



7 February 2011

## **New Mineral Resource estimate for the Gabanintha titaniferous - vanadiferous magnetite deposit**

### **Highlights:**

- **A revised Mineral Resource for the Gabanintha project prepared by CSA Global.**
- **Compared to the previous resource estimate, this Mineral Resource has seen a significant improvement in grade for the main target commodities V<sub>2</sub>O<sub>5</sub> (0.6 up to 0.7%), Fe (29.5 up to 32.3%) and TiO<sub>2</sub> (7.8 up to 8.6%), with a reduction in tonnes from 151.2Mt down to 125.8Mt.**
- **Based on a review of all available data, the Mineral Resource has been classified as Indicated Resources and Inferred Resources and delivers a more realistic estimate for the deposit.**

### **Gabanintha Project**

The Gabanintha titaniferous – vanadiferous magnetite deposits are located in the Murchison Province of Western Australia. The project consists of five leases located 43 kilometres south east of Meekathara via the Great Northern Highway (see Figure 1). The Gabanintha deposit is comprised of massive to disseminated bands of titaniferous - vanadiferous magnetite (and ilmenite) hosted in a differentiated gabbro of the Gabanintha Formation. There are two distinct zone of mineralisation a basal, massive, high grade band and an upper disseminated band with lower grade (see Figure 2). The deposit strikes north-northwest in the project area and dips at 45° to 60° to the southwest. The mineralised bands are 5-30m thick and share the same orientation as the gabbro host.

Yellow Rock Resources Ltd (YRR) commissioned CSA Global Pty Ltd to review the Mineral Resource estimate for the Gabanintha project. The review forms part of a broader strategy aimed at defining the technical direction for the next phase of project development. The resource review resulted in significant grade improvement for the resource due to tighter modelling constraints and a reclassification to Indicated and Inferred.

The high-grade component of the resource indicates this is one of the richest vanadium projects in Australia. The Mineral Resource for the high-grade component is 60.4Mt @ 0.98% V<sub>2</sub>O<sub>5</sub>, 42.15% Fe and 11.4% TiO<sub>2</sub> (Indicated and Inferred).

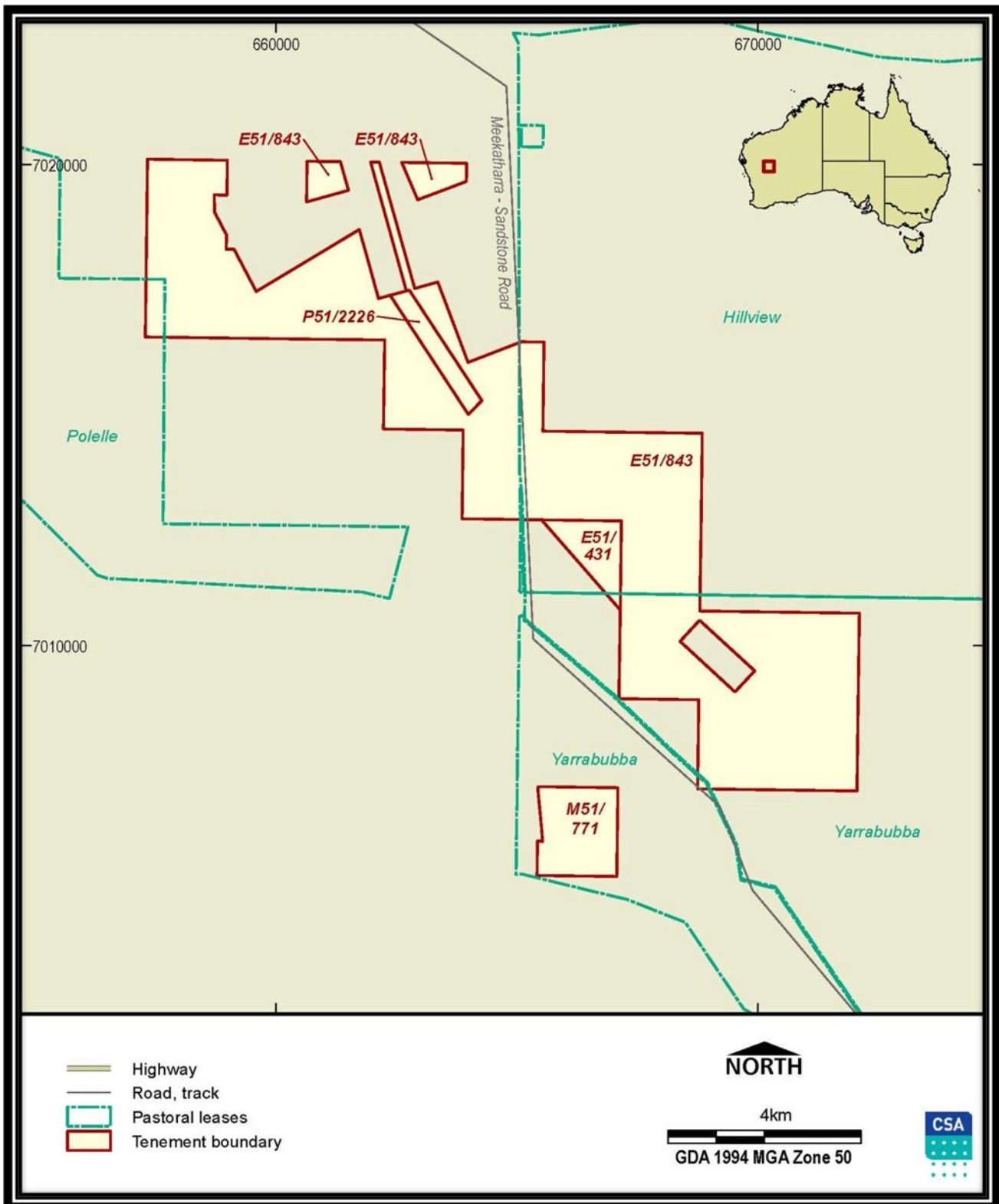


Figure 1. Tenement location plan

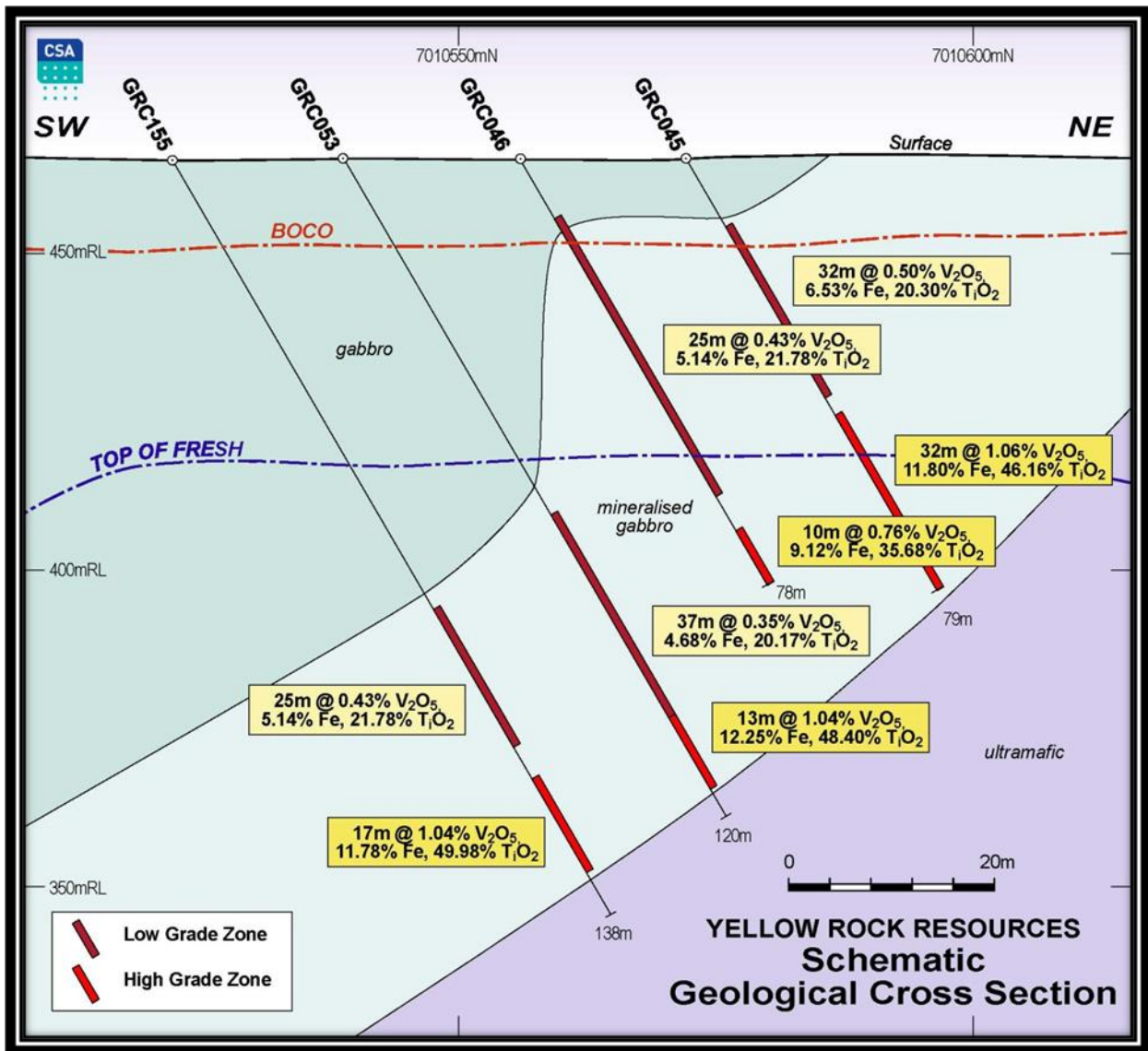


Figure 2. Schematic cross-section

## 2011 Mineral Resource Summary

The 2011 Mineral Resource estimate is based and relies on analytical data collected from 142 RC percussion and 6 diamond core drill holes. The majority of these data (130 RC holes and 6 diamond holes) were collected by YRR in the period 2007 to 2010. The other 12 RC holes were collected by previous explorers. The resource model was constructed to reflect the geology and analytical results that indicate two zones of mineralisation exist; a basal high-grade zone and an upper lower grade zone.

Based on a review the descriptive statistics of the analytical data, cut-offs of 0.3% and 0.7% V<sub>2</sub>O<sub>5</sub> were used to model the low-grade and high-grade zones respectively. The interpretation was undertaken on a sectional basis to reflect the drill hole spacing which ranges from 30m x 150m to 50m x 450m. The Mineral Resource was estimated using Ordinary Kriging inside separate constraining wireframes for the high-grade and low-grade zones. Data was extrapolated by half the distance to the preceding drill line at the deposit ends.

The Mineral Resources at the Gabanintha project are classified using the JORC code 2004. The Resources are classified as a mixture of Indicated and Inferred Resources as outlined in the summary table below. A summary resource report is provided as an appendix to this announcement.

**Table 1. Gabanintha Magnetite-Vanadiferous-Ilmenite Deposit - Mineral Resource Estimate**

Material	JORC Resource Class	Million tonnes	In Site Bulk Density	V2O5%	Fe%	TiO2%	SiO2%	Al2O3%	LOI%
High Grade	Indicated	14.4	4.17	1.03	42.14	12.07	11.42	7.84	3.37
	Inferred	46.0	4.16	0.97	42.15	11.19	12.37	8.28	3.20
	Sub-total	60.4	4.16	0.98	42.15	11.40	12.15	8.17	3.24
Low Grade	Indicated	42.7	2.71	0.44	23.37	6.08	29.25	18.09	8.94
	Inferred	22.7	2.67	0.42	22.65	6.08	30.62	16.96	6.92
	Sub-total	65.4	2.70	0.43	23.12	6.08	29.73	17.70	8.24
Total	Indicated	57.0	2.97	0.59	28.10	7.59	24.76	15.51	7.54
	Inferred	68.8	3.51	0.79	35.70	9.50	18.40	11.15	4.43
	Total	125.8	3.25	0.70	32.26	8.64	21.29	13.13	5.84

Note: In-situ dry bulk density has been assigned based on V<sub>2</sub>O<sub>5</sub> grade, therefore density values quoted here are weighted average values. The Mineral Resource was estimated as a block model within constraining wireframes based upon logged geological boundaries and grade cut-offs of 0.3% V<sub>2</sub>O<sub>5</sub> for Low Grade (LG) and 0.7% V<sub>2</sub>O<sub>5</sub> for High Grade (HG). Tonnages have been rounded to reflect that this is an estimate.

### Comparison with Previous Resources

The aim of CSA's work was to deliver a Mineral Resource for the project that was a realistic estimate based on the data collected to date. The review has resulted in several key changes from the previous Mineral Resource estimate completed in 2008. The key differences are;

- an improved geological control on the constraining wireframes (through the review and inclusion of surface mapping data and structural interpretation undertaken by Southern Geoscience),
- an improvement in grade for all of the main target commodities (V<sub>2</sub>O<sub>5</sub>, Fe and TiO<sub>2</sub>), and
- a more realistic classification of the resources.

The main reason for the increased grade is tighter modelling constraints for the mineralised lenses, where zones were modelled on the basis of a minimum 5m down-hole interval thickness, internal waste being kept to a minimum (approximately 3m), and minimum overall grade of 0.3% for low grade and 0.7% for high grade material.

**Table 2. Resource comparison between 2011 and 2008**

Domain	Resource	Tonnage			Grade								
		Nov-08	Dec-10	% Diff	V2O5			Fe			TiO2		
					Nov-08	Dec-10	% Diff	Nov-08	Dec-10	% Diff	Nov-08	Dec-10	% Diff
High Grade	Measured Resource	32.5		-100%	0.90		-100%	38.33	0.00	-100%	10.40		-100%
	Indicated Resource	23.7	14.4	-39%	0.80	1.03	28%	36.93	42.14	14%	9.80	12.07	23%
	Inferred Resource	13.4	46.0	244%	0.90	0.97	8%	39.80	42.15	6%	10.80	11.19	4%
	Sub-total Resource	69.6	60.4	-13%	0.90	0.98	9%	38.12	42.15	11%	10.30	11.40	11%
Low Grade	Measured Resource	53.9		-100%	0.40		-100%	21.61		-100%	5.60		-100%
	Indicated Resource	9.7	42.7	340%	0.40	0.44	9%	22.73	23.37	3%	5.80	6.08	5%
	Inferred Resource	6.2	22.7	267%	0.40	0.42	5%	22.59	22.65	0%	5.80	6.08	5%
	Sub-total Resource	69.8	65.4	-6%	0.40	0.43	8%	21.89	23.12	6%	5.70	6.08	7%
Scree	Measured Resource	8.3			0.40			22.10			4.90		
	Indicated Resource	1.2			0.30			19.65			4.40		
	Inferred Resource	2.3			0.70			34.20			7.50		
	Sub-total Resource	11.8			0.40			24.20			5.40		
Total	Measured Resource	94.7			0.56			27.41			7.21		
	Indicated Resource	34.6	57.0	65%	0.69	0.59	-15%	32.37	28.10	-13%	8.52	7.59	-11%
	Inferred Resource	21.9	68.8	214%	0.74	0.79	7%	34.31	35.70	4%	9.02	9.50	5%
	TOTAL	151.2	125.8	-17%	0.60	0.70	16%	29.52	32.26	9%	7.80	8.64	11%

Based on a comparison of the 2008 and 2011 models, the CSA resource has less tonnes, 125.8Mt compared to 151.2Mt. This is the result of the constraining wireframes incorporating recent geological interpretation and a greater understanding of the structural controls on mineralisation which terminated and displaced mineralisation wireframes at faults and tighter wire frames (extrapolated to half drill spacing). In addition, a small proportion of the 2008 resource was excluded as it actually occurs off YRR tenure. Although there are lower tonnages the grades are significantly higher. CSA's review did not model a separate scree resource due to inadequate geological evidence to support its inclusion. All low grade material was statistically comparable and contained one grade population. It was therefore deemed appropriate to model all low grade material as one domain.

The principal difference between the two Mineral Resource estimates is the classification. The 2008 model had a significant proportion of the resource in the Measured and Indicated categories whereas the CSA resource has classified the resource as Indicated and Inferred Resources. The reason for the differences in classification relate primarily to:

- The resource includes a significant amount of oxide material. The raw density data was reviewed but there was insufficient data to define any relationship between the level of oxidation and density. Similar resources in the region have shown that density values in the oxide are lower than that of transitional and fresh material. The relationship between grade and density (where higher V2O5 grades are assigned a higher density value) leads to a level of uncertainty about assigned density values such that the tonnage estimate cannot be reported to the confidence level required to report Measured Resources.
- No recovery analysis results have been received by CSA. Davis tube recovery analysis should be completed to investigate the possibility of upgrading material via magnetic separation. Without this, it is not possible to upgrade any part of the resource to Measured Resources.
- Uncertainty over the geological continuity and structural controls of some of the domains, particularly the high grade domain. Recent mapping work has improved the level of understanding of controls on mineralisation, however further work is required in this area.
- Variography was not conducted on the high grade domain, and inter-element correlation plots suggest that purely from a grade point of view, their relationships in the high grade domain differs from that of the low grade domain. Therefore, a lower level of confidence is attached to the grade estimate of the high-grade domain where estimation was undertaken using the variography from the low grade domain.

**Edward Saunders**  
**Chairman**

*Competent Persons Statement*

*The Mineral Resource estimates discussed in this report were prepared under the supervision of Mr Galen White BSc AusIMM, a full time employee of CSA Global Pty Ltd and is a competent person as defined by the Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) 2004 Edition. Mr White consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.*



Date: 4 February 2011  
Report No: R106.2011

*Mineral Resource Estimate - Summary Report*

**YELLOW ROCK RESOURCES**

**Gabanintha Magnetite-Vanidiferous-Ilmenite Deposit**

**Murchison Province**

**Western Australia**

**By**  
**CSA Global (UK) Ltd**

For:

Yellow Rock Resources  
15 Colin Street  
West Perth  
WA 6005

Approved:

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Malcolm Titley  
Director - UK

## Executive Summary

An update to the Mineral Resource Estimate (MRE), completed in November 2008 by Mining Assets and Schwann Consulting has been completed for Yellow Rock Resources (YRR) Gabanintha Vanadium - Magnetite – Ilmenite deposit, located in the Murchison Province, Western Australia. The MRE has been classified based on the guidelines documented by the Joint Ore Reserves Committee (JORC, 2004).

CSA Global (UK) Ltd (CSA) was commissioned by YRR to complete the MRE update for the Gabanintha Vanadium – Magnetite – Ilmenite deposit. Data used in the preparation of the MRE was sourced from all available information from diamond and RC drilling, surface geology mapping and structural interpretations. A review of data, drilling/sampling activities and data management processes has been completed by CSA Global Pty Ltd, Perth, Australia.

The updated Mineral Resource Estimate (MRE) as at the 4<sup>th</sup> of February 2011 is presented in Table 1 below;

**Table 1. Gabanintha Magnetite-Vanadiferous-Ilmenite Deposit - Mineral Resource Estimate**

Material	JORC Resource Class	Million tonnes	In Site Bulk Density	V2O5%	Fe%	TiO2%	SiO2%	Al2O3%	LOI%
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Total	<b>Indicated</b>	<b>57.0</b>	<b>2.97</b>	<b>0.59</b>	<b>28.10</b>	<b>7.59</b>	<b>24.76</b>	<b>15.51</b>	<b>7.54</b>
	<b>Inferred</b>	<b>68.8</b>	<b>3.51</b>	<b>0.79</b>	<b>35.70</b>	<b>9.50</b>	<b>18.40</b>	<b>11.15</b>	<b>4.43</b>
	<b>Total</b>	<b>125.8</b>	<b>3.25</b>	<b>0.70</b>	<b>32.26</b>	<b>8.64</b>	<b>21.29</b>	<b>13.13</b>	<b>5.84</b>

*Note: In-situ dry bulk density has been assigned based on V<sub>2</sub>O<sub>5</sub> grade, therefore density values quoted here are weighted average values. The Mineral Resource was estimated as a block model within constraining wireframes based upon logged geological boundaries and grade cut-offs of 0.3% V<sub>2</sub>O<sub>5</sub> for Low Grade (LG) and 0.7% V<sub>2</sub>O<sub>5</sub> for High Grade (HG). Tonnages have been rounded to reflect that this is an estimate.*

The information in this Report that relates to in-situ Mineral Resources is based on information compiled by Galen White of CSA Global (UK) Ltd. Galen White takes overall responsibility for the Report. He is a Member of the Australasian Institute of Mining and Metallurgy (AUSIMM) and has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as a Competent Person in terms of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code 2004 Edition). Malcolm Titley consents to the use of such information in this Report in the form and context in which it appears.

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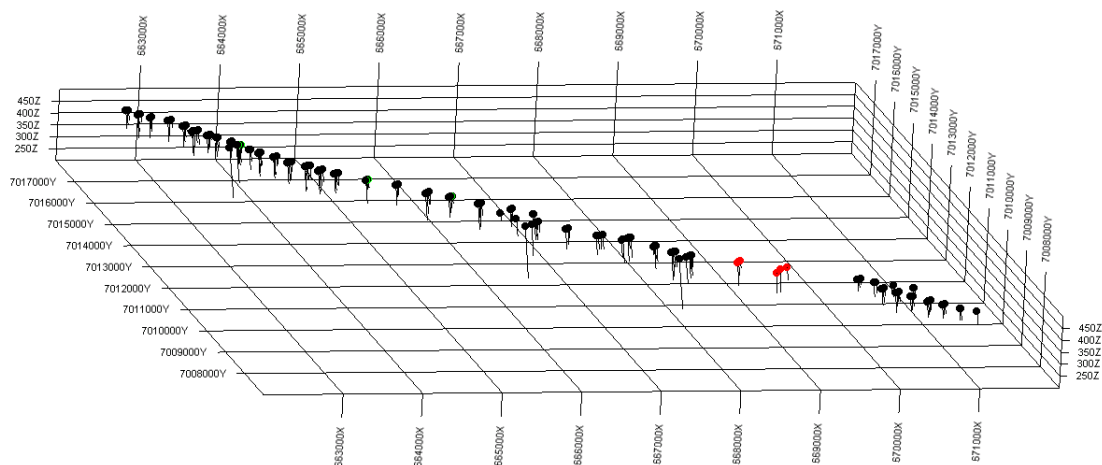
# 1 Summary Report

The CSA updated Mineral Resource Estimate was completed based on the following:

- The Gabanintha magnetite-vanadiferous ilmenite deposit is located in the Murchison Province of Western Australia. The project consists of five leases and is located 43 kilometres south east of Meekathara via the Great Northern Highway.
- The project is located in the north Murchison granite-greenstone terrain of the Archaen Yilgarn Craton within mafic, ultramafic, extrusive and volcanoclastic rocks of the Gabanintha Formation. The mineralised gabbro intrusion strikes in a northwesterly direction and dips moderately to the south west. The footwall is a talc-carbonate ultramafic and the mineralisation is offset by later dolerites and granites and a series of east and east southeast trending faults.
- Mineralisation is hosted in a differentiated gabbro and is closely associated with a series of massive to disseminated titaniferous magnetite bands ranging in size from a few metres up to 20-30 metres thick. It is understood that the bands comprise aggregates of oxidised (martitised) magnetite grains with ilmenite inclusions. Transition mineralisation comprises up to 15% magnetite, up to 65% hematite, 15% ilmenite and 10% kaolinite. Where fresh and un-oxidised, the ore consists of massive to disseminated magnetite and ilmenite (after Gordon and Schwann, 2008). High grade mineralisation occurs close to the base of the gabbro close to the contact with the ultramafic footwall, with a lower grade zone closer to the surface. Mineralisation remains open along strike and down-dip.
- Drilling data used in the MRE consisted of 164 drill holes for 13,124m of which 136 holes for 11,084m were drilled by YRR since 2007. Historical drilling (pre-YRR) made up the additional drill holes and assays used. Nine holes for 1,526m of diamond drilling were drilled. Industry standard sampling practices were employed, with the exception of spear sampling used in the first phase of YRR drilling and grab re-sampling of hanging wall mineralisation in later programmes. Table 2 summarises the drill data used in the MRE and Figure 1 shows a 3 dimensional view of drill data used.

**Table 2. Summary of drill data used in MRE**

Description	Hole Number Series	Drill Type	Number of Holes	Metres Drilled
Off - License	GRC040 to 042 & 064 to 073	RC	13	871
	GDH904 to 906	DD	3	513
Pre - YRR	GRC006 to GRC017	RC	12	656
YRR	GRC018 to GRC158	RC	130	10,071
	GDH901 to 903 & 907 to 909	DD	6	1,013
Total			164	13,124



**Figure 1. View of drilling used in MRE.**

*Black collars show recent drilling. Green collars indicate pre-YRR drilling and red collars indicate drilling that is off-license. View towards NE.*

- Drill hole data was presented to CSA West Perth in the form of a Microsoft Access database from which the relevant files were exported as csv files for import to Datamine. Validation was conducted and any issues highlighted were raised with the client and resolved before proceeding. The final verified dataset was then transferred to CSA personnel in the UK, and imported into Micromine, where the estimate was completed. Further standard software validation checks were run in Micromine and a fully validated drillhole database was created. 22 recent and historic holes do not have assay data. The hole numbers and reasons are summarised in Table 3 (below). Geology records do not exist for GRC054A and GRC054B as they were abandoned and redrilled as GRC054C for which all assay and geology data is available.

**Table 3. Missing Assay Data**

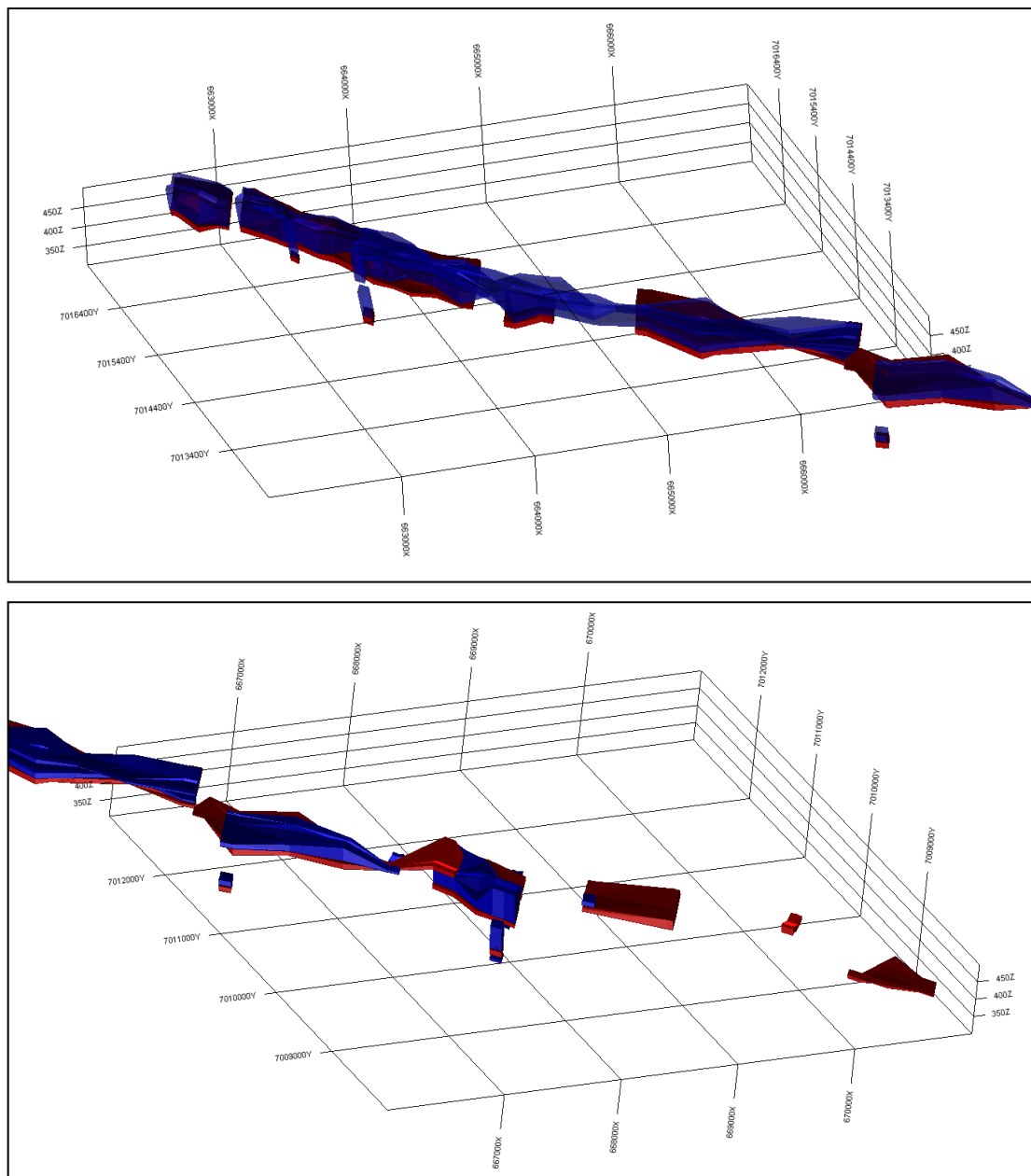
Hole Number	Comment
GRC010	No mineralisation
GRC012	No mineralisation
GRC013	No mineralisation
GRC049	Off lease
GRC050	Off lease
GRC051	Off lease
GRC054A	Hole abandoned, no sampling completed
GRC054B	Hole abandoned, no sampling completed
GRC055	Hole too far east in alluvial
GRC060	No assays
GRC071	Sampled to 5m no assay
GRC124	Granite intrusion (no mineralisation)
GRC125	Granite intrusion (no mineralisation)
GRC126	Granite intrusion (no mineralisation)
GRC127	Granite intrusion (no mineralisation)
GRC135	Granite intrusion (no mineralisation)
GRC136	Granite intrusion (no mineralisation)
GRC137	Granite intrusion (no mineralisation)
GRC138	Granite intrusion (no mineralisation)

- Drill collars were surveyed by differential GPS and down hole surveys were completed on the diamond holes using a gyroscope with measurements recorded every 10m down hole. The RC holes used measurements from the drill collar. The average drill hole orientation is 60 degrees to the north east, which is approximately perpendicular to the strike of the orebody.
- Multi-element analysis on samples was conducted at a number of laboratories in Western Australia during the various drilling campaigns (Table 4 - below). Duplicates and samples containing standards were dispatched by YRR for QAQC purposes. The results were reviewed by CSA. Samples were dispatched for multi-element duplicate analysis to assess the precision of the laboratory and 1,656 analysis results for V<sub>2</sub>O<sub>5</sub>, TiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>, and LOI were reviewed. However, only 114 samples were analysed for Fe. The results of this work were excellent with a high degree of correlation between sample pairs.
- The precision demonstrated by the laboratories is at an acceptable level, but it is advisable that the number of samples dispatched for Fe analysis be increased. A total of 67 field standards were reviewed for V<sub>2</sub>O<sub>5</sub> and Fe and 62 laboratory standards for TiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>, Fe and LOI. No standards returned values outside the certified reference material tolerances.
- Overall, the large number of standards used for a relatively small dataset meant a certain degree of difficulty in obtaining statistically valid results. However, there is no suggestion that the accuracy of the laboratories is an issue. It is suggested that QAQC samples be increased to 5% of the samples analysed and also for blanks to be submitted.

**Table 4. Details of laboratories used for analysis of samples at Gabanintha**

Laboratory	No of Samples
ALS Chemex, Malaga	4,292
Genalysis, Maddington	3,064
SGS Analabs, Perth	996
Spectrolab, Geraldton	1,523

- Initial descriptive statistics showed that the grade population of the vanadium mineralisation was bimodal, representing a low grade zone and a high grade zone adjacent to the footwall of the host intrusive gabbro. Analysis of the cumulative frequency graph shows two natural grade cut-offs at which interpretation could be completed. A grade cut off of 0.3% was chosen for the low grade, and 0.7% was chosen for the high grade. These are in line with previous reported estimates. Interpretation of V<sub>2</sub>O<sub>5</sub> mineralisation incorporated logged geology information, with mineralisation wireframes dipping moderately to the west following the dip of the gabbro units. Units with a thickness greater than 5m were modelled and continuity was interpreted to a distance of 100m along strike and 15m up/down dip (representing half the average drill spacing). In isolated cases where small discrete zones were interpreted, based only on 1 drill section and limited drill hole data, continuity was interpreted to 50m along strike.
- Geological and structural mapping and interpretation completed by Southern Geoscience were used in the creation of the wireframes. Where strike-slip displacement was mapped in the lithological units, similar displacement was incorporated into the wireframed mineralisation model. Where moderate to high magnetic units were mapped on the surface, mineralisation was interpreted to extend to surface (generally 15 - 30 m extrapolation up-dip).
- The wireframe model of the low grade and high grade domains used in the MRE update are shown in Figure 1 below. Three deep diamond holes drilled since the 2008 MRE were not included in the interpretation. These are GDH903, GDH906 and GDH909. The three holes are spaced 7,000 m apart along strike and approximately 60m down dip from the next hole in the drill fence. Due to some geological uncertainty on the lateral continuity of the units (truncation by faults etc), it was considered appropriate to exclude this limited data until more holes be drilled around them to corroborate.



**Figure 2. High grade (red) and low grade (blue) domains (2010).**

*North, above; South, below. Vertical exaggeration x 3. View towards NW.*

- Drill hole samples were composited to 1m since the vast majority of sample intervals were 1m in length. Compositing to higher intervals has the potential to unduly add bias and may artificially reduce the nugget derived from variography. Although some drill holes were sampled on intervals of greater than 1m (up to 28m in one case), statistical analysis on the effects of compositing to 1m, 2m, 3m and 4m resulted in 1m being chosen as that interval whose grade populations most closely resemble the weighted grades of the raw data.
- A volume block model was constructed in Micromine, using the high grade and low grade wireframes. The block model was constrained to the topography provided and coded according to alluvium, oxidation and fresh rock surfaces provided by the client

(base of alluvium; base of complete oxidation and top of fresh rock). The block model contained parent block sizes of 15m x 100m x 5m (X x Y x Z), dimensions which were considered appropriate for this kind of deposit, as well as broadly being approximately half the distance between drill fences. Sub blocking was required down to 5m x 10m x 2.5m (X x Y x Z) to honour wire framed volumes. Block model extents are contained in the table below.

**Table 5. Block Model Extents**

Easting		Northing		Elevation	
Min	Max	Min	Max	Min	Max
656,000	678,005	7,006,300	70,183,000	200	500

- Hard boundaries were applied between the low grade and high grade domains. As such only data lying within the relevant domain was used to estimate the grade of blocks within that domain.
- Geostatistical analysis was undertaken to assess the ranges of grade continuity within the interpreted mineralisation zones. Variographic analysis was completed on the largest dataset – wireframe LG5 – from which reliable variograms were generated for V<sub>2</sub>O<sub>5</sub>. Cross validation of the variogram model was conducted on the composites. The low grade domain performed very well with a high degree of correlation between input and estimated grades. A lesser, but still reasonable, level of correlation was observed in the high grade domain.
- The variograms were considered reliable for use as inputs to kriging for both low grade and high grade domains. Statistical investigation of inter-element relationships confirmed a high degree of correlation between V<sub>2</sub>O<sub>5</sub> and TiO<sub>2</sub>, Fe, Al<sub>2</sub>O<sub>3</sub> and SiO<sub>2</sub> respectively. A slightly different relationship in the inter-element relationship was observed in the high grade domains so while it was considered appropriate to apply the variogram model to all domains for all elements, a reduced level of reliability may be attached to other elements estimated in the high grade domain. Variogram parameters are shown in Table 6 (below).

**Table 6. Variogram parameters derived from low grade wireframe LG5. This model was applied to all domains for all elements.**

Variography							Validation		
Model	Direction	Nugget (%)	Partial Sill	Azi	Dip	Range (m)	Error Stat	SD	Corr Coeff
LG5	1	0.0111 (35%)	0.0318	137	0	579	0.07	1.5	0.84
	2			227	54	55			
	3			4	36	38			

- Ordinary Kriging (OK) was used to estimate grades into the block model. Grade estimation was completed for V<sub>2</sub>O<sub>5</sub>, Fe, TiO<sub>2</sub>, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, S, P and LOI assay data using raw assay data within each domain, composited to 1m. S and P were not reported due to a lack of data. No balancing cuts were considered necessary due to a low coefficient of variance for all elements in all domains. Sample search parameters were based on one and a half times sample spacing and aligned to the

dominant orientation of the vanadium bearing lenses. Four orientations were chosen and search ellipse parameters are contained in Table 7 below.

**Table 7. Sample Search Parameters. (Note: The data search used four sectors.)**

Orientation Domain	Search Parameter	Run 1	Run 2	Run 3
1000	Radius 1 <sup>st</sup> Direction	200	400	4000
	Dip Factor	45	90	900
	Thickness Factor	20	40	400
	Bearing	145	145	145
	Dip	45	45	45
	Plunge	0	0	0
2000	Range 1 <sup>st</sup> Direction	200	400	4000
	Dip Factor	45	90	900
	Thickness Factor	20	40	400
	Bearing	140	140	140
	Dip	25	25	25
	Plunge	0	0	0
3000	Radius 1 <sup>st</sup> Direction	200	400	4000
	Dip Factor	45	90	900
	Thickness Factor	20	40	400
	Bearing	135	135	135
	Dip	45	45	45
	Plunge	0	0	0
4000	Radius 1 <sup>st</sup> Direction	200	400	4000
	Dip Factor	45	90	900
	Thickness Factor	20	40	400
	Bearing	130	130	130
	Dip	30	30	30
	Plunge	0	0	0
All orientations	Minimum no of comps	10	5	1
All orientations	Maximum no of comps	20	20	20
All orientations	Minimum no of holes	3	2	1

- Grade estimation was undertaken using three interpolation runs with increasing search ellipse dimensions (Table 7). All blocks not fulfilling the criteria of the first search volume were captured in subsequent runs, with an increasing factor being applied to the ranges, until all blocks received an estimated grade. (Block grades within earlier runs are considered more reliable, having been based on more data at ranges less than or equal to that of grade continuity as determined from variography).
- In-situ dry bulk density used in the 2008 estimation was used in the updated MRE, previously defined by Schwann Consulting's analyses of the relationships with ore mineral assemblage and tenor. Model blocks were assigned with density based on V<sub>2</sub>O<sub>5</sub> grade values after estimation. The raw data was reviewed but the dataset is

extremely small with only 31 samples having density results. There was not enough data to draw meaningful conclusions in how density changes with oxidation in addition to grade. To increase the reliability of the tonnage estimate, the density dataset should be increased substantially. The in situ dry bulk density values used are presented in Table 8.

**Table 8. In situ dry bulk density**

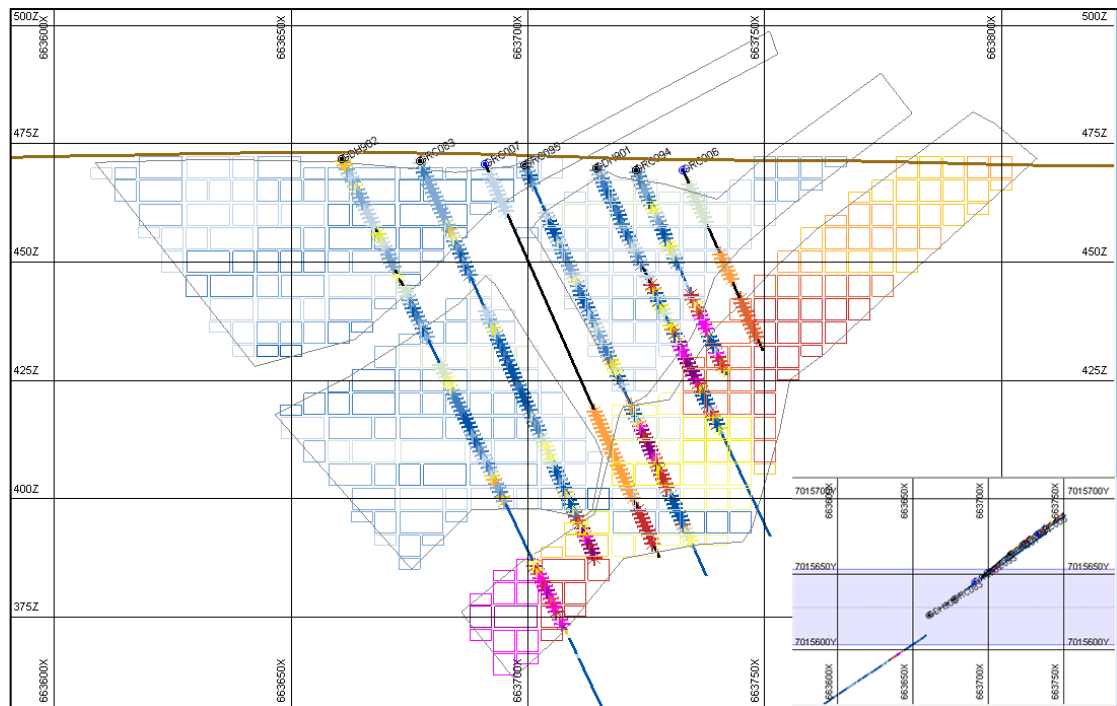
In situ bulk density (t/m <sup>3</sup> )	V <sub>2</sub> O <sub>5</sub>
2.5	<0.5%
3.5	0.5 – 0.7%
4.2	>0.7%

- Following grade estimation, a series of validations were performed on the block model to ensure the reliability of the estimate. The means of each parameter of the input composites were compared against the block model means for each domain. The results of this are presented in Table 9 and confirm that on a global scale within each domain, the estimate can be considered reliable. The overstating of low grades and understating of high grades (smoothing effect associated with the estimation method) is evident particularly in the low grade part of the resource which sees an increase in grade in the resultant block model compared to that seen in the composites. This increase is at an acceptable level.

**Table 9. Block model validation. Comparison of input means versus output means for V<sub>2</sub>O<sub>5</sub>, Fe, TiO<sub>2</sub>, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub> and LOI.**

%	Domain	Mean Comps	No Comps	% Comps	Mean BM	Volume	% Volume	% Difference
V <sub>2</sub> O <sub>5</sub>	LG	0.41	3,739	69%	0.43	22,451,500	63%	4%
	HG	1.00	1,672	31%	0.99	13,387,000	37%	-1%
Fe	LG	22.14	3,739	69%	23.04	22,451,500	63%	4%
	HG	42.60	1,672	31%	42.56	13,387,000	37%	0%
TiO <sub>2</sub>	LG	5.82	3,739	69%	6.02	22,451,500	63%	3%
	HG	11.63	1,672	31%	11.44	13,387,000	37%	-2%
SiO <sub>2</sub>	LG	30.68	3,663	70%	29.83	22,451,500	63%	3%
	HG	11.63	1,538	30%	12.48	13,387,000	37%	9%
Al <sub>2</sub> O <sub>3</sub>	LG	18.14	3,663	70%	17.70	22,451,500	63%	-2%
	HG	7.66	1,538	30%	8.19	13,387,000	37%	7%
LOI	LG	8.56	3,000	55%	8.29	22,451,500	63%	11%
	HG	3.15	1,213	22%	3.14	13,387,000	37%	32%

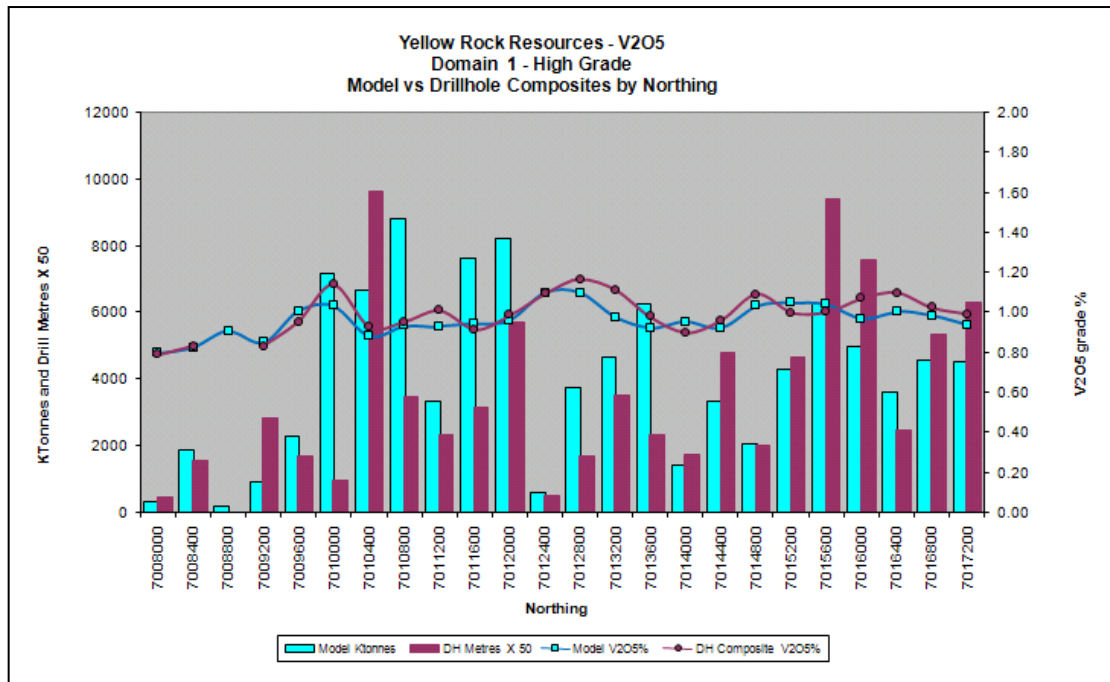
- A visual validation was performed by stepping through sections and qualitatively comparing the input composites against block grades. Figure 3 shows a sample section which highlights the trend of the input grades of composites being reflected in the resultant blocks.



**Figure 3. Sample section along 7,015,600 mN showing input composites and final block model, coloured by V2O8 grade.**

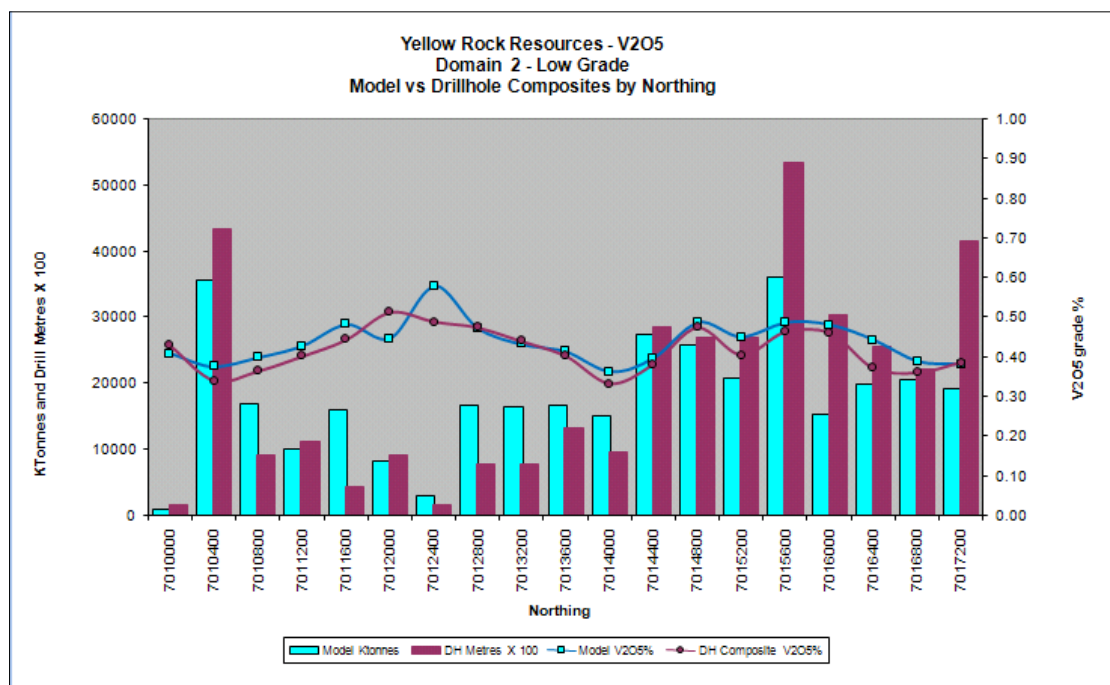
*Note: Holes were drilled towards 050. The orthogonal section shown in this figure is along a northing, centred on GRC083, with a 50m view to the north and south. Therefore, the deeper holes to the east have been clipped since they quite far from the section view, as shown in the inset plan. Apparent inconsistencies between the wireframe outline and blocks can be explained by the oblique trend of the mineralisation compared against the orthogonal dimensions of the blocks and section view.*

- To assess the reliability of the estimate on a local scale, a series of swath plots were generated through the resource by Easting, Northing and RL. These plots show that the trends seen in the input composites are reflected in the estimated grades and again show the estimate to be reliable. Note that a degree of block grade smoothing is expected given the often widely spaced sample data in some parts of the resource. (The swath plots for the HG and LG domains by Northing are shown in Figure 4 and Figure 5 to show the trends along strike).



**Figure 4. Swath Plots (V2O5) by Northing for the HG domain**

*Note: where a larger number of composites inform the block model, the grade trends of the input composites and output block model correlate well. In areas where there are not a small number of composites, there is a lesser correlation. The slight offset seen is due to blocks based on the orthogonal nature of the block dimensions which are being compared to holes drilled into an oblique deposit. Smoothing is evident largely due to drill spacing.*



**Figure 5. Swath Plots (V2O5) by Northing for the LG domain**

- Resource classification was based on a number of criteria including grade interpolation parameters, Kriging Variance, geology continuity, drill core samples, and the drilling grid. The absence of Davis Tube Magnetite Recovery test work results was noted. Alongside these criteria, no Indicated resource was classified below the 400 mRL or in areas to the east near surface, where interpretation of mineralisation had been extended beyond half the drill spacing based on interpreted aeromagnetic signature and not drilling data.
- The resource was classified as Indicated and Inferred. A comparison against the MRE reported in 2008 is shown in Table 10. The tonnage has decreased by 17%, with mean grades increasing by 16%, 9% and 11% respectively for  $V_2O_5$ , Fe, and  $TiO_2$  respectively in the January 2011 estimate. The difference in tonnage may result from tighter controls on the interpretation, particularly when extending up or down-dip. The incorporation of geology mapping, aeromagnetic and structural interpretations into the geological model could also impact tonnages, where mineralisation is interpreted to terminate against faults or later intrusions. Without recourse to the original block model, this is difficult to confirm. The main difference is that no part of the updated MRE has been classified as Measured. Reasons for this are outlined below. No scree domain was modelled in the update due to uncertainty over its nature/existence. Any near surface low grade material was included in the LG domain.

**Table 10. Comparison of Jan 2011 MRE against Nov 2008 MRE**

Domain	Resource	Tonnage			Grade									
		Nov-08	Dec-10	% Diff	V2O5			Fe			TiO2			
					Nov-08	Dec-10	% Diff	Nov-08	Dec-10	% Diff	Nov-08	Dec-10	% Diff	
High Grade	Measured Resource	32.5		-100%	0.90		-100%	38.33	0.00	-100%	10.40		-100%	
	Indicated Resource	23.7	14.4	-39%	0.80	1.03	28%	36.93	42.14	14%	9.80	12.07	23%	
	Inferred Resource	13.4	46.0	244%	0.90	0.97	8%	39.80	42.15	6%	10.80	11.19	4%	
	Sub-total Resource	69.6	60.4	-13%	0.90	0.98	9%	38.12	42.15	11%	10.30	11.40	11%	
Low Grade	Measured Resource	53.9		-100%	0.40		-100%	21.61		-100%	5.60		-100%	
	Indicated Resource	9.7	42.7	340%	0.40	0.44	9%	22.73	23.37	3%	5.80	6.08	5%	
	Inferred Resource	6.2	22.7	267%	0.40	0.42	5%	22.59	22.65	0%	5.80	6.08	5%	
	Sub-total Resource	69.8	65.4	-6%	0.40	0.43	8%	21.89	23.12	6%	5.70	6.08	7%	
Scree	Measured Resource	8.3	No Scree domain modelled (included in LG domain)		0.40	No Scree domain modelled (included in LG domain)		22.10	No Scree domain modelled (included in LG domain)			4.90	No Scree domain modelled (included in LG domain)	
	Indicated Resource	1.2			0.30			19.65				4.40		
	Inferred Resource	2.3			0.70			34.20				7.50		
	Sub-total Resource	11.8			0.40			24.20				5.40		
Total	Measured Resource	94.7			0.56			27.41			7.21			
	Indicated Resource	34.6	57.0	65%	0.69	0.59	-15%	32.37	28.10	-13%	8.52	7.59	-11%	
	Inferred Resource	21.9	68.8	214%	0.74	0.79	7%	34.31	35.70	4%	9.02	9.50	5%	
	<b>TOTAL</b>	<b>151.2</b>	<b>125.8</b>	<b>-17%</b>	<b>0.60</b>	<b>0.70</b>	<b>16%</b>	<b>29.52</b>	<b>32.26</b>	<b>9%</b>	<b>7.80</b>	<b>8.64</b>	<b>11%</b>	

Note: In the November 2008 MRE, Fe<sub>2</sub>O<sub>3</sub> was estimated, while Fe was estimated in January 2011. Therefore, all Fe<sub>2</sub>O<sub>3</sub> values were divided by 1.4297 for comparison purposes.

In contrast to the MRE completed in 2008, no part of the resource was classified as Measured. The reasons are as follows:

- The resource includes a significant amount of oxide material. The raw data was reviewed but there was insufficient data to define any relationship between the level of oxidation and density. Similar resources in the region have shown that density values in the oxide are lower than that of transitional and fresh material.
- The relationship between grade and density (where higher  $V_2O_5$  grades are assigned a higher density value) leads to a level of uncertainty about the reliability of the estimated tonnage; a key criterion in classifying a resource as Measured.
- No recovery analysis results have been received by CSA. Davis tube recovery analysis should be completed to investigate the possibility of upgrading material via magnetic separation. Without this, it is not possible to upgrade any part of the resource to Measured.
- Uncertainty over the geological continuity and structural controls of some of the domains, particularly the high grade domain.
- Variography was not conducted on the high grade domain, and inter-element correlation plots suggest that purely from a grade point of view, their relationships in the high grade domain differs from that of the low grade domain. Therefore, a lower level of reliability can be attached to those other parameters estimated using the variography from the low grade domain.

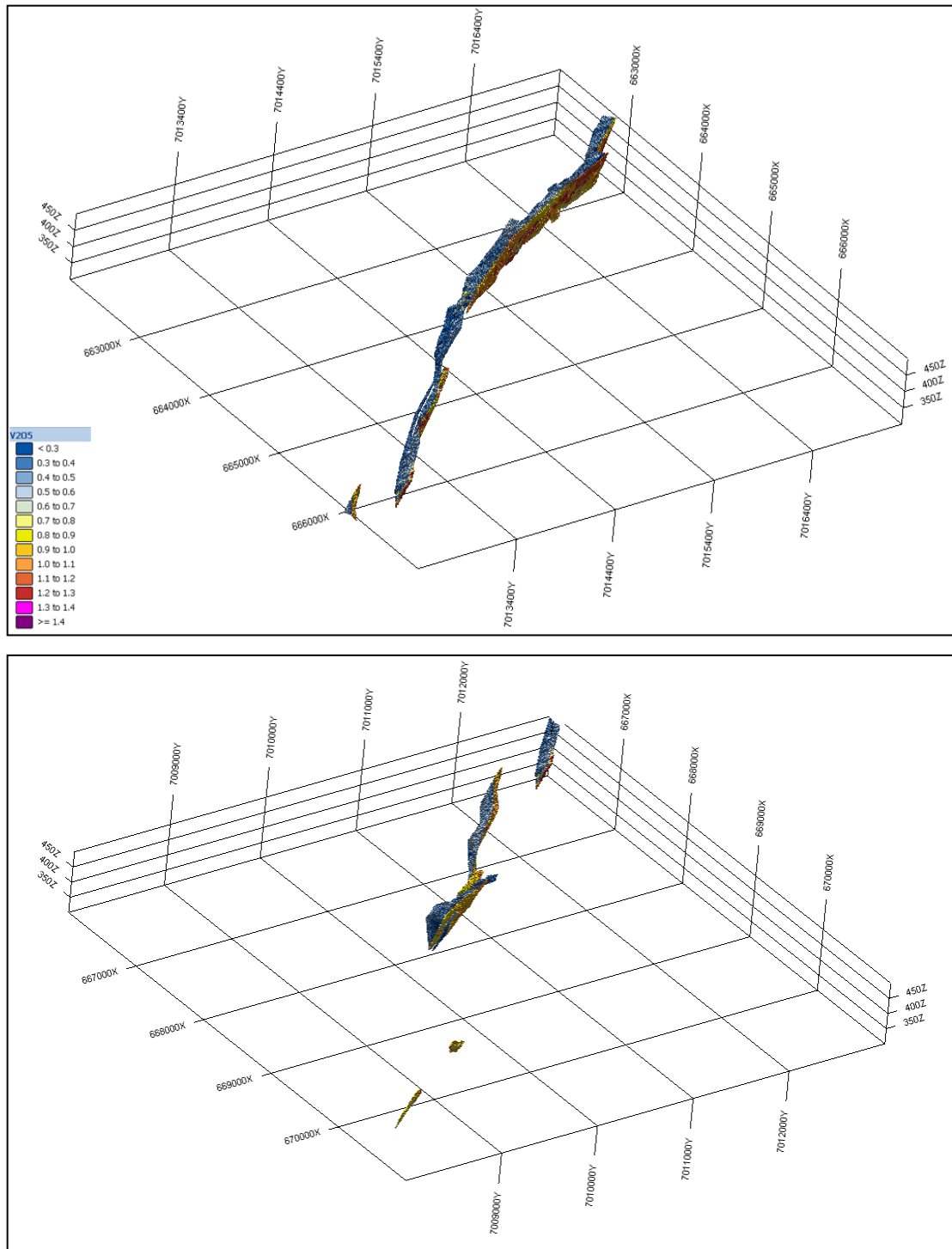


Figure 6. The 2010 Block Model– Coloured by V2O5%

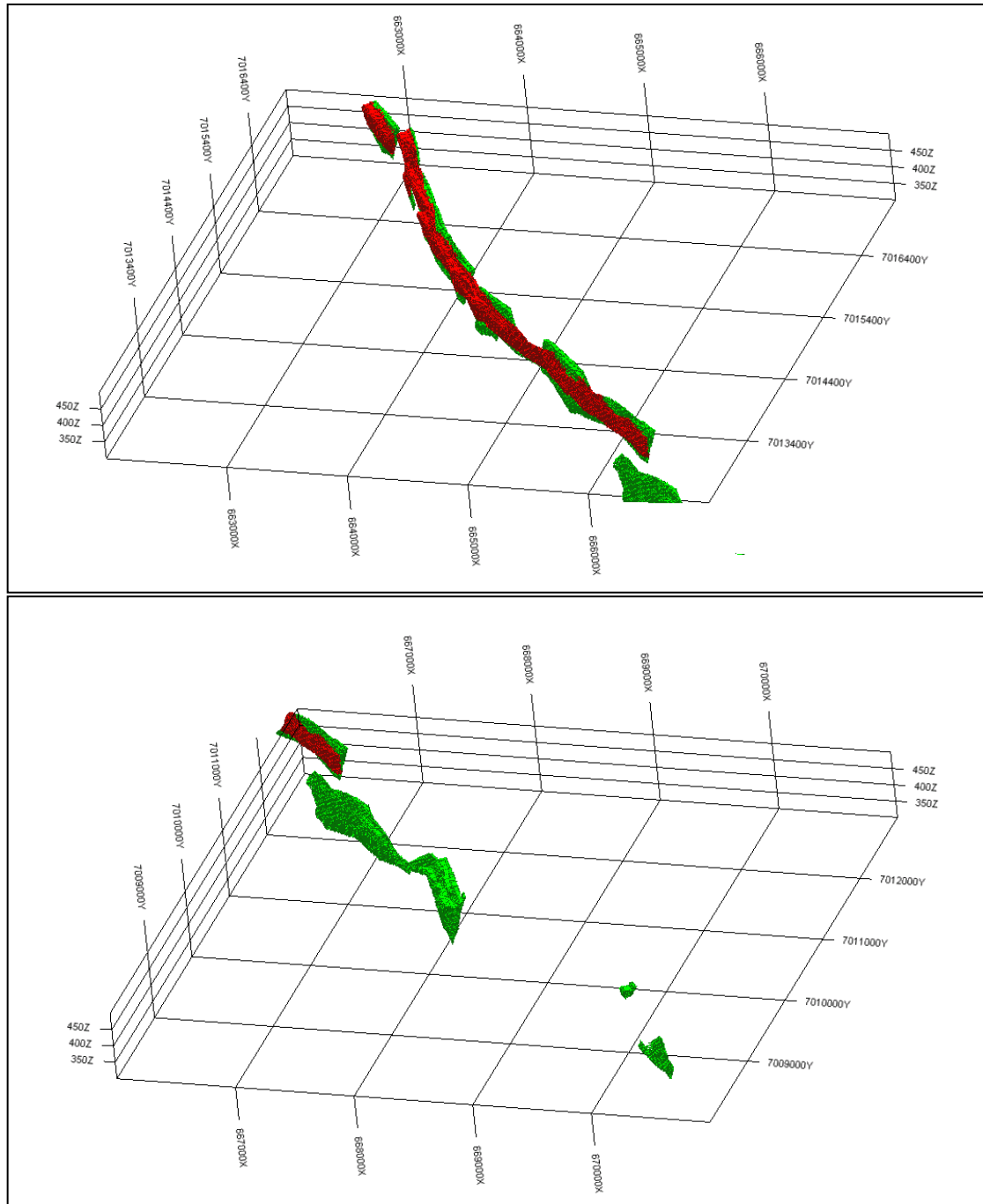
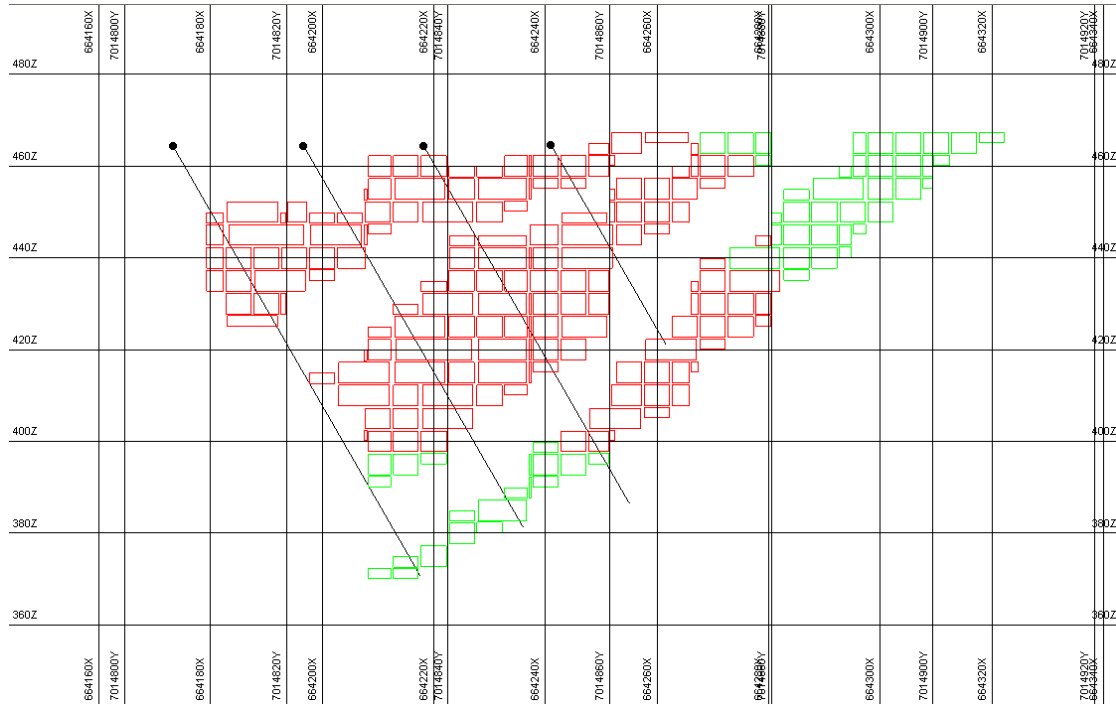


Figure 7. The 2010 Block Model – Coloured by Resource Class



**Figure 8. Example cross section view of the classified resource showing near surface and deeper zones classified as Inferred (green) and other areas classified as Indicated (red).**

## 2 Recommendations

- Dispatch appropriate samples for David tube test work to provide information on how the material can be upgraded by magnetic susceptibility. This testwork is essential if any part of the resource is to be upgraded to Measured category.
- The in situ bulk density dataset needs to be substantially increased to establish the relationship between bulk density and oxidation. Oxide material is generally a lower density but applying conclusions from the small existing dataset could lead to unreliable tonnages. Once again, a robust dataset for density and a further review is critical if any part of the resource be upgraded to Measured.
- Conduct multi-element testwork on all samples, including deleterious elements like S and P, so that these can be reliably reported in future updates.
- Drill more deep diamond holes to test the extents of the mineralisation down-dip. Three such holes have been drilled to date, but were not included in this update. Targeted drill-holes which corroborate these results could be used in future updates to extend the mineralisation down-dip. A preliminary optimisation would help to clarify if down-dip mineralisation would have any reasonable prospect of economic extraction and should be conducted prior to any further deep drilling.
- A program of shallow holes should be conducted to test the near-surface potential of the mineralisation. In the current interpretation, the mapped units of moderate to high magnetism have been used to extend the interpretation through to the surface. However, verification drilling would provide information on whether this is appropriate.
- The relationship between  $V_2O_5$  and the other estimation parameters was explored through the use of correlation plots. They showed a slightly different relationship for low grade material, than that seen in high grade. This purely statistical grade trend may impact the metallurgical treatment of high grade versus low grade material, and should be investigated.
- Further focussed drilling would benefit the resource, to provide additional data in the high grade domains, in order to perform variography and tighten the interpretation in areas of lower confidence.

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## References

Gordon, C, 2007. Gabanintha Magnetite - Vanadiferous Ilmenite Deposit. October, 2008 Resource Estimate. Mining Assets Pty Ltd. Consultants report.

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# Consent Form

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## Competent Person's Consent Form

Pursuant to the requirements of ASX Listing Rule 5.6 and clause 8 of the 2004 JORC Code (Written Consent Statement)

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### Report Description

**Yellow Rock Resources – Gabanintha Magnetite-Vanadiferous-Ilmenite Deposit**

**Murchison Province, Western Australia**

**Mineral Resource Estimate - Summary Report**

CSA Global  
Gabanintha Magnetite-Vanadiferous-Ilmenite Deposit

4 February 2011

### Statement

I, Galen White confirm that:

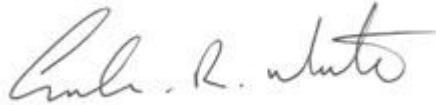
I have read and understood the requirements of the 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("2004 JORC Code").

- I am a Competent Person as defined by the 2004 JORC Code, having five years experience which is relevant to the style of mineralisation and type of deposit described in the Report, and to the activity for which I am accepting responsibility.
- I am a Member or Fellow of *The Australasian Institute of Mining and Metallurgy* in addition to being a member of the Geological Society, London, a 'Recognised Overseas Professional Organisation' ("ROPO") included in a list promulgated by ASX from time to time.
- I have reviewed the Report to which this Consent Statement applies.
- I am a full time employee of CSA Global (UK) Ltd

I verify that the Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in my supporting documentation relating to Mineral Resources.

**CONSENT**

I consent to the release of the Report and this Consent Statement by the directors of:  
**Yellow Rock Resources**



4<sup>th</sup> February 2011

Signature of Competent Person:

Date:

*AusIMM*  
*Geological Society of London*

226041  
1003505

Professional Membership:

Membership Number:



Maria O'Connor, London

Signature of Witness:

Print Witness Name and Residence (eg. Town/Suburb):