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# MARKET ANNOUNCEMENT

# PRE-FEASIBILITY RESULTS CONFIRM WORLD CLASS PROSPECTS FOR APURIMAC PROJECT IN PERU

Strike Resources Limited is pleased to announce the completion of the Pre-Feasibility Study (PFS) for its flagship Apurimac Iron Ore Project (the Project), in Peru.

The PFS, which took nearly a year to complete at a cost of approximately A\$2.75 million, focused upon the development of a 20 million tonne per annum (20Mtpa) mining operation with iron ore concentrate transported to the coast for shipment via a slurry pipeline.

The PFS has confirmed that the Project has the potential to become a highly profitable world class iron ore operation, with:

- Significant re-rating of resource inventory from JORC Inferred to JORC Indicated of 133 million tonnes (Mt)
- Average operating costs of approximately US\$14.5 per tonne
- Total capital cost of approximately US\$2.3 billion
- High quality product grading +68%Fe, very low in Alumina, Phosphorous and other impurities

If iron ore prices maintain their current levels, an operating cash surplus of approximately US\$1.44 billion is forecast for the first full year of production and Project cash flows would be sufficient to repay the Project's total capital cost within 2 years.

First production from the Project is scheduled for the first half of 2012. Strike is now focussing on expanding its resource inventory in Apurimac and the commencement of a Bankable Feasibility Study (BFS).

Commenting on the results of the PFS, Dr John Stephenson, Chairman of Strike said: "The completion of the Pre-Feasibility Study for Strike's Apurimac Iron Ore Project in Peru marks a major milestone for Strike and its Peruvian stakeholders. The independent studies by consultants of world standing in their field, together with inhouse analysis, has shown that the Apurimac Project alone has the capacity to deliver to Strike and its shareholders a highly profitable long term source of cash flow. This will be transforming for Strike, positioning it as a leading producer of high grade iron ores, principally for the Asian market.

"I am extremely encouraged and excited by the results of this PFS and look forward to the next phase in the Project's development. Strike is confident that substantially more resources both at Apurimac and at Strike's other major Peruvian iron ore project at Cuzco will be uncovered within the next twelve months."



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#### DETAILS OF PRE-FEASIBILITY STUDY

In August 2007, Strike commenced its PFS programme, under the overall supervision of Strike Director Professor Malcolm Richmond, to support a 20 Mtpa mining operation from its Apurimac Project area. The PFS included a series of studies project managed by Sinclair Knight Mertz (SKM). These studies covered the following broad areas:

# Study Areas

STUDY	PRIME RESPONSIBILITY		
Geology, Mining and Resource	Snowden Group		
Mineralogy, Petrology and Characterisation	CSIRO		
Process system design and testing	Sinclair Knight Merz		
Plant and Site, Mechanical, Electrical, Power Supply, Port and Mine	Sinclair Knight Merz		
Infrastructure Mine and Port	Sinclair Knight Merz		
Port facilities Marine	COSAPI S.A.		
Pipeline Design	Pipeline Systems Incorporated (PSI)		
Community and Environment	Sinclair Knight Merz		
Risk Analysis	Sinclair Knight Merz		
Capital Cost Estimate and Operating Cost Estimate	Sinclair Knight Merz		

The results of these studies are summarised below:

#### **OPERATING COSTS**

Average operating costs (excluding contingency, royalty and depreciation charges) per tonne of dry concentrate at full production are estimated (with an accuracy of +25%/-10%) to be US\$14.49 per tonne.

An additional provision for contingency or 'risk' costs has been estimated at \$1.45 per tonne.

#### **Operating Costs**

	Cost US\$/t Dry
Description	Concentrate
Process, General and Administration	0.93
Reagents and Consumables	1.03
Infrastructure	0.40
Power	2.74
Spares	2.78
Mining and Geology	6.30
Port Operations	<u>0.32</u>
Total	14.50
Contingency	<u>1.45</u>
Total including Contingency	15.95

These operating costs are extremely competitive when compared with current and planned producers in Australia. Furthermore, this competitive advantage is likely to improve over time due to significantly higher inflationary pressures in the mining sector in Northern Australia compared to that in Peru.

Company		Cash costs before royalties A\$/t FOB
Strike Resources (USS	\$/t)	16
Fortescue Metals (FMG	G) - DSO	24
BHP (US\$/t)		29
Rio Tinto (US\$/t)		30
Midwest Corporation	- DSO	38*
Murchison Metals	- DSO	38*
Mount Gibson	- DSO	42
Portman	- DSO	42
Grange Resources	- BFO	45
Gindalbie Metals	- DSO	48

Source: BBY Limited (from Company Reports and Forecasts)

\* Includes A\$9 capital charge for rail and port

DSO = Direct Shipping Ore BFO = Beneficiated Feed Ore

# CAPITAL COST ESTIMATES

Total direct and indirect costs for the project including engineering, procurement and commissioning are estimated (with an accuracy of +25%/-10%) to be approximately US\$2.3 billion.

An additional provision for contingency or 'risk' costs (which also includes an allowance for further possible savings, presently under review) has been estimated at US\$200 million.

#### Capital Cost by area

Description	Cost US\$M
Mine Site and off site infrastructure	361,082
Process Plant	341,971
Tailings	48,329
Concentrate Pipeline	489,962
Port	280,962
Water Supply	34,886
Electrical and Communications	54,654
Total Indirects	692,765
Total	2,304,611
Contingency	200,555
Total incl. Contingency	2,505,166

Indirect costs include (among other items) an allowance for Engineering, Procurement, Construction Management (EPCM), equipment freight and insurance, customs duties, start-up and commissioning.

The capital cost estimates were developed from a detailed work breakdown structure of each process, with costs for equipment based upon budget quotations from major suppliers. A selection of contractors and suppliers were interviewed to compile relevant information for setting applicable rates and costings. A field survey in Peru was also completed, to check the correctness of rates.

#### FINANCIAL EVALUATION

Financial analysis by Strike confirms that the Project economics are potentially highly attractive.

The capital and operating cost estimates from the studies, together with a conservative assumption of an average price of US\$60 FOB per tonne of concentrate, suggest the Project will generate an operating cash surplus in the first full year of production of approximately US\$890 million. If iron prices maintain their current levels (equivalent to approximately US\$94 FOB), operating cash surplus in the first full year of production is forecast to reach approximately US\$1.44 billion and would be sufficient to repay the Project's capital cost within 2 years.

# GEOLOGY AND RESOURCE

The focus of this study has been the Opaban I and Opaban III deposits, which were previously announced by Strike to represent a JORC Inferred Resource of 172 million tonnes at 62.28% Fe<sup>1</sup>.

The Resource Estimate by Snowden Group has now provided a significant re-rating of the resource, from Inferred to <u>Indicated</u> status, delivering a total JORC Indicated Resource of 133,530,000 tonnes, more than 93% of which has been included in the mine plan.

# JORC Indicated Resource Estimate

Location	Tonnes	Fe%	$AI_2O_3\%$	SiO <sub>2</sub> %	Р%	S%
Opaban I	125,000,000	59.26	2.12	7.87	0.04	0.14
Opaban III	<u>8,530,000</u>	<u>62.08</u>	<u>1.37</u>	<u>4.58</u>	<u>0.07</u>	<u>0.25</u>
Total/Average	133,530,000	59.40	2.07	7.66	0.04	0.15

The main Opaban I deposit is an iron-skarn deposit, tabular-shaped and generally flatlying. Drilling has so far defined the dimensions of a mineralised body as being approximately 1,600 metres long by 300 metres wide, in a zone in which massive iron oxide deposits occur in several locations along a 5 kilometre northwest trend.

# TRANSPORTATION

The transportation of ore will be by slurry pipeline from the mine site to the port. The pipeline route has been determined and is 363 kilometres in length. This route is shown in <u>Annexure A</u>.

The pipeline will consist of 26/22 inch diameter, unlined, API X70 steel pipeline with two pump stations, one valve station and five choke stations.

<sup>1</sup> Refer 23 August 2006: ASX market announcement titled "Peru Iron Ore Update on Apurimac Project"and 19 July 2007: ASX market announcement titled "Apurimac Project - JORC Resource Statement"

The pump stations will be located one at the mine site and one located 85 kilometres along the pipeline route. The pump stations will provide the energy to transport the concentrate through the pipeline.

The valve station will be required to isolate the pipeline system into two separate parts when the pipeline is shut down, reducing the static head in the pipeline system to approximately 4,000 metres of iron ore concentrate.

The chokes will be required to dissipate energy (dynamic head) in the pipeline as the iron-ore concentrate descends from approximately 4,000 metres off the Peruvian Altiplano.

# MINING INFRASTRUCTURE

A conceptual mine study into the Opaban I and Opaban III resources has been developed upon the basis that additional resource inventories are identified to support a production rate of 20Mtpa over 20 years.

This study has provided:

- Conceptual pit designs and infrastructure
- Conceptual site layout, including location of main waste dump and haul roads
- Conceptual mining schedule aimed at optimising value during the extraction of the Opaban I and Opaban III resources and conceptual satellite deposits
- Estimation of operating costs and capital costs for the mining operation

Mine strip ratios have been estimated at 1.71 for Opaban I and 0.66 at Opaban III. A more detailed geotechnical drilling programme will be required to ensure the correct pit slope angle is used. A highly conservative angle of 35 degrees has been used for the study, so the potential exists to steepen the slope and therefore reduce the strip ratio and further reduce mining costs.

#### MINERALOGY, PETROLOGY AND CHARACTERISATION

CSIRO were commissioned to complete characterisation of the mineralogical and petrological characteristics of iron oxides from the various ore types found in the Opaban I deposit.

The work identified four important characteristics:

- The iron mineralogy is made up of 60% hematite and 40% magnetite
- The ore is coarse grained
- There is widespread internal fracturing within the grains
- The gangue minerals comprise silicates which are, relative to iron minerals, very soft

Magnetic (low intensity and high intensity) test work on reverse circulation chip samples was very successful and has returned product grades at coarse crushing with particle sizes of 80% passing 125 and 250 microns as follows:

# Metallurgical Test Work Results

Product		Grade	
Fe	68.02 %	to	68.28%
Al <sub>2</sub> O <sub>3</sub>	0.30%	to	0.35%
SiO <sub>2</sub>	1.51%	to	1.77%
Р	0.01%	to	0.02%

These excellent results suggest low energy consumption for the beneficiation process, which means lower operating costs. No floatation circuit is required as part of the beneficiation process.

# PROCESS SYSTEM DESIGN AND FLOW SHEET

The Process Flow Sheet developed by SKM is shown in <u>Annexure B</u>. The beneficiation and production concept developed for the Opaban I and Opaban III ore bodies will require:

- A Primary Gyratory Crusher for primary size reduction from minus 1000mm maximum to a P80 of 90mm
- Secondary crushing and screening in closed circuit for feed size reduction from a feed P80 of 90mm to a P80 of approximately 13mm
- High Pressure Grinding Rolls (HPGR) for the first stage of fines production
- Wet screening of HPGR product at 4mm in closed circuit
- Primary Ball mills for reduction to a P80 of 0.25mm

Since the run of mine (ROM) grade is a very high 57% Fe and the mineralogy is conveniently interlocked magnetite/hematite, a simple two step magnetic separation will produce a high grade product.

The two steps of magnetic separation will be as follows:

- Low Intensity Magnetic Separators (LIMS) for magnetite concentration roughing and cleaning stages
- Wet High Intensity Magnetic Separators (WHIMS) for hematite concentration from the LIMS tailings

The concentrates will be ground to 100% passing 150 microns and 80% passing 48 microns, thickened and transported as slurry to the port via pipeline. At the port they will be dewatered (filtered) and stock piled for shipment.

An overall process route has been defined based upon the design tonnage of 20Mtpa of dry concentrate grading approximately 68% Fe and a mass recovery from ROM feed of 70.3% based upon the expected head grade of 57% Fe.

#### PORT SITE

Port selection was based on the following principal considerations:

- The port site needs to be sheltered from prevailing weather conditions and have a minimum of 20 metres water depth at low tides
- The land area for the port site needs to have adequate space for dewatering facilities, stockpiles and residential buffer zone
- The wharf facility must accommodate a 7,000 10,000 tonne per hour travelling shiploader, ship manoeuvring space, dolphins, buoys and anchorage locations
- The site must be able to accommodate expansion to 40 Mtpa stockpiling, loading and shipping

The bay of Tres Hermanas has been selected at the preferred location for the establishment of the Port Facility.

Tres Hermanas has natural deep water and a semi submerged reef extending offshore, which offers protection from the prevailing weather.

Bathymetric studies, including depth sounding and contour plotting have confirmed the suitability of the deep harbour.

A depth of 20 metres is available at approximately 300 metres off shore. Jet probing of the bay area showed the sea bed to be several metres of sand over a rock base.



Aerial photograph of Tres Hermanas Port Site Location

The conceptual design of the port at Tres Hermanas comprises:

- A rock fill breakwater based on the existing semi-submerged reef (thus requiring minimum additional rock fill) on the southern boundary of the bay
- A steel and concrete wharf structure that supports a 7,000 tonne/hour ship loader
- Mooring dolphins suitable for 150,000+ tonne cape sized vessels
- Service jetty for tug boat access
- Navigation aids and buoys

The land area at Tres Hermanas is relatively flat, devoid of any sort of vegetation and is uninhabited. As such, it is highly suitable for the location of facilities to dewater, stockpile and load product at a rate of 20 to 40 Mtpa.

Tres Hermanas is situated 13 kilometres from the town of San Juan and therefore allows the workforce to live in an existing town close by.

#### PORT INFRASTRUCTURE

The main elements of Port Infrastructure will comprise:

- Filtration Plant
- Product Stacker
- Product Reclaimer
- Shiploader

The iron ore concentrate will be dewatered at the port through a filter system. Concentrate will then be fed by conveyor belt to the product stacker, which will feed on to the boom conveyor and discharge on to four stockpiles each holding approximately 250,000 tonnes.

Stockpiled material will be reclaimed from the stockpiles by the Product Reclaimer and fed to the Ship Loader.

#### POWER SUPPLY AND RETICULATION

Power requirements for the Project at the mine site and port will be serviced from existing surplus capacity from the national grid system.

The power requirement for the mine site is estimated at 125MW and for the port site 14MW, both of which can be serviced through the construction of new transmission lines to Peru's main electricity grid.

For the mine site, connection to the grid will be via an existing substation at Cotaruse, requiring approximately 100 kilometres of new transmission line to be constructed.

For the Port, connection to the grid will be at the Marcona Substation near San Nicolas Port, requiring a new 30 kilometre transmission line.

# WATER SUPPLY

The mine site is fortunate in its location in that there are large bodies of water nearby and the region has high levels of rainfall. The estimated quantity of water required for the mine site and pipeline operation is 17.8Mm<sup>3</sup> (17.8 gigalitres) annually.

The preliminary water modelling indicates that available water resources will be sufficient to cover the demands for both the plant and for concentrate transport to the coast.

It is envisaged that the development of the water supply for the mine will also result in significant improvements to the quantity and quality of water supply to the local communities.

Works required to store and distribute water to the mine site will include the construction of a small dam, charge tank, storage reservoir, pumping station and pipeline.

The disposal of 12Mm<sup>3</sup> (12 gigalitres) of water from the filter plant at the port presents an opportunity for the Project to enhance sustainable agriculture in the region.

#### ENVIRONMENTAL AND COMMUNITIES

The Project faces the usual environmental and community risks to any project at this development stage.

The biophysical environmental challenges of rehabilitation, water management, flora and fauna, air, noise control and cultural heritage matters appear relatively straightforward using proven industry practices to manage the impacts to acceptable levels.

Establishment of trust between the project and the local regional communities will be essential to address community concerns about the Project.

#### NEXT STEPS

With the positive results from the PFS, Strike is now aggressively targeting the following key Project milestones;

- Expanding resource inventory in Apurimac to +300Mt (December 2008)
- Completion of Railway Scoping Study (September 2008)
- Completion of Bankable Feasibility Study (June 2009)
- First Production from Apurimac (first half of 2012)

Strike is investigating project alternatives to the central case described above, including the use of contract mining (to reduce direct Project capital costs) and the use of a railway instead of a slurry pipeline.

A Preliminary Scoping Study suggests that a railway for transporting sinter fines and lump from the mine to the coast is technically feasible and would offer significant cost savings at the mine beneficiation plant. Further work is currently underway to more accurately analyse the value trade off. This work is expected to be completed by the end of September 2008.

Strike notes that production from its Cuzco Lump Project is scheduled to commence sooner than the Apurimac Project, as Strike is aiming to commence 1 to 2Mtpa of lump production from its Cuzco Project area in 2009 to generate early cashflow.

Also, Strike notes the potential for an additional 20Mtpa production from the Cuzco Project area. However the Cuzco area was outside the scope of this Pre-Feasibility Study.

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The information in this announcement that relates to Exploration Results, Mineral Resources or Ore Reserves has been compiled by Mr Hem Shanker Madan who is a Member of The Australian Institute of Mining and Metallurgy. Mr Madan is the Managing Director of the Company. Mr Madan has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking, to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Mineral Resources and Ore Reserves (the JORC Code)." Mr Madan consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.



