# DIRECT SHIPPING CRYSTALLINE MAGNETITE RESOURCE DEFINED AT WILCHERRY HILL

> **10.2** **Million Tonnes High Grade Crystalline Magnetite Resource Defined.**

> **High Confidence 87% Indicated**

> **High Reserve Conversion Rate Anticipated**

> **Company on track to produce 2 m.t.a of low cost DSO over first 4 to 5 years of mine life.**

The Directors of IronClad Mining Limited (ASX:IFE) are pleased to announce a JORC code compliant 10.2 Mt Indicated Resource of high grade, crystalline magnetite at the Wilcherry Hill Project in South Australia (Figure 1). The Wilcherry Hill Project is a 20:80 joint venture between Trafford Resources (ASX: TRF) and its subsidiary IronClad Mining.

The high grade resource is the Crystalline Magnetite targeted to be mined during the planned Stage 1 DSO mining operations which are on track to commence in 2011.
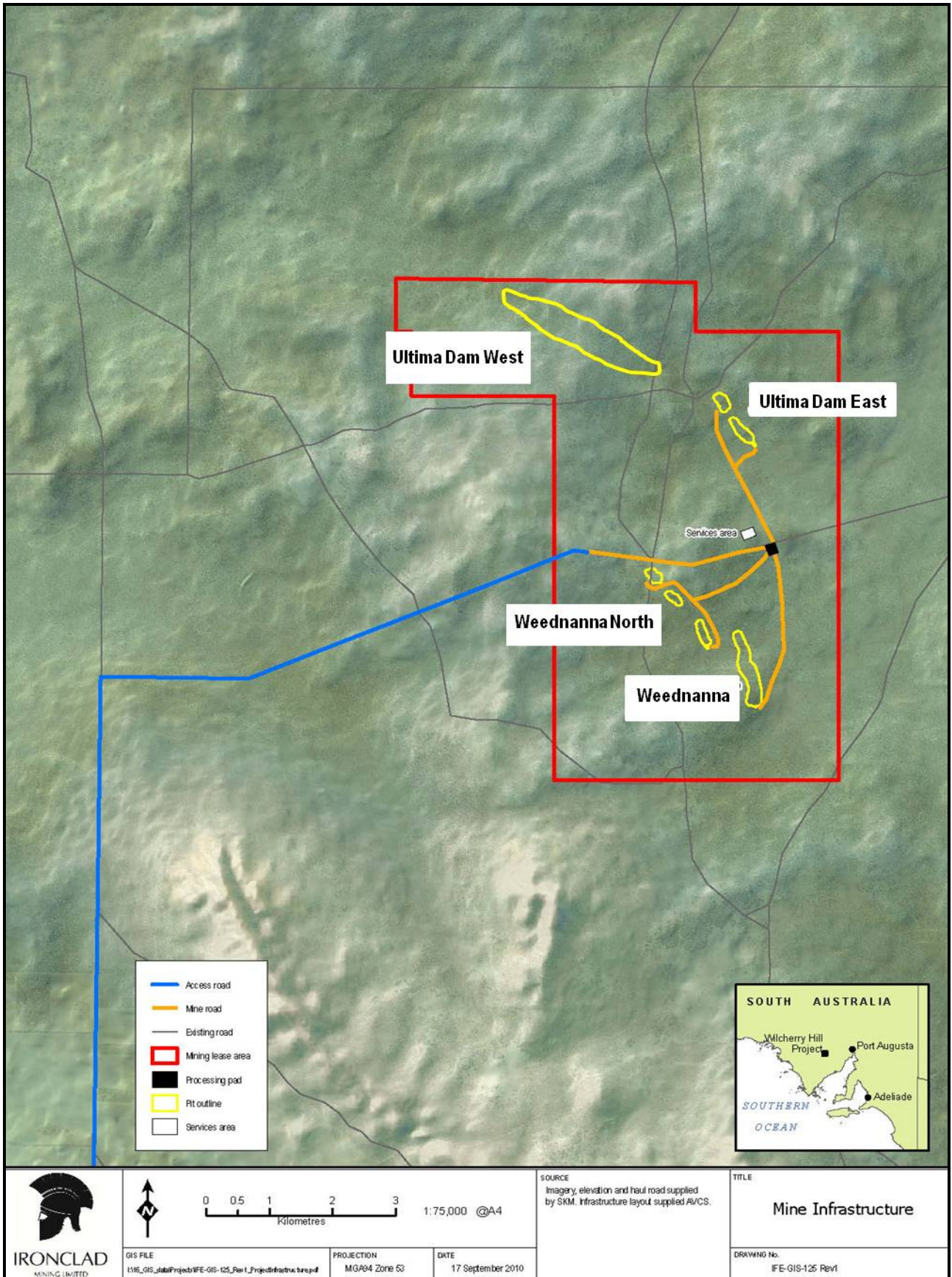
A summary of the high grade (+40% Fe lower cut off) Indicated Resource is provided in Table 1. This 10.2 Mt high grade resource is part of the JORC Code Compliant 69 Mt total of crystalline magnetite resource at Wilcherry Hill which was announced on 3rd of September 2010. The remaining 59 Mt of crystalline magnetite will be the subject of the Stage 2 mining operation after the export of the DSO material.

**Figure 1: Ironclad Mining Wilcherry Hill Crystalline Magnetite Project, South Australia**

A complete table of all defined resources is provided in Appendix B and a description of the resource estimation methodology is provided in Appendix C. Independent mining consultants SRK were engaged in the resource estimation and classification of the resource.

| Prospect | Wire Frame | Jorc Classification | Tons (mt) | Fe % | Sg | Sio2 % | Al2o3 % | P % | Loi | Strike Length | Average Dip |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Weednanna | > 40% High Grade | 87 % Indicated | 4.4 | 46.72 | 3.62 | 15.29 | 4.38 | 0.02 | 3.67 | 1.2 Km | 45 Degrees |
| Ultima Dam East | > 40% High Grade | 93% Indicated | 3.5 | 43.74 | 3.51 | 15.32 | 6.06 | 0.19 | 10.79 | 1.4 Km | 40 Degrees |
| Weednanna North | > 40% High Grade | 81% Indicated | 2.4 | 44.73 | 3.55 | 17.19 | 5.75 | 0.04 | 5.25 | 1.1 Km | < 40 Degrees |
| Total | > 40% High Grade | 87 % Indicated | 10.2 | 45.06 | 3.56 | 15.93 | 5.40 | 0.08 | 6.57 | 3.7 Km | 40 Degrees |

**Table 1: Summary of updated Wilcherry Hill High Grade Crystalline Magnetite Resource (JORC Code classified), September 2010.**

All three target deposits have produced indicated resources in ore bodies that outcrop and are, therefore easily mined. Optimisation studies aimed at defining a mineable reserve at Wilcherry Hill are well underway.

IronClad intends to mine the DSO material from three separate pits; namely Weednanna, Ultima Dam East and Weednanna North (Appendix A). Processing of the DSO crystalline magnetite material will include simple, low cost crushing & screening, followed by dry magnetic separation (DMS) to ensure that Wilcherry Hill produces +62% Fe premium grade fines product for the market.

The definition of this indicated high grade crystalline magnetite resource is a major step towards the definition of a mineable reserve statement. Together with this high grade resource, all the pieces of the Definitive Feasibility Study(DFS) are coming together as planned, including the signing of a Native Title agreements, a full JORC Code compliant resource update and the execution of an Exclusive Sales and Marketing agreement.

Ian D. Finch

Executive Chairman

## Competent Persons

*The following individuals take responsibility for the following information in this document:*

*• Mr Mark Le Grange (MAusIMM) takes responsibility for the information relating to the data quality, geological interpretation and exploration data relating to the IronClad Resource Estimate. He is Ironclad's chief geologist with more than 10 years of experience in the mining industry in Australia and South Africa.*

*• Mr Robin Simpson (MAIG) takes responsibility for the IronClad Resource Estimate. He is an independent consultant with SRK Consulting and is a geologist with more than 10 years experience relevant to the evaluation of Iron Ore deposits.*

*Each of the above individuals have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that he is undertaking to qualify as Competent Person as defined in the 2004 Edition of the Australasian Code for reporting of exploration results, Mineral Resources and Ore Reserves ("2004 JORC Code") and consent to the publication of this information in the form and context in which it appears.*
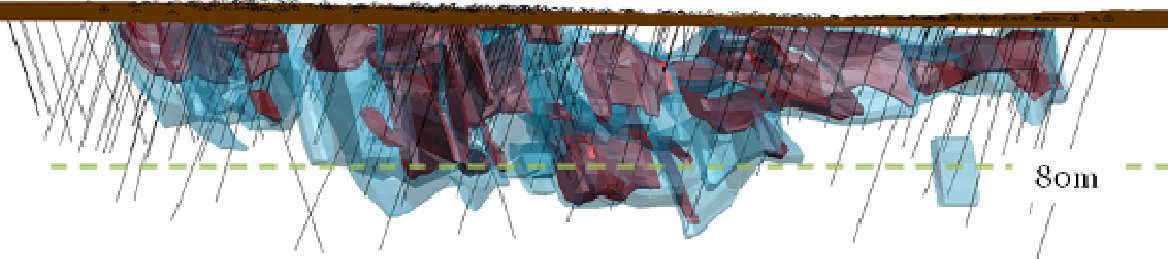
**Appendix A:**

## Weednanna Deposit

South             North

← 1.2 Km →

8om

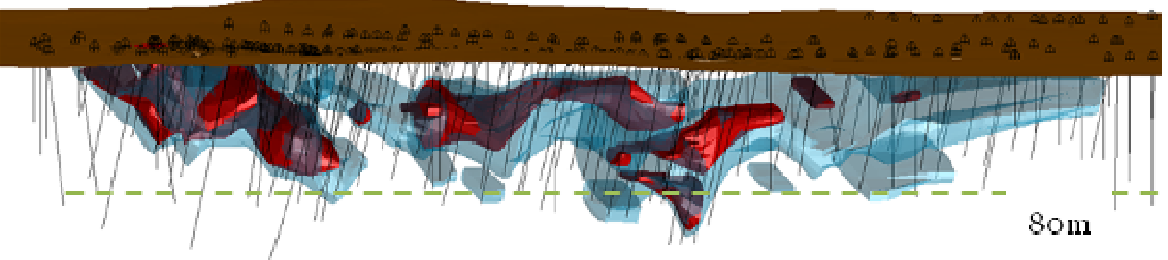### 4.26 Mt @ 45% Fe, 87% Indicated

*(view parallel to strike looking West - Red 3d wireframes represent High Grade Magnetite, blue indicates total Magnetite 20.3 Mt @ 26% FE)*

## Ultima Dam East Deposit

North-west           South-east

← 1.4 Km →

8om

### 3.49 Mt @ 44% Fe, 93% Indicated

*(view parallel to strike looking North East - Red 3d wireframes represent High Grade Magnetite, blue indicates total Magnetite 24.0 Mt @ 26% Fe)*

## Weednanna North Deposit

North-west           South-east
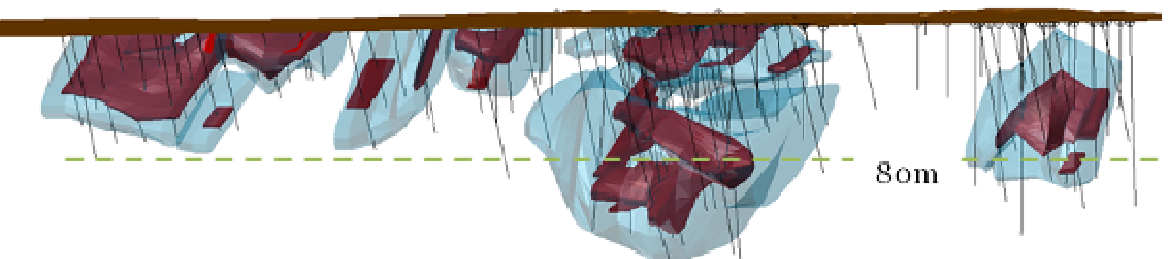
← 1 Km →

8om

### 2.50 Mt @ 44% Fe, 81% Indicated

*(view parallel to strike looking North East - Red 3d wireframe represents High Grade Magnetite, blue indicates total Magnetite 1.2 Mt @ 25% Fe)*

## Appendix B:

| WEEDNANNA RESOURCE | | | | | | | |
|---|---|---|---|---|---|---|---|
| Classification | Wireframe | Tons (mt) | Fe % | Sg | Sio2 % | Al2o3 % | P % | Loi |
| Indicated | 15%<Fe<40% | 15.7 | 20.75 | 2.87 | 35.91 | 12.38 | 0.04 | 6.88 |
| | >=40% | 3.8 | 45.44 | 3.58 | 17.23 | 5.45 | 0.03 | 4.73 |
| | Total | 19.5 | 25.56 | 3.01 | 32.27 | 11.03 | 0.04 | 6.46 |
| Inferred | 15%<Fe<40% | 0.2 | 24.52 | 2.94 | 27.68 | 6.37 | 0.03 | 6.58 |
| | >=40% | 0.6 | 47.99 | 3.66 | 13.34 | 3.30 | 0.01 | 2.60 |
| | Total | 0.8 | 41.84 | 3.44 | 17.30 | 4.15 | 0.02 | 3.70 |
| Inferred + Indicated | 15%<Fe<40% | 15.9 | 20.67 | 2.87 | 35.91 | 12.35 | 0.04 | 6.88 |
| | >=40% | 4.4 | 45.36 | 3.57 | 16.93 | 5.23 | 0.03 | 4.46 |
| **Total Weednanna Resource** | | **20.3** | **26.19** | **3.03** | **31.72** | **10.78** | **0.04** | **6.36** |

| ULTIMA DAM EAST RESOURCE | | | | | | | |
|---|---|---|---|---|---|---|---|
| Classification | Wireframe | Tons (mt) | Fe % | Sg | Sio2 % | Al2o3 % | P % | Loi |
| Indicated | 15%<Fe<40% | 11.2 | 22.14 | 2.89 | 38.42 | 10.27 | 0.12 | 9.14 |
| | >=40% | 3.2 | 44.07 | 3.53 | 16.99 | 6.81 | 0.13 | 8.69 |
| | Total | 14.5 | 27.05 | 3.04 | 33.62 | 9.49 | 0.12 | 9.04 |
| Inferred | 15%<Fe<40% | 9.3 | 23.57 | 2.94 | 40.32 | 7.50 | 0.10 | 6.78 |
| | >=40% | 0.2 | 43.40 | 3.49 | 13.65 | 5.31 | 0.26 | 12.89 |
| | Total | 9.5 | 24.06 | 2.95 | 39.67 | 7.45 | 0.10 | 6.93 |
| Inferred +Indicated | 15%<Fe<40% | 20.5 | 22.79 | 2.91 | 39.28 | 9.02 | 0.11 | 8.07 |
| | >=40% | 3.5 | 44.02 | 3.52 | 16.77 | 6.71 | 0.14 | 8.97 |
| **Total Ultima Dam East Resource** | | **24.0** | **25.86** | **3.00** | **36.02** | **8.68** | **0.11** | **8.20** |

| WEEDNANNA NORTH | | | | | | | |
|---|---|---|---|---|---|---|---|
| Classification | Wireframe | Tons (mt) | Fe % | Sg | Sio2 % | Al2o3 % | P % | Loi |
| Indicated | 15%<Fe<40% | 12.2 | 20.53 | 2.87 | 35.02 | 10.79 | 0.05 | 7.48 |
| | >=40% | 1.9 | 44.58 | 3.54 | 16.80 | 6.03 | 0.04 | 5.74 |
| | Total | 14.2 | 23.83 | 2.96 | 32.52 | 10.14 | 0.05 | 7.24 |
| Inferred | 15%<Fe<40% | 2.6 | 29.33 | 3.07 | 13.15 | 5.18 | 0.03 | 8.45 |
| | >=40% | 0.4 | 44.88 | 3.55 | 17.58 | 5.47 | 0.03 | 4.75 |
| | Total | 3.0 | 31.63 | 3.14 | 13.80 | 5.22 | 0.03 | 7.90 |
| Inferred +Indicated | 15%<Fe<40% | 14.8 | 22.06 | 2.91 | 31.23 | 9.82 | 0.04 | 7.65 |
| | >=40% | 2.4 | 44.63 | 3.55 | 16.94 | 5.93 | 0.04 | 5.55 |
| **Total Weednanna North Resource** | | **17.2** | **25.19** | **3.00** | **29.25** | **9.28** | **0.04** | **7.36** |

| ULTIMA DAM WEST | | | | | | | |
|---|---|---|---|---|---|---|---|
| Classification | Wireframe | Tons (mt) | Fe % | Sg | Sio2 % | Al2o3 % | P % | Loi |
| Indicated | 15%<Fe<40% | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | >=40% | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Total | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Inferred | 15%<Fe<40% | 7.9 | 26.54 | 3.00 | 30.96 | 2.92 | 0.05 | 6.64 |
| | >=40% | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | Total | 7.9 | 26.54 | 3.00 | 30.96 | 2.92 | 0.05 | 6.64 |
| Inferred +Indicated | 15%<Fe<40% | 7.9 | 26.54 | 3.00 | 30.96 | 2.92 | 0.05 | 6.64 |
| | >=40% | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Ultima Dam West Resource** | | **7.9** | **26.54** | **3.00** | **30.96** | **2.92** | **0.05** | **6.64** |

**Appendix C:**

The Resource estimate was completed using the following parameters:
- The Resource Estimate Statement covers four deposit areas. For the four deposit areas, details are as follows:
    - Weednanna covers a 1,170m lateral extent from 6,373,390mN to 6,372,220mN (MGA94) and the vertical extent of the resource is 260m from surface at approximately 316mRL to 56mRL.
    - Ultima Dam East covers a 2,280m NW to SE lateral extent from 6,377,480mN to 6,375,200mN (MGA94) with a vertical extent of 190m from surface at approximately 290mRL to 100mRL.
    - Weednanna North covers a lateral extent of 1,280m from 6,374,600mN to 6,373,320mN (MGA94) with a vertical extent of 250m from surface at approximately 320mRL to 70mRL.
    - Ultima Dam West covers a lateral extent of 390m from 635,560mE to 635,950mE (total untested anomaly has a lateral extent of 2,400m) with a vertical extent of 150m from surface at approximately 300mRL to 150mRL.
- Drill holes used in the resource estimate included 251 holes for Weednanna (215 RC, 36 diamond core), 233 holes for Ultima Dam East (163 RC, 4 diamond core, 66 RAB & AC), 132 holes for Weednanna North (113 RC, 3 diamond core, 16 RAB) and 121 holes at Ultima Dam West (48 RC, 3 diamond core, 70 RAB) for a total of 69,740m within the resource wireframes. The full database contained records for 878 drill holes for 77,180m of drilling.
- Holes in the resource were drilled at section spacing's between 25m and 200m, but commonly at 25m.
- The majority of RC holes were sampled at 2m intervals (mid-2008 onwards). Historical RC holes and RC drilling from 2006 to mid-2008 were sampled at 1m intervals and converted to 2m composites. The sampling method involved collecting drill cuttings in pre-numbered calico bags from a rig mounted rotary cone splitter, while the remaining bulk material was collected to provide for further test work.
- Down hole geospatial surveying was conducted using both a north-seeking gyroscopic tool and a standard gyroscopic deviation tool for comparison.
- Collar surveys and topographic surveys were carried out using a differential GPS capable of 0.05m lateral and vertical accuracy using standard topographic survey techniques.
- Sample preparation and assay was carried out first by SGS Laboratories and later Amdel Laboratories in Adelaide, SA and Cardiff, NSW. Comprehensive assaying was routinely carried out using the XRF analytical method on a full suite of elements including Fe, $Al_2O_3$, $SiO_2$, CaO, MgO, $K_2O$, $Na_2O$, Mn, P, S, $TiO_2$, and three stage loss on ignition (LOI) at varying temperatures.
- Drill data and Quality Control practices for the recent drilling have been reviewed by SRK Consulting and have been verified as accurate and unbiased. It is the view of SRK Consulting that the base data used in the estimates has provided a robust and accurate resource.
- Wireframes were constructed using cross sectional interpretations based on mineralised envelopes at nominal cut off grades of >15% Fe for the low grade mineralisation and

- >40% Fe for the high grade skarn mineralisation.  Samples within the wireframes were composited to a best fit at intervals of 2.0m.
- A Surpac block model was used for the resource estimates with a block size of 12.5m x 12.5m x 4m vertical with sub-cells of 6.25m x 6.25m x 2m vertical for Weednanna and Weednanna North, and 25m x 25m x 4m with sub-blocking of 6.25m x 6.25m x 4m for Ultima Dam East and Ultima Dam West.
- Ordinary kriging was used for Grade Interpolation for each deposit.  The 15% and 40% wireframes were used as hard boundaries and each shape was estimated separately, meaning blocks within a shape were only informed by composite within the same shape.  The dimension and orientation of the ellipsoid were different for each deposit but all had the same orientation as the calculated variogram anisotropy for its respective deposit.
- Specific Gravity (SG) calculated by applying the polynomial best fit equation $SG = (0.00043*(fe\_est*fe\_est)-(0.00008*fe\_est)+2.67682))$  derived from 439 pycnometer values and assuming a 2% porosity.
- The resource was classified as an Indicated and Inferred Mineral Resource, which was based largely on the kriging quality parameters, in particular the slope of regression. The Indicated portion of the resource included areas where drill spacing was less than 50m by 50m and lode continuity was good.  The Inferred portion included areas where sampling occurred on sections greater than 50m by 50m (or 100m by 50m) and where isolated, poorly understood zones of mineralisation may have occurred. Approximately 70% falls within the Indicated portion of the resource.