

ASX: SUH
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POSITIVE RESULTS FROM MANGANESE BENEFICIATION TESTWORK AS LOS PUMAS FEASIBILITY STUDY NEARS COMPLETION

Feasibility Study Due For Completion on Schedule in the September 2010 Quarter

HIGHLIGHTS

- **Bulk sample extraction from four winzes completed with 3.5 tonnes of material dispatched to South Africa for further beneficiation tests**
- **Positive results from preliminary heavy liquid separation (HLS) tests on the main lithological unit at Los Pumas, returning manganese grades of 37.0 - 46.8% Mn**
- **These results suggest that the mineralisation is highly amenable to upgrading by heavy media separation**
- **Re-modelling of the Los Pumas mineralisation underway following completion of supplementary drilling – revised Resource Statement in progress**

Southern Hemisphere Mining Limited (ASX: SUH – “Southern Hemisphere” or “the Company”) is pleased to report positive interim results from beneficiation test work on mineralisation from its 100% owned **Los Pumas Manganese Project** in Chile, providing further evidence that the mineralisation is amenable to upgrading to a saleable final product.

The current metallurgical test work program represents a key input to the current Los Pumas Feasibility Study, which is targeted for completion in the current Quarter. The completion of this Study will pave the way for the Company to raise capital for project development later this year, with the objective of commencing manganese production in the second half of 2011.

Bulk Sampling

Southern Hemisphere has completed the next key stage of bulk sampling through excavation of four winzes into the resource to extract approximately 300 tonnes of material.

From this excavated material, ten samples weighing three and a half tonnes were selected on the basis of lithology and grade, for testing in the Mintek laboratories in Johannesburg, South Africa, to obtain further data on the effectiveness of Heavy Media Separation (HMS) in upgrading the mineralisation to a saleable product.

Beneficiation Testing

As a precursor to this bulk testing program in Mintek's pilot plant HMS circuit, a series of heavy liquid separation (HLS) tests were undertaken, by Mintek, on the ten samples sent to Johannesburg.

HLS testing was conducted on four samples from the Lauca Formation – the largest of the lithological units in the higher grade (+4% Mn) domain of the current resource model at Los Pumas – returning manganese grades of between **37.0% Mn and 46.8% Mn** with iron grades of between 0.31% Fe and 1.48% Fe. These sink grades were achieved with relatively high mass yields.

These test results also indicate that the Lauca Formation, which is the largest of the lithological units in the higher grade domain of the current resource model, is bi-modal, which is promising for both ease of separation and for the ability to mix materials with differing optimum separation densities. This suggests that near-optimum separation would be achievable in an operating HMS plant over a relatively wide range of specific gravities. Also, the low iron content provides a very high manganese-to-iron ratio which is attractive in the manganese ore market.

The bulk testing in the HMS pilot plant of two of the Lauca formation samples is currently underway.

The table below provides a summary of the behaviour of the samples sent to Mintek when subjected to HLS testing at an SG of 2.8:

Geological Unit	Calculated Head Grade		HLS Sinks Grade at 2.8 SG						
	Mn	Fe	Mn	Fe	Al ₂ O ₃	SiO ₂	CaO	Mn Recovered	Mass Yield
	%	%	%	%	%	%	%	%	%
Block and Ash	42.79	2.08							
	39.30	3.65							
	10.65	4.40	43.0	2.0	0.8	14.7	0.5	5.6	1.4
Lauca Formation	18.04	0.86	46.8	0.3	1.5	7.9	0.3	43.0	13.5
	24.71	1.24	37.0	1.5	4.2	20.3	0.8	72.9	50.0
	25.71	0.62	45.6	0.2	1.4	11.7	0.3	45.1	24.7
	23.23	0.64	45.7	0.2	1.3	10.2	0.3	71.8	34.1
Hualyas Formation	21.53	1.59	28.2	1.4	7.6	32.4	1.7	59.3	47.1
	13.24	1.94	26.5	1.6	7.7	39.8	1.7	35.9	20.9
	4.80	2.27	26.2	1.5	8.5	38.2	1.8	11.6	2.4

In preparation for the HLS testing, the samples were crushed to 100% passing 10mm and screened to remove the -0.5mm material. The mass yield and manganese recoveries in the above table are calculated from the mass and grade of the whole sample which includes the -0.5 mm material.

The proportion of the samples that reported to the -0.5mm fraction after crushing was in the order of 20 per cent.

The qualitative results shown above provide further encouraging information about the ability of HMS techniques to significantly upgrade the Los Pumas mineralisation to a saleable final product specification.

The results also provide useful data for process design purposes. Further testing on additional samples has been initiated to obtain more quantitative data for inclusion in the Feasibility Study.

Microscopic examination of the manganese mineralisation in the three lithological units points to the possibility of greater manganese recoveries with reduced particle sizes. This is especially true for the Block and Ash formation. Accordingly, investigations into the recovery of manganese from finer particle size fractions have been commenced.

Feasibility Study

The Los Pumas Feasibility Study, which is being managed by the Santiago office of the international engineering and construction management group SNC-Lavalin Inc, is proceeding on schedule and is to be completed in this Quarter. Engineering is close to completion and estimation of capital and operating costs is currently underway.

Various studies are being carried out to optimize the selected process and infrastructure options and the results are being incorporated into the study. Proposals for the design and construction of the heavy media separation circuits (which require specialist expertise) are in preparation by selected experienced constructors. The final process plant design will incorporate the optimum technical and commercial proposal.

Resource Modelling

Following completion of the updated JORC Measured and Indicated Resource of 10.3 million tonnes grading 9.2% Manganese plus Inferred resource of 3.1 million tonnes grading 10.3% Manganese (*see ASX Announcement – 10 May 2010*), results from the most recent drilling campaign at Los Pumas have now been received and are currently being utilised in the construction of an updated model of the manganese mineralisation.

Drilling at Los Pumas now totals 14,827 metres in 514 holes. This is an increase of 4,781 metres and 140 holes since the drilling results used in the existing JORC resource model. The results of the updated resource model will be included in the Feasibility Study.

Comminution Testing

Comminution tests on the bulk samples to determine the crushing characteristics and abrasiveness have returned encouraging results, indicating that the mineralisation can be classified as soft with a low abrasion tendency.

Contact

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“JORC” (Joint Ore Reserves Committee Code of the Australasian Institute of Mining and Metallurgy)

Competent Person's Statement

The details contained in this report pertain to information compiled by Mr. Trevor Tennant, a full time employee of the Company and who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Tennant 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 December 2004 Edition of the “Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves”. Mr Tennant consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.