



## AUSTRALIAN SECURITIES EXCHANGE ANNOUNCEMENT

17<sup>st</sup> October 2008

### **Mt Thirsty Cobalt-Nickel-Manganese Deposit** **Metallurgical Update**

#### **Highlights**

- **Advanced metallurgical testwork returned recoveries of up to 99% Cobalt, 98% Manganese and 75% Nickel based on recent Atmospheric Leach testwork.**
- **Cobalt-Nickel-Manganese leach rapidly in 8-10 hours at normal atmospheric pressure and moderate temperatures (<100°C).**
- **Autoclaves are not required for the leaching process.**
- **Potential metal recoveries for the resource approach 33,000 tonnes of Cobalt, 133,000 tonnes of Nickel and 247,000 tonnes of Manganese from a total resource of 29,030,000 tonnes grading 0.12% Cobalt, 0.56% Nickel and 0.88% Manganese.**
- **Potential products include Cobalt and Nickel hydroxides together with a Manganese carbonate by-product.**
- **Conceptual Plant flow design for metal extraction has been completed.**
- **The proposed flowsheet is simple and robust with no new technology required.**
- **Production profile targeting 2 million tonnes per annum.**

Fission Energy Limited ("Fission") is pleased to announce the preliminary results of metallurgical testing of composite ore samples from its Mt Thirsty Cobalt-Nickel Project (, strategically located 20 kilometres north-northwest of Norseman, Western Australia. The Project is a 50/50 joint venture with ASX Listed Barra Resources Limited ("Barra") (referred to as the "Joint Venture").

#### **Metallurgical Testwork**

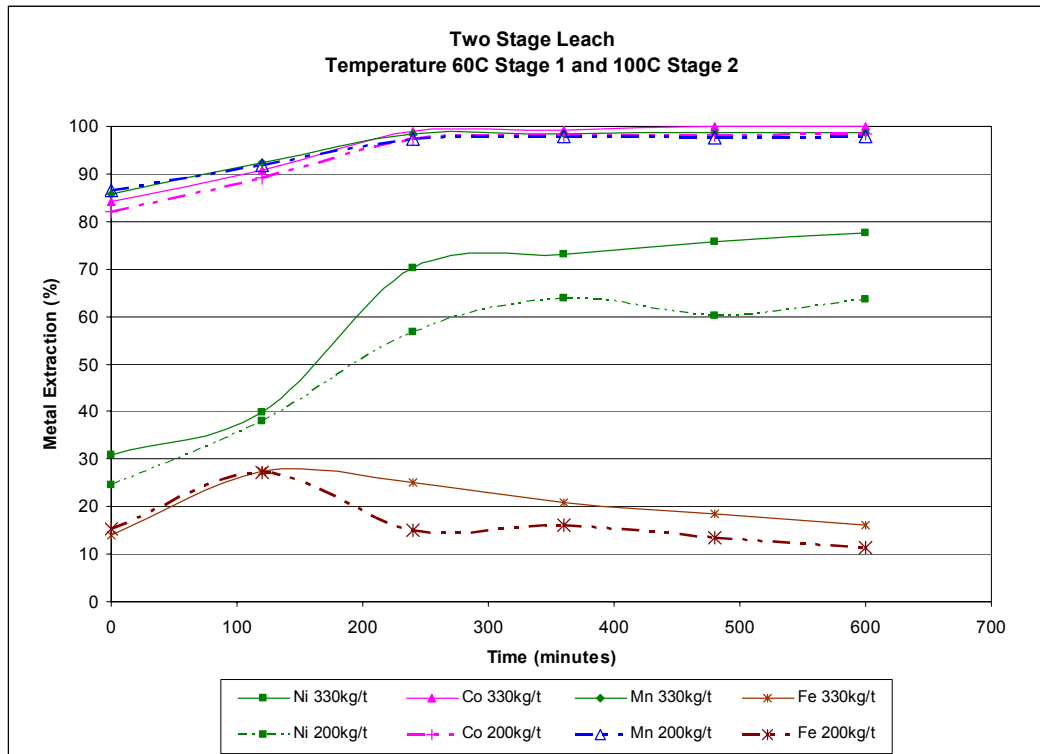
Metallurgical bench scale testwork, has been carried out over the past six months on the major ore types associated with the Mt Thirsty Co-Ni-Mn deposit. Seven bulk samples weighing in-excess of 100kg were collected from each of the corresponding ore horizons from drillholes throughout the orebody. A composite sample, representative of run of mine ore, was then prepared for leach testing.

Multiple tests were carried out on the same sample at various temperatures and acid concentrations to optimise nickel recoveries whilst maintaining relatively low levels of iron in solution. This was finally achieved by leaching the ore in two stages. Stage One operates at low temperature (60C), reducing atmosphere and utilises the liquor from Stage 2 which has a low acid concentration. The cobalt and manganese recoveries for Stage 1 are typically 85 - 90% after a two hour residence time. A solid liquid separation stage is undertaken and the solids are repulped with acidified process water heated up to 100°C. This then feeds to the Stage Two oxidation leach where the bulk of nickel is extracted and any residual cobalt and manganese recovered. Iron in solution during Stage 2 is precipitated as jarosite by the simple addition of saline process water. Acid consumptions for these tests were in the range of 150-330kg per tonne of ore.

Results of this testwork is summarised below.

Ore Type	Acid Add'n kg/t	Total Leach Extraction (%)			
		Ni	Co	Fe	Mn
Composite	330	75.0	99.0	14.0	98.6
Composite	200	63.6	99.0	9.9	98.5
Composite	146	31.2	89.2	21.3	91.2

Leach curves are shown below.



Further test results utilising lower acid concentrations are expected to be released in the coming weeks.

**Greg H. Solomon**  
Executive Chairman

*The interpretations and conclusions reached in this report are based on current geological theory and the best evidence available to the authors at the time of writing. It is the nature of all scientific conclusions that they are founded on an assessment of probabilities and, however high these probabilities might be, they make no claim for complete certainty. Any economic decisions that might be taken on the basis of interpretations or conclusions contained in this report will therefore carry an element of risk.*

*The information in this announcement, insofar as it relates to Mineral Exploration and Mineral Resources is based on information compiled by Guy T Le Page, who is a member of the Australasian Institute of Mining and Metallurgy, and who has more than five years experience in the field of activity being reported on. Mr Le Page is a Director of the Company. Mr Le Page has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the 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'. Mr Le Page consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.*