

14 November 2011

# Mineral Resource for Pilbara Iron Ore Project increased to more than 900 Mt

Pilbara Iron Ore Project (PIOP), Western Australia

## highlights

- Further 23% increase to 917 Mt @ 55.2% Fe Global Mineral Resource
- Maiden Measured Mineral Resource of 101 Mt @ 56.4%Fe
- Latest results further underpin the Company's confidence in progressing the development of the project



## Tenements E47/882 (Blacksmith) and E47/1560 (Anvil)

Flinders Mines Limited (FMS) 100%

Flinders Mines Limited (ASX: FMS) is pleased to announce a further significant increase in the Mineral Resource at the Company's 100%-owned Pilbara Iron Ore Project (PIOP) located in Western Australia's central Pilbara region.

Flinders' global Mineral Resource for the project has increased by a further 23% to 917 Mt @ 55.2% Fe (Table 1). The increase announced here is based on updates to the Champion, Delta and Eagle deposits only – all the deposits remain open to exploration upside.

The upgraded global Mineral Resource announced today, based on a +50% iron cut-off, now consists of a Measured Resource of 101.0 Mt @ 56.4% Fe, an Indicated Resource of 343.7 Mt @ 55.5% Fe and an Inferred Resource of 472.6 Mt @ 54.7% Fe.

The Mineral Resource is comprised of 190.5 Mt of Brockman Iron Deposit (BID) at 56.3% Fe, 545.5 Mt of Detrital Iron Deposit (DID) @ 55.2% Fe and 181.3 Mt of Channel Iron Deposit (CID) at 54.0% Fe (Table 2).

Global Mineral Resource for Fe > 50% (11/11/2011)						
JORC Classification	Tonnage Mt	Fe %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P%	LOI%
Total Inferred	472.6	54.7	10.2	5.0	0.067	5.7
Total Indicated	343.7	55.5	8.9	4.5	0.083	6.2
Total Measured	101.0	56.4	10.5	5.1	0.054	2.8
<b>TOTAL</b>	<b>917.3</b>	<b>55.2</b>	<b>9.7</b>	<b>4.8</b>	<b>0.072</b>	<b>5.6</b>

Table 1 Pilbara Iron Ore Project Global Measured, Indicated and Inferred Resource.

Deposit Type	Inferred Resource (Mt)	Indicated Resource (Mt)	Measured Resource (Mt)
Brockman Iron Deposit (BID)	99.1	91.4	—
Detrital Iron Deposit (DID)	287.8	156.7	101.0
Channel Iron Deposit (CID)	85.7	95.6	—
<b>TOTAL</b>	<b>427.6</b>	<b>343.7</b>	<b>101.0</b>

**Table 2** Pilbara Iron Ore Project Mineral Resource summary of deposit types.

Delivered on schedule, the Mineral Resource is being integrated into the Definitive Feasibility Study, currently being undertaken by WorleyParsons. The optimisation study is likely to convert some of the additional tonnage from this Mineral Resource into the saleable inventory, increasing the existing tonnage of 273 Mt, thus providing for a greater production rate or increased life of mine.

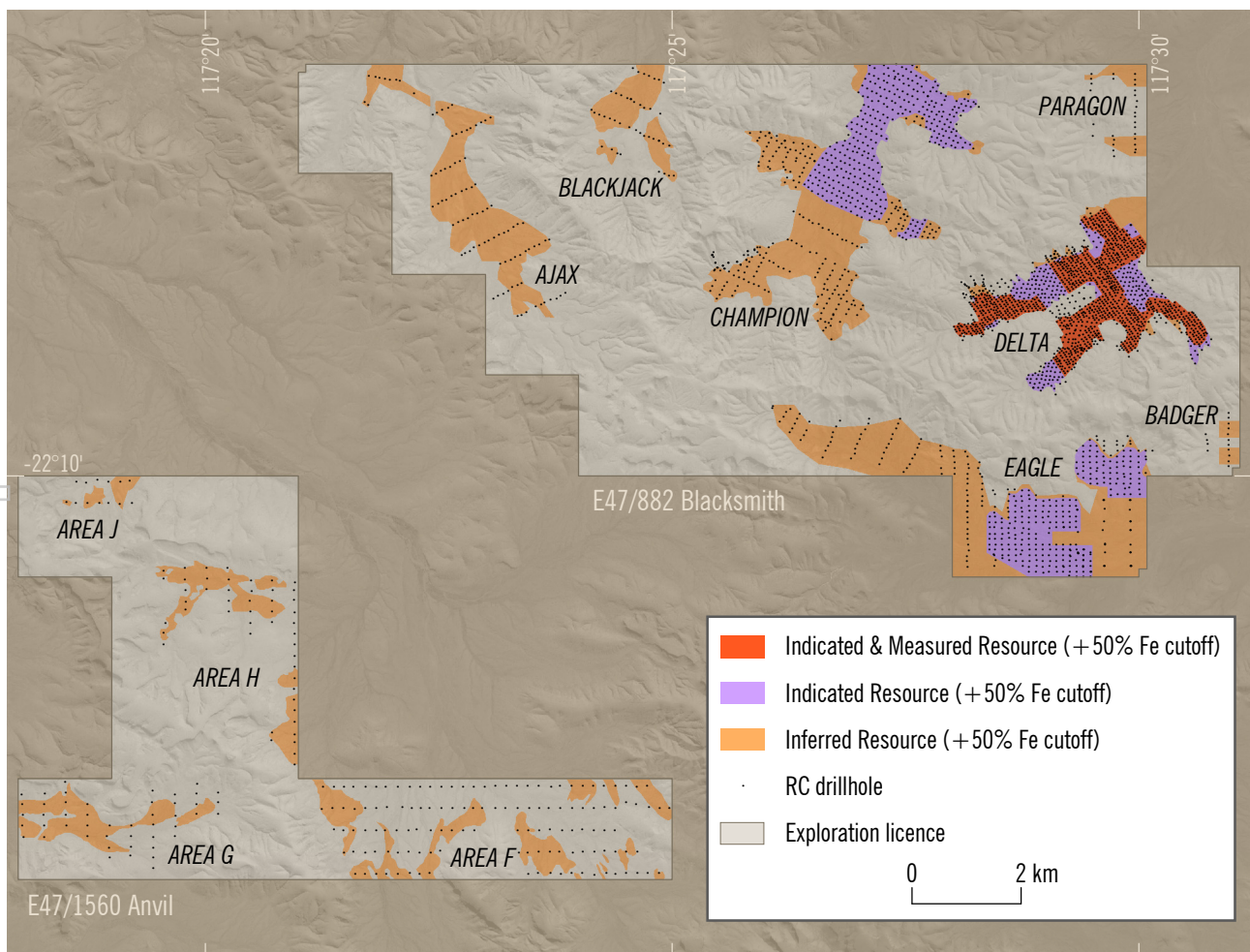
This upgraded Mineral Resource was compiled in accordance with the 2004 JORC (Joint Ore Reserves Committee) code.

## Global Resource Estimate

The increase in the Global Resource Estimate to 917 Mt @ 55.2% Fe is a result of drilling carried out in the

last half of 2010 and the first half of 2011. The number of additional drill holes considered in this estimate is 1,154 holes for 58,920m, which brings total drilling undertaken at the project to 2,813 holes for 140,295m. This estimate includes upgrades to the Champion, Delta and Eagle deposits only (Table 3).

While some of the changes are due to additional drilling in previously untested areas such as the BID extensions in the Delta hills, there are also changes due to the identification of further mineralisation as the result of infill drilling, particularly in Eagle. Infill drilling in the central parts of the Eagle deposit has intersected more extensive and thicker sequences of CID than previously anticipated.



**Figure 1** Location of BID target zones and drill tested zones with known mineralization and others awaiting results, Pilbara Iron Ore Project.

Global Mineral Resource for Fe > 50% (11/11/2011)						
JORC Classification	Tonnage Mt	Fe %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P%	LOI%
Ajax Inferred	68.5	55.2	10.6	5.1	0.060	4.5
Blackjack Inferred	44.7	55.3	12.8	4.6	0.057	2.7
<b>*Champion Inferred</b>	<b>61.1</b>	<b>55.6</b>	<b>10.1</b>	<b>4.6</b>	<b>0.069</b>	<b>4.7</b>
<b>*Champion Indicated</b>	<b>112.4</b>	<b>55.2</b>	<b>9.6</b>	<b>4.9</b>	<b>0.075</b>	<b>5.5</b>
<b>*Delta Inferred</b>	<b>12.1</b>	<b>56.0</b>	<b>8.2</b>	<b>4.6</b>	<b>0.085</b>	<b>6.2</b>
<b>*Delta Indicated</b>	<b>111.8</b>	<b>56.3</b>	<b>7.9</b>	<b>3.9</b>	<b>0.100</b>	<b>6.8</b>
<b>*Delta Measured</b>	<b>101.0</b>	<b>56.4</b>	<b>10.5</b>	<b>5.1</b>	<b>0.054</b>	<b>2.8</b>
<b>*Eagle Inferred</b>	<b>173.4</b>	<b>54.0</b>	<b>9.5</b>	<b>5.0</b>	<b>0.076</b>	<b>7.7</b>
<b>*Eagle Indicated</b>	<b>119.5</b>	<b>55.0</b>	<b>9.3</b>	<b>4.8</b>	<b>0.074</b>	<b>6.4</b>
Badger Inferred	8.7	57.5	6.3	3.4	0.092	7.3
Paragon Inferred	21.7	58.0	6.6	3.9	0.080	5.5
Anvil Inferred	82.4	53.6	11.4	5.8	0.050	4.9
<b>Total Inferred</b>	<b>472.6</b>	<b>54.7</b>	<b>10.2</b>	<b>5.0</b>	<b>0.067</b>	<b>5.7</b>
<b>Total Indicated</b>	<b>343.7</b>	<b>55.5</b>	<b>8.9</b>	<b>4.5</b>	<b>0.083</b>	<b>6.2</b>
<b>Total Measured</b>	<b>101.0</b>	<b>56.4</b>	<b>10.5</b>	<b>5.1</b>	<b>0.054</b>	<b>2.8</b>
<b>TOTAL</b>	<b>917.3</b>	<b>55.2</b>	<b>9.7</b>	<b>4.8</b>	<b>0.072</b>	<b>5.6</b>

Table 3 Pilbara Iron Ore Project Global Resource, by deposit.

\* Upgraded as part of current Resource Estimate.

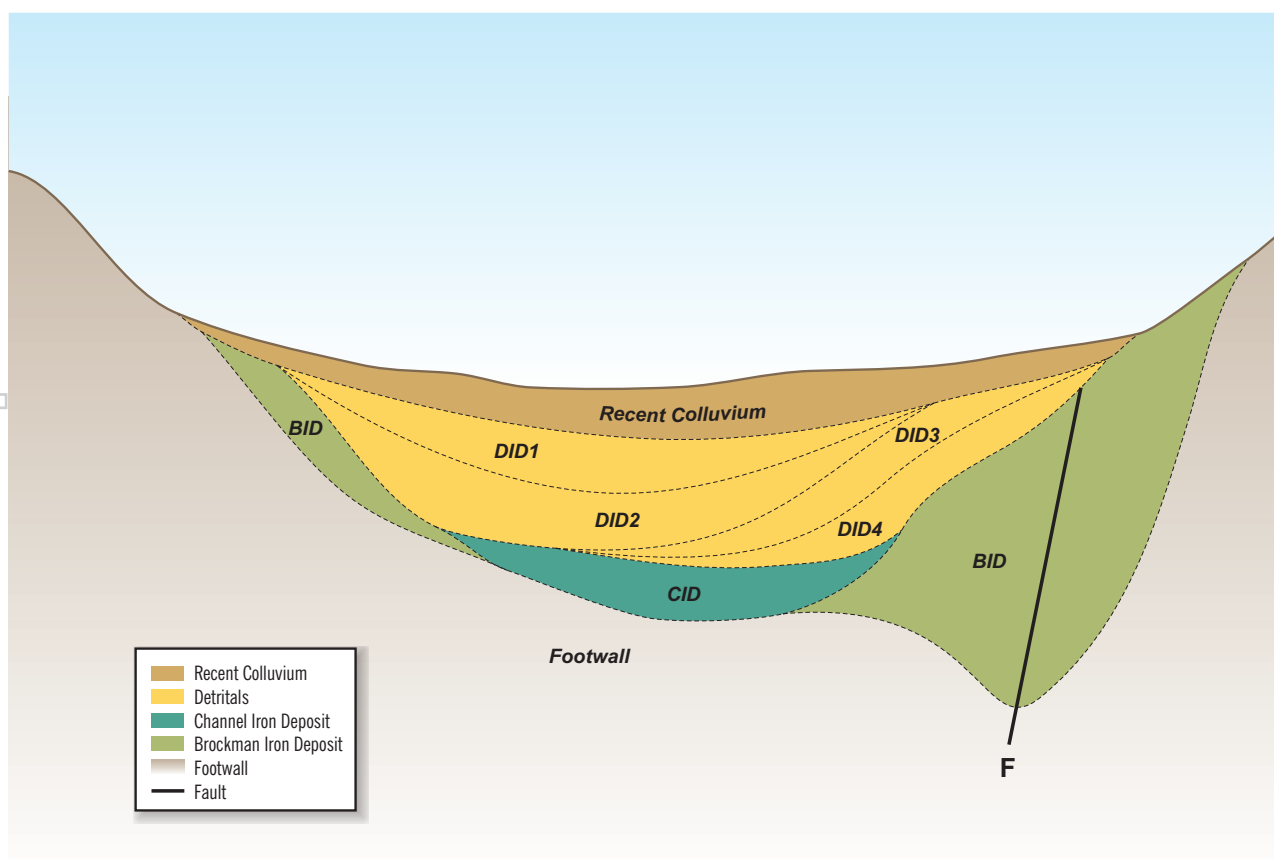


Figure 2 Schematic cross-section showing simplified geological interpretation.

The Company is still working on the conversion of Delta BID material from Indicated to Measured status through additional geological interpretation. This will be completed in Q1 2012 and will require no further drilling. Flinders is very confident that a significant proportion of the Delta BID will be converted to Measured status.

## Ongoing Exploration & Going Forward

The updated Resource Estimate announced today further underpins the Company's confidence in progressing the development of the Pilbara Iron Ore Project.

The 2011 drill program being undertaken by Flinders has been completed. Faster than expected drill rates resulted in the drilling program finishing ahead of schedule and under budget.

Highly encouraging Direct Shipping Ore (DSO) BID zones have been intersected in several places on the flanks of the valleys. These zones are at or near surface and outside the Mineral Resource which is the subject of today's announcement. Follow up BID drilling will continue to take place following the execution of Native Title agreements by Flinders, anticipated in Q4 2011. Detailed mapping over the tenement - expected to be completed in Q4 2011 - will provide a basis for the focus of further investigation and drilling during the first half of 2012.



**GARY SUTHERLAND**  
MANAGING DIRECTOR

14 November 2011

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## QUALIFYING STATEMENTS

### JORC compliance

The information that relates to the drilling data and geological interpretations is based on information compiled by Mr N Corlis (who is a Member of The Australian Institute of Geoscientists) and Dr G McDonald (who is a member of the Australasian Institute of Mining and Metallurgy). Mr Corlis and Dr McDonald are employees of Flinders Mines Limited. The information that relates to the Mineral Resource Estimate has been compiled by Mr Paul Blackney of Optiro Pty Ltd. who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Blackney, Mr Corlis and Dr McDonald have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that they are undertaking to qualify as a Competent Persons as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Blackney, Mr Corlis and Dr McDonald consent to the inclusion of matters based on their information in the form and context in which it appears.

### Forward-looking statements

This release may include forward-looking statements. These forward-looking statements are based on Flinders Mines Limited's expectations concerning future events. Forward-looking statements are subject to risks, uncertainties and other factors, many of which are outside the control of Flinders Mines Limited and the Company makes no undertaking to subsequently update or revise the forward-looking statements made in this release to reflect events or circumstances after the date of this release.



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14 November 2011

Our Ref: J\_1304\_G

Mr Nicholas Corlis  
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Dear Nicholas

**DECLARATION AND STATEMENT OF CONSENT OF OPTIRO**

Optiro Pty Ltd (Optiro) declares that the tabulation of Mineral Resources presented by Optiro for Flinders Mines Limited's (FMS) Pilbara Iron Ore Project (PIOP) has been prepared in accordance with the Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves, 2004 (the JORC Code). Optiro consents to being named in any ASX and Media Release and to the inclusion in ASX and Media Releases of a reference to an updated resource statement prepared by Optiro subject to and conditional upon an express statement appearing in the ASX and Media Release in substantially the same form as the following:

The regional geology that encompasses the PIOP is characterised by late Archaen-Lower Proterozoic age sediments of the Mount Bruce Supergroup which form part of the Hamersley Province. The Mount Bruce supergroup is wedged between the Archaen granitoid basement complexes of the Yilgarn and Pilbara blocks and it comprises of the Fortescue, Hamersley and Turee Groups which are overlain by remnants of the Wyloo Group. Overall the Hamersley Group metasediments, including the Banded Iron Formation (BIF) units, are described as moderately flat dipping along the northern boundary outcrops and increases in complexity to the south. The Banded Iron Formations (BIFs) of the Hamersley group are the most widespread and known to contain the highest iron content in the stratigraphic record.

The Eagle, Champion and Delta deposits of the PIOP are all located within tenement E47/882 which is dominated by the Brockman Iron formation known to host large bedded Iron deposits (BID) in other regions of the Hamersley Ranges. The project area consists of large channel systems which comprise of significant tonnages of detrital and channel iron deposits (DID and CID). The channels may host accumulations of iron rich gravels distal from any hard-rock iron mineralisation.

The DID is characterised by hematite rich mineralisation that has been eroded from surrounding banded iron formation, and is mainly composed of detrital material of pisolithic or fragmental types. Underneath the DID units lies the Dales Gorge Member of the Brockman Iron Formation. CID mineralisation has been identified between the DID and BID mineralisation in some parts of Delta and Eagle deposits

The mineralogy of the mineralisation found at the PIOP is mainly related to weathering of certain stratigraphic units. The vitreous goethite of the BID units appears to be related to the goethitic shales that have been reported underlying the DID units and the weathered hematite rich BIF units.



## **DECLARATION AND STATEMENT OF CONSENT OF OPTIRO**

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Optiro has prepared Mineral Resource estimates for the Delta, Eagle and Champion deposits which comprise part of the PIOP. These updated and revised Mineral Resource Estimates have been reported above a 50% Fe cut-off grade in the following tabulation. The resources have been classified into Measured, Indicated and Inferred categories according to the 2004 JORC Code based on confidence in the geological and grade continuity of the deposits as demonstrated by the exploration data and associated quality control protocols.

The Mineral Resource Estimates prepared by Optiro are based on drillhole data and geological interpretations provided by FMS. The recent drillhole data includes significant amounts of additional drilling which was completed after the previous resource estimates were undertaken. This drilling added 1,154 reverse circulation (RC) holes for a total of 58,920 m. This drilling infilled the existing drill grid with much of the Delta deposit now tested by drilling on a nominal grid of 50 m by 50 m. The drillhole grid at Eagle and Champion is wider spaced with the recent work closing the grid spacing to nominally 100 m by 125 m in many parts of these deposits.

FMS has processed the quality control data associated with the 2011 drilling campaign and the results obtained demonstrate that the RC sampling has achieved good grade accuracy and precision across all the elements estimated in the model. The 2011 drilling also included eight HQ diamond core holes that twinned existing RC holes at locations within each of the three deposits. The results of this test suggest that the sampling of RC and diamond core samples provides compatible assay results.

Based on this quality control data and past work completed during previous resource estimates, Optiro considers the drillhole data to be of appropriate quality to participate in the Mineral Resource updates presented in this statement and to support the Mineral Resource categories assigned to the estimates.

Optiro has reviewed the geological interpretation whilst compiling the Mineral Resource Estimates and considers the interpretations to fairly represent the drillhole data and surface mapping available for the deposits to an accuracy commensurate with the classifications applied using the guidelines in the 2004 JORC Code.

Optiro has compiled Mineral Resource Estimates using the supplied geological domains which are based on lithology and grade conditions to constrain the limits of mineralised zones. The geological interpretation discriminates between Bedded Iron Deposits (BID), Channel Iron Deposits (CID) and Detrital Iron Deposits (DID). The DID is divided into four horizons representing a range of grade and material type conditions. In general terms, the DID iron grade is lowest near surface and highest at depth. The DID contains the majority of the mineralisation. The BID tends to form along the walls of the valleys that are now infilled by CID and BID. The CID is located at the bottom of the valleys and is covered by the DID, which is, in turn, covered by variable thicknesses of recent cover. For grade estimation purposes, additional domains were added to upper part of the DID to improve control of the estimation process and within the CID to discriminate larger clay pods.

Grades were estimated into model blocks which were either 100 mE by 100 mN by 6 mRL (Eagle and Champion) or 50 mE by 50 mN by 6 mRL (Delta). The smaller block size at Delta is supported by the closer spaced drilling in this deposit. Domain boundaries were represented by sub-blocks that were no smaller than 10 mE by 10 mN by 2 mRL. Iron (Fe), silica (SiO<sub>2</sub>), alumina (Al<sub>2</sub>O<sub>3</sub>), phosphorus (P), loss on ignition (LOI), titanium (TiO<sub>2</sub>), and sulphur (S) grades were all estimated using ordinary kriging of two

## DECLARATION AND STATEMENT OF CONSENT OF OPTIRO

metre downhole sample assays. All of the geological domains described above were treated as hard grade boundaries during the estimation process.

Average bulk density factors were assigned to each geological domain. These factors were based on samples collected from the PIOP deposits for the more important mineralisation domains or were derived from factors from neighbouring deposits with similar geological conditions.

The deposits have been tested by drilling on nominal 50 m by 50 m, 50 m by 100 m, 100 m by 125 m and wider grids. These grid conditions, combined with geological confidence and the quality control standards achieved have been used to divide the deposits into Measured, Indicated and Inferred Mineral Resource categories as defined by the JORC Code. Measured Mineral Resources were assigned to the DID where it is tested by drilling on a nominal 50 m by 50 grid. This only occurs within the Delta deposit. The geological confidence in the CID and DID was considered to be lower due to poorer geological continuity, leading to these deposits being assigned as Indicated Mineral Resources under the same drilling conditions at Delta.

At all deposits, a nominal 100 m by 125 m drill grid spacing was considered adequate to assign DID, CID and BID to an Indicated Mineral Resource category. All DID, CID and BID tested by wider drill grid spacings was assigned to an Inferred Mineral Resource category. All unmineralised BIF was assigned to an Inferred category irrespective of the local drill spacing or the degree of grade extrapolation.

The Mineral Resource tabulation attached below presents the Mineral Resources for the Delta, Eagle and Champion deposits as they have been assigned to the confidence categories defined in the JORC Code.

Yours sincerely

**OPTIRO**



Paul Blackney *MAusIMM, MAIG*  
Principal

# DECLARATION AND STATEMENT OF CONSENT OF OPTIRO

<b>FLINDERS MINES LIMITED</b> <b>Pilbara Iron Ore Project</b> <b>Delta, Eagle and Champion Mineral Resource, November 2011</b> <b>Reported above a 50% Fe cut-off</b>									
Classification	Deposit	Mt	Fe	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	P	S	LOI	TiO <sub>2</sub>
<b>Measured</b>	Delta	101.0	56.39	10.50	5.10	0.054	0.017	2.79	0.56
	Eagle	0.0							
	Champion	0.0							
	<b>Total</b>	<b>101.0</b>	<b>56.39</b>	<b>10.50</b>	<b>5.10</b>	<b>0.054</b>	<b>0.017</b>	<b>2.79</b>	<b>0.56</b>
<b>Indicated</b>	Delta	111.8	56.30	7.89	3.87	0.100	0.019	6.81	0.43
	Eagle	119.5	55.02	9.26	4.82	0.074	0.013	6.41	0.49
	Champion	112.4	55.17	9.65	4.91	0.075	0.016	5.48	0.61
	<b>Total</b>	<b>343.8</b>	<b>55.49</b>	<b>8.94</b>	<b>4.54</b>	<b>0.083</b>	<b>0.016</b>	<b>6.23</b>	<b>0.51</b>
<b>Inferred</b>	Delta	12.1	55.97	8.16	4.64	0.085	0.027	6.25	0.52
	Eagle	173.4	54.01	9.53	5.01	0.076	0.009	7.68	0.47
	Champion	61.1	55.62	10.10	4.61	0.069	0.021	4.70	0.56
	<b>Total</b>	<b>246.6</b>	<b>54.50</b>	<b>9.60</b>	<b>4.89</b>	<b>0.075</b>	<b>0.013</b>	<b>6.87</b>	<b>0.49</b>
<b>Deposit Totals</b>	Delta	224.8	56.33	9.07	4.46	0.078	0.019	4.97	0.49
	Eagle	293.0	54.42	9.42	4.93	0.075	0.011	7.16	0.48
	Champion	173.5	55.33	9.81	4.81	0.073	0.018	5.21	0.59
<b>Grand Total</b>		<b>691.3</b>	<b>55.27</b>	<b>9.40</b>	<b>4.75</b>	<b>0.076</b>	<b>0.015</b>	<b>5.96</b>	<b>0.51</b>

"The information in this Public Report that relates to Mineral Resources is based on, and accurately reflects, information compiled by Mr. Paul Blackney of Optiro Pty Ltd, who is a Member of The Australasian Institute of Mining and Metallurgy. Mr. Blackney has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr. Blackney consents to the inclusion in the report of the matters based on the information in the form and context in which it appears."