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ASX: GRR



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## Grange Resources Limited

*Australia's leading magnetite producer*

### Significant Improvement in Southdown Project Resources

Grange Resources Limited ("Grange" or the "Company") is pleased to announce that, following the completion of an A\$8.3 million drilling program, the Mineral Resources at the Southdown Magnetite Project ("Project") have increased and their confidence has been significantly enhanced.

#### Southdown Mineral Resources

	As at December 2010		As at December 2011	
	Tonnes (Mt)	Grade wt%DTR	Tonnes (Mt)	Grade wt%DTR
<b>Measured</b>	220	37.4	407	37.1
<b>Indicated</b>	210	38.9	40.2	40.7
<b>Inferred</b>	224	33.4	250.8	32.5
<b>Total</b>	<b>654</b>	<b>36.5</b>	<b>698</b>	<b>35.7</b>

Grange Managing Director, Russell Clark, said: "The initial results of the recent drilling program have confirmed and improved both the quantity and confidence of the Mineral Resource we have at Southdown. The increase in Measured Resources is expected to flow into improved Ore Reserves, which will boost financiers' and investors' confidence in the overall project. We now have nearly 700 million tonnes of Mineral Resource at Southdown."

"The drilling program was undertaken along the full 12 kilometre strike length of the mineralisation. This announcement follows the infill drilling that was undertaken on the western tenements of the Project. The proportion of Measured Resources has improved from 48% to 81% of the western tenement Resource. The improved Mineral Resources will provide the basis to restate the Ore Reserves."

## Southdown Mineral Resources – Western Tenements

Classification	Jul-09		Dec-11	
	Tonnes (Mt)	Grade wt%DTR	Tonnes (Mt)	Grade wt% DTR
<b>Measured Resources</b>	219.7	37.4	407.1	37.1
<b>Indicated Resources</b>	198.1	38.9	28.0	41.6
<b>Inferred Resources</b>	39.7	30.5	66.0	28.3
<b>Total Resources</b>	<b>457.4</b>	<b>37.4</b>	<b>501.1</b>	<b>36.2</b>

“Drilling from the eastern tenements was aimed at an exploration target of 300-500Mt of mineralisation with a potential grade of 33-37 wt% DTR. The potential tonnage and grade of the exploration target is conceptual in nature, and there is currently insufficient information to define Mineral Resources. Drilling results are being analysed and we expect to advise the results and any changes to resources and reserves to the market during the first quarter of 2012. The potential increase in size and confidence of the Mineral Resources and Ore Reserves is expected to provide greater confidence in the longevity of the Southdown project.”

The Southdown Magnetite Project is a joint venture (JV) between Grange Resources Limited (70%), and Sojitz Resources & Technology Pty Ltd (“Sojitz”) (30%), a wholly-owned subsidiary of Sojitz Corporation, a Japanese global trading company operating in various industries and services.

## Southdown Magnetite Project

### Southdown Project – Background



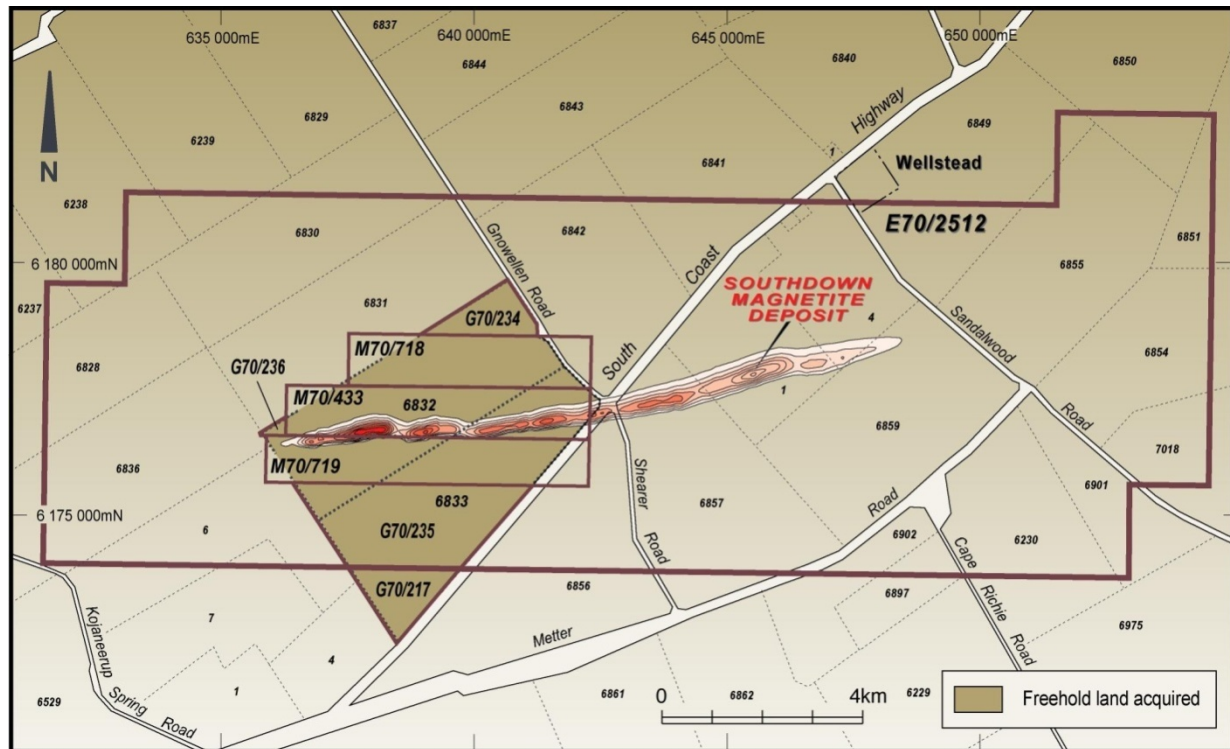
#### Map showing the Southdown Project

Located approximately 90 kilometres northeast of the Port of Albany on the south coast of Western Australia, the Southdown magnetite deposit is approximately 12 kilometres in length and represents one of the best premium quality magnetite deposits currently under development in Australia. With a location near existing port facilities and the regional population centre of Albany, and with mineralisation close to surface, the deposit is favourably placed for development.

A pre-feasibility study (“PFS”) on the project was completed in early 2011, which provided the owners the confidence to undertake a definitive feasibility study (“DFS”) which is expected to be completed by the end of the first quarter of 2012. Major environmental permits associated with the mine and associated port development are in place.

## Southdown Project – Tenements

The following diagram shows the orebody location, comprising of the western and eastern tenements. The western portion is covered by a Mining Lease and the eastern portion is covered by an Exploration Licence.



**Southdown Orebody Location (Plan View): Western and Eastern Tenements**

The Southdown deposit occupies the core of a gently east plunging, overturned tight to isoclinal syncline with a steeply south dipping axial surface. The deposit is offset by moderately north-east dipping dextral reverse faults and subsidiary steeply south-east dipping sinistral faults.

Currently the resource extends for 8.5 kilometres of the 12 kilometre strike length of the deposit, with variable depths ranging from a surface outcrop in the west, to 480 metres below surface in the east. The average thickness of the mineralisation is 85 metres, with the deposit increasing in width towards the east as the thicknesses of low-grade and non-mineralised internal geological units increase.

## AMMG – No Association

An ASX listed exploration company, Australian Mining and Minerals Group (“AMMG”), recently announced plans for a deposit it calls “the Southdown Extension Project” in late 2011. Neither Grange nor the Southdown Magnetite Project has any association with AMMG or their projects. AMMG’s project is located some 20 kilometres away from the Grange’s Southdown project and is not connected in any way with the Southdown Magnetite Project nor with the improved Southdown resources discussed above.

## Resources and Reserves

Grange is announcing additional Resources at the Southdown Project and substantial improvement in the resource confidence:

### SOUTHDOWN MAGNETITE PROJECT MINERAL RESOURCE ESTIMATE

Classification	Measured Resources	Indicated Resources	Inferred Resources	Total Resources
Tonnes (Mt)	407.1	40.2	250.8	698.1
DTR wt%	37.1	40.7	32.5	<b>35.7</b>
DTC Fe%	69.2	69.5	69.1	<b>69.2</b>
DTC SiO <sub>2</sub> %	1.86	1.80	2.02	<b>1.91</b>
DTC Al <sub>2</sub> O <sub>3</sub> %	1.36	1.25	1.31	<b>1.34</b>
DTC TiO <sub>2</sub> %	0.40	0.31	0.36	<b>0.38</b>
DTC S%	0.45	0.43	0.60	<b>0.50</b>
DTC Na <sub>2</sub> O%	0.04	0.04	0.02	<b>0.03</b>
DTC K <sub>2</sub> O%	0.009	0.007	0.009	<b>0.009</b>
DTC P%	0.002	0.003	0.004	<b>0.003</b>
DTC MgO%	0.22	0.20	0.22	<b>0.22</b>
DTC CaO%	0.17	0.18	0.21	<b>0.18</b>
DTC Mn%	0.036	0.036	0.037	<b>0.036</b>
DTC V%	0.022	0.016	0.020	<b>0.021</b>
DTC LOI%	-3.03	-3.02	-2.94	<b>-3.00</b>

This Mineral Resource has been defined using geological boundaries and a cut-off grade of 10 wt%DTR (Davis Tube Recovery) and includes minor internal dilution. All reported concentrate grades were weighted by DTR.

The total Mineral Resource stated above combines an updated estimate of 501Mt at 36.2 wt% DTR for the western tenements completed by Ben Pollard of BM Geological Services (Appendix 1), plus 196.9Mt at 34.4 wt% DTR for the eastern tenements from the previous resource estimate completed by James Farrell of Golder Associates Pty Ltd in July 2009 and updated in January 2012 (Appendix 2).

#### Competent Persons Statement

*The information in this report which relates to the Mineral Resources of the Southdown Project- Western Tenements is based on information compiled by Michael Everitt who is a full-time employee of Grange Resources Limited and a Member of the Australasian Institute of Mining and Metallurgy. Michael Everitt has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity for which he is undertaking to qualify as a Competent Person as defined in the JORC Code (2004). Michael Everitt consents to the inclusion of this information in this statement of Mineral Resources in the form and context in which it appears.*

*The information in this statement which relates to the Mineral Resources of the Southdown Project – Eastern Tenements is based on information compiled by James Farrell who is a full-time employee of Golder Associates Pty Ltd and a Member of the Australasian Institute of Mining and Metallurgy. James Farrell has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity for which he is undertaking to qualify as a Competent Person as defined in the JORC Code (2004). James Farrell consents to the inclusion of this information in this statement of Mineral Resources in the form and context in which it appears.*

## About the Company:

Grange Resources Limited is Australia's leading magnetite producer and the only commercial producer of magnetite pellets in Australia, combining both mining and pellet production expertise. Development of Southdown will see Grange Resources become one of the major suppliers of high grade magnetite in Australia.

Production at Savage River in Tasmania for the 2012 year is anticipated to increase to approximately 2.4 Mt.

For further information, please contact:

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## Mineral Resource Statement Southdown - Western Tenements January 2011

BMGS Perth Pty Ltd has updated the western half of the Southdown Resource Model using all available assay data as of 1 December 2011. An extensive drilling program was undertaken during the latter half of 2011 along the full 12 kilometre strike length of the ore body. This announcement follows the infill drilling that was undertaken on the western tenements of the project. Western tenements refers to the western 6km portion of the mineralisation located on the granted mine leases. Further updates to the Resource Model will be completed for the eastern tenements once analysis of assay results is completed.

The resource estimate has been classified in compliance with the Australasian Code for the Reporting of Identified Mineral Resources and Ore Reserves (JORC Code, 2004). Classification of the Resource estimate as Measured, Indicated and Inferred status was completed by BMGS geologists, based principally on data density, geological confidence criteria and representativeness of sampling.

The *in situ* Mineral Resource is constrained to the mineralised domain boundaries. Estimates representing extrapolations greater than 200 m from drilling are not included in this resource statement.

### ASSUMPTIONS AND METHOD

This Mineral Resource estimate is based on a number of factors and assumptions:

- All of the available historic and current drilling data was used for the Mineral Resource estimation.
- Geological domains were interpreted and modelled in three dimensions. The geological domains were based on stratigraphy and Davis Tube Recovery (DTR).
- The survey control for collar positions was considered adequate for the purposes of this study. There is a degree of uncertainty (possibly  $\pm 10$  m) associated with some of the historical collar co-ordinates. Downhole surveys of the historical holes used acid-etch tubes and are also imprecise.
- A review of the field duplicates, sample preparation duplicates and lab repeats as well as the certified and laboratory reference materials was completed. With the exception of standards submitted in 2009, no obvious discrepancies were identified with the duplicates, repeats and laboratory reference materials. For samples from the 2009 analytical program, Fe values reported by the laboratory for the two certified reference materials were consistently lower than the reference value; whereas, the reported DTC (Davis Tube Concentrate) SiO<sub>2</sub> and DTC S were consistently higher than the reference value. The values reported for Al<sub>2</sub>O<sub>3</sub> and LOI by the laboratory were higher for one certified reference material and lower than the reference value for the other. Certified reference materials submitted during 2011 returned results within expected ranges.
- Statistical and geostatistical analysis was carried out on drilling data composited to 3 m downhole. This included variography to model spatial continuity relationships in the geological domains.
- The Ordinary Kriging (OK) interpolation method was used for resource estimation of DTR, DTC Fe, DTC SiO<sub>2</sub>, DTC Al<sub>2</sub>O<sub>3</sub>, DTC S and DTC LOI, using variogram parameters defined from the geostatistical analysis.



- Wet bulk density was routinely recorded using water displacement and calliper methods. The Inverse Distance Squared interpolation method was used for the estimation of wet bulk density.
- Estimations for concentrate grades were weighted by DTR in order to appropriately reflect the relationship between DTR and the DTC assays. Weighting was completed by calculating the accumulation (DTR× DTC assay) and subsequently back calculating the DTC assay estimates by dividing by relevant estimated DTC values.
- For Type 3a in the Eastern Zone, four high DTC composites were identified as outliers and excluded from the estimation. Variable DTC assays and uncertain geological continuity rendered this domain classification inferred.
- Oxidised mineralisation is not included in this statement of Mineral Resources.

### MINERAL RESOURCE STATEMENT

The resource estimates were classified in accordance with guidelines provided in the Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves (JORC Code, 2004). The classification of Mineral Resources was considered appropriate on the basis of drill hole spacing, sample interval, geological interpretation and representativeness of all available assay data.

This resource has been defined using geological boundaries and a cut-off grade of 10 wt% DTR and includes minor internal dilution. All reported concentrate grades were weighted by DTR.

The resource is based on the Ordinary Kriging interpolated block model snd\_resource1112 and is reported below the depth of oxidation (Table 1). The resource includes 6050 m of strike, with variable depths ranging from 50 m below surface to 380m.

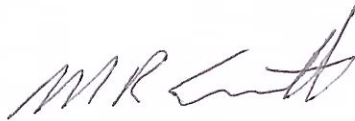
**Table 1: Southdown – Western Tenements, *in situ* Mineral Resource at a cut-off grade of 10 wt% Davis Tube Recovery (DTR).**

Classification	Measured Resources	Indicated Resources	Inferred Resources	Total Resources
Tonnes (Mt)	407.1	28.0	66.0	501.1
DTR wt%	37.1	41.6	28.2	36.2
DTC Fe%	69.2	69.5	68.8	69.2
DTC SiO <sub>2</sub> %	1.86	1.71	1.77	1.84
DTC Al <sub>2</sub> O <sub>3</sub> %	1.36	1.25	1.37	1.36
DTC TiO <sub>2</sub> %	0.40	0.30	0.43	0.40
DTC S%	0.45	0.46	0.80	0.50
DTC Na <sub>2</sub> O%	0.04	0.03	0.04	0.04
DTC K <sub>2</sub> O%	0.009	0.007	0.010	0.009
DTC P%	0.002	0.003	0.003	0.002
DTC MgO%	0.22	0.19	0.22	0.22
DTC CaO%	0.17	0.17	0.22	0.17
DTC Mn%	0.036	0.035	0.038	0.036
DTC V%	0.022	0.016	0.032	0.023
DTC LOI%	-3.03	-3.01	-2.83	-3.00

The information in this statement which relates to the Mineral Resources is based on information compiled by Michael Everitt who is a full-time employee of Grange Resources Limited and a Member of the Australasian Institute of Mining and Metallurgy. Michael Everitt has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity for



which he is undertaking to qualify as a Competent Person as defined in the JORC Code (2004). Geological interpretations and resource estimation was completed by Ben Pollard of BMGS Perth Pty Ltd and BMGS geologists.



Michael Everitt

Geology Manager Southdown Project  
Grange Resources Limited

## **APPENDIX 2**

10 January 2012

Document No. 117641043-017-L-Rev0

Mr Michael Everitt  
Grange Resources Limited  
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## UPDATED MINERAL RESOURCE STATEMENT FOR SOUTHDOWN

Dear Mike

Golder Associates Pty Ltd (Golder) has updated the statement of Mineral Resources for Southdown. The resource was based on all available analytical data as of 28 April 2009, and was publically reported on 3 July 2009.

The Southdown deposit includes five blocks that are separated by faults; WZ, CZ, EZ, FEZ and FFEZ (Figure 1). This report provides a statement of Mineral Resources for the FEZ and FFEZ blocks. The resources were classified in accordance with the Australasian Code for the Reporting of Identified Mineral Resources and Ore Reserves (JORC Code, 2004). Classification of the estimate as Indicated and Inferred Resources was completed by Golder geologists, based principally on data density, geological confidence criteria and representativeness of sampling.

The *in situ* Mineral Resource is constrained to the mineralised domain boundaries. Estimates representing extrapolations greater than 200 m from drilling are not included in this resource statement.

## ASSUMPTIONS AND METHOD

This Mineral Resource estimate is based on a number of factors and assumptions:

- All of the available drilling data as of 28 April 2009 was used for the Mineral Resource estimate.
- Geological domains were interpreted and modelled in three dimensions. The geological domains were based on stratigraphy and Davis Tube recovery (DTR).
- The survey control for collar positions was considered adequate for the purposes of this study. There is a degree of uncertainty (possibly  $\pm 10$  m) associated with some of the historical collar coordinates. Downhole surveys of the historical holes used acid-etch tubes and are also imprecise.
- A review of the field duplicates, sample preparation duplicates and laboratory repeats as well as the certified and laboratory reference materials was completed. With the exception of standards submitted in 2009, no obvious discrepancies were identified with the duplicates, repeats and laboratory reference materials. For samples from the 2009 analytical program, Fe values reported by the laboratory for the two certified reference materials were consistently lower than the reference value and the reported DTC  $\text{SiO}_2$  and DTC S were consistently higher than the reference value. The values reported for  $\text{Al}_2\text{O}_3$  and LOI by the laboratory were higher for one certified reference material and lower than the reference value for the other.
- Statistical and geostatistical analysis was carried out on drilling data composited to 3 m downhole. This included variography to model spatial continuity relationships in the geological domains.





- The Ordinary Kriging interpolation method was used for the estimation of DTR, DTC Fe, DTC SiO<sub>2</sub>, DTC Al<sub>2</sub>O<sub>3</sub>, DTC S and DTC LOI, using variogram parameters defined from the geostatistical analysis.
- Wet bulk density was routinely recorded using water displacement and calliper methods. The Inverse Distance Squared interpolation method was used for the estimation of wet bulk density.
- The concentrate grade estimates were weighted by DTC in order to appropriately reflect the relationship between DTR and the DTC assays. Weighting was completed by calculating the accumulation (DTR × DTC assay) and subsequently back calculating the DTC assay estimates by dividing by relevant estimated DTR values.
- Oxidised mineralisation is not included in this statement of Mineral Resources.

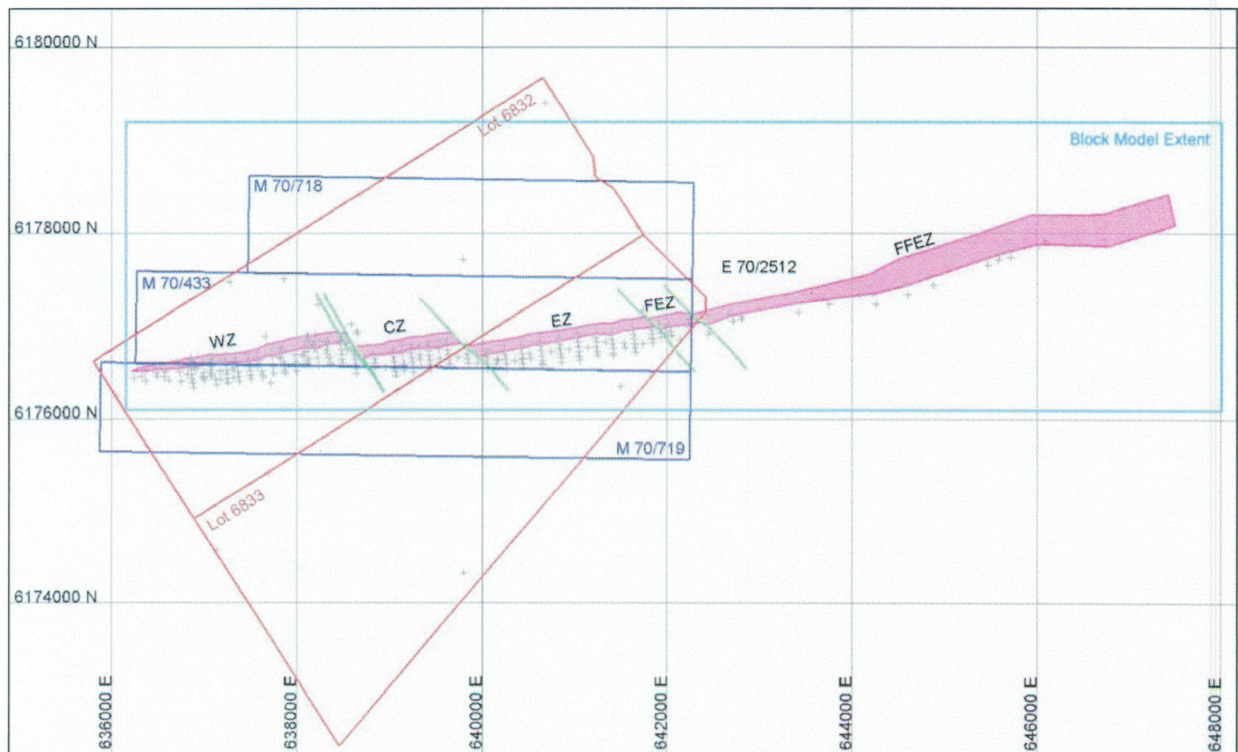


Figure 1: Location of the Five Fault Blocks, Block Model Extent and the Top of the Mineralisation

## MINERAL RESOURCE STATEMENT

The resources were classified in accordance with guidelines provided in the Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves (JORC Code, 2004). The classification of Mineral Resources was considered appropriate on the basis of drill hole spacing, sample interval, geological interpretation and representativeness of all available assay data.

This resource has been defined using geological boundaries and a cut-off grade of 10 wt% DTR and includes minor internal dilution. All reported concentrate grades were weighted by the DTR.

The resource is based on the Ordinary Kriging interpolated block *model sdok\_300609.bmf* and is reported below the depth of oxidation (Table 1). The resource includes a strike length of 5750 m, with depths ranging from 480 m to 520 m below surface; the average thickness of the mineralisation is 85 m, with the deposit increasing in width towards the east as the thicknesses of low-grade and non-mineralised internal geological units increases.



**Table 1: Southdown *in situ* Mineral Resource at a cut-off grade of 10 wt% DTR for the FEZ and FFEZ**

Classification	Measured Resources	Indicated Resources	Inferred Resources	FEZ and FFEZ Total Resources
Tons (Mt)	-	12.2	184.8	196.9
DTR wt%	-	38.8	34.1	34.4
DTC Fe%	-	69.4	69.1	69.2
DTC SiO <sub>2</sub> %	-	2.01	2.11	2.1
DTC Al <sub>2</sub> O <sub>3</sub> %	-	1.26	1.29	1.29
DTC TiO <sub>2</sub> %	-	0.31	0.33	0.33
DTC S%	-	0.38	0.53	0.52
DTC Na <sub>2</sub> O%	-	0.04	0.02	0.02
DTC K <sub>2</sub> O%	-	0.008	0.008	0.008
DTC P%	-	0.004	0.004	0.004
DTC MgO%	-	0.24	0.23	0.23
DTC CaO%	-	0.21	0.21	0.21
DTC Mn%	-	0.039	0.037	0.037
DTC V%	-	0.015	0.016	0.016
DTC LOI%	-	-3.03	-2.98	-2.98

The information in this statement which relates to the Mineral Resources is based on information compiled by James Farrell who is a full-time employee of Golder Associates Pty Ltd and a Member of the Australasian Institute of Mining and Metallurgy. James Farrell has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity for which he is undertaking to qualify as a Competent Person as defined in the JORC Code (2004).

**GOLDER ASSOCIATES PTY LTD**



James Farrell  
Associate, Senior Geologist

JNF/PGO/jlt

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