



**SPEEWAH**  
METALS LTD

# QUARTERLY ACTIVITIES REPORT

## 31 DECEMBER 2011

**HIGHLIGHTS FOR THE QUARTER**

**23 JANUARY 2012**

**ASX Code: SPM**

**Capital Structure:**

Shares on Issue: 130.7m  
Options on issue: 11.75m  
Exercise Price: 20c – 80c  
Market Cap: \$27.5m (21c)

**Financial Position:**

Cash & Debtors: \$2.4m  
(at Quarter end)

**Board of Directors:**

Non Executive Chairman:  
Anthony Barton

Non Executive Director:  
Derek Carew-Hopkins

Non Executive Director:  
Leon Charuckyj

Executive Director:  
Richard Wolanski

**Projects:**

Speewah Dome, 575 km<sup>2</sup>

**Location:**

Kimberley, WA

**Resources:**

Titanium/Vanadium:  
3.6 Billion tonnes @ 0.30%  
V<sub>2</sub>O<sub>5</sub> and 2% Ti (at 0.23%  
V<sub>2</sub>O<sub>5</sub> cut-off grade)

**Fluorite:**

6.7 Million tonnes @ 24.6%  
CaF<sub>2</sub> (at 10% CaF<sub>2</sub> cut-off  
grade)

**Other prospects:**

Copper/Gold/Silver & Lead  
Platinum

### 2011 EXPLORATION PROGRAMME COMPLETED

Speewah Metals Ltd ("Speewah") is pleased to advise that the 2011 Exploration Programme was completed on schedule and on budget.

Total drilling included 13,452 metres of RC drilling (249 holes) and 4,909 metres of Diamond Core drilling (17 holes).

An **upgrade to the current Titanium/Vanadium resource** of 3.6 Billion tonnes at 0.3% V<sub>2</sub>O<sub>5</sub> and 2% Ti will be **completed early February 2012** and is **expected to materially build on the existing resource**.

All diamond core has been transported to Perth and is undergoing detailed examination, petrographic study, sampling and assay. Assay results are expected in February/March 2012.

### METALLURGICAL PROGRAMME RESULTS PENDING

Initial success from the 2011 Metallurgical and Exploration Programmes **confirms that the Titanium/ Vanadium/ Hematite Project represents the major asset** and will be the **focus of strategic efforts over the next 12 months**.

Test 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 patented technology were optimised during the quarter and demonstrated higher **extractions of Ti, V and Fe of up to 91.8 %, 86.1 % and 98.0 % respectively**.

**Completion of Speewah's metallurgical testwork is expected in February 2012 and will deliver recovery rates, indicative purities of end products and a process flowsheet. Work will then be completed on operating and cost estimates to provide scoping level project economics.**

The remainder of 2012 will focus on the **elimination of commercialisation risk factors to facilitate possible mine construction in 2013**.

### GRANT/REBATE FUNDING PENDING

Speewah received grant funds in respect of Western Australian 2011/2012 Exploration Incentive Scheme (1<sup>st</sup> Stage) totaling \$120,000 in the past week.

The Company confirmed calculation of the Research & Development Rebate for the 2010/11 financial year. The rebate totals \$700,000 and is expected to be received 2<sup>nd</sup> Quarter 2012. Speewah has successfully claimed a rebate of a proportion of expenditure devoted to Research and Development for each of the previous 3 years, which has had a significant positive impact on operational cashflow.

The following additional Grants/rebates funding will be received in the coming weeks:

- Diesel Fuel Rebate 2011 Exploration (including GST refund) \$310,000
- 2011/2012 Exploration Incentive Scheme (2<sup>nd</sup> Stage) \$ 30,000

### APPOINTMENT OF DIRECTOR

The Company welcomed the appointment of Mr Leon Charuckyj as Non-Executive Director.

**END OF HIGHLIGHTS**



## **SPEEWAH** METALS LTD

### 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. This exploration has delivered **Australia's largest titanium/vanadium in magnetite resource** and a **high grade Fluorite resource**. These projects have advanced to a point where they are approaching the development phase.

**The Titanium/ Vanadium/ Hematite Project represents the major asset and value add project for shareholders.**

The completion of metallurgical studies in the coming weeks is expected to **significantly reduce the technical risk associated with the preferred acid leach processing technique and drive focus to development of a significant mining operation.**

Speewah focus for 2012 is:

1. **Significant expansion of the existing titanium/vanadium/magnetite resource.** Part of the 2011 Exploration programme has been to increase the existing Measured, Indicated and Inferred Resources totalling **3.566 Billion tonnes** at 0.30% V<sub>2</sub>O<sub>5</sub> and 2% Ti (at 0.23% V<sub>2</sub>O<sub>5</sub> cut-off grade). (New resource update to be delivered February 2012).
2. **Metallurgical work on the Titanium/Vanadium resource to confirm the potential to recover titanium and vanadium** alongside hematite which may have the potential to multiply project values. (To be delivered February 2012).
3. Construction and completion of a **pilot plant processing facility** to demonstrate titanium/vanadium/hematite flowsheet and produce marketing sample to attract off-take and investment/strategic partners;
4. Delivery of the **following development approval requirements:**
  - a. Achieving Reserve status on Titanium/Vanadium in magnetite Resource;
  - b. Financial modeling and valuation of Titanium/Vanadium/Hematite project;
  - c. Mining Lease;
  - d. Mining Agreement with landholders;
  - e. Environmental Impact Assessment.
5. Commencement of **definitive feasibility studies** on Titanium/Vanadium/Hematite project.

These objectives are designed to reduce commercial risk and facilitate mine development. Successful completion of these objectives/ approvals **could lead to the commencement of mine construction in 2013.**

Initial planning envisages a mining /processing operation that produces a minimum of the following end products:

- |   |                         |
|---|-------------------------|
| • Titanium Dioxide (TiO <sub>2</sub> )                | 75,000 tonnes per year  |
| • Vanadium Pentoxide (V <sub>2</sub> O <sub>5</sub> ) | 13,000 tonnes per year  |
| • Hematite (Fe <sub>2</sub> O <sub>3</sub> )          | 400,000 tonnes per year |

Each of the end products is expected to be produced at high grade purity levels of >98% which will ensure Speewah is able to obtain premium pricing for the end products. This mining operation has the potential to produce significant annual revenue and will represent a major new mine development in this region of Western Australia.



# SPEEWAH METALS LTD

## TENEMENT OVERVIEW

Figure 1 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 recently completed 2011 exploration programme was intended to extend these Resources within the red shaded area. 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.

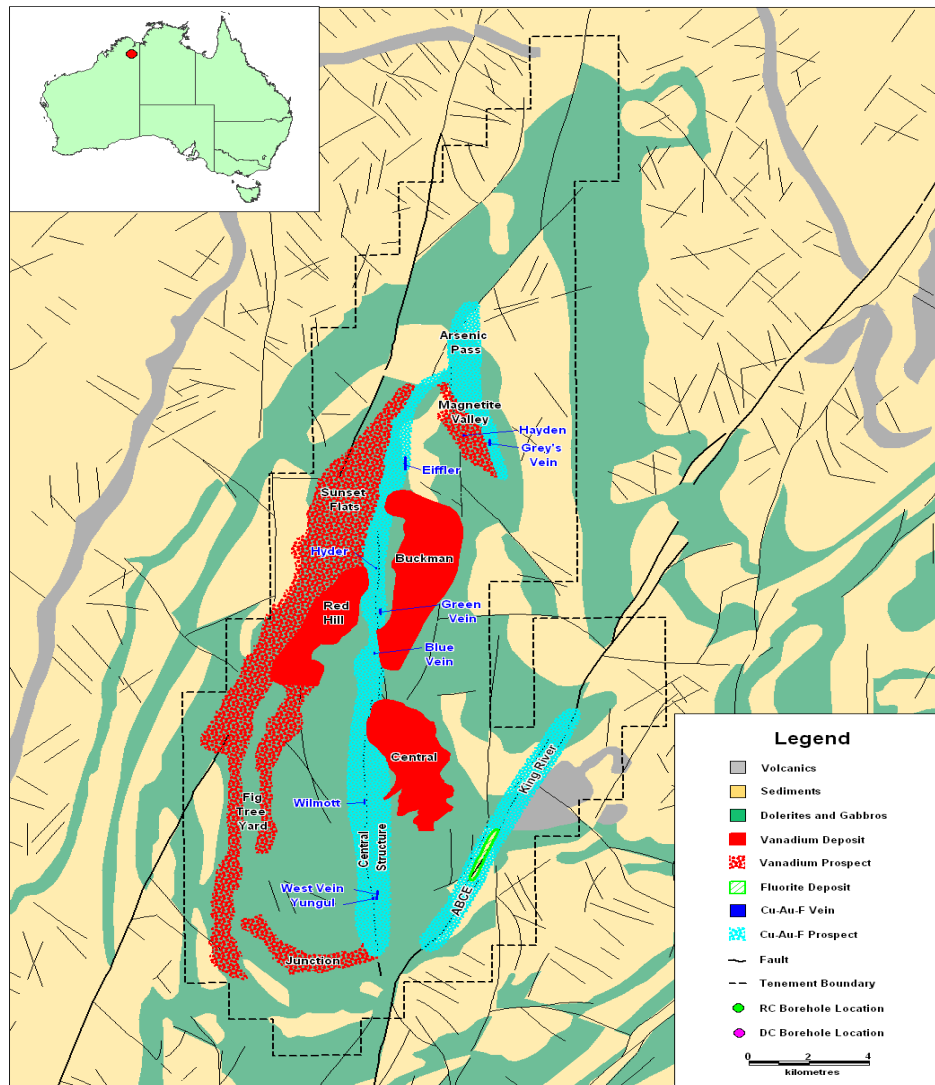


Figure 1: Geology of the Speewah Dome showing location of the Titanium-Vanadium Mineral Resources

## 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% V<sub>2</sub>O<sub>5</sub> and 2% Ti** (at 0.23% V<sub>2</sub>O<sub>5</sub> cut-off grade) in three deposits, comprising a Measured Resource of 201 million tonnes at 0.33% V<sub>2</sub>O<sub>5</sub>, Indicated Resource of 826 million tonnes at 0.30% V<sub>2</sub>O<sub>5</sub> and an Inferred Resource of 2,539 million tonnes at 0.3% V<sub>2</sub>O<sub>5</sub>. Metallurgical testwork has confirmed that upon separation of a magnetite concentrate the **outstanding feature of the Resource is that the upgraded concentrate assays at 54.26% Fe, 2.48% V<sub>2</sub>O<sub>5</sub> and 14.82% TiO<sub>2</sub>**.

A **resource upgrade**, based on the drilling completed in 2011, is **expected to be completed in February 2012**.

The tenements also contain a high-grade, high-quality **fluorite deposit** with Indicated and Inferred **Resources totaling 6.7 million tonnes at 24.6% CaF<sub>2</sub>** (at 10% CaF<sub>2</sub> cut-off grade), comprising an Indicated Resource of 4.1 million tonnes at 25.3% CaF<sub>2</sub> and an Inferred Resource of 2.6 million tonnes at 23.6% CaF<sub>2</sub>. See Appendix A for Resources details.



## SPEEWAH METALS LTD

### METALLURGICAL TESTWORK

The metallurgical test programme, to be completed February 2012, has focused on hydrometallurgical testwork, using an acid leach on the magnetite concentrate followed by solvent extraction, and is **expected to obtain high recovery of Ti and V alongside Fe at high levels of purity (high value) in the end products**. The testwork is designed to significantly reduce technical risk by confirming the success of this flowsheet at bench scale level. From this testwork scoping level estimates of operating and capital costs will be calculated.

The testwork has been designed to support development of a significant mining operation delivering a diverse range of high value end products, support promotion of the project in the large titanium and iron markets, and confirm that a mine development is scalable reducing capital risk. Titanium is likely to be the most valuable revenue stream followed by Vanadium and Hematite. **Upon completion of the testwork a decision on pilot plant construction will be made.**

**Initial metallurgical testwork has surpassed expectations.** 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 91.8 %, 86.1 % and 98.0 % respectively.**

**Results in February 2012 should include purity and recoveries of end products, flowsheet, operating costs and capital expenditure estimates.**

### FINANCIAL MODELING

Completion of the testwork will allow development of **a financial model for the Ti/ V/ Fe project in early 2012.**

### ACCESS, TENURE, APPROVAL AND LOGISTICS WORKS

Mining Lease - An application for a Mining Lease is planned for 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 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 Deposit Resource. This work supports completion of the application for environmental assessment to be lodged in 2012.

Aboriginal Heritage Survey was **completed and approved in 2010** over proposed initial mining area of the Central Deposit. This represents a **major step towards development of a mining operation** at Speewah.

Logistics - Scoping studies indicates that transporting the magnetite concentrate 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 is being used** by a nearby iron-ore mine and **confirms the feasibility and proof of concept of this transport method for Speewah.** Port loading facilities with spare capacity exist in Wyndham and have the ability to link Speewah to nearby Asian markets.

### OTHER PROSPECTS - COPPER/GOLD/SILVER AND FLUORITE AND PGE+AU

Copper/Gold Silver – Drill assay results are expected in March 2012 that will determine future exploration plans.

Fluorite – Drill results have identified fluorite rich intersections and extensions of the existing fluorite resource. This has lead to the **discovery of a new fluorite vein along the east contact of the King River Fault** and there are a **number of new drill intersections of fluorite veins that are not part of the existing resource**. The Exploration Target\* for fluorite deposits, in addition to the existing resource of 6.7Mt at 24.6% CaF<sub>2</sub>, is an additional 2 to 4Mt at 20-25% CaF<sub>2</sub>. Fluorite could be mined along with a potential Ti/ V/ Fe operation to share infrastructure and improve project economics.

PGE+Au – A PGE+Au reef that runs through the existing Titanium/Vanadium resource may improve project economics of the Ti/ V/ Fe project.

\* Note: 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.



## **SPEEWAH** METALS LTD

### PROMOTION OF THE SPEEWAH OPPORTUNITY

Titanium dioxide is used to make pigments for paints and ceramics for the construction industry. Vanadium is a ferro-alloy used to produce hardened and tool steel. The titanium industry is many times larger than the vanadium industry.

With the increases in demand for these commodities driven by the construction and global steel production in 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 potential for a multi-commodity mine with shared 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 Titanium/Vanadium asset has generated significant interest with a number of parties.**

Promotional activity and discussions with interested parties in the Titanium/Vanadium asset will continue throughout 2012. The metallurgical testwork is expected to provide important information regarding the recoveries, end products, flowsheet, project economics and will provide technical proof of the ability to develop a major new Ti, V, Fe project. This will be the first opportunity Speewah will have had to promote to the very large titanium and iron industries.

Speewah is enthusiastic about the upcoming testwork that is expected to support **the titanium/vanadium/hematite project and confirm the ability to generate products in demand in the large** Titanium and Hematite markets. Speewah should be in a strong position to promote an advanced project with a significant valuation that is close to development, which is expected to drive investment and share value growth.

### CONCLUSIONS

**Initial Metallurgical 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.**

The completion of metallurgical studies in the coming weeks is expected to **significantly reduce the technical risk associated with the preferred acid leach processing technique and drive focus to development of a significant Ti/V/Fe mining/processing operation.**

Work in 2012 will focus on promotion of this Ti/V/Fe opportunity and the systematic reduction of commercial risk through pilot plant testing and completion of the approvals/feasibility to support the goal of construction commencing in 2013.

### OBJECTIVES FOR 2012

The Board is confident that it will deliver the following significant milestones in February 2012:

1. **Significant increase** in the size of the existing Titanium/Vanadium in magnetite resource;
2. Metallurgical test results to **confirm high recoveries of high value Titanium/ Vanadium and Iron end products.** Results will provide details on processing flowsheet, recoveries, end products, operating and capital cost estimates.

Initial success of the Metallurgical testwork will allow planning for the key strategic objectives for 2012, which 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.



## APPENDIX A

### RESOURCES

The Speewah Tenements contain the following Mineral Resources:

#### TITANIUM - VANADIUM

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

**Table A: Speewah Mineral Resource Estimate April 2011\* (0.23% V<sub>2</sub>O<sub>5</sub> Cut-off)**

Speewah Project		Tonnes Mt	V %	V <sub>2</sub> O <sub>5</sub> %	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
<b>High Grade Total</b>		<b>1,541</b>	<b>0.20</b>	<b>0.35</b>	<b>14.9</b>	<b>2.0</b>
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
<b>Low Grade Total</b>		<b>2,025</b>	<b>0.15</b>	<b>0.26</b>	<b>14.6</b>	<b>2.0</b>
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
<b>Grand Total</b>		<b>3,566</b>	<b>0.17</b>	<b>0.30</b>	<b>14.7</b>	<b>2.0</b>

Note: Estimate based on results of XRF analysis for V, Fe and Ti, with V<sub>2</sub>O<sub>5</sub> 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% CaF<sub>2</sub> cut-off grade), comprising:

- Indicated Resource of 4.1 Mt at 25.3% CaF<sub>2</sub>;
- Inferred Resource of 2.6 Mt at 23.6% CaF<sub>2</sub>.

**Table B: Speewah Fluorite Prospect Mineral Resource Estimate**  
**Speewah Fluorite Deposit August 2009 Resource Estimate**

Type	Indicated		Inferred		Total		
	Tonnes	CaF <sub>2</sub>	Tonnes	CaF <sub>2</sub>	Tonnes	CaF <sub>2</sub>	CaF <sub>2</sub>
	Mt	%	Mt	%	Mt	%	Mt
High Grade	4.1	25.3	2.6	23.6	<b>6.7</b>	<b>24.6</b>	<b>1.7</b>

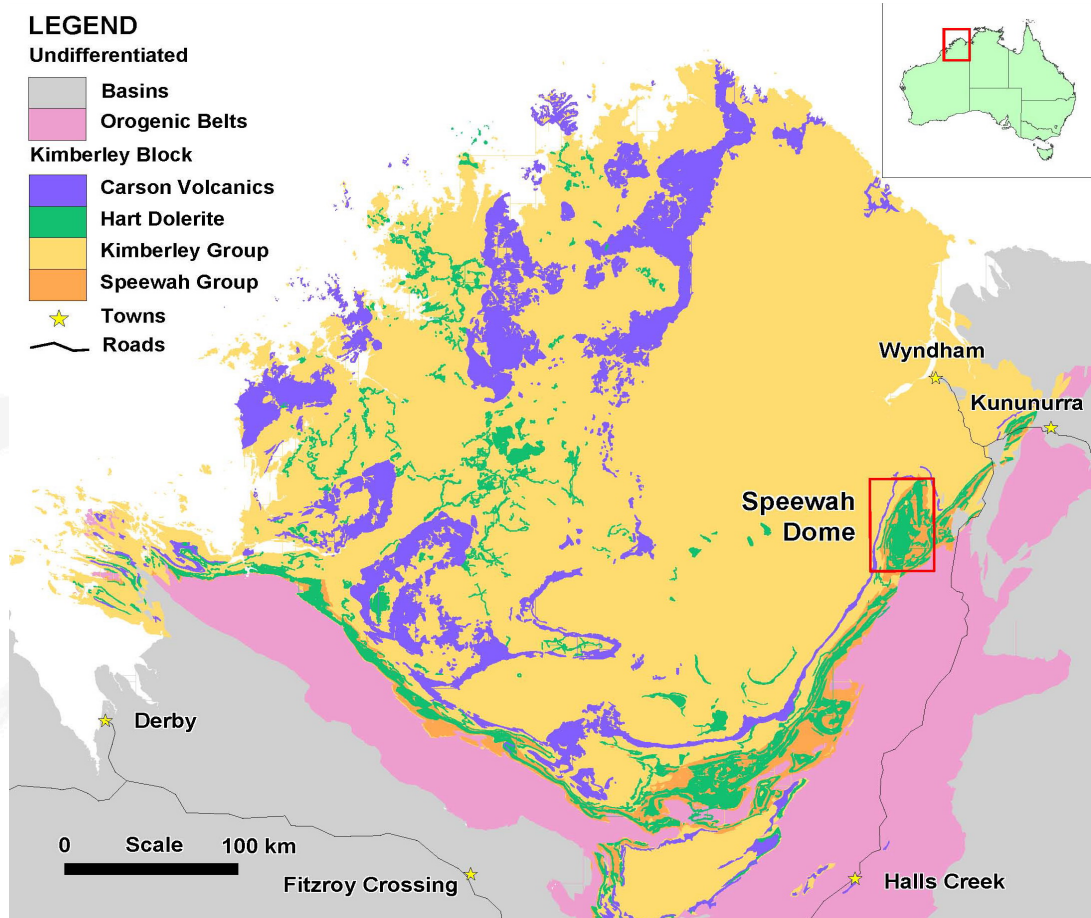


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## APPENDIX B

### LOCATION

The Speewah 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 2). The Tenements are accessed via 45 kilometres of unsealed tracks from the sealed Great Northern Highway.



### 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.