



SPEEWAH
METALS LTD

SCOPING STUDY SUPPORTS
HIGHLY PROFITABLE
TI/V/FE PROJECT

ASX ANNOUNCEMENT

23 April 2012

ASX Code: SPM

Capital Structure:

Shares on Issue: 130.7m
Options on issue: 11.75m
Exercise Price: 20c – 80c
Market Cap: \$31m (24c)

Board of Directors:

Non Executive Chairman:
Anthony Barton
Non Executive Director:
Derek Carew-Hopkins
Non Executive Director:
Leon Charuckj
Executive Director:
Richard Wolanski

Projects:

Speewah Dome, 575 km²
Kimberley, WA

Resources:

Titanium/ Vanadium:
4.7 Billion tonnes @ 2% Ti
and 0.30% V₂O₅ (at 0.23%
V₂O₅ cut-off grade)

Fluorite:

6.7 Million tonnes @ 24.6%
CaF₂ (at 10% CaF₂ cut-off)

Metallurgy:

Recovery from concentrate
- Ti (+91.1%)
- V (+94.6%)
- Fe (+97.0%)

Other prospects:

Copper/Gold/Silver & Lead
PGE + Au

HIGHLIGHTS OF SCOPING STUDY

Speewah Metals Ltd (ASX: SPM) is pleased to provide the scoping level Revenue, Capital and Operating cost estimates to support development of the mixed chloride leach and solvent extraction process that generated +90% recoveries of Titanium (Ti), Vanadium (V) and Iron (Fe) as 3 separate high grade end products.

The Board of Directors believes that the **Scoping study supports the potential for a significant and highly profitable future mining project.**

Project Parameters	
Target production (Key Products)	75,000 tonne TiO ₂ , 12,400 tonne V ₂ O ₅
By Products (Production Credits)	410,000 tonne Fe ₂ O ₃ (Hematite), 200,000 tonne (NH ₄) ₂ SO ₄ (Ammonium Sulphate)
Mining Rate per year	6.3 million tonne
Strip Ratio	0.5
Mine Life	+100 years
Production of Concentrate feedstock per year	550,000 tonne
Metallurgical Recovery from Concentrate	Ti (91.1%) V (94.6%) Fe (97.0%)
Purity of End Products & Forecast Prices (per tonne)	TiO ₂ (+99%) US\$3,750 V ₂ O ₅ (+99%) US\$13,500 Fe ₂ O ₃ (+99%) US\$160 (NH ₄) ₂ SO ₄ US\$275

Annual Revenue	US\$569 million
Cost to Create 1 tonne Concentrate Feedstock (Stage 1)	US\$166 per tonne
Transport/ Royalty/ Technology Costs	US\$145 per tonne
Cost Mixed Chloride Leach & Recovery (Stage2)	US\$341 per tonne
Total Annual Operating Costs	US\$359 million
Net Annual Operating Cashflow (EBITDA)	US\$210 million

Capital Expenditure	US\$896 million
Payback Period	4-5 years
Internal Rate of Return (IRR)	23.4%
Conceptual project valuation	US\$1.4 Billion

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BACKGROUND

In February 2012 Speewah Metals Limited released excellent hydrometallurgical recovery rates that confirmed the most viable development route for Speewah's world-class titanium and vanadium deposit is to produce high quality Titanium and Vanadium products through a mixed chloride leaching and solvent extraction process. The process flow sheet will be optimised and product quality and recoveries confirmed by pilot plant testing in 2012. This testing will be used to support pre-feasibility studies. Hematite and Ammonium Sulphate are also produced as credits from the recovery process.

The Company has conceptualized a production target that generates an estimated 75,000 tonnes per year of high grade Titanium dioxide (TiO_2) that would represent approximately 50% of annual revenue. The project would also produce high grade Vanadium pentoxide (V_2O_5) (target production 12,400 tonne/year) that would represent an estimated 30% of annual revenue. The processing method also produces Hematite (Fe_2O_3) (target production 410,000 tonne/year) and Ammonium Sulphate ($(NH_4)_2SO_4$) (target production 200,000 tonne/year) as valuable by-products that provide additional revenues.

GEOLOGY & FLOWSHEET

The Speewah tenements contain Australia's largest titanium/ vanadium in magnetite deposit with combined Measured, Indicated and Inferred Resources totaling 4.7 Billion tonnes at 0.30% V_2O_5 and 2% Ti (at 0.23% V_2O_5 cut-off grade). The Resource contains a high grade component that includes Measured 181 million tonnes at 0.37% V_2O_5 and 2.1% Ti and Indicated 404 million tonnes at 0.35% V_2O_5 and 2.1% Ti (at 0.23% V_2O_5 cut-off grade) that has sufficient resource to support the initial mining period of 30 years upon which the Scoping financial model has been developed.

With its flat lying geometry, extensive outcrop at surface and up to 80 metres thick, the deposit has the potential for large scale mining on a low strip ratio.

Stage 1 of the project involves mining and beneficiation to produce a concentrate with grade targets of 14.9% TiO_2 , 2.4% V_2O_5 and 54% Fe.

Stage 2 involves treating the concentrate feedstock through a mixed chloride leaching process. The valuable metal oxides leached into solution can be recovered by solvent extraction into very high grade products.

FINANCIAL MODELING

Initial financial modeling has been completed based on a scoping of the mixed chloride leach and solvent extraction process flowsheet.

The financial modeling used recent test work as well as benchmarked Operating and Capital Cost inputs from similar projects:

- Stage 1 - Mining beneficiation and transport to port provided by Sinclair Knight Merz (SKM);
- Stage 2 - Mixed Chloride Leach & Solvent Extraction by Process Research Ortech (PRO).

In addition to this, Speewah has contributed a range of variables including plant capacity, currency exchange rates, electricity costs, offtake pricing and discount rates to generate the conceptual valuation.

This modeling will be further refined in 2012 through completion of pilot plant testwork, pre-feasibility studies, flowsheet optimisation and consideration of mine expansion. Assumptions and scoping level parameters are detailed in Annexure 1 and a sensitivity analysis is provided in Annexure 2.

SCALABILITY OF DEVELOPMENT

The recovery process and testwork confirms that modular development of a mine and process facility could see Speewah commence at lower target production levels than were used in the attached financial model and then be scaled up to match capital availability and product demand. This reduces development risk by lowering capital requirements to commence initial production and also allows the building of an offtake customer base and product demand.

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COMMENCEMENT OF PRE-FEASIBILITY STUDIES

The scoping parameters detailed in this announcement will allow commencement of pre-feasibility studies during 2012. Further metallurgical testwork is also planned for 2012 that aim to add value and de-risk the project. This work will involve:

Stage 1 – Beneficiation of Ore to Magnetite Concentrate

Production of a titanium/vanadium magnetite concentrate represents the 1st stage of processing. Testwork will consider ore variability, feedstock optimisation and tailings characterisation to refine the JORC resource and mine life calculations. This work will also support development of a tailings plan, footprint calculation and Mining Lease application.

Crush and grind testing will be completed to optimise the process and potentially provide significant operating and capital cost savings. Consideration of economic factors to upgrade the resource to Reserve status will be undertaken.

Stage 2 – Mixed Chloride Leach & Solvent Extraction Plant: - Pilot plant testing of the mixed chloride leach and solvent extraction process to produce high grade end products including TiO₂ and V₂O₅. The pilot plant testing will:

- Enable process flowsheet design to deliver operating and capital cost estimates at a feasibility level;
- Refine metallurgical recoveries;
- Confirm end product purities;
- Provide products for market evaluation;
- Provide solid and liquid samples for Environmental Impact Assessment.

DIRECTOR'S COMMENTARY

Scoping study results have surpassed expectations and provide an indication of a highly valuable development opportunity for the Speewah project.

Recent successful metallurgical work and associated scoping level operating and capital cost estimates confirm that the Speewah Titanium/ Vanadium/ Hematite Project has the potential to create a **significant long term mining project in Western Australia**.

The Board is extremely encouraged by the large conceptual valuation and revenue streams suggested by the Scoping study. **Focus will turn to commencement of pre-feasibility studies to refine the valuation and further de-risk the project.**

Significant further project value could be added throughout 2012 via further technical studies that aim to optimise the recovery process and improve the financial model. These studies, subject to sufficient working capital, will include:

- expansion of the target production levels following an initial start up period;
- further metallurgical processing to produce a higher value pigment product from the high grade TiO₂;
- mining the fluorite resource that exists near the project;
- cost reduction through testwork on crushing/ grinding and iron extraction/acid recovery.

The opportunity for modular development offers the potential for commercial operation at lower production target levels. This would significantly lower initial capital expenditure requirements and provides confidence in funding of the project.

The **Board confirms that the development of the Mixed Chloride Leach and Solvent Extraction Process Route for the Titanium/ Vanadium project is the primary strategic objective of the Company.**

Richard Wolanski
Director

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ANNEXURE 1

Project Scoping Parameters & Assumptions	
Target production	75,000 tonne TiO ₂ , 12,400 tonne V ₂ O ₅ , 410,000 tonne Fe ₂ O ₃ , 200,000 tonne (NH ₄) ₂ SO ₄
Mining Rate	6.3 million tonne
Strip Ratio	0.5
Mining Ore	4.2 million tonne
Mine Life	+100 years
Financial Model (used to calculate Conceptual Valuation)	30 years
Discount Rate	8%
Production of Concentrate feedstock per year	550,000 tonne
Mass Yield for Stage 1 Beneficiation	13%
Metallurgical Recovery from Concentrate	Ti (91%); V (94%); Fe (97%)
Indicative Purity of End Products & Forecast Prices	TiO ₂ (+99%) US\$3,750; V ₂ O ₅ (+99%) US\$13,500
Indicative Prices of By-Products	Hematite Fe ₂ O ₃ US\$160; Ammonium Sulphate (NH ₄) ₂ SO ₄ US\$275
Annual Revenue	US\$569 million
Currency Exchange Rate (AUD:US\$:CAD)	AUD 1 = US\$1 = CAD1

Stage 1: Mining and Beneficiation (per annum costs)	
Mining Cost	US\$17.5 million
Labour	US\$23.6 million
Camp	US\$6.9 million
Power	US\$21.6 million
Consumables	US\$6.9 million
Maintenance	US\$11.5 million
General & Administration	US\$1.2 million
Head office	US\$2.2 million
Stage 1 Costs (to create 1 tonne Concentrate)	US\$166 per tonne of concentrate feedstock
Transport (Site to Darwin) per tonne of concentrate	US\$52 per tonne

Royalty, Technology and Access	US\$93 per tonne
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Stage 2: Mixed Chloride Leach and Solvent Extraction (per annum costs)	
Reagents	US\$45.7 million
Consumables	US\$4.8 million
Labour	US\$25.3 million
Power/Gas/Water	US\$102.0 million
Other	US\$9.9 million
Stage 2: Mixed Chloride Leach & Recovery	US\$341 per tonne of concentrate feedstock
Total Operating Cost (per tonne of Concentrate)	US\$653 per tonne

Total Annual Operating Costs	US\$359 million
Net Annual Operating Cashflow (EBITDA)	US\$210 million
Capital Expenditure (including 10% contingency)	US\$896 million
Payback Period	4-5 years
Conceptual project valuation	US\$1.4 Billion

The financial modeling assumes the successful development of a mining and processing operation to produce and sell the key end products and by-products. The Company is addressing/actioning each of these risks during the course of 2012. These assumptions include:

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- Reserve Status – The current Measured & Indicated Resource is able to be converted into Proven Reserves of sufficient quantity to meet mine life assumptions;
- Mining Lease – A mining lease is granted over the proposed mining area;
- Approvals – Federal and State government approvals for mining and environmental impact are granted;
- Mining Agreement – A satisfactory compensation agreement is negotiated with traditional owners;
- Capital Funding – Funding to support the development is able to be obtained
- Process Flowsheet – Final development of a process flowsheet



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ANNEXURE 2 – SENSITIVITY ANALYSIS

Sensitivity Factor	Base Case	Sensitivity	Project Valuation
Commodity Prices /tn +	TiO ₂ US\$3,750; V ₂ O ₅ US\$13,500; Fe ₂ O ₃ US\$160	TiO ₂ US\$3,900; V ₂ O ₅ US\$14,000; Fe ₂ O ₃ US\$170	US\$1.6 Billion
Commodity Prices /tn -	TiO ₂ US\$3,750; V ₂ O ₅ US\$13,500; Fe ₂ O ₃ US\$160	TiO ₂ US\$3,600; V ₂ O ₅ US\$13,000; Fe ₂ O ₃ US\$150	US\$1.2 Billion
Discount Rate +	8%	7.5%	US\$1.5 Billion
Discount Rate -	8%	8.5%	US\$1.3 Billion
Exchange Rate +	AUD:US\$= 1:1	AUD:US\$= 1: 0.95	US\$1.6 Billion
Exchange Rate -	AUD:US\$= 1:1	AUD:US\$= 1: 1.05	US\$1.1 Billion
Energy Costs +	Gas & Power	-10%	US\$1.5 Billion
Energy Costs -	Gas & Power	+10%	US\$1.2 Billion

Competent Persons Statement

The information in this report that relates to Exploration Results, Minerals Resources and Ore Resources is based on information compiled by Ken Rogers who is a Member of the Australian Institute of Geoscientists. Mr Rogers, Chief Geologist of Speewah Metals Limited, compiled the technical aspects of this report relating to the Speewah Project and content of this release. Mr Rogers has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that is being reported on 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 Rogers consents to the inclusion in the report of the matters in the form and context in which it appears.

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