

# ASX Small to Mid Caps



Neil Martin

Jabiru Metals Limited

# Producing, Developing & Discovering Low Cost LME Metal Mines





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# Producing, Developing & Discovering Low Cost LME Metal Mines

- Jaguar Mine: - lowest cost quartile  
- top 5% world VMS grade
- Jaguar producing in excess of BFS metal tonnes
- Jaguar producing strong operating cash flows
- Bentley deposit a new VMS discovery
- 100% of bank debt paid off
- Strong project pipeline - Stockman



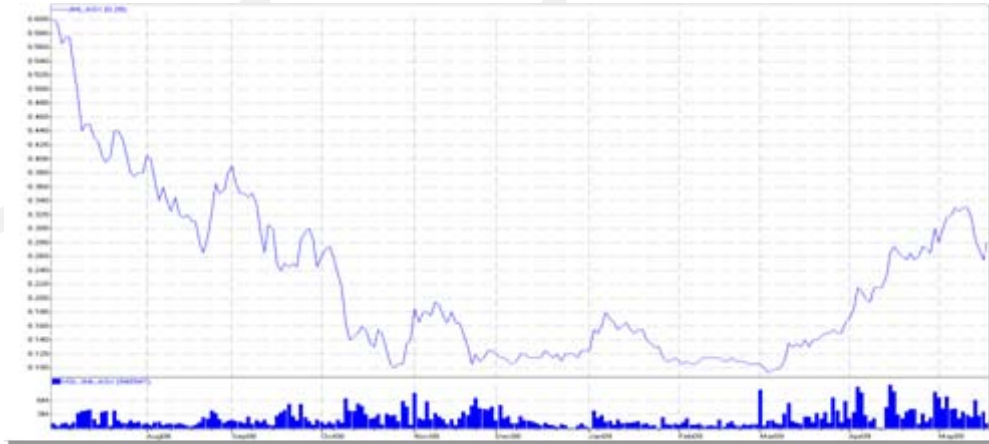


# Corporate Overview

Ordinary	552m
Options	13.9m
Market Cap. (at \$0.45)	\$220m
Bank Debt	0
Current Cash (30/06/09 est)	~\$30m

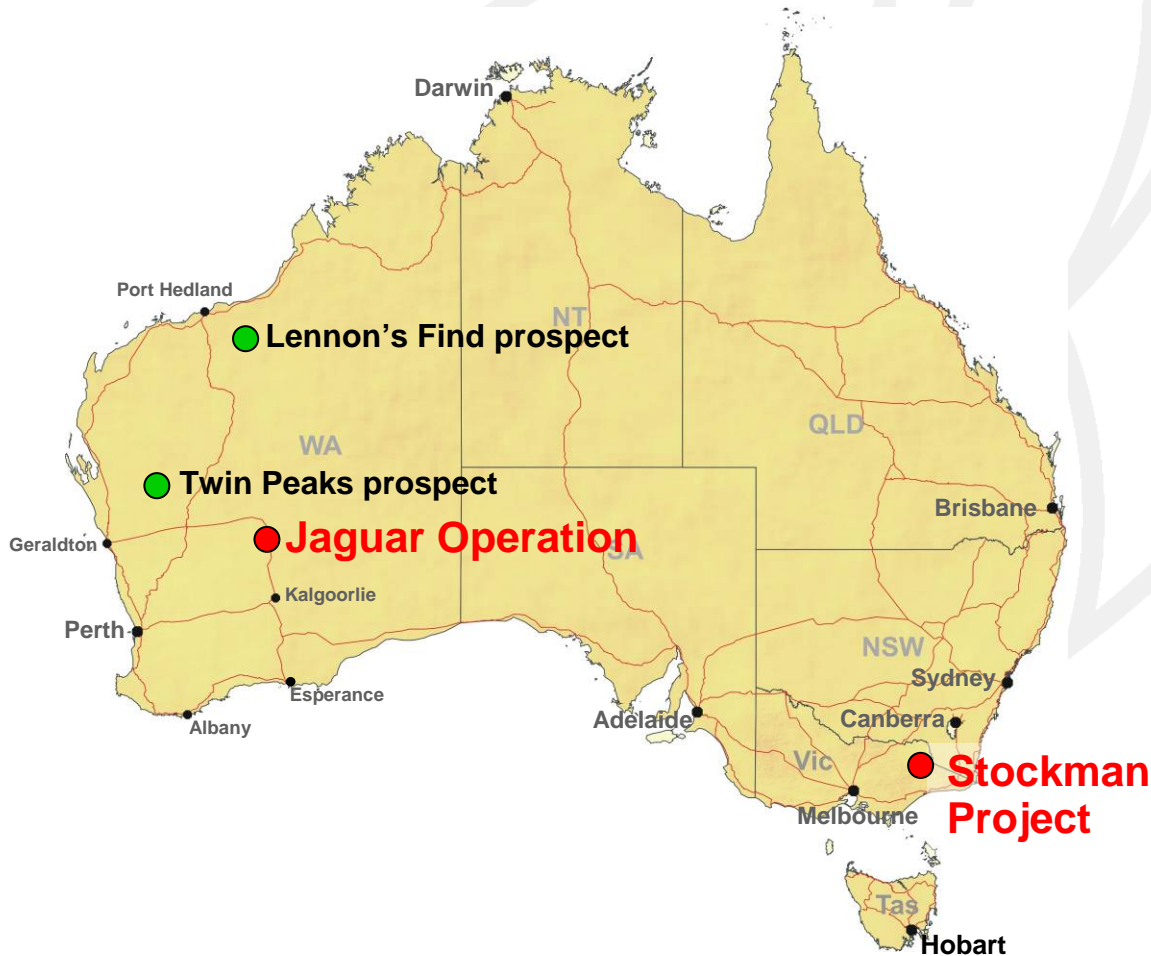
Palmary Enterprises (Aust)	24.5%
Top 20	52%

Barry Bolitho	Non-executive Chairman
Gary Comb	Managing Director
Ross Kestel	Non-executive Director
Michael Marriott	Non-executive Director



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# Jabiru's VMS Projects





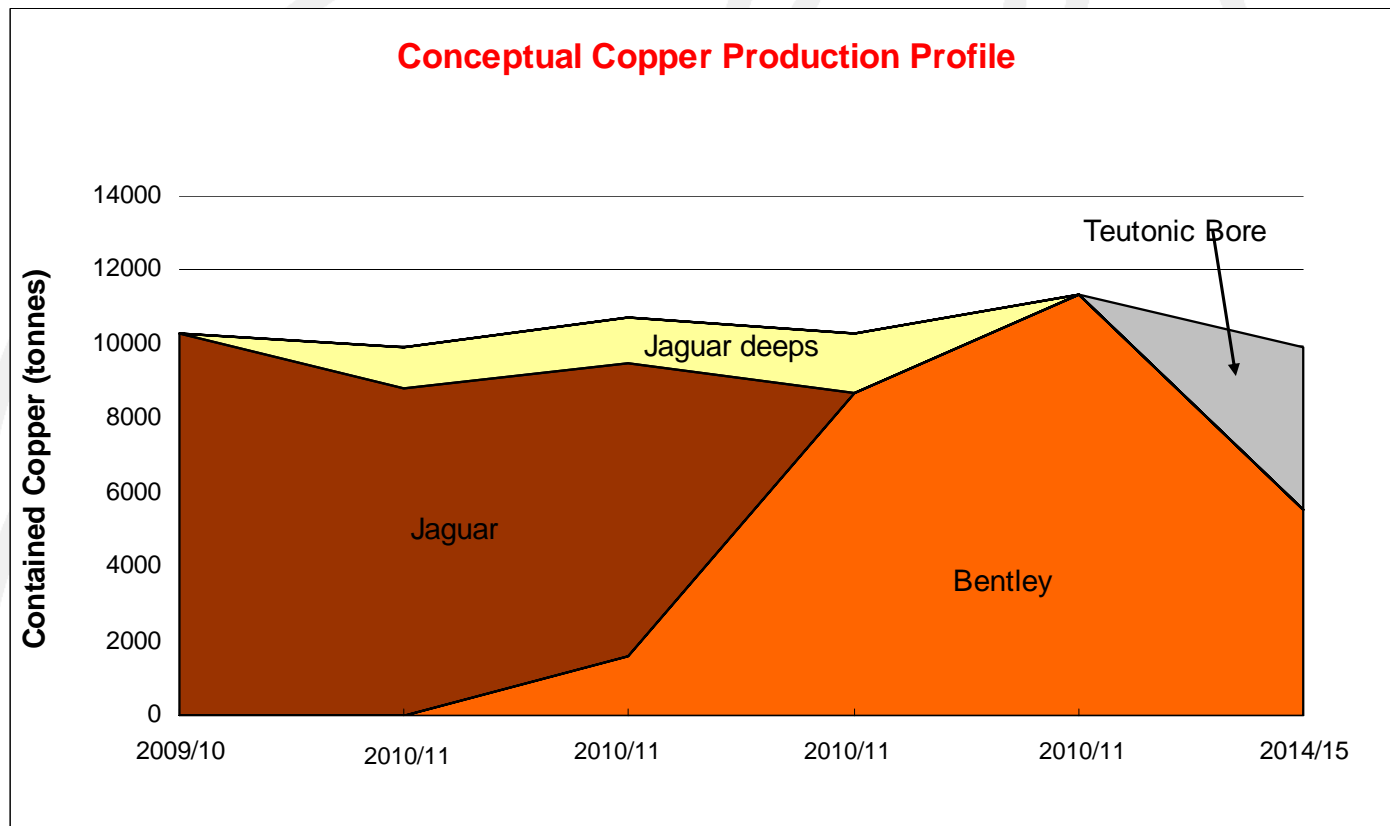
# Jaguar Production

- Jaguar plant operating at above nameplate capacity
- Annualised production expected to exceed BFS (expect copper +10ktpa, zinc +30ktpa, silver 680koz)
- Underground development a full 12 months ahead
- Jaguar's September 09 quarter zinc C1 cost US\$0.25/lb (after credits)



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# Building on Jaguar



# Jaguar Mine

*Video Presentation*

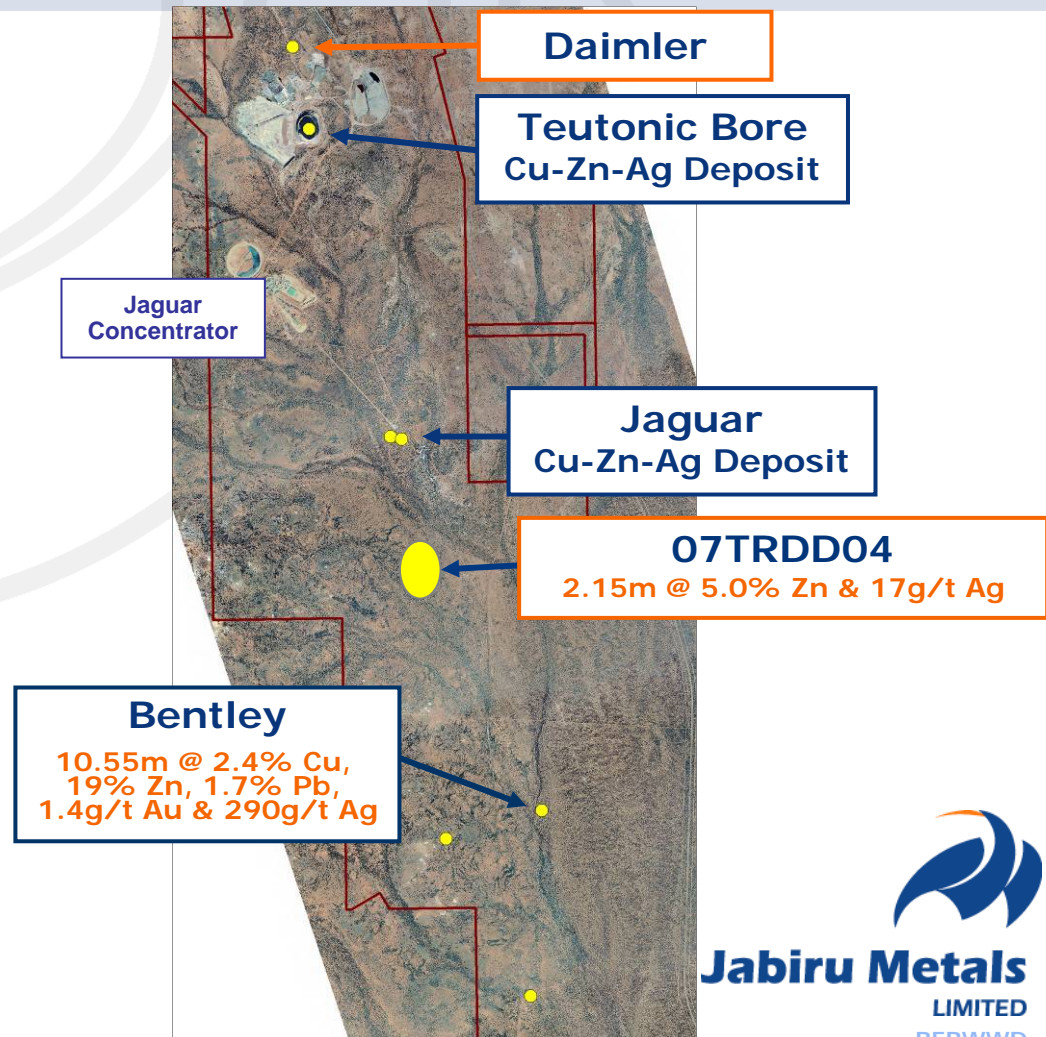


Jaguar



# VMS Deposits: Clustering along the Belt of Mineralisation

- Jaguar and Teutonic Bore mines **top 5% world VMS grade**
- VMS resources cluster, expect repetition
- Highly prospective belt - 25km tenement strike
- Targeting minimum 10 year mine life
- Bentley VMS recent discovery



# VMS Systems

*Video Presentation*

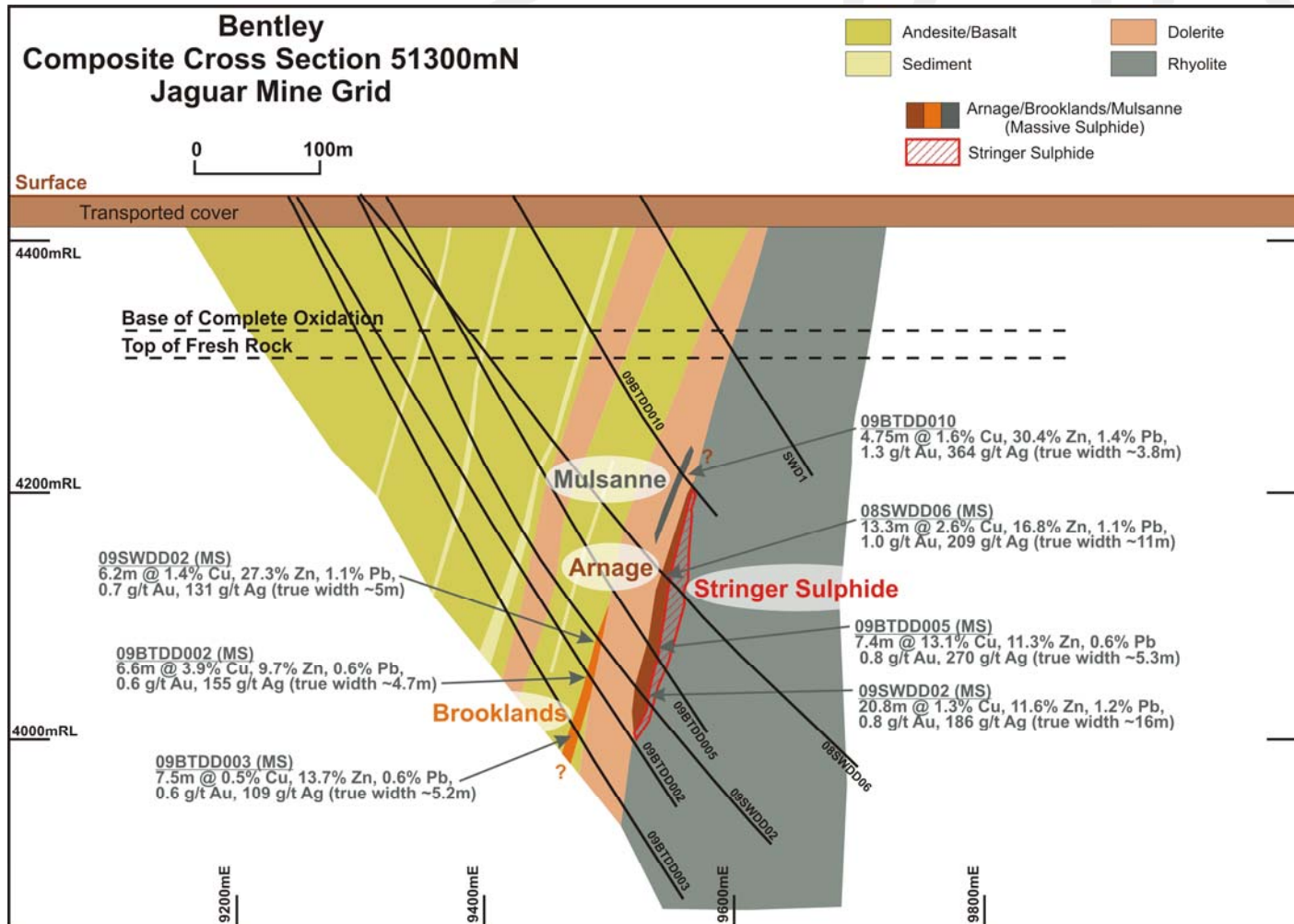


VMS Project: Black Smoker Video

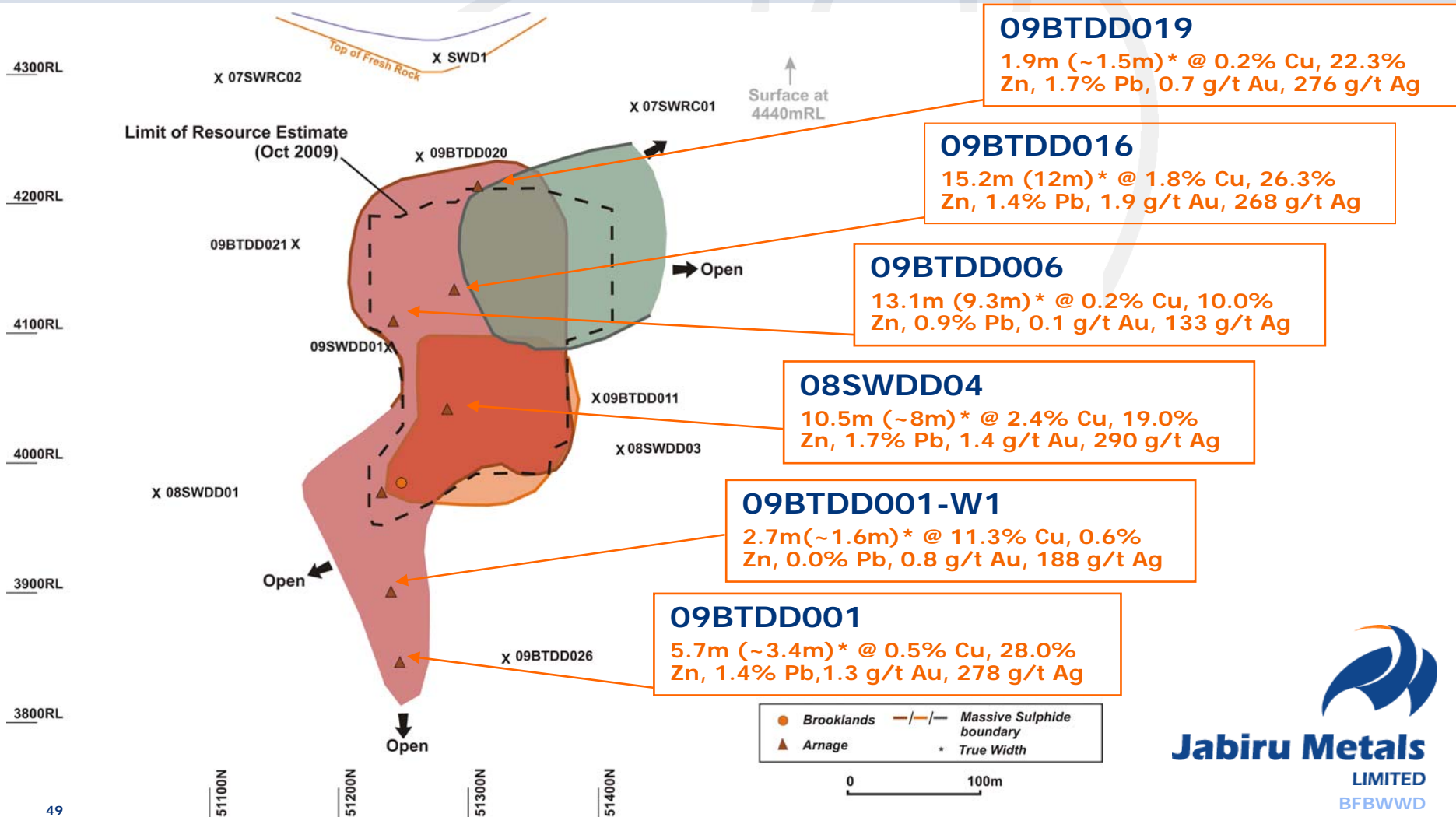


VMS Project

# Bentley – Massive Sulphide Discovery



# Bentley – Massive Sulphide Discovery



# Bentley Resource Estimate: October 2009



Bentley	Classification	Tonnes	Zn wt%	Cu wt%	Pb wt%	Ag g/t	Au g/t
Massive Sulphide	Inferred	930,000	16.9	1.9	1.2	204	0.9
Stringer Sulphide	Inferred	489,000	2.6	2.3	0.1	42	0.5
<b>TOTAL</b>		<b>1,419,000</b>	<b>11.9</b>	<b>2.0</b>	<b>0.8</b>	<b>148</b>	<b>0.8</b>



# Stockman Project

*Video Presentation*



Stockman



# Stockman Project

## Program 2009/10

- JORC resource drilling completed
- Environmental/heritage studies
- Scoping study
- Resource modelling
- Metallurgical enhancements
- Budget \$4m





## Producing, Developing & Discovering Low Cost LME Metal Mines

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# Producing, Developing & Discovering Low Cost LME Metal Mines



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# Competent Person's Statement

The information in this presentation that relates to exploration results is based on information compiled by Mr Neil Martin who is a member of the Australian Institute of Geoscientists.

Mr Martin is a full-time employee of Jabiru Metals Ltd and has sufficient experience which is relevant to the styles of mineralisation, types of deposits and exploration activities undertaken to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Mineral Resources and Ore Reserves".

Mr Martin consents to the inclusion in the report the information in the form and context in which it appears.

## **Drilling Parameters:**

Stockman Drilling: All holes HQ diamond core – good recovery. HQ diamond core – half core sampled at 0.3 to 1.5m intervals adjusted to geology and dispatched to Genalysis Laboratory Services for analysis. Samples were crushed, pulverised and subjected to four acid digest with an AA finish (Cu, Pb, Zn, Ag) and fire assay (Au).

Bentley Drilling: (HQ & NQ diameter diamond core: quarter core cut sampled at 0.3 to 1.3 metre intervals adjusted for geology. Samples crushed and pulverized and subjected to four acid digest with AA finish for Cu, Zn, Pb and Ag and FA for Au).

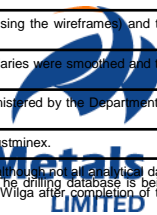


# STOCKMAN RESOURCES - SEPT 2008

## CURRAWONG & WILGA

### Mineral Resource Estimate Parameters

Geological setting	Currawong and Wilga are V(H)MS style deposits, occurring as polymetallic (pyrite-sphalerite-chalcocopyrite) massive sulphide lenses within a volcano-sedimentary succession. Wilga is a single stratabound lens whereas Currawong comprises multiple stratabound lenses with a series of faults offsetting and stacking the lenses. Wilga has been mined previously but Currawong has not.
Drilling techniques	Principally diamond drilling with the exception of several RC precollars drilled by Denehurst and Ausminex. None of the RC samples have been used in the resource estimates. The surface diamond drilling is a mixture of HQ, NQ and BQ core sizes, with BQ occurring only in the older Wilga holes. The underground holes at Wilga were drilled LTK46 ( $\phi = 35.6\text{mm}$ )
Drillhole Spacing	Diamond drill coverage at Wilga is on a nominal 25x25m pattern and at Currawong is on a nominal 50mx25m pattern. Minimum hole spacing ~10m and maximum hole spacing ~70m. No twinned holes in historical data
Drillhole Collar Positions	Most drillhole collar positions were surveyed by licensed or company surveyors. All resource work has been conducted on local grids
Drillhole directional control	Dip and Azimuth readings – generally good quality surveys using downhole camera shots at about 30m intervals
Geometry of intercepts	Surface drilling intersects the massive sulphide lenses almost perpendicular to the lens orientation at both Currawong and Wilga. The underground fan drilling at Wilga has some intercepts that are almost dip parallel. Some sample bias will occur in the Wilga deposit due to this fan drilling orientation but most of the affected area has already been mined and is excluded from the resource estimate.
Sampling techniques	Mostly sawn half-core samples of HQ, NQ or BQ, varying in length up to 1m in the massive sulphide and adjusted to geological boundaries. Some quarter-core NQ samples by Ausminex where core was needed for metallurgical testwork. All massive sulphide intercepts have been sampled
Data spacing and distribution	The data spacing and distribution is more than sufficient to establish geological and grade continuity appropriate for the Mineral Resource estimation procedure and classification applied
Sample preparation and assaying	All samples were crushed and a sub-sample pulverised followed by three or four acid digest with AAS or ICP determination. All samples apart from the WMC samples were prepared and analysed at independent laboratories. The assay techniques are for total digestion of the sulphides and are considered appropriate for this type of mineralisation. Lower detection limits were to 0.01% for Cu, Pb, Zn and to 1ppm for Ag
Audits or reviews	Routine validity checks were run on the assays and corrections were made where needed for those holes intersecting the massive sulphide, prior to resource estimation.
Sample compositing	2m downhole composites for drillhole and face samples (Wilga) with length and density weighting
Density	Many samples had measured densities using either water immersion or air pycnometer techniques. For those samples with no density measurement, a calculated density was applied to the sample. The assays for Cu, Pb, Zn and Fe were compared with the measured densities and multiple linear regressions developed for each deposit based on calculated sulphide content derived from base metal analyses. Densities were used in the sample compositing
Quality Control procedures	In comparison with modern requirements, minimal quality control procedures were adopted by companies completing the drilling programs in the past (eg. inclusion of only 17 field standards, 62 duplicates, 84 external laboratory checks in total to date). This shortfall has been recognised by Jabiru and will be rectified in future programs. No significant bias has been detected in the QC samples submitted however the number of samples is low. Macquarie duplicate core samples returned acceptable repeat values for Pb, Zn, Ag, Au with occasional outliers. Increased variability for >5% Cu needs further review. Macquarie inter-laboratory repeats displayed +ve bias at higher levels of Cu, Zn & Fe c.f. the repeat results. Au and Ag often returned poor repeat values - requires further investigation as may indicate nuggetty distribution.
Drill sample recovery	Core sample recovery is good to excellent. Some lost core intervals have been recorded, particularly where structures such as faults were intersected by the drilling. These intervals do not affect the resource estimate.
Geological logging and photography	Holes were logged and photographed by the various companies completing the drilling programs. Some core has been photographed both wet and dry. Geological logging is adequate for resource estimation.
Geological interpretation	Confidence in the geological interpretation for Wilga is high, with the mineralisation and geological setting being simple and the availability of underground drilling, mapping and plans confirming the interpretation. Currawong is more structurally complex and whilst confidence in the geological interpretation is good, there is room for improvement with more drilling and further data review required to firm up some of the finer detail. Both deposits have been modelled using the massive sulphide as the main geological constraint. The main factors controlling continuity at Currawong are a series of post-mineralisation faults which are interpreted as disrupting the lenses.
Dimensions	Currawong (Main Lens) is about 300m long, 240m wide (down-dip), up to 35m thick and located 100-300m below surface. Wilga is about 400m long, 220m wide (down-dip), up to 35m thick and located 50-150m below surface
Estimation and modelling techniques	Ordinary kriging was used for grade estimation utilising Datamine software. Unfolding techniques were applied for variography and grade estimation. Search parameters were based on variogram models for each element. Grade estimation was constrained to the massive sulphide lens wireframes. Bulk density cell values were regressed from the kriged grades using the same formulae as for the drillhole samples. A 10m waste envelope for Wilga and a 20m waste envelope for Currawong, using inverse-distance-squared grade estimation techniques and 2m composites, was applied to each block model.
Block modelling	Currawong 5mX, 5mY, 2mZ cell size. Wilga 5mX, 5mY, 2mZ cell size. No subcelling in either deposit. Seam modelled. Post-processing included bulk density assignment to cells based on regression of kriged grades
Moisture	Tonnages have been estimated using densities some of which were dry (those analysed at external laboratories) and others that contained natural moisture. The natural moisture of the Stockman massive sulphides is typically low (<1%).
Cut-off grades, top-cut grades	No cut-off grades have been applied and no top-cut grades have been used. A geological constraint (the massive sulphide zone) has been used as it is stable and will not vary over time, unlike cut-off grades. Mineralisation within the massive sulphide lenses has been reported.
Mining and metallurgical assumptions	No assumptions about mining method, minimum mining width or internal mining dilution have been made. Similarly, no assumptions about metallurgical treatment processes and parameters have been made
Previous mine production	Wilga has been mined previously and the mining volume has been removed from the resource estimate using the available void wireframes. Reconciliation between the resource model mined-out figures (using the wireframes) and the production figures reported by Denehurst is quite poor (677kt vs 956kt ore) and remains unresolved. The Mineral Resource estimate for Wilga is potentially overestimated by around 279kt rock.
Classification	Classification was based on estimation kriging variances (EKV) averaged vertically for the massive sulphide of each lens. Arbitrary EKV cut-offs were set to separate the 3 resource categories, perimeter boundaries were smoothed and the block model cells were flagged accordingly
Tenement and land tenure status	Currawong and Wilga are located within EL5045, a granted tenement held 100% by Jabiru. Native Title was determined to have been extinguished for the tenure. The tenement is located on crown land administered by the Department of Sustainability & Environment. The area is rugged and heavily forested with no significant heritage sites identified. No significant impediments are believed to exist
Audits or reviews	A brief independent review to test for order of magnitude errors was completed by Wildfire Resources Pty Ltd in October 2007. Grade and tonnage estimates confirmed the 2001 massive sulphide estimates by Ausminex.
Further work	Confirmatory diamond drilling continues and the initial program by Jabiru is expected to be completed by the end of October 2008. The drilling at Currawong and Wilga to date supports the resource interpretation and the production figures data has been reviewed to date. A structural framework for the Currawong deposit is being developed to add confidence to the geological and mineralisation interpretation of the sulphide lenses in that deposit. The drilling database is being completely reviewed and validated and is near completion. Improved sampling QA/QC protocols have been established and implemented. New resource estimates will be completed for both Currawong and Wilga after completion of the current drilling campaign



# BENTLEY RESOURCE – OCTOBER 2009

## Mineral Resource Estimate Parameters

Geological setting	Bentley is a VHMS style deposit occurring as polymetallic (pyrite-sphalerite-chalcopyrite-galenite) massive sulphide mineralisation within a volcano-sedimentary succession. Intrusion by tholeiitic dolerite has led to disruption of the original massive sulphide lenses into three discrete lenses (Arrage, Mulsanne and Brooklands)
Drilling techniques	Principally diamond drilling with the exception of several RC precollars drilled by Titeline Drilling Pty Ltd and Boart Longyear. None of the RC samples have been used in the resource estimates. The surface diamond drilling is a mixture of HQ, NQ core sizes.
Drillhole Spacing	Diamond drill coverage at Bentley is on a nominal 50x50m pattern. Minimum hole spacing ~10m where wedge holes have been drilled, while the maximum hole spacing does not exceed 70m.
Drillhole Collar Positions	Drillhole collar positions were surveyed by company surveyors using RTK GPS equipment. All resource work has been conducted on local mine grids
Drillhole directional control	Dip and Azimuth readings – good quality surveys using downhole camera shots at about 30m intervals for the initial exploration program, while a gyro survey tool was used for the follow-up resource definition program.
Geometry of intercepts	Surface drilling intersects the massive sulphide lenses almost perpendicular to the lens orientation at Bentley. 09BTDD015 and 09BTDD017 were drilled down-dip and along strike of mineralisation to test for dolerite bodies that might not have been intersected by drilling perpendicular to the orebody. These holes have not been used in the estimate.
Sampling techniques	Core sampling between the exploration and resource definition phases of drilling differed in the sample size with sampling during the exploration phase (September 2008 to February 2009) being ¼ NQ core, and in the resource drilling program being ½ NQ core. In both drill programs, the minimum sample length was set at 0.3m, while the maximum sample length was 1.5m.
Data spacing and distribution	The data spacing and distribution is more than sufficient to establish geological and grade continuity appropriate for the Mineral Resource estimation procedure and classification applied
Sample preparation and assaying	The sample preparation method was to dry the core in ovens overnight (105°C), then jaw crush the samples to a nominal minus 10mm size. After crushing the samples were pulverised in a mixer mill in a single stage mix and grind process (SSMG) to a nominal size of passing 75 micron. Any samples that exceeded the 3kg mill limit were fine split prior to the pulverising stage. At exploration stage assays for Cu, Pb, Zn, Ag and Fe were by fire assay involving fusion with 40% HClO <sub>4</sub> and analysis by Flame Atomic Absorption Spectrometry (AAS), while Au was analysed by fire assay with AAS. In the resource definition program, assays for Cu, Pb, Zn, Ag and Fe were by fire assay with 40% HClO <sub>4</sub> and analysis by Flame Atomic Absorption Spectrometry (AAS), while Au was analysed by fire assay with 50g fire assay to 0.01ppm detection limit. The assay techniques used are considered appropriate for this type of mineralisation.
Audits or reviews	The Bentley database was checked by JML during the data compilation and validation stage in 2008 prior to handover to Runge. Routine quality assurance checks were run on the samples and assays during the Bentley drill program.
Sample compositing	1m downhole composites with length and density weighting.
Density	JML performed density testwork on all samples that were to be submitted to the laboratory for assay. All density measurements have been determined using the simple water immersion technique. The assays for Cu, Pb, Zn and Fe were compared with the measured densities and regression line determined for massive sulphide and stringer components of the Bentley deposit. Density was assigned to the resource blocks using the regression formulae determined from the raw data. The estimated block grades for Zn, Cu, Pb and Fe were used in the Surpac block matrix function. Densities were used in the sample compositing.
Quality Control procedures	Quality control procedures in the 2008 drilling program by Jabiru included the insertion of standards, blanks, duplicates and cross-lab checks. The check samples allowed detection of low order sample contamination at the laboratory during the sample preparation. JML is continuing its assessment of the Bentley however Runge is satisfied with the procedures being used by JML.
Drill sample recovery	Core sample recovery was good to excellent, being consistently >90%.
Geological logging and photography	Core was photographed both dry and wet and copies of the images stored on the Jaguar server. Geological logging is adequate for resource estimation.
Geological interpretation	Confidence in the geological interpretation for Bentley is high, with the mineralisation and geological setting being simple, and the drilling confirming the interpretation. The main factors controlling continuity at Bentley are a series of post-mineralisation dolerite intrusives which are interpreted as disrupting the lenses.
Dimensions	Arrage (Main Lens) is about 150m long, 210m vertical extent, and approximately 8m thick. Mulsanne is about 115m long, 110m vertical extent, and approximately 3m thick. Brooklands is about 100m long, 110m vertical extent, and approximately 5m thick. Mineralisation was modelled from 240m below surface to a depth of approximately 500m below surface.
Estimation and modelling techniques	Ordinary kriging was used for grade estimation utilising Surpac software. Search parameters were based on variogram models for each element. Grade estimation was constrained to the massive sulphide lens and stringer sulphide lens wireframes. A 2m waste envelope was generated for all 3 lenses (Arrage, Mulsanne, Brooklands) and estimation was achieved using the inverse-distance-squared algorithm on 1m composites. The waste skins have not been reported in the resources.
Block modelling	4mX, 25mY, 10mZ cell size with sub-cells of 1mX, 6.25mY, 1.25mZ.
Moisture	No samples were tested for moisture content. All sampled core was from well below the oxidised rock profile. The samples were considered impermeable and moisture content is expected to be well below 1%.
Cut-off grades, top-cut grades	No cut-off grades have been applied to the massive sulphide, but a cut-off of 0.5% Cu was applied to help delineate stringer mineralisation. Following a review of the composite data, a high grade cut of 16% was applied to Cu within the massive sulphide domain, while high grade cuts were applied to Zn (12%) and Ag (225g/t) within the stringer mineralisation.
Mining and metallurgical assumptions	No assumptions about mining method, minimum mining width or internal mining dilution have been made. Similarly, no assumptions about metallurgical treatment processes and parameters have been made
Previous mine production	No previous mining has taken place on the Bentley deposit
Classification	The average drill hole spacing in the main portion of the resource is approximately 50m along strike and variable between 30m and 50m down dip. This spacing would be considered adequate to allow classification of the resource as an Indicated Mineral Resource. However, until final QAC data is received, the classification has been reduced to Inferred Mineral Resource. This classification is expected to be upgraded to Indicated in portions of the deposit upon the completion of follow-up QAC sampling.
Tenement and land tenure status	The Bentley prospect is within E37/258 and wholly owned by Jabiru Metals Ltd (Jabiru). Currently, Jabiru has an application for an MLA in progress. There is no native title claim over the area
Audits or reviews	An internal review of the Bentley resource has been conducted by Paul Payne (Executive Consultant – Runge), however no external review has been conducted.
Further work	JML is currently drilling further holes into the Bentley deposit to extend the resource down-dip and along strike. It is hoped that this drilling will highlight the feeder zone.



# JAGUAR RESOURCE – JUNE 2009

## Mineral Resource Estimate Parameters

Geological setting	Jaguar is a V(H)MS style deposit, occurring as a polymetallic (pyrite-sphalerite-chalcopyrite) massive sulphide lens within a volcano-sedimentary succession.
Drilling techniques	Diamond drilling. The surface diamond drilling is a mixture of HQ and NQ core sizes. The underground holes at Jaguar are NQ2 core size. Underground face sampling used to define resource boundaries where appropriate.
Drillhole Spacing	Diamond drill coverage at Jaguar is on a nominal 50x50m pattern from the surface and at a nominal 20mx20m infill pattern from underground.
Drillhole Collar Positions	All drillhole collar positions were surveyed by licensed or company surveyors. All resource work has been conducted on local grids
Drillhole directional control	Dip and Azimuth readings using reflex downhole camera shots at 30m intervals for underground drilling and gyro surveys for most of the surface holes.
Geometry of intercepts	Drilling location in the footwall enables generally good orientation of massive sulphide intercepts from the underground drilling. Surface holes provide a good intercept angle for the shallow holes however for the deeper holes the angle become closer to the mineralisation.
Sampling techniques	Sawn half-core samples of HQ and NQ varying in length between 0.3m up to 1m in the massive sulphide adjusted to geological boundaries. All massive sulphide intercepts have been sampled.
Data spacing and distribution	The data spacing and distribution is more than sufficient to establish geological and grade continuity appropriate for the Mineral Resource estimation procedure and classification applied. Stope definition drilling completed on a 20x20m pattern.
Sample preparation and assaying	All samples were crushed and a sub-sample pulverised. Surface drill samples were analysed by UltraTrace Pty Ltd for copper, lead, zinc and silver was performed by ICP OES/MS techniques with detection limits of 50ppm for copper, lead and zinc, and 10ppm for silver. Underground drill holes have been assayed by SGS Laboratory Services using a four acid HF core grade digest with AAS analysis for Cu (10-50k ppm), Zn (10-50k ppm), Pb (20-25k ppm), Ag (5-500 ppm) and Fe (0.01-40%). The assay techniques are for total digestion of the sulphides and are considered appropriate for this type of mineralisation.
Audits or reviews	Routine validity checks were run on the assays and corrections were made where needed for those holes intersecting the massive sulphide, prior to resource estimation. All holes have a summary plotted for review in hard copy with geological and assay information.
Sample compositing	1m downhole composites for drillhole samples with length and density weighting
Density	All underground samples have measured densities using the water immersion technique. Some of the older surface holes have no density measurement, in these cases, the average density of all massive sulphide intervals was determined and applied (3.81t/m <sup>3</sup> ). Densities were used in the sample compositing.
Quality Control procedures	In comparison with modern requirements, minimal quality control procedures were adopted by companies completing the drilling programs in the past. Current practice is to include one known standard or blank in every twenty samples. Standards have returned values within acceptable limits. Several blanks returned anomalous high values for Cu, Zn and Ag and have been included in a batch of check samples submitted to Genalysis.
Drill sample recovery	Core sample recovery is excellent.
Geological photography logging and	Surface holes have been logged and photographed by the various companies completing the exploration and infill drilling programs. Underground core is logged but not photographed (half core retained). Geological logging is adequate for resource estimation. Logging of underground core occurs digitally straight into the AUCore database. Surface holes logged on paper and subsequently loaded into AUCore database.
Geological interpretation	Confidence in the geological interpretation for the Jaguar deposit is high, with the mineralisation and geological setting confirmed by underground development, drilling and mapping.
Dimensions	Jaguar (Main Lens) is 300m long, 350m wide (down-dip), up to 16m thick and located 320m below surface.
Estimation techniques and modelling	Ordinary kriging was used for grade estimation in the main lode utilising Surpac software. Inverse distance squared interpolation techniques were used in the footwall lodes. GeoAccess software was used for statistical and geostatistical analysis. Grade estimation was constrained to the massive sulphide lens wireframes for the main lode. For stringer zones, a 0.5% Cu cutoff was utilised.

