



SPEEWAH
METALS LTD

QUARTERLY ACTIVITIES REPORT

30 SEPTEMBER 2011

Quarterly Activities Report 26 October 2011

ASX Code: SPM

Capital Structure:

Shares on Issue: 130.7m
Options on issue: 9.75m
Exercise Price: 20c – 80c
Market Cap: \$26.1m (20c)

Financial Position:

Cash on Hand: \$4.7m
(at Quarter end)

Board of Directors:

Non Executive Chairman:
Anthony Barton

Non Executive Director:
Derek Carew-Hopkins

Executive Director:
Richard Wolanski

Projects:

Speewah Dome, 575 km²

Location:

Kimberley, WA

Resources:

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

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

Other prospects:

Copper/Gold/Silver & Lead
Platinum

HIGHLIGHTS FOR THE QUARTER

2011 EXPLORATION PROGRAMME PROGRESS

Speewah Metals Ltd ("Speewah") is pleased to advise that the 2011 Exploration Programme will be completed in coming weeks on schedule and on budget.

At the date of this report, over 11,000 metres of RC drilling and 4,000 metres of Diamond Core drilling have been completed.

It is expected that a total of up to 20,000 metres will be drilled for the 2011 Exploration season.

The Company has previously disclosed a **3.6 Billion tonne Titanium/Vanadium Resource** and this extensive **RC drilling programme is highly likely to materially build on that existing JORC Resource.**

All diamond core will be transported to Perth shortly for detailed examination, petrographic study, sampling and assay. Assay results are expected in February/March 2012.

On the next page is an image indicating key fault structures and drill holes completed to 20 October 2011 marked in yellow.

METALLURGICAL PROGRAMME PROGRESS

Initial metallurgical results have surpassed expectations and now confirms the ambitions of the Company of developing a significant Titanium/Vanadium/Hematite Project.

Recent work has focused on a mixed chloride acid leach on the magnetite concentrate, to recover **Titanium (Ti)** alongside the **Vanadium (V)** and **Iron (Fe)** as high value end products.

Initial results by Process Research Ortech Inc. using this patented technology have already demonstrated **high extractions of Ti, V and Fe of up to 86.6 %, 98.0 % and 97.2 % respectively.**

The patented technology has **produced very high grade Titanium Dioxide (99.8% TiO₂)** from testwork completed upon titano-magnetite bearing ore overseas.

Completion of Speewah's metallurgical testwork is expected in February 2012.

Speewah expects regular reporting from this point forward with a view to committing to a pilot programme, and developing at the earliest, conceptual process flowsheet, operating costs and capital estimates a financial model.

END OF HIGHLIGHTS



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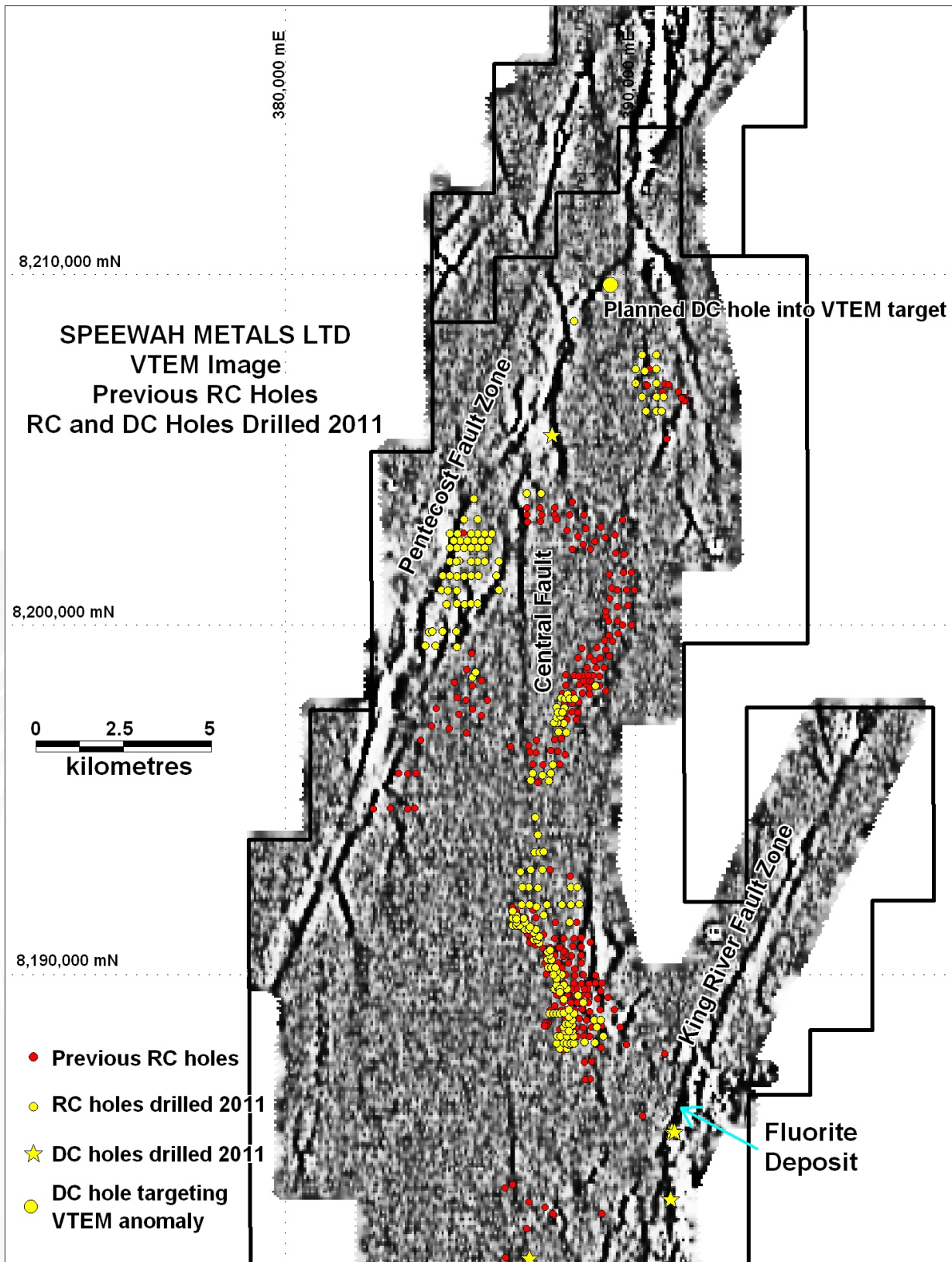


Figure 1: Past and current RC and DC drilling overlaid on a VTEM image highlighting faults



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BACKGROUND & SYNOPSIS OF SPEEWAH METALS LTD

Speewah Metals Ltd has established a portfolio of 100% owned tenements covering approximately 575 square kilometres in the East Kimberley region of Western Australia ("Tenements").

Since Speewah was listed on the ASX in 2007, the company has focused on exploring an extensive zone of vanadiferous and titaniferous magnetite mineralisation which also host PGE+Au ("Platinum group elements plus gold") mineralisation. This exploration has delivered **Australia's largest titanium/vanadium in magnetite resource** and a **high grade Fluorite resource**. These projects have advance to a point where they are approaching the development phase.

Speewah's development focus on vanadium is expanding to include titanium and hematite. Recent metallurgical testwork suggests the potential to recover titanium and hematite alongside vanadium has the potential to multiply project values. The Company is undertaking significant further testing, to be concluded in early 2012, to complete the transition to this multi-commodity focus in which the **titanium may equal or even exceed the potential of the vanadium**.

Exploration to investigate 2010 copper/gold/silver discoveries has the potential to add further high value development opportunities to the titanium/vanadium/hematite and fluorite projects.

An institutional capital raising of \$6.3 million in February 2011 has resulted in the Company having sufficient working capital to provide **adequate funding into 2012**.

Speewah focus for 2011 is:

1. **Significant expansion of the existing titanium/vanadium/magnetite resource.** Part of the 2011 Exploration programme will be to increase the existing Measured, Indicated and Inferred Resources totalling **3.566 Billion tonnes** at 0.30% V₂O₅ and 2% Ti (at 0.23% V₂O₅ cut-off grade). Additional to this resource, **Speewah estimates that an additional Exploration Target* of 2 to 5 Billion tonnes at 0.30-0.32% V₂O₅ and 1.8-2% Ti exists in the Speewah Dome.**
2. **Metallurgical work on the Titanium/Vanadium resource and investigate the potential to recover titanium and iron in addition to vanadium** which may have the potential to multiply project values.
3. **Systematic drill based exploration on 2010 discoveries of Copper/Gold/Silver and Lead mineralisation.** A diamond drill programme will be completed in November 2011, with assays expected February 2012.
4. **Continuation of discussions with and promotion to international parties** that have shown interest in the **Titanium/Vanadium magnetite resource** in order to secure strategic investment into the Company. Speewah will attend China Mining 2011 and complete a European Roadshow (November 2011) for follow up meetings with interested parties and to promote to new strategic partners/investors.
5. Following the 2011 metallurgical test work programme, early 2012 will see the delivery of the following significant milestones:
 - Pit design and optimisation that will lead to a **Reserve estimate on the Central deposit;**
 - Processing Flowsheet, OPEX, CAPEX and **Net Present Value for titanium/vanadium/hematite project;**
 - **Application for Environmental Assessment;**
 - **Agreement with landholders**, following on from completion of a Aboriginal Heritage clearance received in 2010;
 - **Application for a Mining Lease.**



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TENEMENT OVERVIEW

Figure 2 below shows the Speewah tenements with existing Titanium/Vanadium Resources within the solid red lines that are located within 1-2 kms of each other. The 2011 exploration programme is intended to join and extend these Resources along the red shaded area. The existing Titanium/Vanadium resource also contains a thin 20cm zone of platinum mineralisation. The drilling of the vanadium exploration targets will investigate the potential for higher grades or thicker zones of platinum mineralisation.

The primary copper/gold/silver targets along the major structures are also shown on this map shaded blue. The fluorite resource sits in the southeast in an area prospective for copper/gold/silver mineralisation.

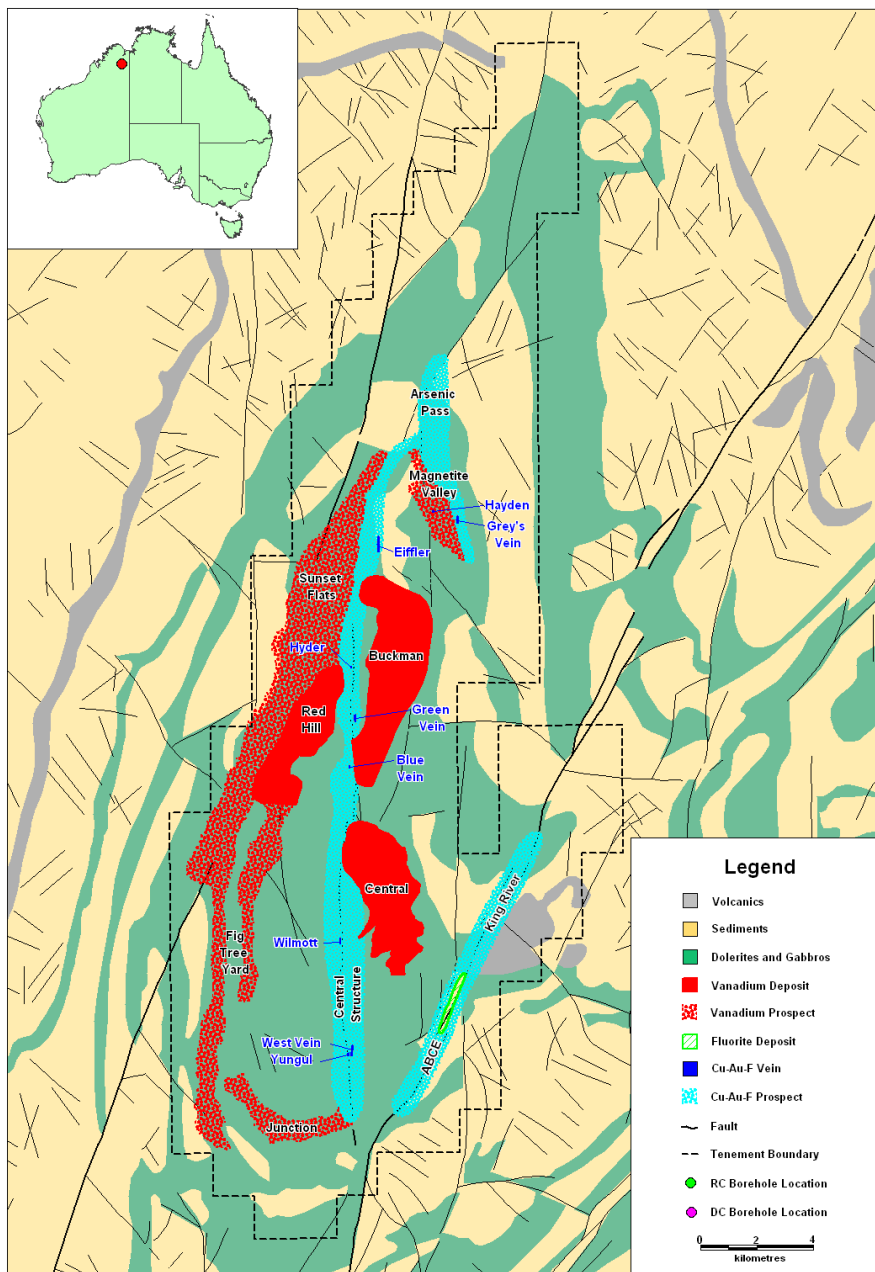


Figure 2: Geology of the Speewah Dome showing location of the Vanadium-Titanium Mineral Resources



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RESOURCES

The Speewah Dome tenements contains one of the **world's largest undeveloped titanium/vanadium in magnetite deposits** with combined Measured, Indicated and Inferred **Resources totaling 3.6 billion tonnes at 0.30% V₂O₅ and 2% Ti** (at 0.23% V₂O₅ cut-off grade) in three deposits, comprising a Measured Resource of 201 **million tonnes** at 0.33% V₂O₅, Indicated Resource of 826 **million tonnes** at 0.30% V₂O₅ and an Inferred Resource of 2,539 **million tonnes** at 0.3% V₂O₅.

Included within this combined total, there is a **high grade zone of 1.5 billion tonnes at 0.35%** (at 0.23% V₂O₅ cut-off grade), comprising a Measured Resource of 115 **million tonnes** at 0.37% V₂O₅, Indicated Resource of 298 **million tonnes** at 0.35% V₂O₅ and an Inferred Resource of 1.128 **billion tonnes** at 0.35% V₂O₅.

Metallurgical testwork has confirmed that upon concentration the **outstanding feature of the Resource is that the upgraded concentrate assays at 54.26% Fe, 2.48% V₂O₅ and 14.82% TiO₂**. Sinclair Knight Merz ("SKM") completed metallurgical testwork on representative samples from the basal high grade zone of the Central deposit to confirm this result.

A comparison of Speewah's vanadium resource (in terms of resource size and vanadium tenor in concentrate) with other Australian vanadium in magnetite projects and an existing South African production facility (Xstrata) is shown in Figure 3 below. The comparison includes the existing Speewah vanadium resource and the projected combined existing resource and Exploration Target following completion of the 2011 Exploration Programme.

Vanadium in Magnetite Deposits

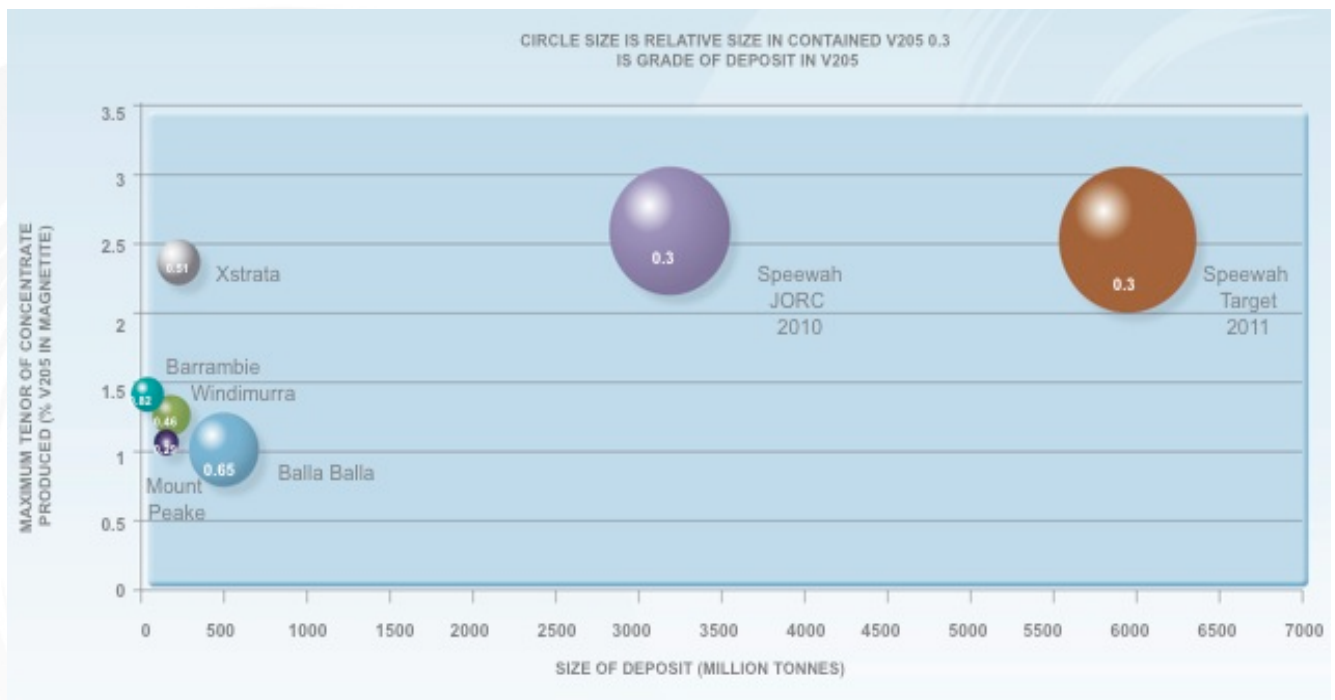


Figure 3: Comparison of concentrate tenor, resource grade and tonnes for vanadium in magnetite deposits

The tenements also contain a high-grade, high-quality **fluorite deposit** with Indicated and Inferred **Resources totaling 6.7 million tonnes at 24.6% CaF₂** (at 10% CaF₂ cut-off grade), comprising an Indicated Resource of 4.1 million tonnes at 25.3% CaF₂ and an Inferred Resource of 2.6 million tonnes at 23.6% CaF₂.

Please see Appendix A for further detail of Mineral Resources and Appendix B for details of metallurgical test work confirming world class tenor of vanadium in magnetite concentrate of 2.48% V₂O₅.



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GEOLOGICAL MODEL

While the geology of the Titanium/Vanadium resource has been well defined from exploration during the past 4 years, the exploration results from the Copper/Gold/Silver programme conducted in 2010 and 2011 is providing new data on the geology of the Speewah Dome and the development of a new mineralisation model for copper/gold/silver and fluorite mineralisation encountered on the Speewah tenements.

The 2010 drilling identified a flat lying polymetallic (base-precious metal) vein system at the upper gabbro dike contact 1 - 4 metres thick with the best assays:

1m at 1.76g/t Au, 1.12% Cu, 3.21% Pb and 10oz/t Ag (SRC463, 11-12m).

2m at 1.42g/t Au, 0.5% Cu, 4.38% Pb and 9.4oz/t Ag (SRC454, 1-3m).

In addition, RC drilling in 2010 intersected gold-arsenic mineralisation at Eiffel associated with a linear magnetic-EM anomaly defined by the SAM geophysical programme with the best assays:

1m at 0.46g/t Au and 2.06% As (SRC507, 107-108m).

Exploration throughout the Speewah Dome has provided evidence for a large-scale hydrothermal alteration system which is carrying copper, gold, silver, lead and fluorite mineralization. Assays from the 2011 DC core, petrographic and research studies, VTEM geophysical dataset, will assist in formulating a mineralisation model to help direct future exploration for all commodities within the Speewah Dome.

Details of the 2011 Exploration Programme and timing of results are provided below.

2011 EXPLORATION PROGRAMME

The 2011 exploration programme, to be concluded in November, has included:

- **An airborne V-TEM survey covering most of the Speewah Dome** (completed). Airborne VTEM survey results target Copper/Gold and Silver mineralisation have been received. Survey results to date have shown the presence of a number of weak conductors along fault structures that are being followed up with further exploration including drilling. Drilling for Copper/Gold and Silver targets has primarily involved diamond core drilling of structural and geochemical targets;
- Soil sampling program . Programme will include up to 4,000 samples collected (completed);
- Further geological mapping and gossan sampling;
- **Reverse Circulation & Diamond Core drilling up to 20,000 metres** (Over 15,000 metres drilled at report date).

The 2011 Exploration Programme has been designed to completed 2 key strategic objectives, which are:

1. **Significant increase in the Titanium/Vanadium** - in - magnetite resource;
2. **Copper/Gold/Silver exploration** based on extensive soil, V-TEM and drill programmes.

SCOPING STUDIES

Work has been completed since 2010 with the ultimate goal of providing a viable titanium/ vanadium-project at Speewah. In summary these studies have included metallurgical studies involving laboratory scale testing of the Speewah magnetite concentrate to consider the following processing stages:

Stage 1 – Beneficiation of Ore to Magnetite Concentrate

Stage 2 – Development Alternatives

- i. Magnetite Concentrate
- ii. Ferro-Vanadium
- iii. Pig Iron
- iv. Acid Leach Plant (Hydrometallurgical) to produce titanium, vanadium and iron products

Details of the work performed to date are provided in Appendix B.

Following the initial testing success of an Acid Leach (Hydrometallurgical) process the **Board has implemented a Metallurgical Programme to recover titanium, vanadium and hematite**. Initial success of this testwork has led to an expansion of the programme which is expected to be completed in February 2012.



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METALLURGICAL TESTWORK

The metallurgical test programme has focused on hydrometallurgical testwork, by using an acid leach on the magnetite concentrate, to recover Ti alongside the V and Fe as high value end products. The opportunity for the Company is a potential increase in project valuation modeled last year, with the Ti and Fe added as additional end products generating further revenues at potentially lower capital and operating costs.

The Company believes that the titanium and vanadium chemical structures within the Speewah magnetite crystal may be particularly amenable to high recoveries through an acid leach process. This structure may be unique to the Speewah deposit and provide the basis for a economic advantage in the treatment process.

The economic opportunity of the titanium may exceed that of the vanadium.

The Metallurgical Programme is being completed in Canada, Austria and Perth. **The testing will deliver results through to late February 2012 at which time a decision on the construction of a pilot plant will be made.**

Initial metallurgical testwork has surpassed expectations. Scoping tests are being conducted by Process Research Ortech Inc. (PRO) using its patented mixed chloride technology. Interim results, based on a set of conditions tested to date, include high extractions of **Titanium (Ti), Vanadium (V) and Iron (Fe) up to 86.6 %, 98.0 % and 97.2 % respectively.**

The patented mixed chloride technology the Company is testing has produced very high grade Titanium Dioxide product (99.8% TiO₂) from testwork completed upon similar magnetite bearing ore from a Canadian deposit.

Beneficiation of the magnetite bearing gabbro at Speewah produces a magnetite/vanadium/titanium concentrate. The representative sample tested by PRO assayed Fe 50.5%, V 1.3% (equal to V₂O₅ 2.3%) and Ti 8.7% (equal to TiO₂ 14.5%) and was tested at various temperatures, extraction times and reagent concentration.

The testwork is design to deliver details including purity and recoveries of end products, flowsheet, operating costs and capital expenditure estimates and allow financial modeling of a titanium/vanadium/hematite project.

ACCESS, TENURE, APPROVAL AND LOGISTICS WORKS

Mining Lease - Following conclusion of the metallurgical test programme an application for a Mining Lease is planned for early 2012 once the scoping studies determine the likely footprint of the combined mine site and tailings areas. The determination of this factor is the only matter outstanding as the **company has already compiled significant other information necessary to support the application for a Mining Lease.**

Mining Agreement - Negotiation of a Mining Agreement with landholders has commenced. Speewah will continue to work with traditional owners to deliver a beneficial and equitable outcome for all parties.

Environmental Application - **Fieldwork has been completed on Flora and Fauna studies** on the Central vanadium deposit. This work will support the application for environmental assessment to be lodged upon completion of the current metallurgical programme.

Aboriginal Heritage Survey was **completed and approved in 2010** over proposed initial mining area of the Central Deposit. This represents a major achievement towards enabling the development of a mine site within the **vanadium-titanium in magnetite** resource.

Logistics - Sinclair Knight Merz ("SKM") initial scoping report indicates that transporting the magnetite concentrate/hematite or fluorite end products to Wyndham for further processing or loading onto barges before being loaded onto larger ships away from the port is likely to be the most efficient method to transport large quantities of product for export. **This transport and shipment method has been commissioned** by a nearby iron-ore mine and **confirms the feasibility and proof of concept of this transport method for the Speewah projects.** The commissioning of these facilities has resulted in the construction of port loading facilities in Wyndham and other infrastructure that will link the Speewah deposits to nearby Asian markets.



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FINANCIAL MODELING

The financial modeling completed in July 2010 used benchmarked OPEX and CAPEX inputs from similar projects provided by SKM based on a Ferro-Vanadium development alternative.

This modeling will be replaced as the hydrometallurgical testwork provides detailed information on operating cost inputs and contributes to flowsheet design that will impact capital requirements for a vanadium, titanium and iron production facility at Speewah.

The 2011 Metallurgical Programme may indicate that a hydrometallurgical processing route provides a superior project valuation to the Ferro-Vanadium development alternative. **If the hydrometallurgical route is the preferred development route a financial model will be developed for a titanium/vanadium/hematite project in early 2012.**

PROMOTION OF THE SPEEWAH ASSETS

Vanadium is a ferro-alloy used to produce hardened and tool steel while titanium is predominately used in the aerospace industry. Titanium dioxide is used in the preparation of pigments for paints and ceramics in the construction industry. Fluorite is used in the steel, aluminum and chemical manufacturing industries. With the increases in global steel production and commodities primarily being delivered through increased production/construction from Asia and specifically China, Speewah's focus has been to identify development funding/investment from this region.

The strategy for the Speewah assets has been to promote the Speewah tenements as hosting the potential for a multi-commodity mine that would share infrastructure (road, campsite, power, tailings and water) with focus on the very large Titanium/Vanadium magnetite deposit to identify a strategic investor or development partner.

The commencement of this promotional activity was participation at the 2010 China Mining Expo (November 2010) and Beijing Mines & Money (June 2011) in China. **The Titanium/Vanadium asset generated significant interest with a number of parties and the Company has now begun a process of supplying detailed technical information and samples of magnetite concentrate for metallurgical testing to the interested parties.**

The Company is extremely pleased with the interest generated by the strategy and feedback received has helped to formulate the strategy for 2011 including the aggressive plan to significantly increase the size of the existing Titanium/Vanadium Resource as part of the 2011 Exploration programme.

Promotional activity and discussions with interested parties and promotion of the Titanium/Vanadium asset will continue with participation at China Mining 2011 and European Roadshow (November 2011).

The metallurgical led transition of the project to **a titanium/vanadium/hematite focus significantly expands the investor/partner/customer base with which to promote the company in 2012**, due to the size and maturity of the Titanium and Hematite markets. Together with the studies that support development approval Speewah will be in a strong position to promote an advanced project with a significant valuation that is close to development.

OTHER PROSPECTS – PGE AND FLUORITE

The tenements are also prospective for:

PGE+Au – As the PGE+Au reef runs through the existing Titanium/Vanadium resource **the drilling designed to significantly increase Titanium/Vanadium resource will result in intersections with the PGE+Au mineralisation**, assays results may provide information regarding feeder/high grade zones of the PGE+Au reef initially discovered in 2007;

Fluorite – Drill results from the 2010 exploration programme have been reviewed and identified further fluorite rich intersections and extensions of the existing fluorite resource. This analysis has lead to the **discovery of a new fluorite vein along the east contact of the King River Fault** east of the existing ABCE fluorite resource and there have been a **number of new RC drill intersections of fluorite veins at West Vein that are not part of the existing resource**. Speewah estimates that the Exploration Target¹ for fluorite deposits, in addition to the existing resource of 6.7Mt at 24.6% CaF₂, is an additional 2 to 6Mt at 20-25% CaF₂.



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CONCLUSIONS

The Board is confident that it will deliver the planned objectives for Speewah including:

1. **Significant increase in the size of the existing Titanium/Vanadium in magnetite resource. Speewah estimates that an additional vanadiferous magnetite Exploration Target* of 2 to 5 Billion tonnes at 0.30-0.32% V₂O₅ exists in the Speewah Dome.** A Resource estimate is expected to be produced in early 2012;
2. **Metallurgical work on the Titanium/Vanadium resource and investigate the potential to recover titanium and iron in addition to vanadium** is planned to be completed in February 2012;
3. **Systematic drill based exploration** on initial discoveries **Copper/Gold/Silver and Lead mineralisation.** Assays are expected to be available in February/March 2012;
4. **Continuation of discussions with and promotion to international parties** that have shown interest in the **Titanium/Vanadium magnetite resource** in order to secure strategic investment into the Company.

PLANNING FOR 2012

Initial success from the 2011 Metallurgical and Exploration Programmes has resulted in planning for the key strategic objectives for 2012. **This work confirms that the Titanium/Vanadium/Hematite Project represents the major asset and value add project for shareholders and will be the focus of strategic efforts over the next 12 months.**

These objectives will likely include:

- Construction and completion of a pilot plant processing facility in 2012 to demonstrate titanium/vanadium/hematite flowsheet and produce marketing sample to attract off-take and investment/strategic partners;
- Delivery of the following development approval requirements:
 - Achieving Reserve status on Titanium/Vanadium in magnetite Resource;
 - Financial modeling and valuation of Titanium/Vanadium/Hematite project;
 - Mining Lease;
 - Mining Agreement with landholders;
 - Environmental Assessment;
- Commencement of definitive feasibility studies on Titanium/Vanadium/Hematite project.

FOR FURTHER INFORMATION, PLEASE CONTACT:

Speewah Metals Limited

Richard Wolanski – Executive Director

Anthony Barton – Non Executive Chairman

Level 22 Allendale Square

77 St Georges Terrace Perth WA 6000

Telephone: +61 8 9221 8055

Fax: +61 8 9325 8088

Competent Persons Statement

The information in this report that relates to Exploration Results, Minerals Resources or 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.

* Exploration Target is not a mineral resource and further drilling is required which may not define these tonnes & grade. The potential quantity and grade is conceptual in nature and there has been insufficient exploration to define a mineral resource and it is uncertain if future exploration will result in the determination of a mineral resource.



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APPENDIX A

RESOURCES

The Speewah Tenements contain the following Mineral Resources:

VANADIUM-TITANIUM

The vanadium-titanium Mineral Resource is given in Table A.

Table A: Speewah Mineral Resource Estimate April 2011* (0.23% V₂O₅ Cut-off)

Speewah Project		Tonnes Mt	V %	V ₂ O ₅ %	Fe %	Ti %
Zone	Class					
High Grade	Measured	115	0.21	0.37	15.0	2.1
	Indicated	298	0.20	0.35	15.1	2.1
	Inferred	1,128	0.19	0.35	14.8	2.0
High Grade Total		1,541	0.20	0.35	14.9	2.0
Low Grade	Measured	86	0.15	0.27	14.7	2.0
	Indicated	528	0.15	0.27	14.5	1.9
	Inferred	1,411	0.15	0.26	14.6	2.0
Low Grade Total		2,025	0.15	0.26	14.6	2.0
Combined Zones	Measured	201	0.18	0.33	14.9	2.1
	Indicated	826	0.17	0.30	14.7	2.0
	Inferred	2,539	0.17	0.30	14.7	2.0
Grand Total		3,566	0.17	0.30	14.7	2.0

Note: Estimate based on results of XRF analysis for V, Fe and Ti, with V₂O₅ calculated as V % x 1.785. Differences may occur due to rounding.

**Includes 2010 Resource Totals for Central, Buckman and Red Hill deposits*

The Mineral Resource has now been estimated to include the previously reported **Central** deposit and two additional deposits at **Red Hill** and **Buckman** (Figure 1). They individually extend over strike lengths of 5.5 to 8km and up to 2km wide. These combined Minerals Resources at Speewah are significantly larger than any other vanadium in magnetite deposit in Australia and there are several other areas within the Speewah Dome with magnetite bearing gabbro that have yet to be drill tested.

It is important to note that the entire resource, inclusive of the low grade zones, contains magnetite with vanadium tenor that is higher than in other Australian vanadium deposits, and the high grade zone has vanadium tenor in magnetite that is higher than being exploited commercially in existing vanadiferous magnetite production facilities.

FLUORITE

The Fluorite resource is given in Table B. The deposit contains Indicated and Inferred Resources totaling 6.7 Mt at 24.6% (within high grade domains at 10% CaF₂ cut-off grade), comprising:

- Indicated Resource of 4.1 Mt at 25.3% CaF₂;
- Inferred Resource of 2.6 Mt at 23.6% CaF₂.

Table B: Speewah Fluorite Prospect Mineral Resource Estimate

Speewah Fluorite Deposit August 2009 Resource Estimate

Type	Indicated		Inferred		Total	
	Tonnes	CaF ₂	Tonnes	CaF ₂	Tonnes	CaF ₂
	Mt	%	Mt	%	Mt	%
High Grade	4.1	25.3	2.6	23.6	6.7	24.6



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APPENDIX B

BACKGROUND AND HISTORICAL METALLURGICAL TESTING

The Vanadium-Titanium Magnetite Scoping Study – Work was completed in 2010 with the goal of providing a viable vanadium-titanium magnetite project at Speewah. The study focused on the high grade Measured and Indicated Resources of the Central Deposit. These studies included laboratory scale tests of the magnetite concentrate to consider the following processing stages:

Stage 1 – Beneficiation of Ore to Magnetite Concentrate

Production of a high tenor Titanium/Vanadium magnetite concentrate: **A magnetite concentrate will be required for any development alternative.** ASX announcement (1 April 2010) reported high vanadium tenor across the Measured Resource of the Central deposit. Variability tests using Davis Tube testwork on composite Reverse Circulation drill chip samples collected from within the Central vanadium deposit and selected parts of the Red Hill and Buckman deposits **show vanadium recoveries of up to 77.73% V_2O_5 and mass recoveries up to 14.18% magnetite in concentrate. All samples reported vanadium tenor in the magnetite concentrates over 2.0% V_2O_5 (range 2.15 to 2.64% V_2O_5).**

A Davis-tube testing programme will commence once current metallurgical testing is completed in February 2012 to map the distribution of titanium/vanadium concentrate grade and mass recoveries in the deposit, for input into future pit optimisation and reserve estimates.

Stage 2 – Development Alternatives

i. Magnetite Concentrate (Alternative 1):

This involves shipping of the magnetite concentrate as an end product. Following completion of the 2011 Metallurgical Programme **crushing and grinding testwork is planned to optimise the efficiency of the beneficiation process** as numerous advances in technologies in recent years may provide the opportunity to significantly improve the efficiency of the process of creating the magnetite concentrate. This study is likely to improve the feasibility of **selling the magnetite concentrate as a stand-alone project** but also lower overall costs for each of the following Development Alternatives.

ii. Ferro-Vanadium (Alternative 2):

Initial pyro-metallurgical testwork for vanadium recovery has been completed and involved laboratory scale salt-roast processing. Results have been used to provide data for operating cost and capital cost estimates to enable promising initial conceptual NPV modelling. **The initial test results have shown vanadium recovery of up to 87.5% from the magnetite concentrate at various grind sizes and salt reagent additions. A second round of testing will be completed in 2011 to optimise recoveries and establish operating cost inputs.**

iii. Pig Iron (Alternative 3):

Pyrometallurgical testwork on the magnetite concentrate to produce pig iron end product. This work has been completed by Mintek (South Africa) simulating arc furnace processing. Test results included:

1. **Production of a pig iron alloy comprising between 89-94% iron (Fe) and greater than 2% Vanadium (V) which represents greater than 90% recovery of Vanadium (V);**
2. Confirmation **magnetite does not contain deleterious elements that could compromise pig iron quality;**
3. A temperature of 1500 °C is indicated for efficient vanadium recovery;
4. Modelling predicts an energy requirement of around 0.9MWh per tonne of feed.

iv. Acid Leach Plant: (Alternative 4)

Hydrometallurgical testwork on the magnetite concentrate to produce three end products including a high grade iron (Fe) product, vanadium product and a titanium product. Scoping tests are being conducted by Process Research Ortech Inc. (PRO) using its patented mixed chloride technology. Under a set of conditions tested to date, high extractions of **Titanium (Ti), Vanadium (V) and Iron (Fe) up to 86.6 %, 98.0 % and 97.2 % respectively have been achieved.**

The patented mixed chloride technology the Company is testing has **produced very high grade Titanium Dioxide (99.8% TiO_2) from testwork completed upon similar magnetite bearing ore from a Canadian deposit.**

The Acid Leach (Alternative 4) forms the focus of the current Metallurgical Programme concluding in February 2012.



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APPENDIX C

LOCATION

The Speedwah tenements are located approximately 110 kilometres southwest of Kununurra and 110 kilometres south of the port of Wyndham in the Kimberley region of Western Australia (Figure 4). The Tenements are accessed via 45 kilometres of unsealed tracks from the sealed Great Northern Highway.

LEGEND

Undifferentiated

-  Basins
-  Orogenic Belts
- Kimberley Block**
 -  Carson Volcanics
 -  Hart Dolerite
 -  Kimberley Group
 -  Speedwah Group
-  Towns
-  Roads

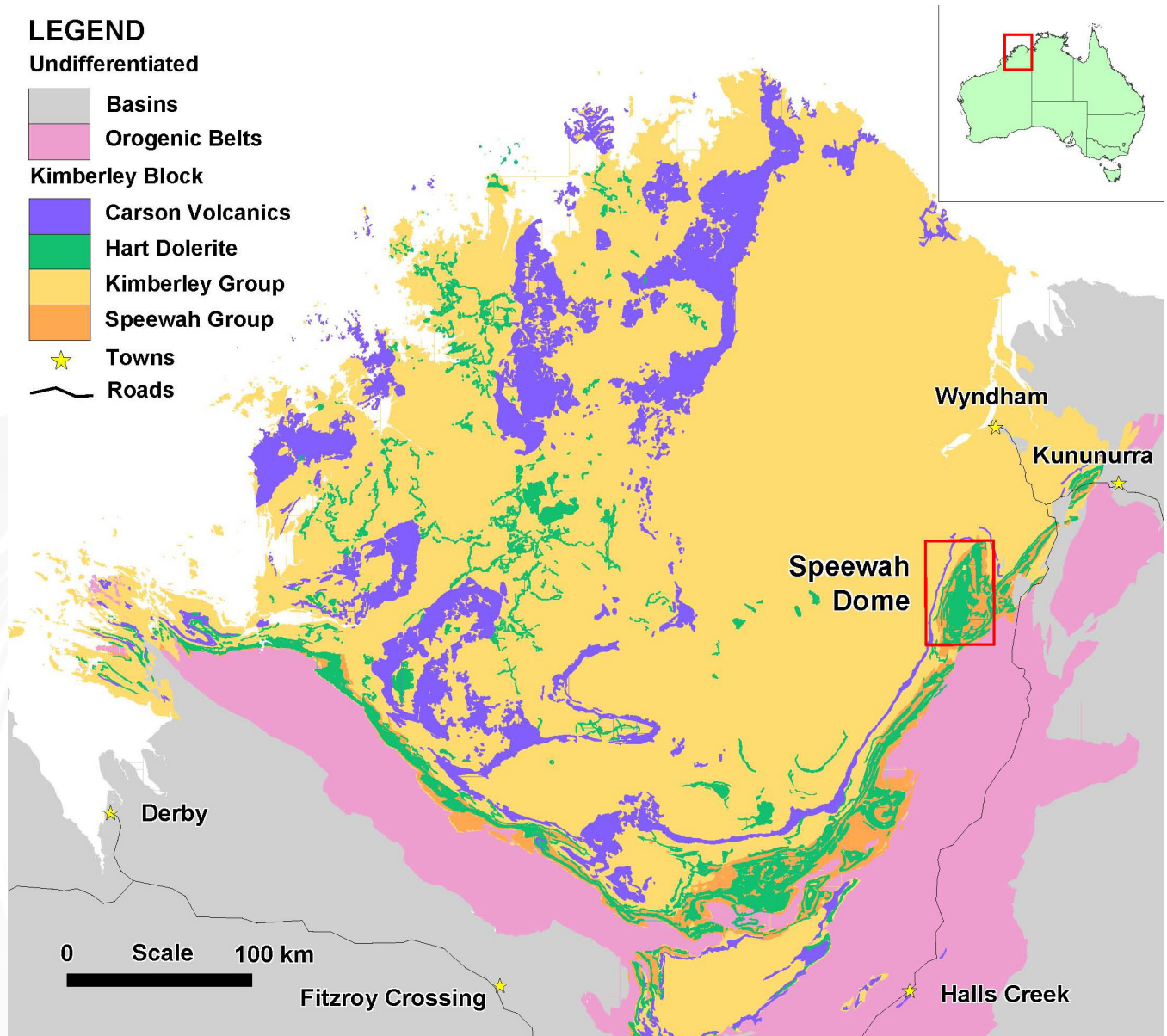


Figure 4: Location Map