aspen or equivalent modeling of the process flowsheet to allow more accurate prediction of energy requirements and water balance issues, more extensive testwork to assess the impact of key leach variables on the process and an update of capital and operating cost estimates should be undertaken with a target of completion by say mid 2004
- A potential work plan, cost and schedule including potential pilot testing through to completion of a feasibility study by say the mid 2005, and subject to the timing of EIS and other project requirements and constraints, should be developed if confirmatory sighter laboratory testwork results obtained by Jaguar Nickel on the Young samples are encouraging.

Initial discussions could possibly be initiated with project financing groups to establish indicative guidelines for alternative courses of action for funding further development of a major project".

The Company was offered and accepted the opportunity to submit samples to a laboratory in Canada for testwork on the various lithologies that are present in the Young resource. These tests are regarded as preliminary scoping tests and there is reasonable expectation that the very encouraging results from the first stage of leaching, tabulated below, can be improved in future testwork:

Material	Extraction %	Extraction %	Extraction %
	Nickel (Ni)	Iron (Fe)	Cobalt (Co)
Haematite	59.3	47.0	74.6
Limonite	61.7	38.8	83.3
Saprolite (1)	72.5	59.3	96.7
Saprolite (2)	67.8	56.4	85.5
Saprolite (3)	73.5	58.8	84.7

A second stage in a two stage process in any operating circuit should improve nickel recovery further. Cobalt recovery is excellent from even the first stage. The first stage leach tests were carried out at 20% solids loading for a period of 6 hours.

The weathered serpentine sample was not chloride leach tested but would be expected to behave similarly to the saprolite test.

The results are sufficiently attractive to justify work on a larger representative sample. Recovery of nickel and cobalt is the primary objective but there is clear potential, using the ACLP process, for the recovery of high grade haematite as a by-product.

RESOURCES

Resources have been calculated using the Allegiance assay data. The lithologies are based on Jervois' re-logging of the Allegiance chip trays and the resources have been drawn up using those lithological categories. A summary of the resource is:

Lithology	Ni %	Co %	Tonnes	Percentage		
				Tonnes	Ni	Co
Hematite	0.63	0.12	167657	1.3%	1.0%	2.3%
Limonite	0.39	0.12	794699	6.4%	3.0%	11.3%
Saprolite	0.88	0.07	9213728	73.8%	77.7%	75.9%
Weathered Serpentinite	0.82	0.04	2301870	18.5%	18.3%	10.5%
Totals	0.83	0.07	12477955			

The parameters used in the calculations were:

Area	Plan Polygonal blocks
Volume	Area x drill thickness
Density	1.8
Minimum Thickness	2m
Cut-off Grade	0.6%Ni Equivalent (= %Ni + 3.5 x %Co)
Assay Grade	Averaged per drill hole
Minimum Overburden	1m
Overburden Ratio	0.9:1

DISCUSSION AND RECOMMENDATIONS

A drilling programme at Young has been scheduled to commence in April 2005 to collect sample for the next round of ACPL metallurgical testing in Sydney. It is recommended that the hydrochloric acid atmospheric leaching process be vigorously tested firstly on Young laterite samples then followed on by Beaconsfield samples. There should be sufficient old drill cuttings to provide sample for initial testing.

In July 2005 Jervois was approached by a Canadian/American Nickel Company interested in joint venturing the area partly based on the preliminary results of the Reno metallurgical tests on the Beaconsfield samples. Draft agreements have been drawn up, but no final agreement has been reached. No field expenditure has been incurred whilst these negotiations have been taking place.

Douglas McKenna & Partners Pty. Ltd.

11 March 2005