

Macro Wins Mining Services Contract

Highlights

- **Macro Mining Services Pty Ltd (MMS) awarded mining services contract at the Extension Iron Ore Project located in the East Pilbara Region of Western Australia (Project)**
- **Contract runs for life of mine during which Macro will provide the following services:**
 - **Exclusively provide technical services including exploration and permitting for the Project on cost plus 15%**
 - **Undertake mine site establishment, drill and blast, mining and load & haul in conjunction with strategic partner and head Project contractor, RE:GROUP Pty Ltd, on cost plus 15%**
 - **Exclusively perform crushing and screening under build own operate model on prevailing market terms**
- **Project consists of three granted mining leases covering an area of 27.6Km² located 2km north of BHP Group Ltd's (ASX:BHP) Yandi Iron Ore Operations and 20km west-north west of Rio Tinto's (ASX: RIO) Yandicoogina Iron Ore Operations**
- **Mineral resource estimate completed in 2019 defined an Indicated Resource of 16.1 Mt at 54.2% Fe (60.49% Ca Fe), 5.7% SiO₂, 5.6% Al₂O₃, 0.046% P and 10.4% LOI using a 53% Fe Cut Off Grade**
- **MMS' technical services scope includes validating previous Project metallurgical test work that indicated dry screening out <1mm size fraction leaves 11.29Mt at 57.16% Fe, (63.84% Ca Fe), 3.6% SiO₂, 4.63% Al₂O₃, 0.05% P and 10.44% LOI**
- **Project execution plan envisages utilising Macro's logistics, accommodation & raw materials hub located 28km to the east of Port Hedland's Utah Point Bulk Handling Facility for off port stockpile and potential product blending opportunities**
- **MMS' contract value to be provided to market upon MMS completing Project development schedule and execution plan as part of its technical service scope of work**
- **Macro Metals Limited to be granted call option to acquire 27.3% Project equity stake held privately by Managing Director**

Macro Metals Limited (**ASX:M4M**) (**Macro** or the **Company**) is pleased to announce that RE:GROUP Pty Ltd has awarded Macro's wholly owned subsidiary, Macro Mining Services Pty Ltd (**MMS**), a mining services contract at the Extension Iron Ore Project (**Project**).

The Project comprises three granted mining leases covering a land area of 27.6km² and is located 270km south-south-east of Port Hedland in the Eastern Pilbara Region of Western Australia; well within economic trucking distance of the Utah Point Bulk Handling Facility in Port Hedland (**UPBHF**).

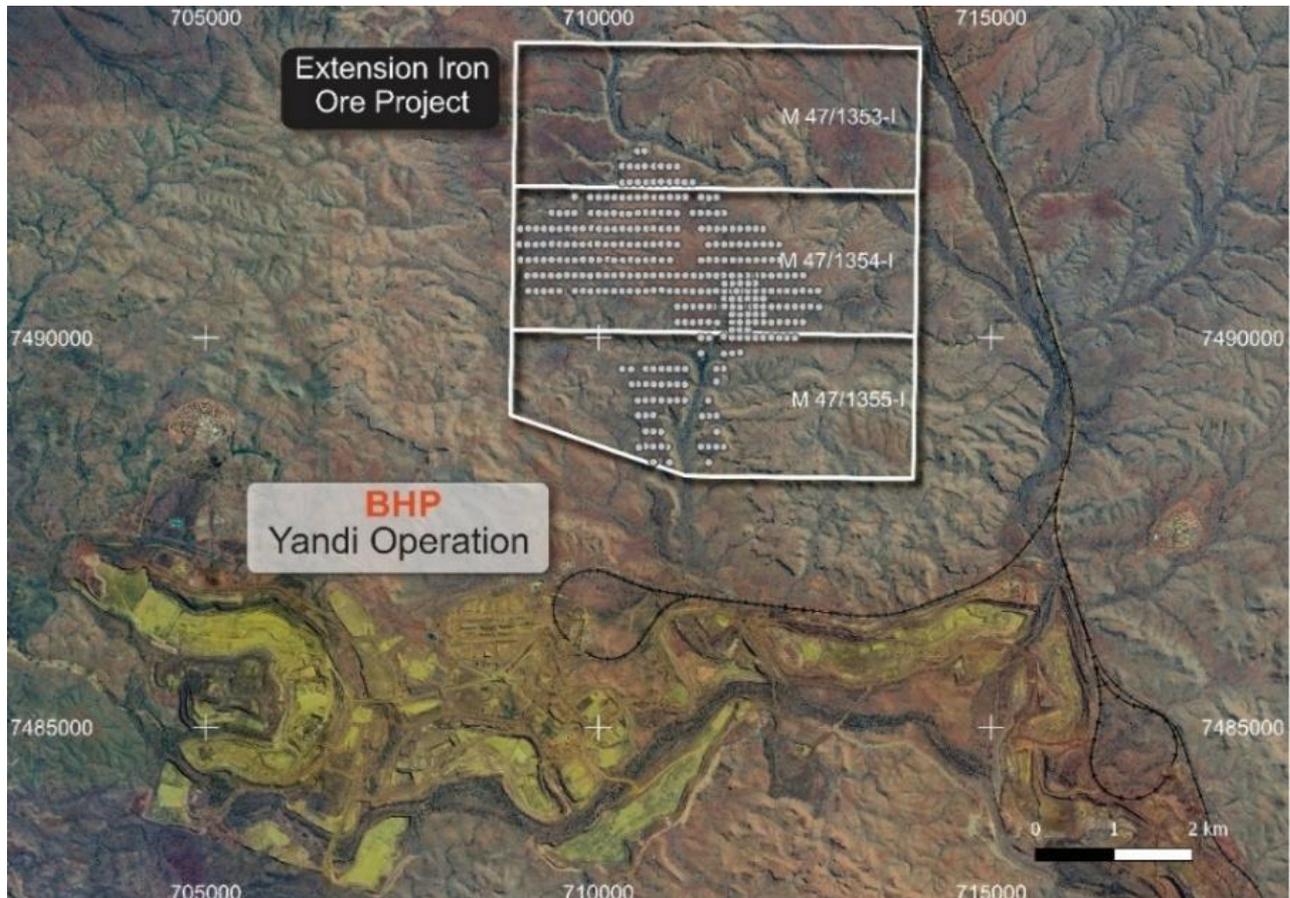


Figure 1: Location Plan of Extension Iron Ore Project

A mineral resource estimate completed in 2019 outlined an Indicated Mineral Resource of 16.1 Mt at 54.2% Fe, 5.7% SiO₂, 5.6% Al₂O₃, 0.046% P and 10.4% LOI using a 53% Fe Cut Off Grade.

A key component of the technical services scope of work that MMS will undertake is validating metallurgical test work conducted by the former project holder that established that 11.29Mt of iron ore with specifications of 57.16% Fe, 3.6% SiO₂, 4.63% Al₂O₃, 0.05% P and 10.44% LOI would remain after dry screening and removing the <1mm size fraction.

Mr Tolga Kumova, Chairman of Macro stated: "The award of this life of mine, mining services contract to Macro Mining Services at the Extension Iron Ore Project by RE:GROUP is testament to the level of professionalism and expertise that the Macro team has demonstrated to the market.

Pleasingly, we will immediately begin generating cashflow from the contract as our team commences providing the technical services required to expedite Project approvals and development.



As soon as Macro secures full permitting for the Project, our team will, in conjunction with the team at RE:GROUP Pty Ltd, transition the Project into operations whereby we will jointly undertake mine site establishment, drill and blast, mining and load and haul operations to the ROM pad for life of mine of the Project. In addition, Macro will exclusively provide ROM management, crushing and screening services under a build own operate model for life of mine of the Project.

This Project is ideally located to take advantage of Macro's strategic logistics hub that provides an off-port storage solution just on the outskirts of Port Hedland. The favourably low phosphorous content of the Extension Project iron ore offers an attractive blending proposition to higher phosphorus content products currently being exported over Utah Point and the logistics hub, located just 28kms east of the port, provides an ideal product blending location."

In addition to validating previous metallurgical test work, the MMS team will engage with the Pilbara Ports Authority (**PPA**) as part of Project planning works to determine availability of an annualised export allocation of 1.5-2 million tonnes per annum (**Mtpa**) for the Project.

The MMS exploration team will also shortly begin assessing the exploration upside potential of several currently untested mineralisation outcrops on the Project tenements, with the aim of increasing the life of mine.

Mr Simon Rushton, Managing Director of Macro stated: "I am delighted to have negotiated this mining services contract with our partners at RE:GROUP. Their team is highly capable and very well regarded and I am very pleased to be formally embarking on our first operational project together.

Our two teams have already built an extremely strong working relationship since our businesses strategically aligned last year and this relationship will only strengthen in the weeks and months ahead as we continue to jointly work on a range of other bulk commodity contracting opportunities and initiatives across the Pilbara.

This life of mine, mining services contract with RE:GROUP locks in revenue and margins for our business and creates a very solid foundation for the contracting order book we are currently building. MMS' scope of work under this contract is firmly aligned with the business model we are pursuing; namely that we look to perform as many aspects of the supply chain as possible from pit to customer.

Outside of this project, the MMS team has been incredibly busy over the past four months building the foundations of our mining services division. The volume of EOI and tender work we have been involved in across the WA mining industry, from tier 1 Pilbara iron ore companies through to Goldfields' gold companies, has been significant and the feedback received regarding the quality of our submissions has been nothing short of exemplary.

The award of this contract follows MMS recently achieving first revenue after successfully mobilising to an ASX-listed client's site and quickly diagnosing and safely repairing their crushing plant to return it to service. While only a small scope of work, it was a demonstration of the MMS crushing team's vast experience and technical knowledge and their capability to safely service tier 1 mining and resources clients across WA."



Project and contracting details

Project owner, Project Rusty Pty Ltd (**Rusty**) has appointed RE:GROUP Pty Ltd the head mining services contract for the Project. RE:GROUP Pty Ltd's scope of work includes the full suite of technical, developmental and operational services required to secure all remaining Project approvals, to establish the mine site and thereafter to operate the mine and deliver the saleable iron ore product to the Utah Point Bulk Handling Facility for life of mine.

RE:GROUP Pty Ltd has appointed MMS to exclusively perform all technical services work at the Project as well as the crushing and screening services for life of mine. In addition, the mining services contract also requires MMS to jointly perform mine site establishment works as well as ongoing mining, drill & blast and load & haul operations for life of mine in conjunction with RE:GROUP Pty Ltd.

The technical services aspect of MMS' scope of work as well as the mine site establishment, drill & blast, mining and load & haul services that MMS will jointly perform with RE:GROUP Pty Ltd will be remunerated on a cost plus 15% mark-up basis. The crushing and screening services that MMS will exclusively provide at the Project will be on prevailing market remuneration terms utilising a build own operate model.

The expected revenue to be generated by MMS from its contract with RE:GROUP Pty Ltd over the life of mine of the Project will be reported to the market as soon as possible after MMS completes its technical services scope of work, which will include preparation of a mine plan that in turn will enable mining and processing costs (and contract revenue for MMS) to be accurately forecasted.

Rusty is a privately held company. Macro Directors, Mr Simon Rushton and Mr Rob Jewson, each hold 27.3% of the issued share capital.

Subject to receipt of shareholder approval under ASX Listing Rule 10.1, Mr Rushton has agreed to grant Macro an option to acquire his 27.3% shareholding in Rusty. Subject to shareholder approval under ASX Listing Rule 10.11, and any applicable regulatory approvals, Macro may exercise its option at any time on or prior to commercial production at the Project. The consideration payable by Macro to Mr Rushton **if Macro exercises the option** is the issue of 175,000,000 fully paid ordinary Macro shares.

Next Steps

MMS has commenced preparing a detailed scope of work and cost estimation for the Project to undertake the permitting and development activities required to commence operations at the Project. Key aspects of the initial phase of MMS' works under the mining services contract include:

- Evaluation of current permitting and approvals status to finalise the approvals pathway and expedite final Project approvals with the aim of commencing commercial production as soon as possible.
- Application for bulk sample permitting to facilitate trial shipments.
- Exploration program to evaluate potential of increasing resource base.
- Liaising with PPA to secure between 1.5 – 2Mtpa of allocation at the UPBHF for life of mine of the Project.
- Optimisation of haulage corridor and logistics between the Project and Port Hedland (to be completed in conjunction with RE:GROUP Pty Ltd who will provide haulage services).
- Development of the Project execution plan, mine plan and mine schedule.



This announcement has been authorised for release by the Board of Directors.

For further information, please contact:

Simon Rushton

Managing Director

Macro Metals Limited

+61 3 6143 6707

info@macrometals.com.au

About Macro Metals Limited

Macro is a mineral exploration, development and mining services company focussed on delivery of shareholder value through the economic development of natural resource assets.

Macro owns directly a portfolio of iron ore and manganese assets which are undergoing active exploration programs, with the aim of providing future production opportunities.

Separately, through its wholly owned subsidiary, Macro Mining Services Pty Ltd, the Company offers bespoke, safe and highly value accretive mining services across a range of commodity groups and through the entire pit to customer supply chain, including mining, crushing and screening, processing, haulage, ship loading and shipping services.

Macro is a diversified mining and mining services business.

Competent Person's Statement

The information in this report that relates to Mineral Resources is based on and fairly represents information compiled by Mr Lynn Widenbar. Mr Widenbar, who is a Member of the Australasian Institute of Mining and Metallurgy, is a fulltime employee of Widenbar and Associates and produced the Mineral Resource Estimate based on data and geological information supplied by Maiden Iron Pty Ltd (Former Project Owner). Mr Widenbar has 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 a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves. Mr Widenbar consents to the inclusion in this report of the matters based on his information in the form and context that the information appears.

The information in this announcement that relates to exploration results at the Extension Iron Ore Project is based on and fairly represents information compiled by Mr Robert Jewson, who is a Member of the Australian Institute of Geoscientists, Director and Shareholder of Project Rusty Pty Ltd and a Non-Executive Director of Macro Metals Limited. Mr Jewson has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity which he has undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Jewson consents to the inclusion in this report of the matters based on this information in the form and context in which it appears. Mr Jewson is a shareholder of Macro Metals Ltd.



Overview of Extension Iron Project

Widenbar and Associates (“WAA”) was commissioned by Maiden Iron Pty Ltd (MI) (Former owner) to produce a Resource Estimate for the Extension Iron Ore Deposit in July 2019 and is reported in accordance by Macro Metals Ltd in accordance with the requirements of ASX Listing Rule 5.8 in this announcement.

The Extension deposit lies in the central portion of the Hamersley Ranges, and is located 3km north of BHPB’s Yandicoogina Mine and near to established mine service infrastructure in the Central Pilbara.

A total of 56 diamond core holes were drilled for 501 metres. The majority of these holes were drilled in the Initial Mining Area (IMA), in the east of the resource, to increase the density of drilling to a 100 by 100m spacing. The remainder of the holes were drilled to “twin” existing reverse circulation holes previously drilled by Iron Ore Holdings and nominally spaced at 200 by 100m.

Iron mineralisation within the project area is present as predominantly fluvial pisolite channel iron deposits (CID) with minor reworked CID and canga deposits.

The deposit has been previously modelled by Iron Ore Holdings (IOH - Widenbar, 2007 and subsequently updated in 2014. The improved drilling data from MI’s diamond programme within the IMA has now been used to recalculate the resource within the IMA. The resource outside of the IMA remains that same as that determined previously.

An Inverse Distance interpolation method was used to estimate the updated part of the resource. Ordinary Kriging was used to estimate the older, IOH resource. No grade capping was applied. Search ellipses applied in the estimate were based on variography, drill hole spacing and the interpreted geological continuity and orientation of the deposits.

The resource estimate has been classified in the Indicated category as defined by the 2012 edition of the JORC code. The Mineral Resource at a 53% Fe cut off grade is reported below:

Classification	Tonnage (Mt)	Fe (%)	P (%)	SiO ₂ (%)	Al ₂ O ₃ (%)	LOI (%)	CaFe (%)
Indicated	16.1	54.2	0.046	5.74	5.64	10.4	60.49
Total	16.1	54.2	0.046	5.74	5.64	10.4	60.49

The Competent Persons deem that there are reasonable prospects for eventual economic extraction (**RPEEE**) of iron mineralisation on the following basis:

- The detrital iron mineralisation has been delineated by reverse circulation percussion (**RCP**) and diamond core drilling over an approximately 3.8km by 3.9km area. The vast majority of the resource is exposed near surface and therefore amenable to initial simple open pit mining.
- The iron mineralisation when crushed and screened to remove the <1mm size fraction is relatively comparable in iron grade to Pilbara products - Robe River Fines, FMG Blend Fines and Super Specials Fines, that are benchmarked under the Platts 58% Fines Index.
- Although the Mineral Resource is not of a scale to justify the capital expenditure of a standalone rail infrastructure, smaller tonnage Pilbara iron trucking operations to the shared Port Hedland Utah Point have operated successfully - Mineral Resources’ Wonmunna and Iron Valley are examples.

A summary of the total Extension Resource at various cutoffs is presented below:

Table 1: Extension Indicated Resource Summary

Cutoff	Volume	Tonnes	Density	Fe%	SiO ₂ %	Al ₂ O ₃ %	LOI%	P%
60	1,563	4,266	2.73	60.39	2.61	4.11	6.23	0.072
59	8,976	24,504	2.73	59.49	2.45	3.55	8.45	0.049
58	42,241	115,318	2.73	58.6	3.10	3.38	9.19	0.041
57	158,410	432,460	2.73	57.72	3.56	3.85	9.51	0.041
56	410,562	1,120,833	2.73	56.94	3.90	4.28	9.86	0.044
55	1,017,415	2,777,528	2.73	56.02	4.43	4.76	10.08	0.046
54	2,861,876	7,812,846	2.73	54.99	5.19	5.29	10.19	0.046
53	5,902,231	16,112,770	2.73	54.22	5.74	5.64	10.35	0.046
52	8,597,178	23,469,446	2.73	53.69	6.17	5.87	10.39	0.047
51	10,162,730	27,741,924	2.73	53.36	6.46	6.01	10.42	0.047
50	11,076,518	30,232,619	2.73	53.14	6.68	6.07	10.46	0.047
49	11,278,827	30,767,143	2.73	53.08	6.74	6.10	10.46	0.046
48	11,932,831	32,504,810	2.72	52.83	6.96	6.20	10.47	0.046
47	13,322,105	36,182,991	2.72	52.28	7.45	6.46	10.47	0.044
46	15,739,241	42,592,714	2.71	51.41	8.22	6.89	10.45	0.043
45	18,930,911	51,139,353	2.70	50.42	9.13	7.33	10.43	0.041
44	22,307,850	60,206,689	2.70	49.53	9.99	7.71	10.42	0.04
43	25,218,989	68,083,198	2.70	48.83	10.62	8.04	10.42	0.039
42	27,394,998	73,977,993	2.70	48.33	11.06	8.30	10.44	0.038
41	29,109,081	78,599,683	2.70	47.93	11.39	8.51	10.45	0.038
40	30,244,489	81,659,878	2.70	47.65	11.64	8.65	10.46	0.038
0	32,705,992	88,160,280	2.70	46.94	12.34	8.98	10.43	0.037

Location

The Extension deposit is located in Project Rusty Pty Ltd's tenements M47/1353 to M47/1355 inclusive.

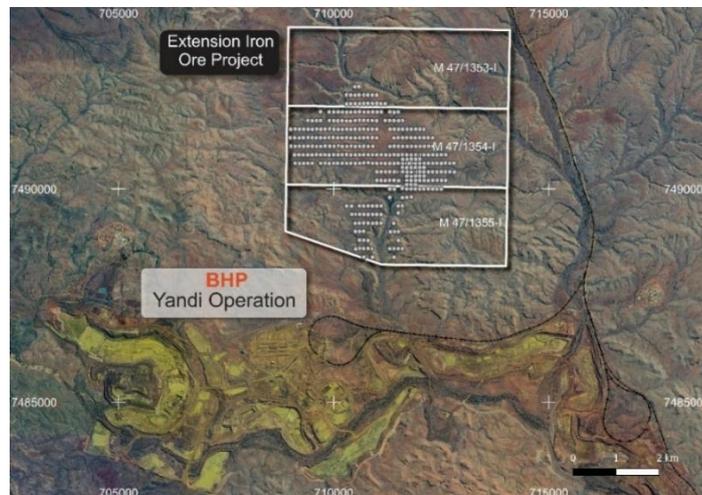


Figure 2: Location Plan of Extension Iron Ore Project



Drilling and Sampling

Drilling

IOH drilled 333 RC holes at Extension for a total of 3,992 metres. Drilling was on a nominal spacing of 200m by 100m using a Hydco 150 RC drill rig with an onboard riffle splitter operated by the drilling contractor.

Maiden has subsequently drilled 56 diamond holes for a total of 501 metres. Drill hole locations are illustrated below. In the Initial Mining Area these holes twinned the 200m x 100 m IOH and infilled to 100m by 100m spacing.

Collar Location

All holes have been surveyed by DGPS, which has an expected relative accuracy of 0.02m East and North and 0.05m RL for the control, and 0.05m East, North and RL for the collars.

A drill hole location plans are shown below.

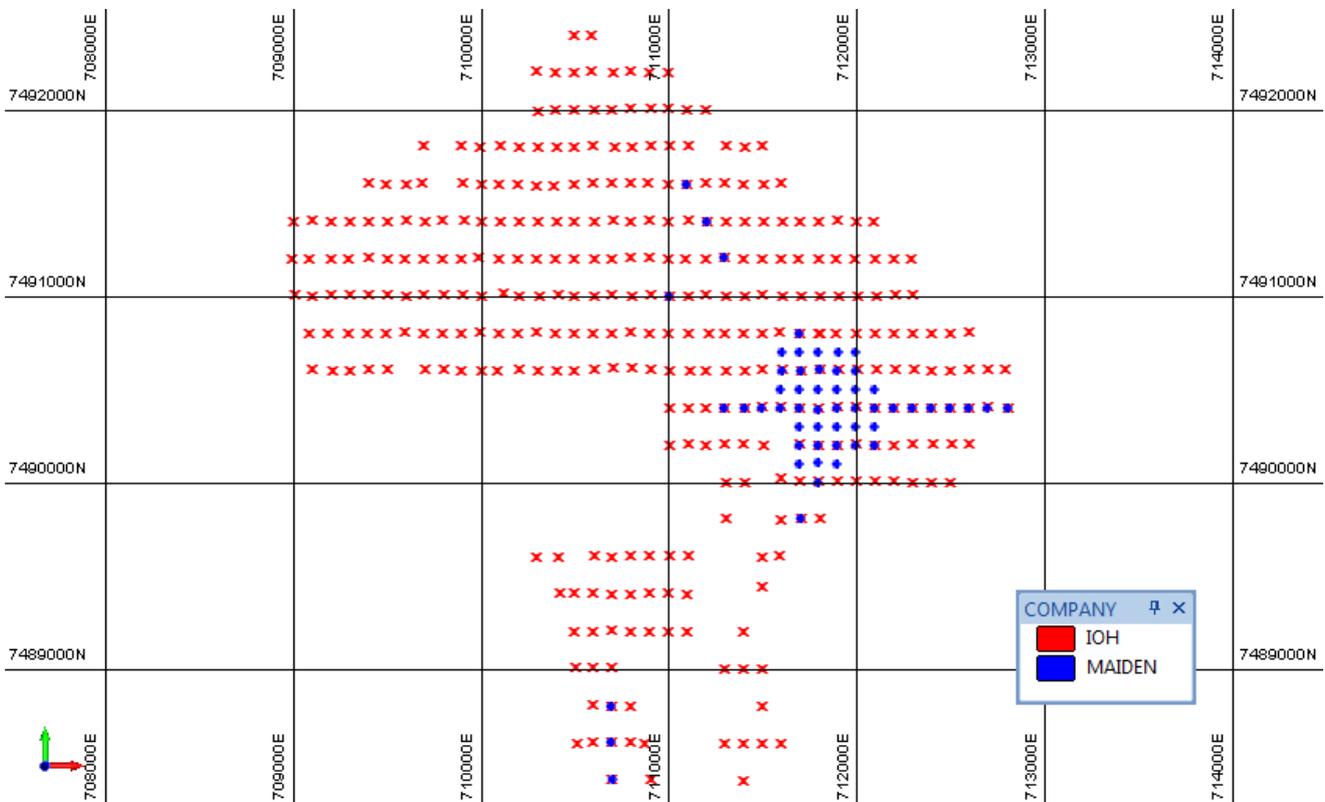


Figure 3: Drill Hole Location Plan

Drill Hole Sampling

IOH Sampling

Samples were collected every 2 metres down hole, riffle split for routine assaying (3kg) and retention (1 litre plastic jar) with the remainder (about 45 kg) as the drill reject sample left on site. Additional drill sample treatment was carried out for quality control purposes.



Maiden Iron Sampling

Diamond core samples were targeted at a nominal 250mm interval constrained to geologically identified boundaries where appropriate. The core was photographed before the whole core samples were sent to be analysed.

Sample Preparation and Assaying

IOH Sample Preparation and Assaying

The sample preparation method consisted of initial drying at 105° then jaw crushing the whole sample followed by vibrating disk pulverization to -200 mesh. As part of quality assurance/quality control (QA/QC) procedure, laboratory instigated duplicate pulp and standard/certified reference material (CRM) analysis was undertaken randomly every 24 samples.

Drill samples were analysed using the X-Ray Fluorescence Spectrometry (XRF) method by Ultra Trace Laboratories in Perth for Fe, SiO₂, Al₂O₃, TiO₂, MnO, CaO, P, S, MgO, Zn, K₂O, Sn, V, Cr, Co, Ni, Cu, As, Pb, Ba, Cl and Sr. In addition, loss on ignition (LOI) was determined by Thermo-Gravimetric Analysis (TGA) between 105°C and 1000°C and reweighing for content of combined water and carbon dioxide with results being reported on a dry sample basis.

Maiden Iron Sample Preparation and Assaying

Drill samples were analysed using the X-Ray Fluorescence Spectrometry (XRF) method for Fe, SiO₂, Al₂O₃, TiO₂, MnO, CaO, P, S, MgO, Zn, K₂O, Sn, V, Cr, Co, Ni, Cu, As, Pb, Ba, Na₂O, Cl, Sr and LOI.

QAQC

IOH QAQC

IOH QAQC procedures and results are documented in Widenbar, 2012. Results are acceptable for the classification category proposed.

Maiden Iron QAQC

Company instigated blanks, standards and duplicate samples were inserted at approximately 25 metre intervals. Laboratory instigated standards were also introduced as well as repeat samples. Results are acceptable for the classification category proposed.

Geological Interpretation

Project Area Geology

The project area lies on the flanks of the regional east-southeast trending Yandicoogina Syncline which plunges shallowly to the east and is flanked on both limbs by Lower Proterozoic Brockman Iron Formation underlying shale, dolerite and BIF of the Weeli Wollli Formation exposed in the core. The economically important Tertiary Marillana channel iron deposit was deposited in a meandering palaeochannel in the synclinal core alongside the present Marillana Creek.

Local Geology

The deposit area is underlain by Proterozoic basement rocks of the Brockman Iron Formation and Weeli Wollli Formation which are unconformably overlain by a Cainozoic sedimentary cover sequence. The cover sequence comprises lower Tertiary residual deposits of hematite goethite in bedrock, eluvial deposits of canga and mixed canga/CID, palaeochannel iron deposits of Robe Pisolite and valley fill deposits of colluvium derived from the dissection and erosion of the Hamersley Surface, an elevated and dissected peneplaned surface of probably Mesozoic to early Tertiary age overlain by Quaternary scree deposits and talus slopes, superficial deposits containing pisolites and alluvial deposits.



Channel iron deposits infill northerly and southerly trending palaeotributaries joining the major Tertiary Marillana palaeochannel which formed approximately in the same position as the present Marillana Creek drainage.

A detailed geological mapping and rock sampling program was carried out at Extension during the 2013-2014 drilling program.

Mineralisation

Iron mineralisation within the project area is present as predominantly fluvial pisolite channel iron deposits with minor residual bedded hematite-goethite and eluvial canga deposits. The channel iron deposits infill palaeotributary channels which are genetically related to the Marillana Formation/Yandi CID occupying the main palaeochannel which occurs alongside the present day Marillana Creek system. The Yandi CID is traceable for some 80 kilometres in the Marillana Creek catchment and is 450 to 750 meters wide and up to 80 meters thick. It comprises largely of 1-2 mm size subrounded to rounded ooids, pisoids and peloids with red ochreous hematite (turgite) cores rimmed by concretionary vitreous goethite and larger 5-10mm size fossil wood fragments in subvitreous goethite cement.

The channel iron deposits within the project area occupy perched or hanging palaeotributary channels joining the main Marillana palaeochannel. During incision of the Hamersley Surface to form the main palaeovalley, meandering of the mature ancestral stream caused its tributaries to form discordant junctions resulting in perched or hanging palaeochannels which were later infilled with CID. As a result, the CID is more elevated and thinner within the palaeotributary channels. The CID is texturally and mineralogically similar to the Yandi CID although sedimentary structures are rarer in distribution. It is exposed over widths from 250 to 1500 meters and lengths up to 6 kilometres with thickness at CID margins ranging from 1 to 20 meters.

Sub-economic canga mineralisation occurs as usually small sized podiform bodies lying along the margins and at the base of the channel iron deposits. High grade bedded hematite-goethite mineralisation with prominent biscuit texture occupies small, shallow depressions or synclines within the Weeli Wolli Formation bedrock.

Geological Logging

Drill hole core was logged and coded for Domain, Colour, Pisolite nature, Washable Clay, Vughs and filling, Mineralogy and core competency (for DD holes). Domain coding is summarised below.



Domains	DOMAIN	Description
Alluvium	1	Red brown clays of generally Quaternary alluvium with occasional fragment of shale and or BIF bedrock and pisolite
	1a	Tertiary (if can tell difference)
Highly weathered CID very clay rich	2	May be transported a mixture of CID lumps within a red clay matrix.
Highly weathered CID very clay rich	2a	Virtually all clay occasional CID fragment will be reworked
Canga	3	Not seen very often in the CID area this is a high grade dark red hematite rich reworked CID. Clay mainly removed from reworking, has clasts that are unsorted and reasonably angular. Would be high grade. More often a Canga would be a jumbled up zone at surface including bedrock frags but not logged during this drilling See photos of EXDC049 at 3.5-6m
Upper CID (generally red)	4	When not heavily weathered and pisolites not totally remobilised into vit goethite it displays classic CID texture
Upper CID partially weathered	4a	As below but will see more primary structures such as pisolites and sometimes wood (replaced generally by limonite and occasionally ochreous goethite)
Upper CID highly weathered and reworked	4b	Vit goethite matrix which has been remobilised and rxt during weathering. Forms a skeleton. Do not see wood fragments often as has been remobilised and replaced. Often with an intense honeycomb. Relict pisolites will be seen occasionally. Goethite and Hm also common.
Clay	4c	Pred clay within upper CID with occ unweath frag of CID
Massive Fe (goethite or hematite)	5	Layer within sequence 4 or 6 of highly enriched Fe that can be separately sampled generally goethite can be hematite
Lower CID (generally tan-brown-yellow_	6	Often has remobilised vitreous goethite on beds and riming vughs. Greater proportion of goethite to limonite (opposite to LG) Usually banded red brown tan and yellow. May have pisolites which are not recrystallised and occur as rounded structures. Wood when present is replaced by multiple iron types: limonite, hematite and even vitreous goethite. Vughs not so often infilled by clay compared to LG and some honeycombs are often present
Lower CID with honeycombs as well as vughs	6a	As above but with both abundant honeycombs plus vughs and often leached
Transitional to LG	6b	Transitional to LG ie still vit goethite in matrix and not just on vugh rims and on beds as LG has
Low Grade CID	7	Hard bands of goethite and limonite becomes more common generally yellow tan in colour often banded. No wood fragments. Loosely packed clay cemented pisolites may be present. Large vughs often present and can be rimmed by vitreous goethite
	7a	As above with large rounded or subrounded pisolites in the matrix present
Enriched lower unit	8	Often seen in the transitional unit or the LG, hanging beneath the CID. Can be high grade will be narrow.
Pea gravel (large pisolites)	9	Loose pea gravel either at the top of the succession and often beneath alluvium or as cavity infills within domain 4 and sometimes 6
Basal Clays	10	Tan yellow very low Fe content
Conglomerate unit	11	Angular clasts of Weeli Wolli (sediment) in the basal clays
Basement	12	Not seen (or very rarely in this drilling program)

Table 2: Detailed Logging Descriptions

Geological Interpretation

For use in resource estimation, the detailed geological logging has been summarised into the following major codes.

Code	Stratigraphy
QA	Quaternary Alluvium
CAN	Canga
RCID	Reworked CID
UCID	Upper CID
LCID	Lower CID
LGC	Basal Conglomerate

Table 3: Stratigraphy Codes

Data Preparation and Database

Raw Data

MI supplied validated drill hole data in Micromine format. Collar, assay and coded geology data files were provided. A detailed topography digital terrain model (DTM) updated in August 2012 was also provided.

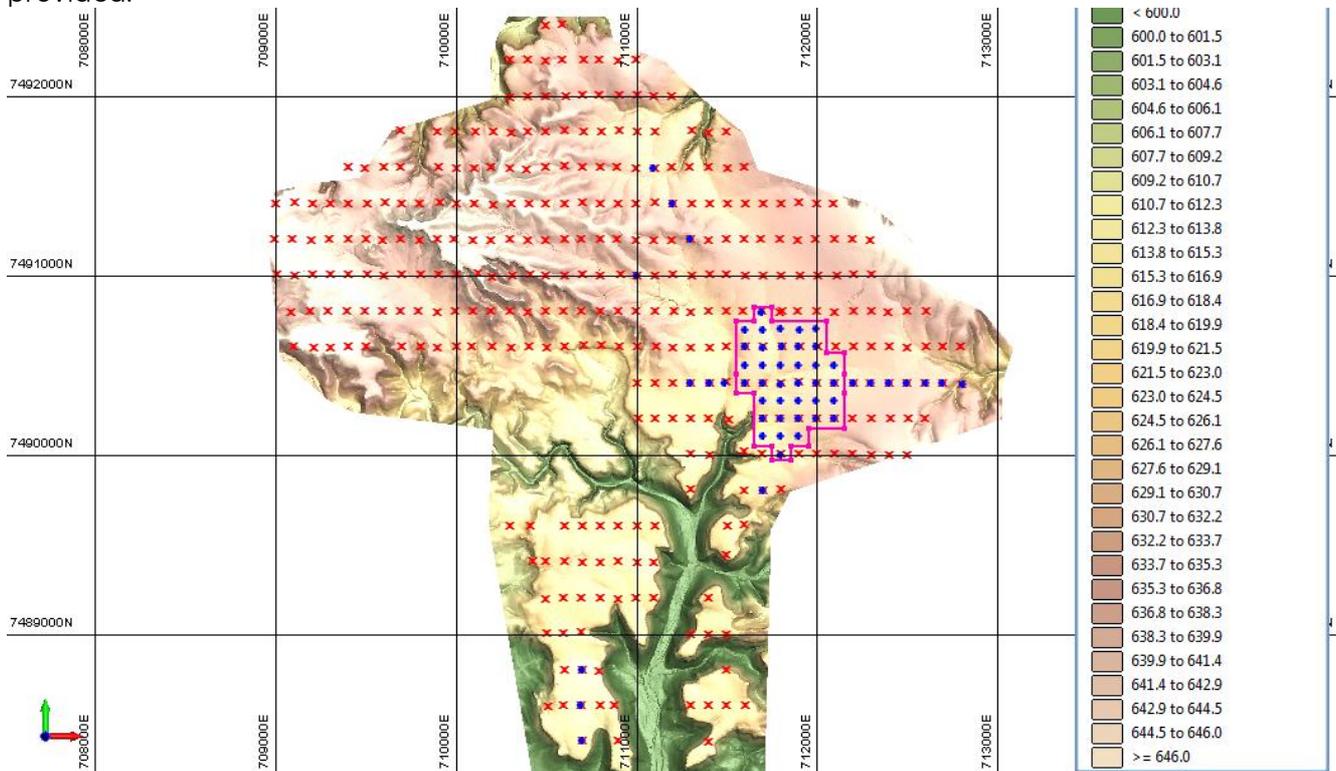


Figure 4: Extension Topography and Drill Hole Locations

All drill hole data was validated using the Micromine software package, including:

- Checks for duplicate collars
- Checks for missing samples
- Checks for down hole from-to interval consistency
- Checks for overlapping samples
- Checks for samples beyond hole depth

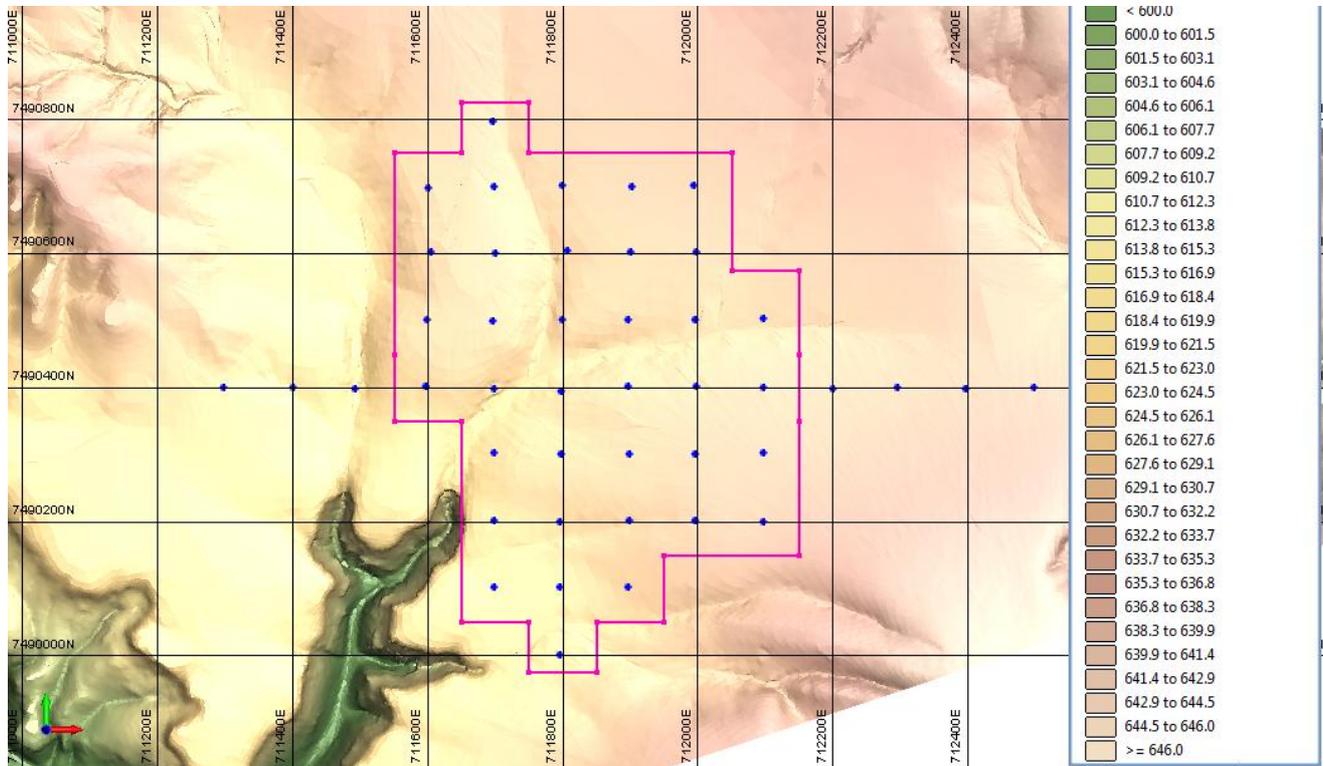


Figure 5: Extension Topography and Maiden Iron Drill Hole Locations- Initial Mining Area

Data Preparation and Database

The summary domain coding has been used to automatically generate basal surfaces for all of the major zones, using the lowest occurrence of each domain in each drill hole.

Section 7,490,400 North is shown below, illustrating the drill domain coding and auto-generated wireframe surfaces.

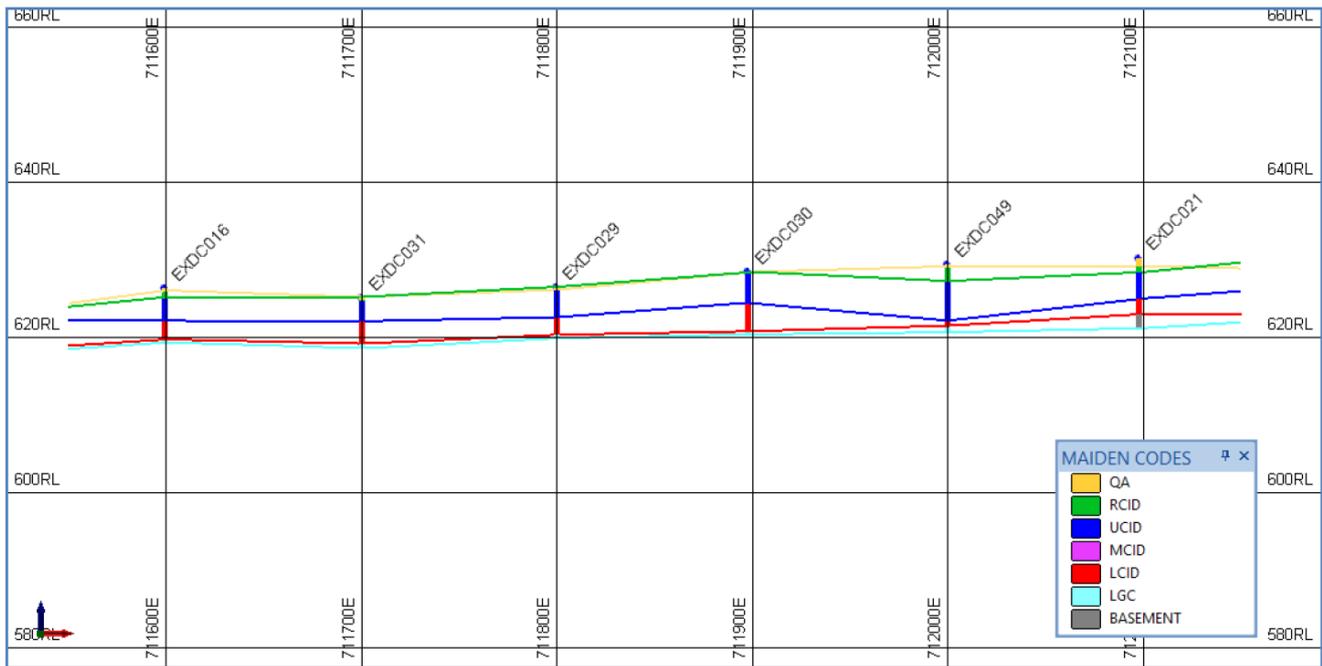


Figure 6: Section 7,490,400 North

Drill holes EXDC40, EXDC 41 and EXDC 43 had an occurrence of higher-grade CID within the Lower CID unit, which was separately coded and modelled to honour this minor CID boundary. The zone is illustrated below, on Section 7,490,600 North.

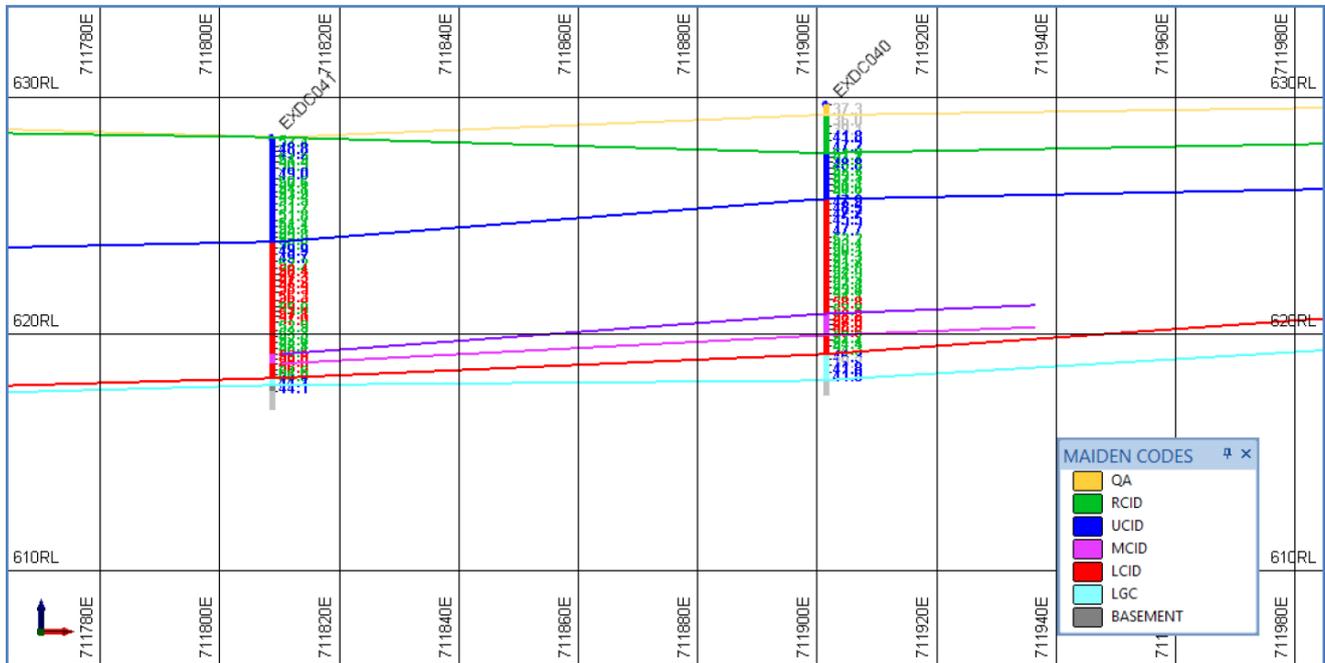


Figure 7: Section 7,490,600 North Minor CID



Metallurgy

Metallurgical testing was undertaken by the former owner, Maiden Iron in 2014 and 2015 utilising diamond drill core from the 2014 program. This test work confirmed that the removal of the 1mm size fraction upgrades the iron ore significantly. Based on this test work a marketable product above 57% Fe with very low phosphorus can be produced.

Classification	Mt	Fe%	SiO ₂ %	Al ₂ O ₃ %	LOI%	P%	Ca Fe%
Indicated	11.3	57.2	3.60	4.63	10.4	0.05	63.84

Statistical Analysis

Sample Length and Compositing

The large majority of samples are between 0.20m and 0.30m (particularly in the CID domains), and since they have been specifically selected to identify detailed geology, they have not been composited.

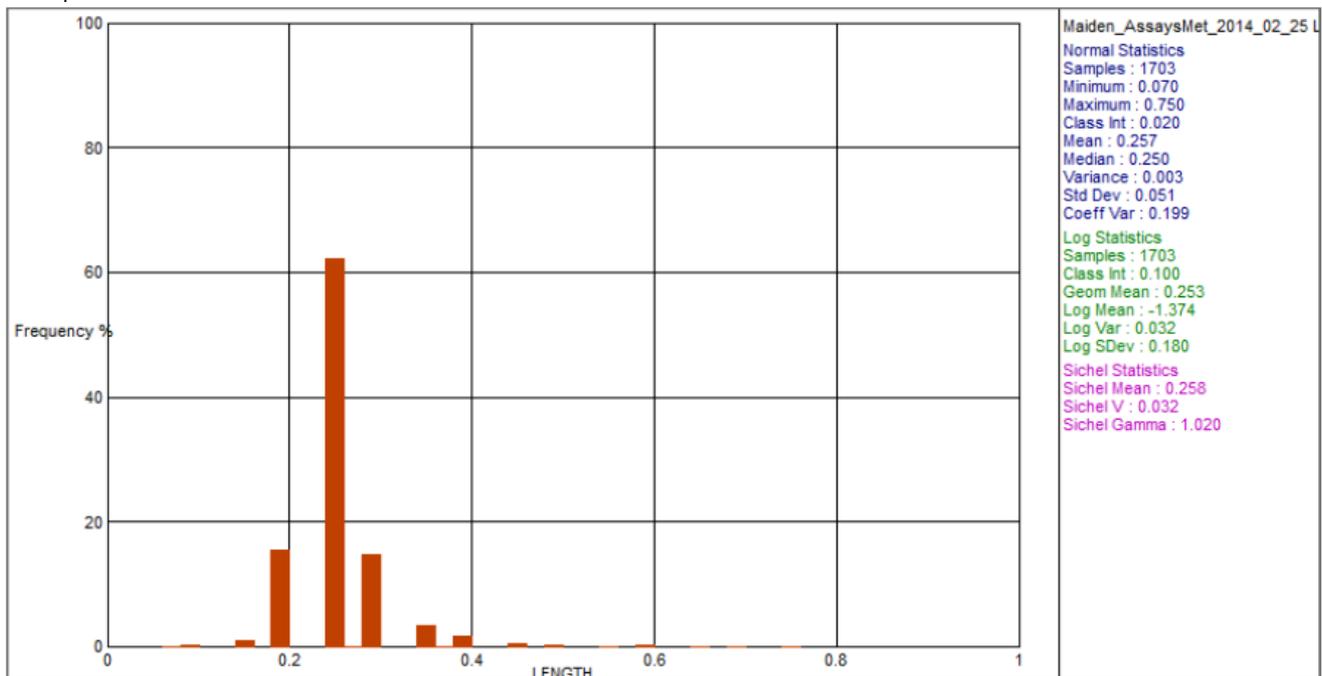


Figure 8: Assay Length Distribution (All Data)

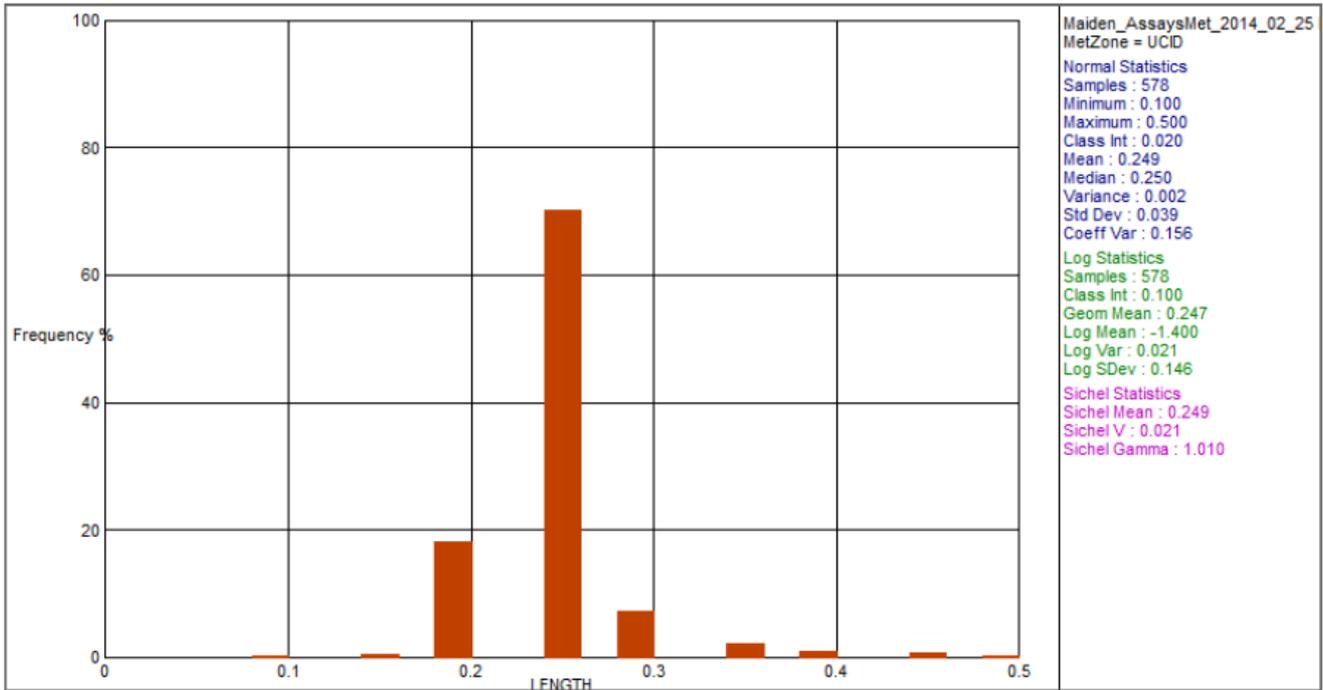


Figure 9: Assay Length Distribution Upper CID

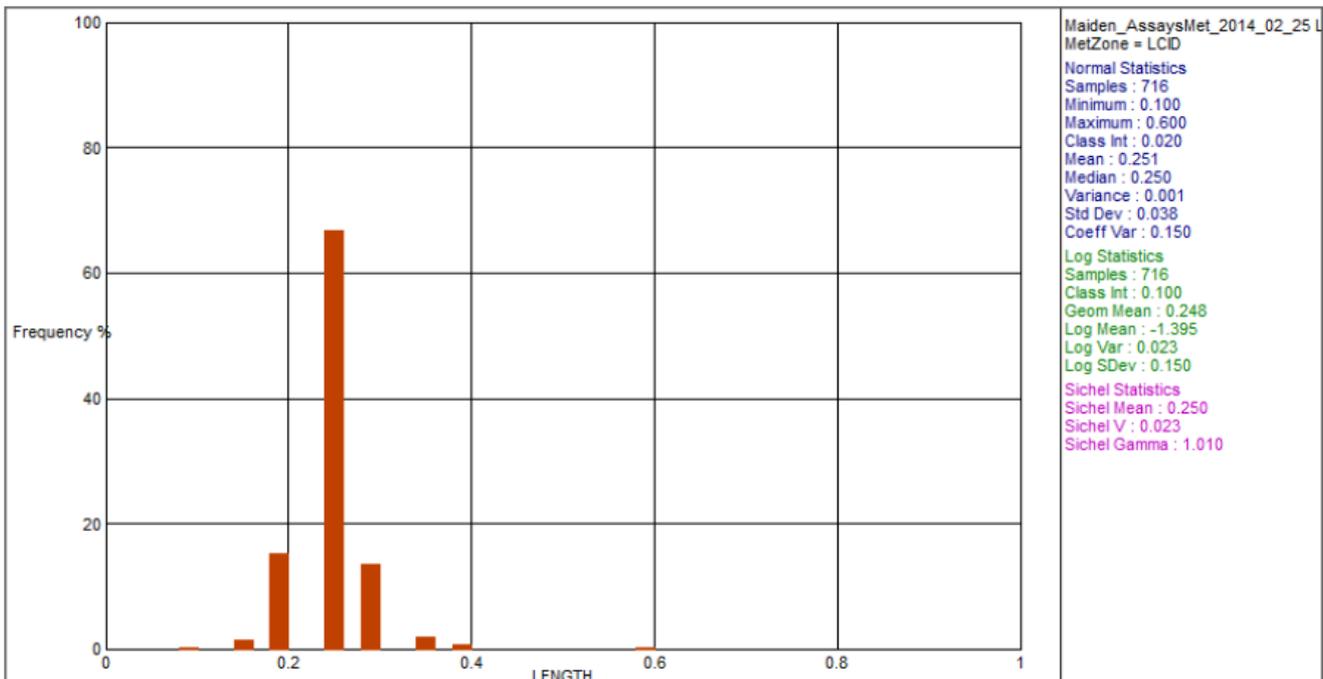


Figure 10: Assay Length Distribution Lower CID



Summary Statistics

Summary statistics have been calculated for the major elements within each domain. Key statistics for the CID domain are tabulated below.

Domain	Fe	SiO ₂ %	Al ₂ O ₃ %	LOI	P
QA	41.96	21.54	11.28	5.24	0.037
LCID	53.66	5.3	5.89	11.46	0.052
LGC	45.68	11.92	9.91	11.92	0.034
RCID	44.51	13.4	11.98	9.64	0.038
UCID	54.09	5.51	6.15	10.36	0.048
BOC	40.29	21.93	8.83	10.75	0.022

Table 4: Summary Statistics by Domain

Distribution Statistics

Distribution statistics have been used to review the statistical nature of the main domains and ensure that the domains represent coherent and separate populations.

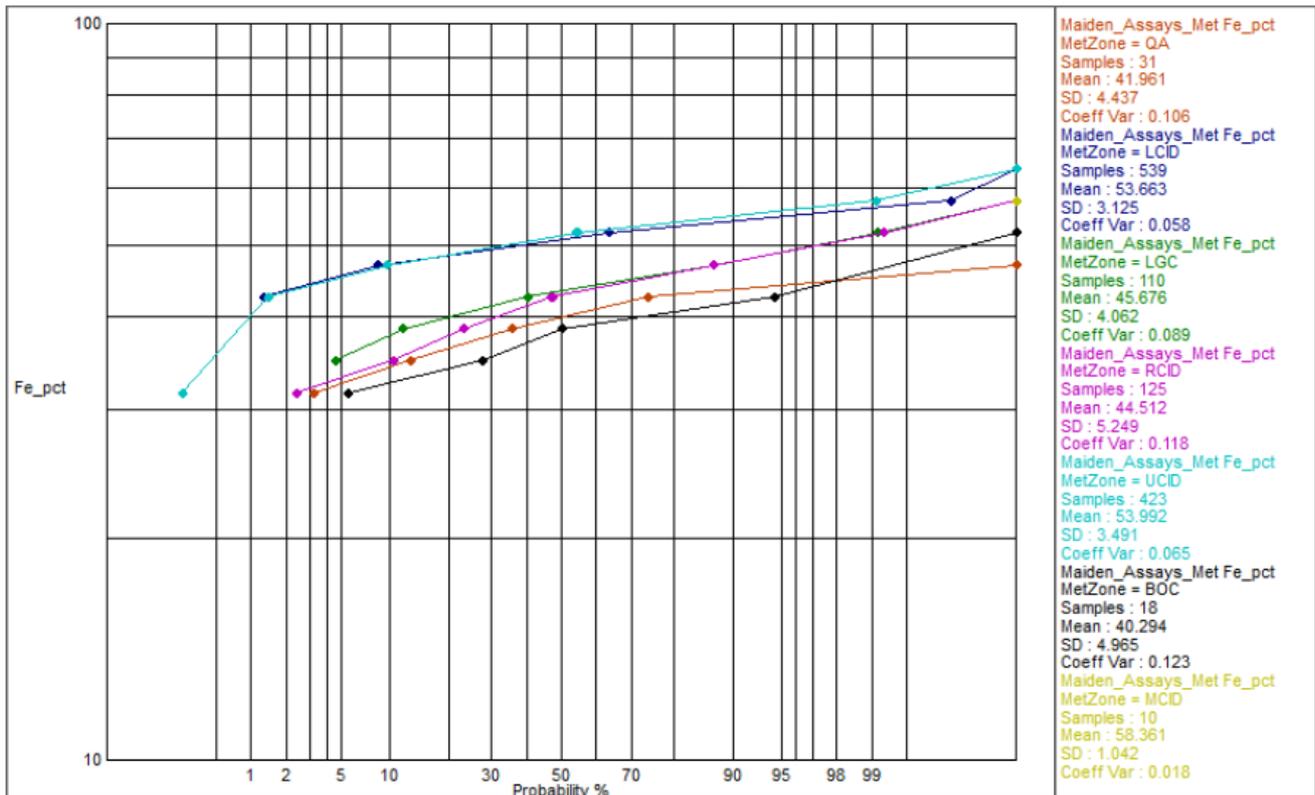


Figure 11: Fe by Domain

In general, the main elements show very similar populations for the Upper and Lower CID units, while all other domains differ significantly.

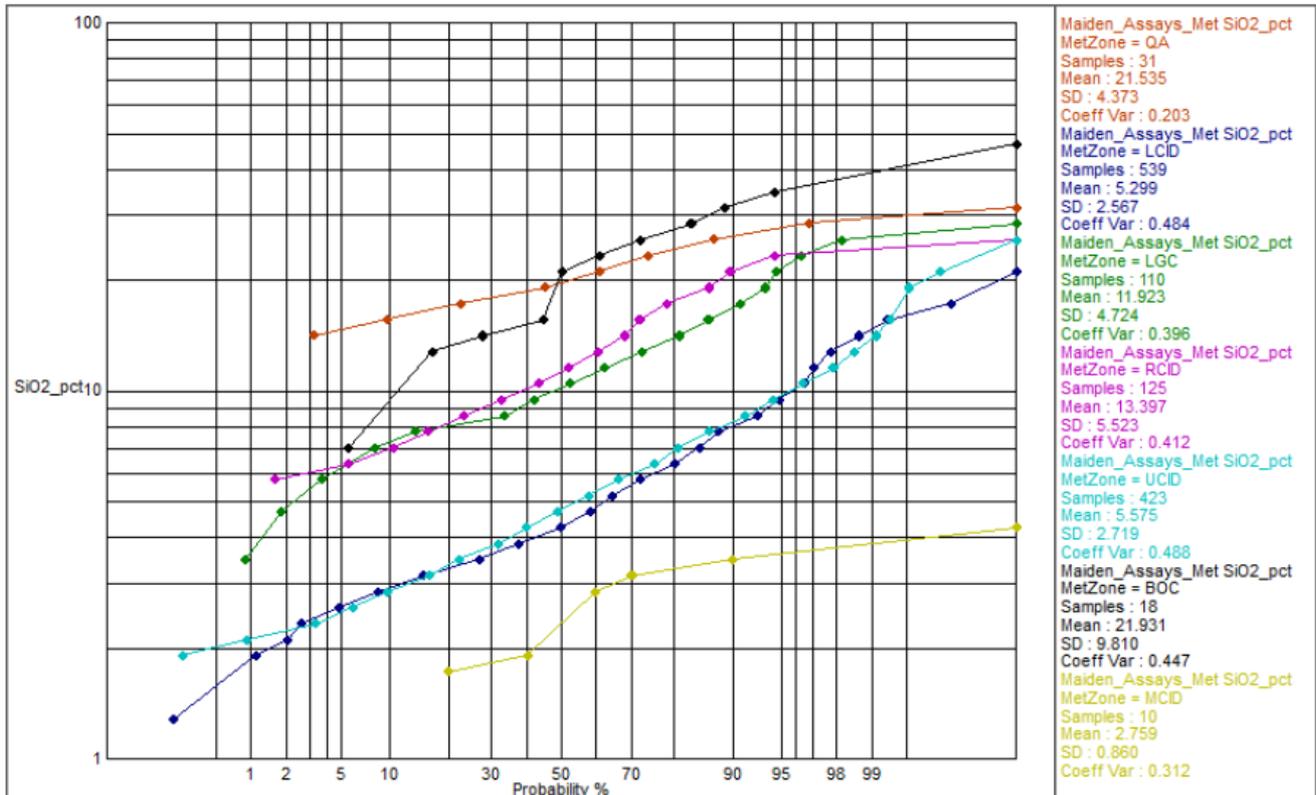


Figure 12: SiO₂ by Domain

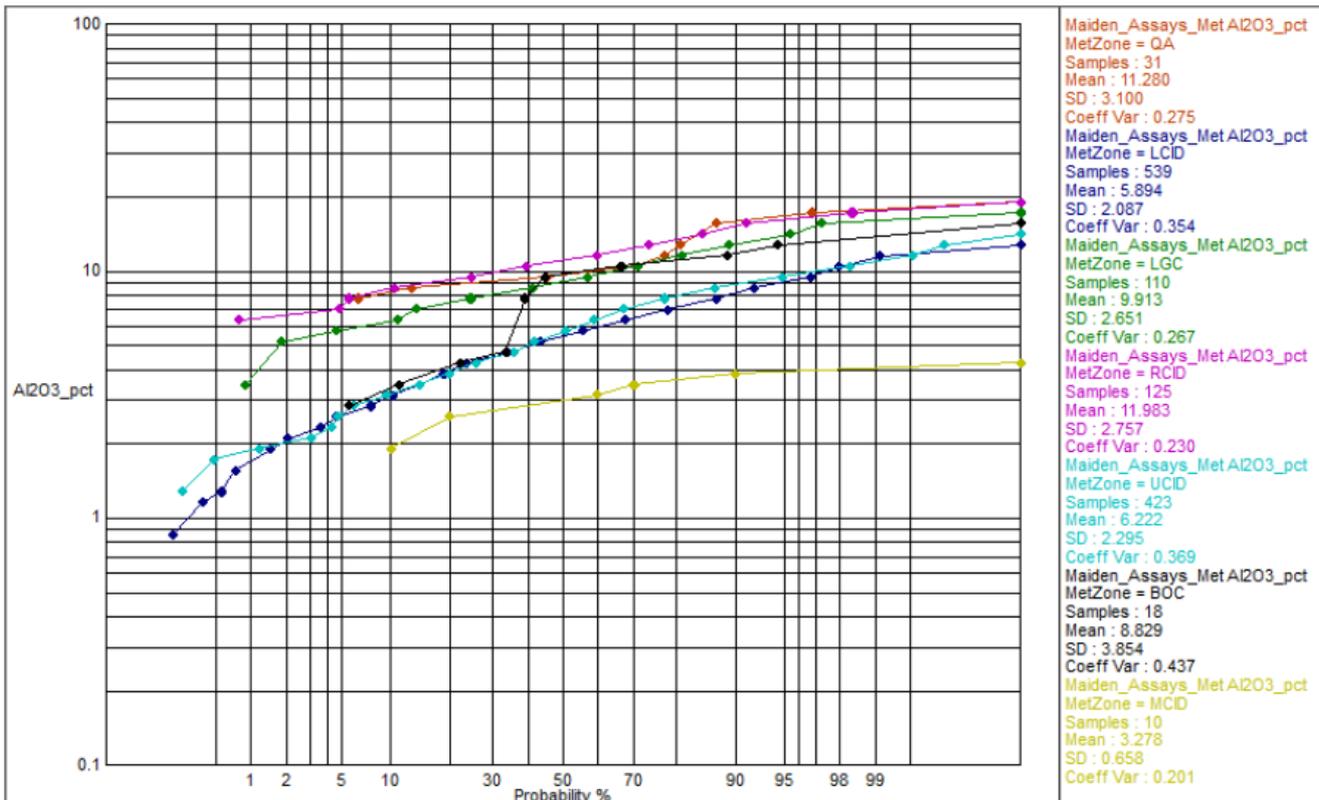


Figure 13: Al₂O₃ by Domain



Variography

Variography has been carried out for Fe, SiO₂, Al₂O₃, P and LOI for both the Upper and Lower CID units.

Downhole variograms were used to define nugget effect and first and second sills, while global horizontal variograms were used to define the main ranges. Examples for Fe from the Upper CID are shown below; a full set of variograms is in Appendix 1.

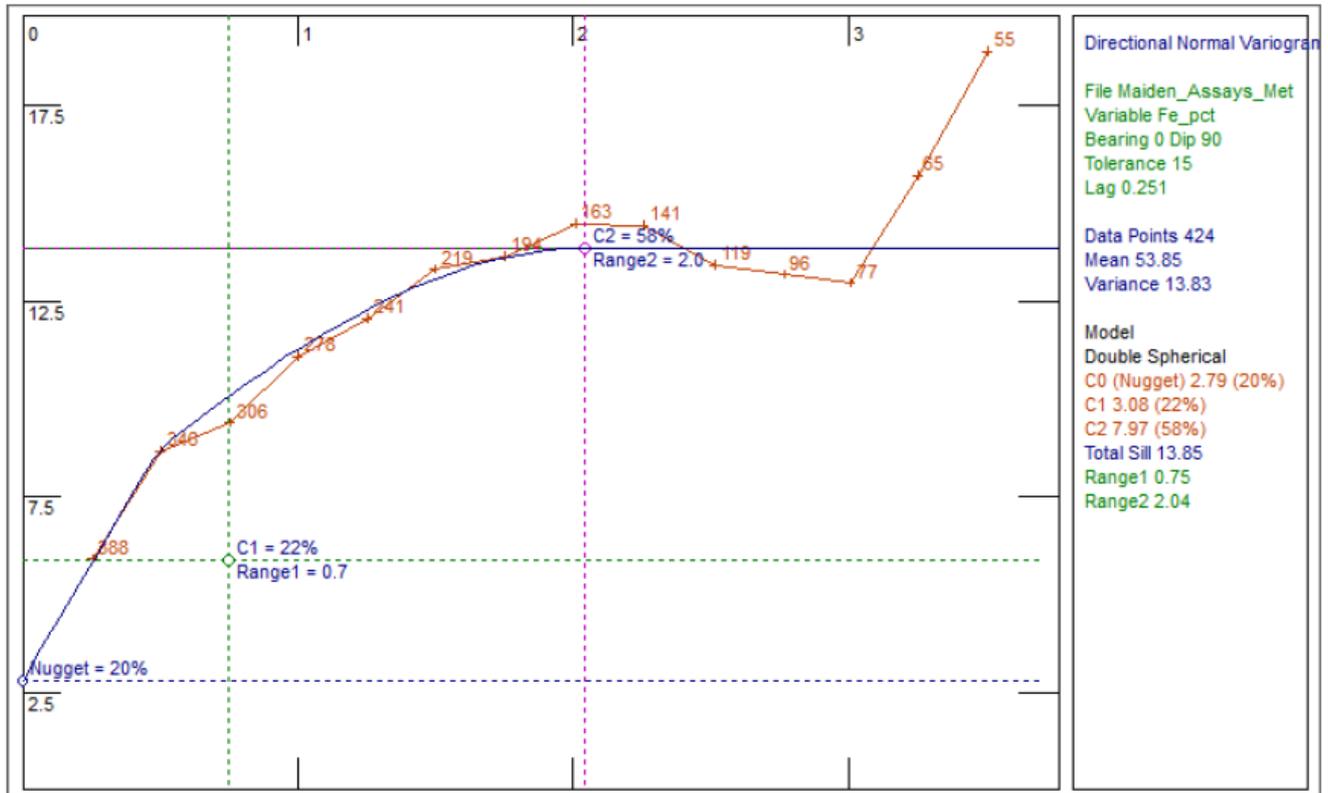


Figure 14: Fe Downhole Variogram

Generally, nugget effect is relatively low to moderate (typically 10 to 20%) while horizontal ranges are of the order of 120m to 150m. Downhole ranges are very limited, typically around 2m.

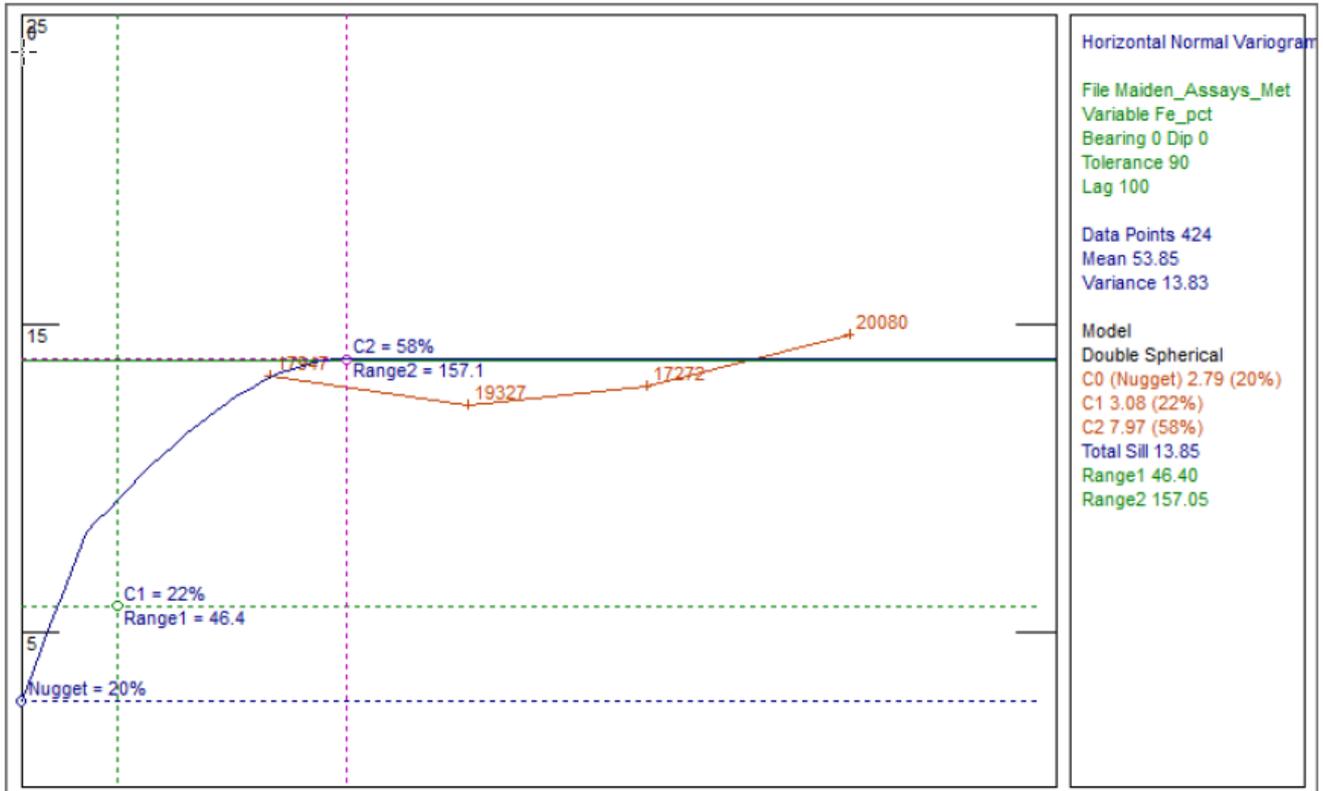


Figure 15: Fe Horizontal Variogram

Rock Models

An “empty” rock model was created for the Initial Mining Area using the topographic and geological surfaces as constraints. Block model parameters are summarised below. Sub-cells to a minimum of 1.25m by 1.25m were used to spatially honour geological and topographical boundaries. Typical sections through the rock model are illustrated below.

	Min Centre	Block Size	Max Centre	# Blocks
East :	711156.25	12.5	712843.75	136
North :	7489956.25	12.5	7490843.75	72
Z :	575.125	.25	659.875	340

Table 5: Block Model Setup Parameters

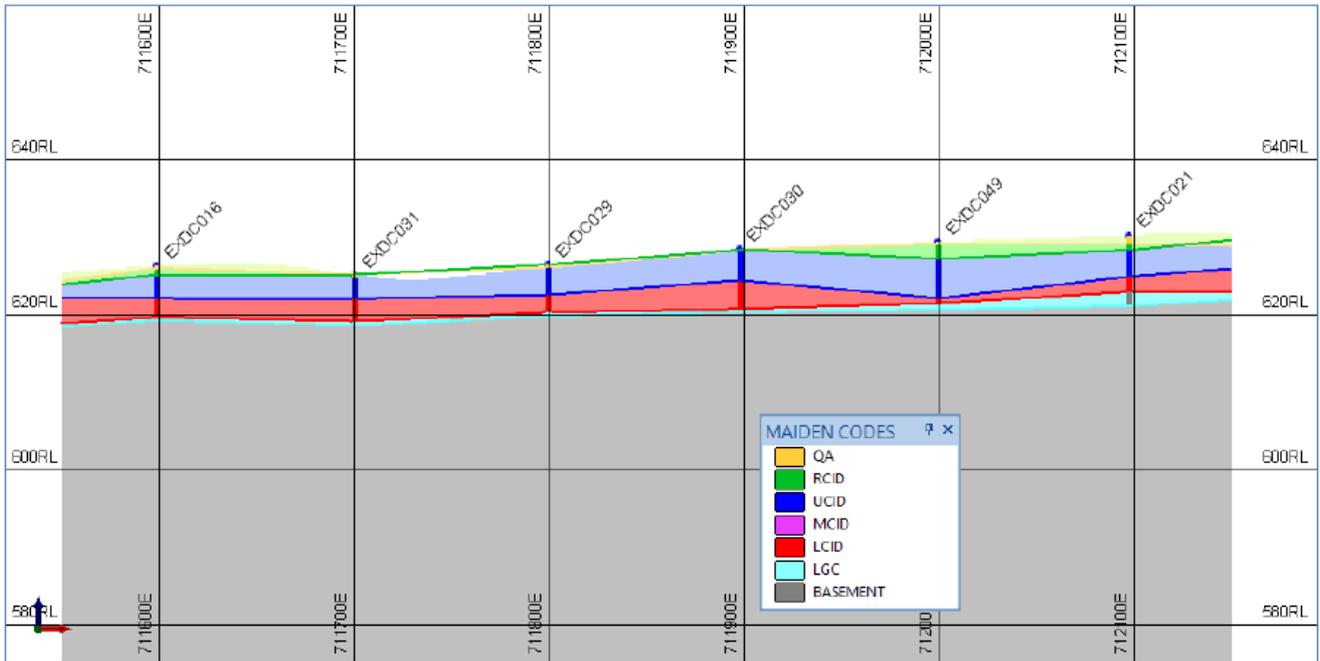


Figure 16: Rock Model Section 7,490,400 North

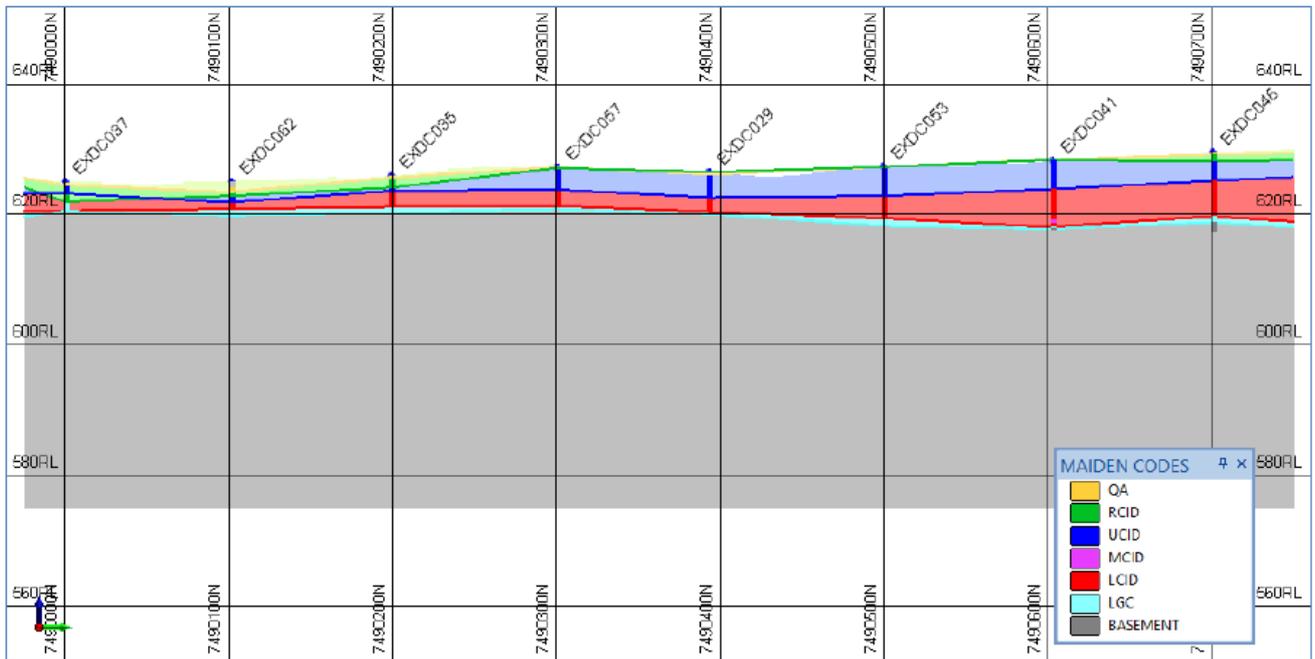


Figure 17: Rock Model Long Section 711,800 East

Resource Model Estimation

Block Model Interpolation

An Inverse Distance Cubed interpolation method was used to estimate all elements. No grade capping was applied. Search ellipses applied in the estimate were based on down hole variography, drill hole spacing and the interpreted geological continuity and orientation of the deposits. ID3 was



preferred over kriging as it gave better validation results and the horizontal variograms were not particularly good quality. The low nugget effect observed in the down hole variograms confirms use of the cubed power in the inverse distance interpolation.

The primary search ellipse had radii of 125m horizontally and 1.5m vertically. A minimum of 2 samples and a maximum of 16 samples were required in the search pass. A maximum of 4 samples per drill hole was used. Where blocks were not informed in the first pass, a second search was used with radii of 250m horizontally and 5m vertically. A minimum of 1 sample and a maximum of 16 samples were required in this search pass.

Approximately 95 % of blocks were informed in the first pass.

On advice from MI densities were taken from Ammtec's report (2008) and applied on the basis of domains.

Domain	Density
QA	2.00
RCID	2.56
UCID	2.73
MCID	2.73
LCID	2.73
LGC	2.85
Basement	2.65

Table 6: Density by Domain

Typical sections through the resource model showing Fe grade are illustrated below.

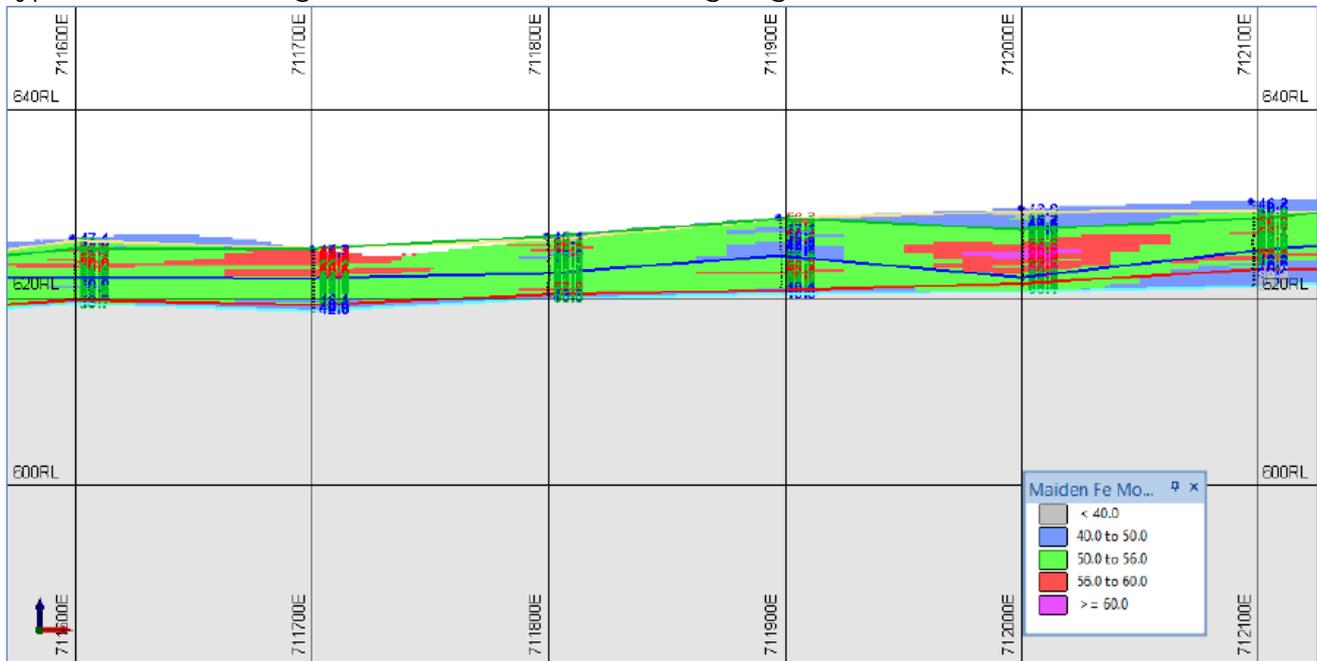


Figure 18: Fe Section 7,490,400 North through Resource Model

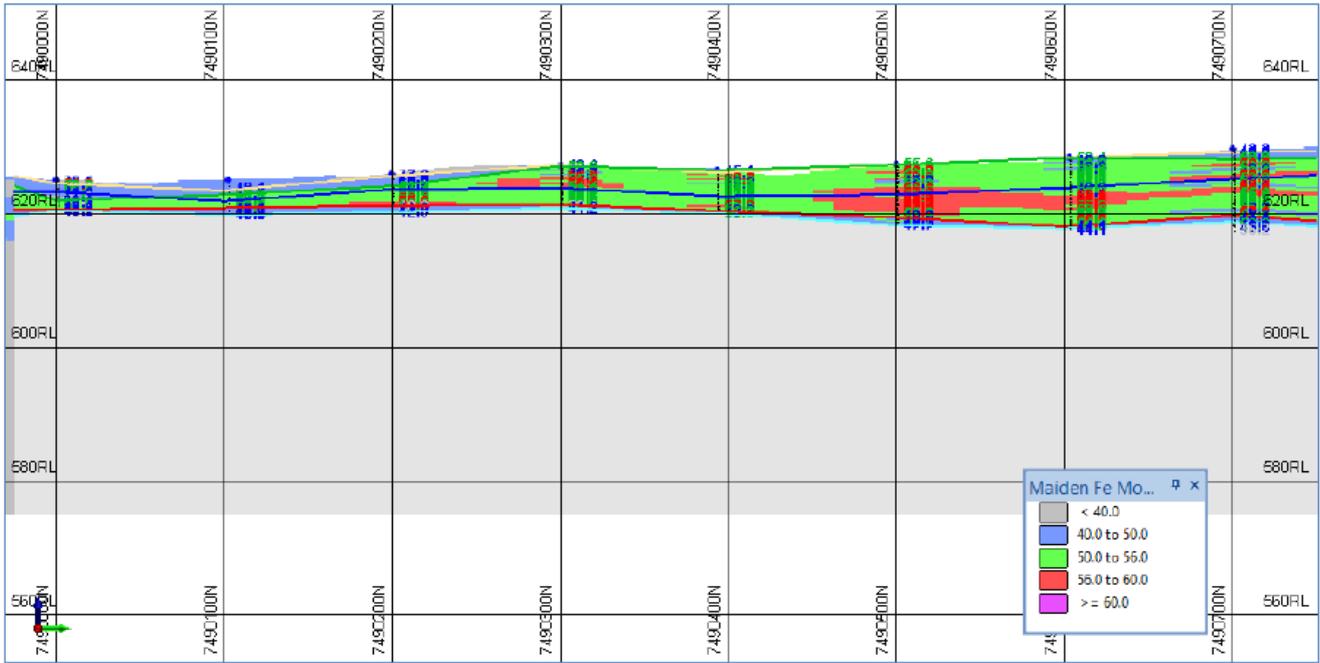


Figure 19: Fe Long Section 711,800 East through Resource Model

Resource Model Validation

Block model validation has been carried out by several methods, including:

- Drill Hole Section Review
- Model versus Data Statistics by Domain
- Swathe Plots

Examples of swathe plots for Fe and Al₂O₃ in Upper, Lower and Reworked CID units are illustrated below.

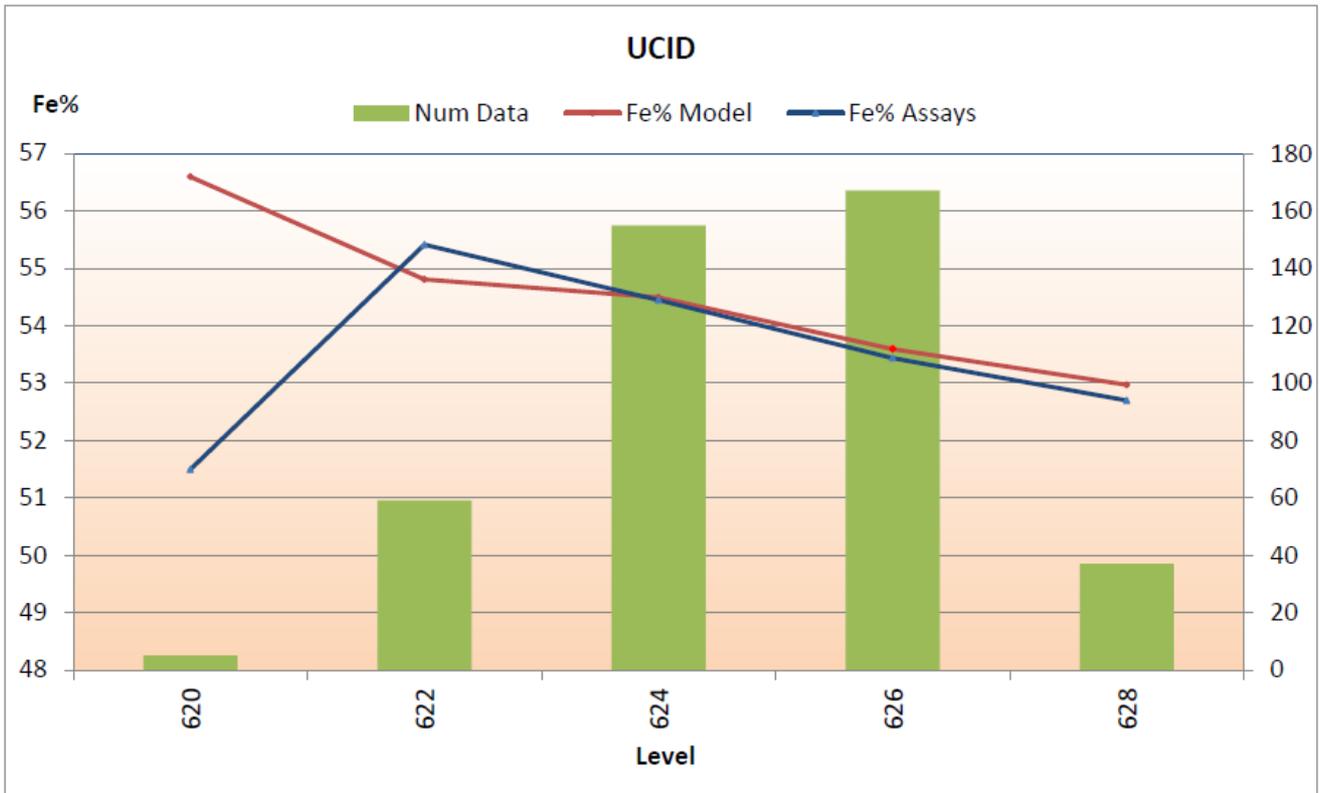


Figure 20: Level Swathe Plot Fe in Upper CID

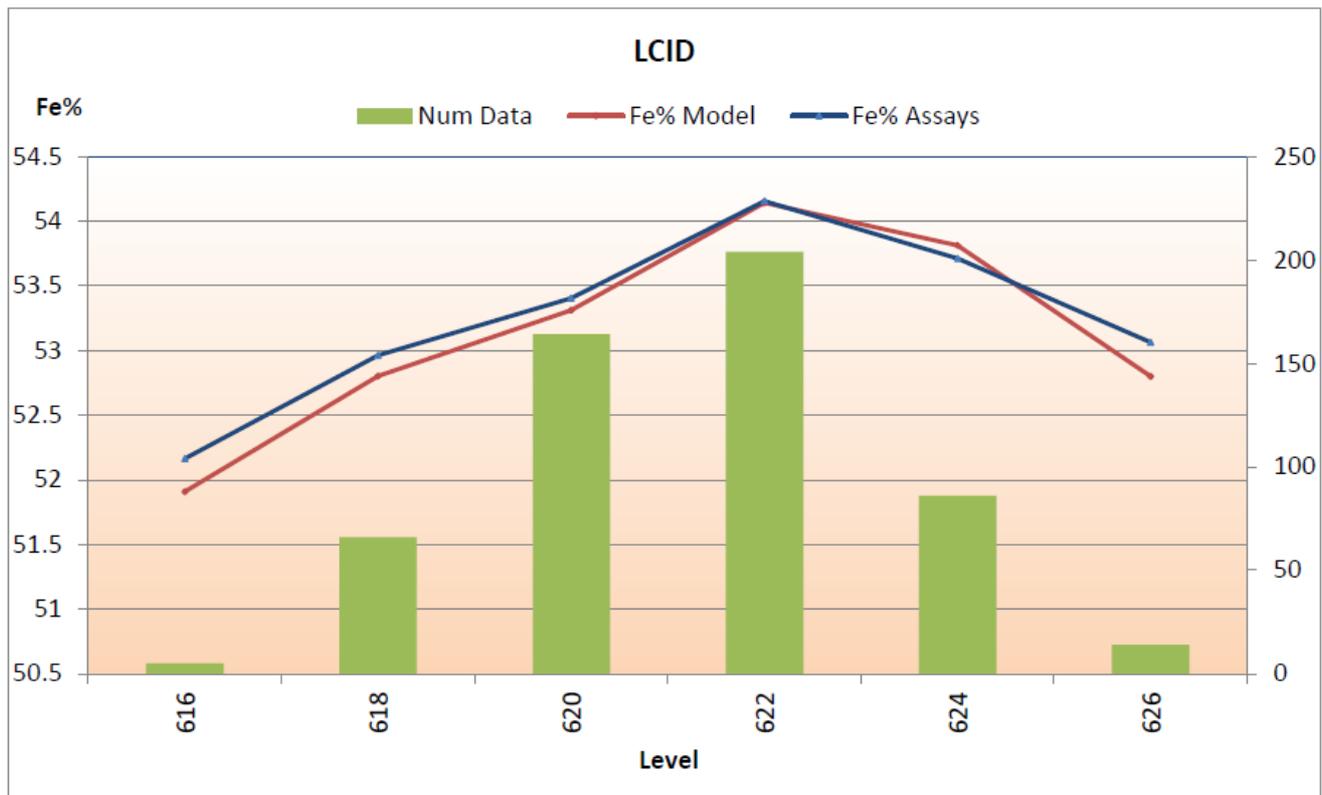


Figure 21: Level Swathe Plot Fe in Lower CID

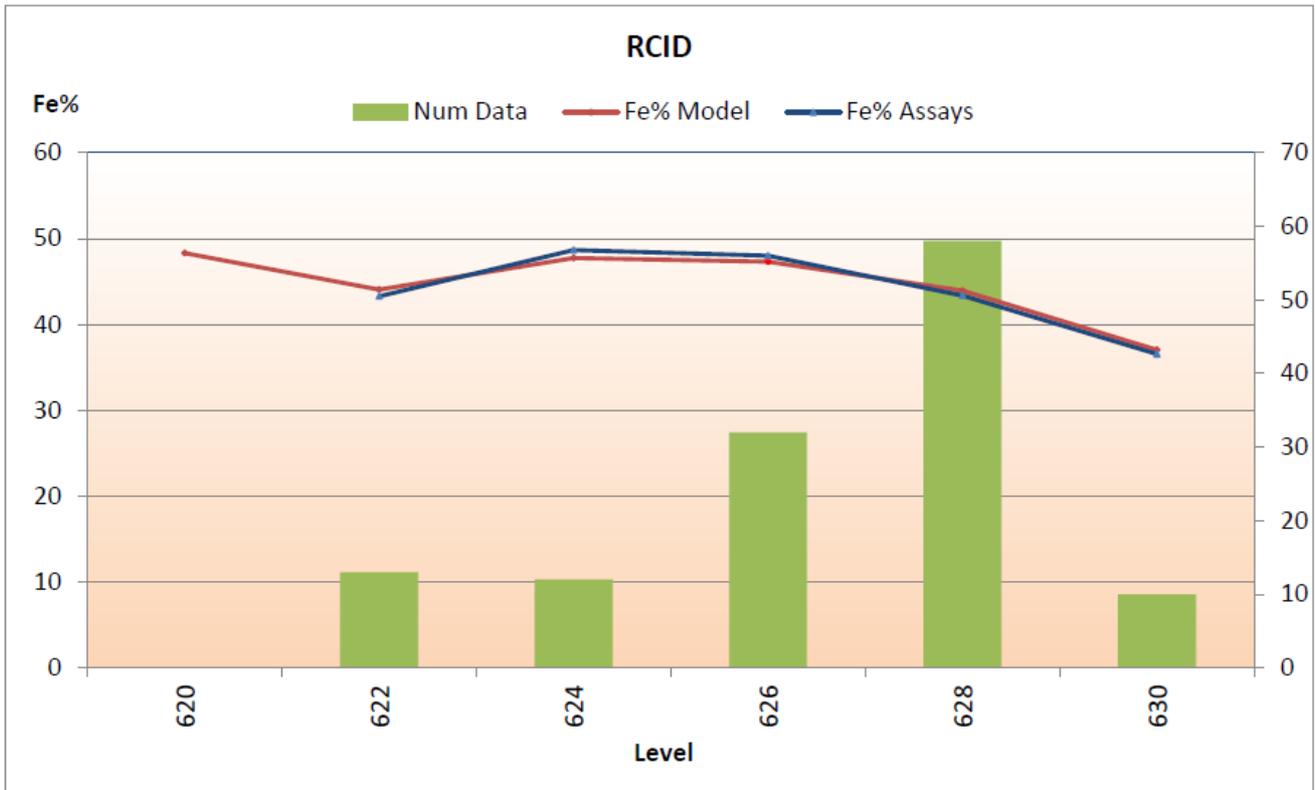


Figure 22: Level Swathe Plot Fe in Reworked CID

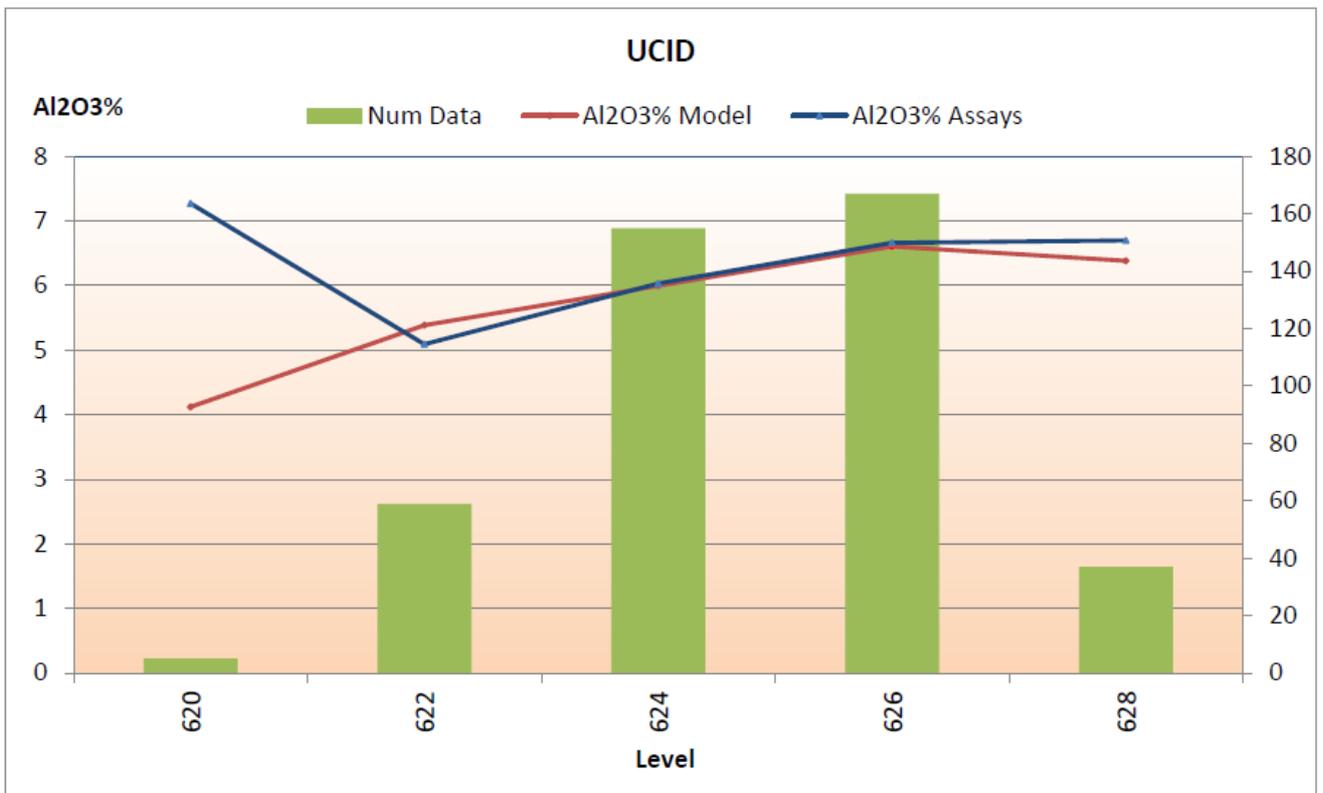


Figure 23: Level Swathe Plot Al₂O₃ in Upper CID

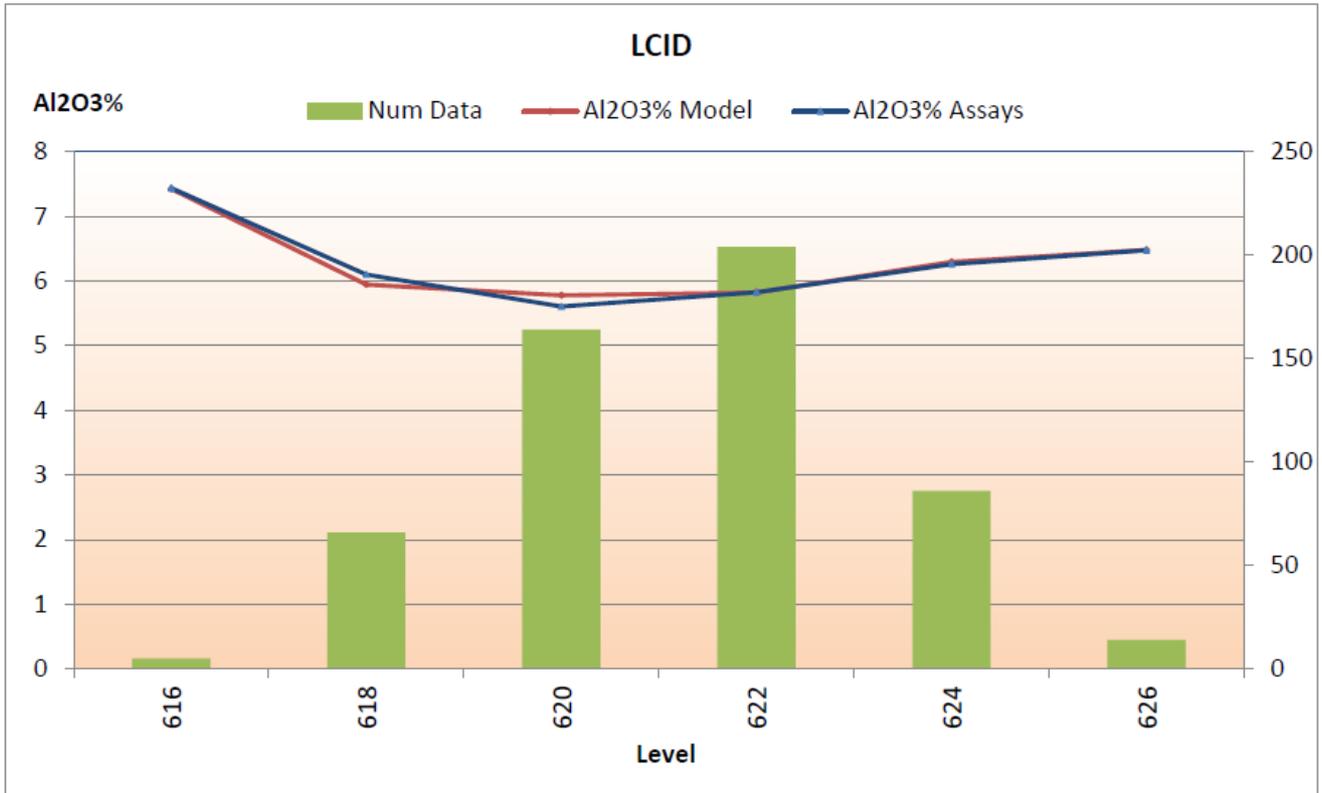


Figure 24: Level Swathe Plot Al₂O₃ in Lower CID

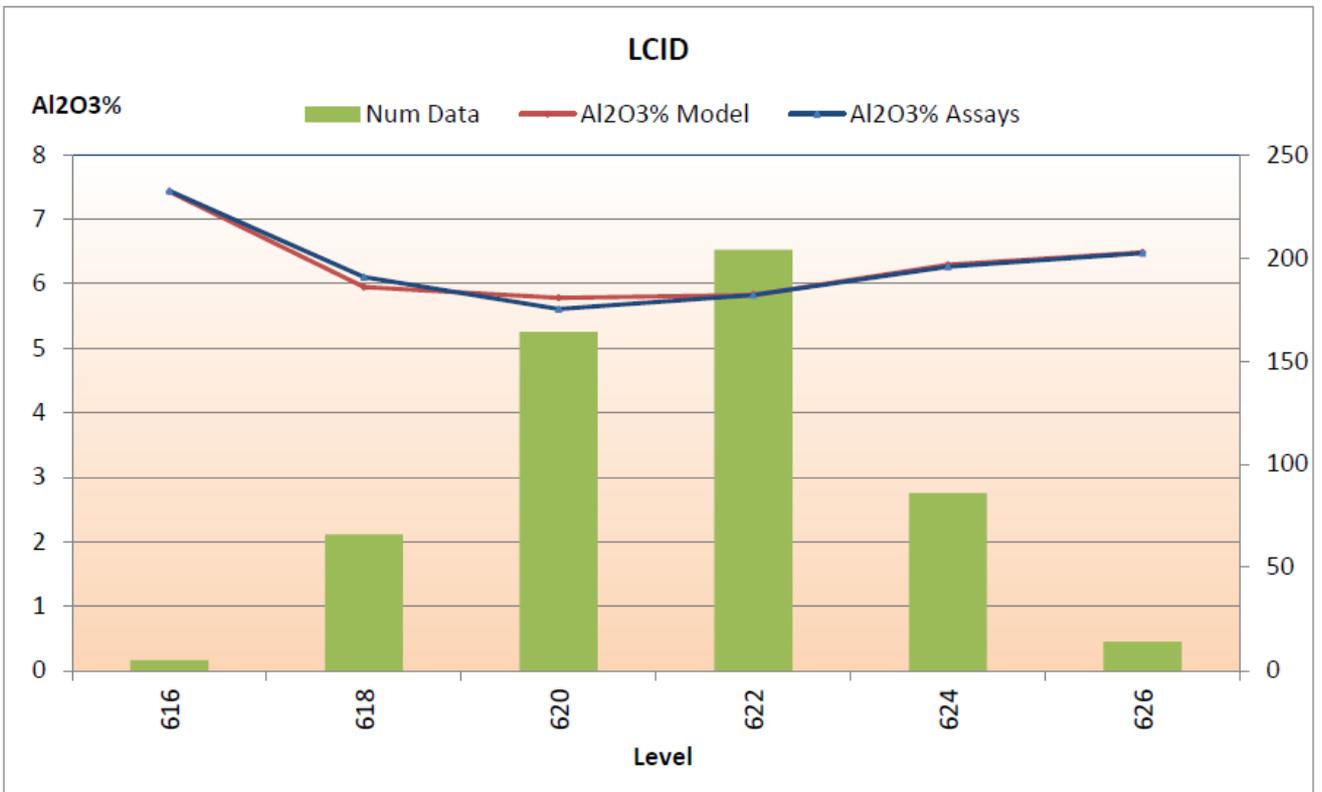


Figure 25: Level Swathe Plot Al₂O₃ in Reworked CID



Combination of IOH and MI Resource Models

The updated area of the model based on new MI drilling has been inserted into the overall IOH resource model, replacing the older model.

Resource Classification

The Extension Mineral Resource has been classified as Indicated, in accordance with the 2012 Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC Code). A range of criteria has been considered in determining this classification including:

- Geological continuity;
- Data quality;
- Drill hole spacing; and
- Modelling technique.

Geological Continuity

Geological continuity is understood with reasonable confidence given detailed logging and mapping. The classification reflects this level of confidence.

Data Quality

Resource classification is based on information and data provided from the MI database. Descriptions of drilling techniques, survey, sampling/sample preparation, analytical techniques and database management/validation provided for both the IOH and MI Data indicate that data collection and management is well within industry standards. Widenbar considers that the database represents an accurate record of the drilling undertaken at the project.

Drilling Spacing

Drill hole spacing of the diamond drill holes in the model update area is 100 by 100m with close spaced sampling at 0.25m intervals. In the other parts of the resource area drilling is nominally 200m x 100m.

Modelling Technique

The Extension update resource model was generated using an ID3 interpolation method, with a multi-pass search approach. The first search ellipsoid had dimensions of 125 x 125 x 1.5m with a minimum of 2 samples and a maximum of 16. The second search, used where not enough data was found in the first search had dimensions 250m x 250m x 5m. 95% of blocks were estimated in the first search pass.

The search pass used, the number of samples used and the average distance of samples from each block, were all stored in the block model.

In general the search pass and average distance are all broadly correlated with a combination of drill hole spacing and domain thickness.

The above parameters were used as a guide in combination with drill spacing to arrive at a final resource classification.

Final Classification

All CID domains have been allocated to the Indicated category.



Resource Estimates

Reasonable Prospects Hurdle

Clause 20 of the JORC Code (2012) requires that all reports of Mineral Resources must have reasonable prospects for eventual economic extraction (RPEEE), regardless of the classification of the Mineral Resource. The Competent Person believes there are reasonable prospects for eventual economic extraction of the Mineral Resources based on the following:

- The detrital iron mineralisation has been delineated by reverse circulation percussion (RCP) and diamond core drilling over an approximately 3.8km by 3.9km area. The vast majority of the resource is exposed near surface and therefore amenable to initial simple open pit mining.
- The iron mineralisation when crushed and screened to remove the <1mm size fraction is relatively comparable in iron grade to Pilbara products - Robe River Fines, FMG Blend Fines and Super Specials Fines, that are benchmarked under the Platts 58% Fines Index.
- Although the Mineral Resource is not of a scale to justify the capital expenditure of a standalone rail infrastructure, smaller tonnage Pilbara iron trucking operations to the shared Port Hedland Utah Point have operated successfully - Mineral Resources' Wonmunna and Iron Valley are examples.

Current Resource Estimates

A summary of the current resource estimate for Extension, including the updated Initial Mining Area at various cutoffs is shown below (including all CID units, excluding QA).

Cutoff	Volume	Tonnes	Density	Fe%	SiO ₂ %	Al ₂ O ₃ %	LOI%	P%
60	1,563	4,266	2.73	60.39	2.61	4.11	6.23	0.072
59	8,976	24,504	2.73	59.49	2.45	3.55	8.45	0.049
58	42,241	115,318	2.73	58.6	3.10	3.38	9.19	0.041
57	158,410	432,460	2.73	57.72	3.56	3.85	9.51	0.041
56	410,562	1,120,833	2.73	56.94	3.90	4.28	9.86	0.044
55	1,017,415	2,777,528	2.73	56.02	4.43	4.76	10.08	0.046
54	2,861,876	7,812,846	2.73	54.99	5.19	5.29	10.19	0.046
53	5,902,231	16,112,770	2.73	54.22	5.74	5.64	10.35	0.046
52	8,597,178	23,469,446	2.73	53.69	6.17	5.87	10.39	0.047
51	10,162,730	27,741,924	2.73	53.36	6.46	6.01	10.42	0.047
50	11,076,518	30,232,619	2.73	53.14	6.68	6.07	10.46	0.047
49	11,278,827	30,767,143	2.73	53.08	6.74	6.10	10.46	0.046
48	11,932,831	32,504,810	2.72	52.83	6.96	6.20	10.47	0.046
47	13,322,105	36,182,991	2.72	52.28	7.45	6.46	10.47	0.044
46	15,739,241	42,592,714	2.71	51.41	8.22	6.89	10.45	0.043
45	18,930,911	51,139,353	2.70	50.42	9.13	7.33	10.43	0.041
44	22,307,850	60,206,689	2.70	49.53	9.99	7.71	10.42	0.04
43	25,218,989	68,083,198	2.70	48.83	10.62	8.04	10.42	0.039
42	27,394,998	73,977,993	2.70	48.33	11.06	8.30	10.44	0.038
41	29,109,081	78,599,683	2.70	47.93	11.39	8.51	10.45	0.038
40	30,244,489	81,659,878	2.70	47.65	11.64	8.65	10.46	0.038
0	32,705,992	88,160,280	2.70	46.94	12.34	8.98	10.43	0.037

Table 7: Extension Total Indicated Resource



Hole	East	North ing	RL	Dep th	Fro m	To	Inter val	Fe%	SiO ₂ %	Al ₂ O ₃ %	TiO ₂ %	MnO %	CaO %	P%	S%	LOI10 00%
EXDC 013	7113 00	7490 400	625. 645	10	Not Assayed											
EXDC 014	7114 05	7490 400	623. 951	6	Not Assayed											
EXDC 015	7114 95	7490 400	622. 594	5	Not Assayed											
EXDC 016	7116 00	7490 400	626. 382	7	0.3	7	6.7	53.60	5.42	5.23	0.34	0.01	0.01	0.07	0.03	12.08
EXDC 017	7117 00	7490 400	625. 246	8	Not Assayed											
EXDC 018	7118 00	7490 395	626. 515	8	Not Assayed											
EXDC 019	7119 00	7490 400	628. 472	9	Not Assayed											
EXDC 020	7120 00	7490 400	629. 493	11	Not Assayed											
EXDC 021	7121 00	7490 400	630. 346	9	1.1	6.9	5.8	54.03	5.19	6.06	0.27	0.00	0.08	0.04	0.03	10.86
EXDC 022	7122 00	7490 400	630. 914	10	Not Assayed											
EXDC 023	7122 95	7490 400	631. 634	9.5												
EXDC 024	7123 98	7490 399	632. 394	12. 5	Not Assayed											
EXDC 025	7124 98	7490 399	632. 859	9.1	Not Assayed											
EXDC 026	7126 00	7490 400	632. 729	10	Not Assayed											
EXDC 027	7126 96	7490 401	632. 033	6.1	Not Assayed											
EXDC 028	7128 04	7490 394	628. 099	1.5	Not Assayed											
EXDC 029	7118 00	7490 395	626. 515	6.5	0.4	6.1	5.7	54.31	4.48	5.79	0.24	0.01	0.03	0.09	0.02	11.46
EXDC 030	7118 97	7490 402	628. 397	8	0	2.5	2.5	51.67	7.30	7.95	0.26	0.00	0.10	0.04	0.04	10.28
					3.9	7.3	3.4	54.47	5.18	5.64	0.22	0.00	0.10	0.04	0.06	10.71
EXDC 031	7117 00	7490 397	625. 158	6.5	0.4	5.3	4.9	55.47	3.73	4.99	0.19	0.01	0.04	0.04	0.02	11.51
EXDC 032	7120 99	7490 200	632. 214	10	3.4	8.9	5.5	54.52	5.63	4.52	0.24	0.00	0.06	0.05	0.07	11.14
EXDC 033	7119 99	7490 200	630. 57	9.1	1.6 5	8.4 5	6.8	54.01	6.24	5.54	0.22	0.00	0.03	0.03	0.04	10.52
EXDC 034	7119 01	7490 200	628. 128	7.8	1.4 5	5.4	3.95	54.91	4.15	5.63	0.26	0.00	0.01	0.06	0.05	11.11
EXDC 035	7118 00	7490 200	625. 977	6	1.8 5	4.8	2.95	55.20	3.83	4.87	0.18	0.00	0.00	0.04	0.05	11.91
EXDC 036	7117 00	7490 200	624. 368	4	0.4	1.2 5	1.25	54.86	4.11	5.34	0.21	0.00	0.02	0.04	0.03	11.72
EXDC 037	7118 00	7490 000	624. 994	6.7	Not Assayed											
EXDC 038	7117 00	7489 800	626. 102	9.3	Not Assayed											
EXDC 039	7120 05	7490 600	630. 12	10. 5	2	9.1	7.1	56.04	3.90	5.46	0.22	0.01	0.02	0.04	0.03	10.08
EXDC 040	7119 00	7490 600	629. 64	12. 3	2	3.9 5	1.95	52.13	6.25	8.58	0.47	0.00	0.03	0.04	0.03	9.92
EXDC 041	7118 10	7490 600	628. 303	11. 5	0.8	10. 15	9.35	53.68	4.38	6.88	0.29	0.00	0.00	0.05	0.08	11.36
EXDC 042	7117 00	7490 600	629. 113	13	0.6 5	11. 75	11.1	54.60	5.45	5.61	0.34	0.01	0.04	0.05	0.04	10.13
EXDC 043	7116 00	7490 600	628. 405	12	2.9	7.8	4.9	52.61	6.81	5.18	0.36	0.02	0.02	0.04	0.04	12.04
EXDC 044	7116 00	7490 700	628. 905	10. 2	0.2	9.1 5	8.95	53.29	5.53	6.19	0.52	0.01	0.09	0.06	0.05	11.06



Hole	East	North ing	RL	Dep th	Fro m	To	Inter val	Fe%	SiO ₂ %	Al ₂ O ₃ %	TiO ₂ %	MnO %	CaO %	P%	S%	LOI10 00%
EXDC 045	7117 00	7490 700	629. 134	13. 3	1.5	10. 7	9.2	53.85	5.46	6.00	0.35	0.01	0.03	0.05	0.04	10.94
EXDC 046	7118 00	7490 700	629. 46	12. 3	1	9.7 5	8.75	53.35	5.93	6.47	0.39	0.00	0.01	0.04	0.05	10.62
EXDC 047	7119 00	7490 700	630. 476	12. 2	2	7.3	5.3	53.65	5.15	6.38	0.32	0.00	0.02	0.05	0.04	11.22
EXDC 048	7120 00	7490 700	631. 109	11	4.1 5	9	4.85	52.32	4.87	7.40	0.37	0.00	0.03	0.06	0.06	12.32
EXDC 049	7120 00	7490 400	629. 493	8.8	2.2	8.8	6.6	55.41	4.41	5.82	0.38	0.01	0.03	0.07	0.03	9.88
EXDC 050	7121 00	7490 500	629. 094	9	1.1	6.5	5.4	51.50	4.82	8.66	0.27	0.00	0.00	0.06	0.08	12.26
EXDC 051	7120 00	7490 500	628. 515	9.5	2.6	8.9 5	6.35	56.24	2.85	5.26	0.16	0.00	0.00	0.04	0.10	10.95
EXDC 052	7119 00	7490 500	628. 193	11	0.4 5	9.8	9.35	54.56	4.37	5.77	0.21	0.01	0.01	0.07	0.05	11.40
EXDC 053	7118 00	7490 500	627. 32	10. 4	0	7.6 5	7.65	55.44	4.26	4.96	0.20	0.02	0.01	0.05	0.07	11.12
EXDC 054	7117 00	7490 500	628. 548	11	0.1 5	10. 2	10.0 5	53.78	6.42	5.44	0.29	0.02	0.07	0.04	0.05	10.49
EXDC 055	7116 00	7490 500	628. 085	10	0.7 5	9.7 5	9	53.73	8.07	4.36	0.29	0.02	0.03	0.04	0.04	10.12
EXDC 056	7117 00	7490 300	624. 804	6.1	0	2.8 5	2.85	57.19	3.31	3.87	0.18	0.01	0.01	0.03	0.04	10.64
EXDC 057	7118 00	7490 300	627. 261	6.9	0.1 5	5.9 5	5.8	53.57	4.91	5.96	0.22	0.00	0.03	0.05	0.04	11.99
EXDC 058	7119 00	7490 300	628. 972	8.4	1.5 5	7.3	5.75	55.03	4.42	5.43	0.19	0.00	0.03	0.04	0.04	11.06
EXDC 059	7120 00	7490 300	630. 322	10. 5	0.8	9.8	9	55.33	5.06	4.58	0.16	0.01	0.03	0.04	0.02	10.95
EXDC 060	7121 00	7490 300	631. 337	10	2.3 5	7.9	5.55	53.39	5.66	6.05	0.26	0.00	0.05	0.05	0.03	11.42
EXDC 061	7117 00	7490 100	623. 863	5	Not Assayed											
EXDC 062	7118 00	7490 100	625. 095	6	Not Assayed											
EXDC 063	7119 00	7490 100	627. 375	8	Not Assayed											
EXDC 064	7117 00	7490 800	629. 637	14	Not Assayed											
EXDC 065	7110 05	7491 000	631. 934	13	Not Assayed											
EXDC 066	7113 00	7491 205	634. 777	16	Not Assayed											
EXDC 067	7112 05	7491 400	631. 465	11. 5	Not Assayed											
EXDC 068	7111 00	7491 600	629. 17	8	Not Assayed											
EXDC 069	7122 95	7490 400	631. 634	8	Not Assayed											
EXDC 070	7107 00	7488 405	616. 672	3	Not Assayed											
EXDC 071	7106 95	7488 600	619. 045	5	Not Assayed											
EXDC 072	7107 00	7488 800	617. 941	4	Not Assayed											
EXRC 001	7105 99.1	7489 402	624. 597	16	No Significant Assays											
EXRC 002	7107 00.5	7489 399	624. 842	19	No Significant Assays											
EXRC 003	7107 98.5	7489 399	624	16	No Significant Assays											
EXRC 004	7108 98.6	7489 401	622. 944	16	No Significant Assays											



Hole	East	North ing	RL	Dep th	Fro m	To	Inter val	Fe%	SiO ₂ %	Al ₂ O ₃ %	TiO ₂ %	MnO %	CaO %	P%	S%	LOI10 00%	
EXRC 005	7109 99.9	7489 400	621. 325	16	No Significant Assays												
EXRC 006	7110 97.8	7489 398	619. 531	19	4	5	1	50.55	7.35	7.39	0.53	-	-	0.02	0.04	12.28	
EXRC 007	7104 98.4	7489 404	622. 384	13	No Significant Assays												
EXRC 008	7104 22.2	7489 402	620. 5	10	No Significant Assays												
EXRC 009	7107 00.3	7488 404	616. 712	19	0	2	2	53.70	6.70	6.53	0.47	0.02	0.12	0.05	0.03	8.92	
EXRC 010	7109 00.9	7488 401	615. 194	19	0	5	5	56.12	5.10	5.53	0.45	0.01	0.04	0.05	0.03	8.39	
EXRC 011	7107 97.5	7488 603	617. 941	16	0	3	3	53.15	7.25	6.71	0.45	0.01	0.23	0.04	0.03	9.22	
EXRC 012	7106 95.8	7488 603	619. 065	15	0	4	4	57.55	5.15	4.58	0.41	0.02	0.05	0.04	0.02	7.28	
EXRC 013	7108 75.6	7488 597	617. 607	16	0	3	3	52.72	6.83	7.04	0.41	0.00	0.03	0.04	0.05	10.17	
EXRC 014	7105 97.3	7488 603	620. 5	10	1	3	2	53.24	7.91	6.64	0.55	0.01	0.04	0.03	0.04	8.47	
EXRC 015	7105 11.7	7488 592	617. 21	13	No Significant Assays												
EXRC 016	7107 94	7488 793	615. 724	13	0	2	2	51.20	6.58	8.12	0.62	-	0.02	0.03	0.03	10.92	
EXRC 017	7106 98.3	7488 798	618	13	1	2	1	54.10	5.04	6.89	0.68	-	-	0.03	0.04	9.48	
EXRC 018	7105 98.4	7488 800	619. 69	13	2	4	2	52.77	7.07	7.28	0.57	-	0.05	0.03	0.03	9.18	
EXRC 019	7106 94.6	7489 005	620. 053	16	No Significant Assays												
EXRC 020	7105 96.1	7489 003	621. 51	13	No Significant Assays												
EXRC 021	7105 02.1	7489 002	620. 869	13	No Significant Assays												
EXRC 022	7104 96.2	7489 194	623. 045	13	1	2	1	51.23	7.56	8.86	0.89	-	0.02	0.03	0.03	9.02	
EXRC 023	7105 97.8	7489 198	624. 166	13	No Significant Assays												
EXRC 024	7106 95	7489 199	624. 119	13	No Significant Assays												
EXRC 025	7107 98.2	7489 199	622. 766	13	No Significant Assays												
EXRC 026	7109 00.2	7489 195	618. 46	13	No Significant Assays												
EXRC 027	7109 97.7	7489 196	620. 771	13	No Significant Assays												
EXRC 028	7110 97.3	7489 197	620. 646	13	No Significant Assays												
EXRC 029	7102 99.1	7489 599	617. 273	10	No Significant Assays												
EXRC 030	7104 13.1	7489 598	624. 746	13	No Significant Assays												
EXRC 031	7106 00.8	7489 601	622. 774	13	No Significant Assays												
EXRC 032	7106 99.5	7489 600	622. 802	13	No Significant Assays												
EXRC 033	7107 99.8	7489 600	623. 887	13	No Significant Assays												
EXRC 034	7108 99.7	7489 600	623. 717	13	No Significant Assays												
EXRC 035	7110 02.5	7489 601	622. 066	13	5	6	1	50.75	7.62	6.97	0.57	-	0.01	0.02	0.03	12.15	
EXRC 036	7111 03.4	7489 602	621. 02	13	No Significant Assays												



Hole	East	North ing	RL	Dep th	Fro m	To	Inter val	Fe%	SiO ₂ %	Al ₂ O ₃ %	TiO ₂ %	MnO %	CaO %	P%	S%	LOI10 00%
EXRC 037	7113 02.4	7489 803	621. 564	13	0	4	4	51.54	12.27	3.99	0.55	-	0.02	0.02	0.02	9.19
EXRC 038	7113 02.4	7490 000	623. 274	13	No Significant Assays											
EXRC 039	7113 00.1	7490 203	622. 982	13	1	2	1	53.38	12.40	2.96	0.39	-	0.05	0.02	0.01	7.50
EXRC 040	7113 98.1	7490 203	621. 844	13	No Significant Assays											
EXRC 041	7111 98.8	7490 198	623. 59	8	No Significant Assays											
EXRC 042	7111 02.4	7490 201	624. 375	13	No Significant Assays											
EXRC 043	7110 07	7490 200	622. 819	13	No Significant Assays											
EXRC 044	7114 04.7	7489 997	620. 838	13	0	1	1	54.82	8.36	3.73	0.36	-	0.02	0.03	0.03	8.84
EXRC 045	7110 01.5	7490 400	623. 822	13	No Significant Assays											
EXRC 046	7111 01.6	7490 400	625. 323	13	No Significant Assays											
EXRC 047	7111 99.2	7490 400	626. 356	13	No Significant Assays											
EXRC 048	7113 00.8	7490 400	625. 655	19	Not Assayed											
EXRC 049	7114 03.4	7490 400	623. 989	13	Not Assayed											
EXRC 050	7114 94.9	7490 398	622. 647	13	Not Assayed											
EXRC 051	7115 99.7	7490 401	626. 453	19	Not Assayed											
EXRC 052	7115 09.3	7490 196	622. 434	13	0	1	1	50.91	12.22	5.10	0.57	-	0.05	0.02	0.02	8.66
EXRC 053	7117 00	7490 397	625. 263	16	Not Assayed											
EXRC 054	7117 99.7	7490 395	626. 449	13	Not Assayed											
EXRC 055	7118 96.9	7490 402	628. 371	16	Not Assayed											
EXRC 056	7119 98.7	7490 402	629. 435	16	Not Assayed											
EXRC 057	7120 99.1	7490 399	630. 325	16	Not Assayed											
EXRC 058	7122 00.6	7490 398	630. 92	16	Not Assayed											
EXRC 059	7122 96.4	7490 400	631. 631	16	Not Assayed											
EXRC 060	7123 98.2	7490 399	632. 37	13	Not Assayed											
EXRC 061	7124 97.9	7490 400	632. 823	13	Not Assayed											
EXRC 062	7125 99.8	7490 400	632. 715	16	Not Assayed											
EXRC 063	7126 95.9	7490 401	632. 063	10	Not Assayed											
EXRC 064	7128 03.7	7490 394	627. 915	7	Not Assayed											
EXRC 065	7125 98.9	7490 201	634. 131	10	Not Assayed											
EXRC 066	7125 02.8	7490 202	637. 175	6	Not Assayed											
EXRC 067	7124 04.5	7490 202	636. 263	7	No Significant Assays											
EXRC 068	7123 00	7490 202	635. 161	12	7	10	3	51.59	7.07	6.28	0.38	-	0.08	0.06	0.07	11.79



Hole	East	North ing	RL	Dep th	Fro m	To	Inter val	Fe%	SiO ₂ %	Al ₂ O ₃ %	TiO ₂ %	MnO %	CaO %	P%	S%	LOI10 00%
EXRC 069	7121 97.6	7490 198	633. 764	16	7	10	3	51.64	7.70	6.89	0.72	-	0.06	0.05	0.02	10.20
EXRC 070	7120 99.5	7490 199	632. 22	16	Not Assayed											
EXRC 071	7119 97.9	7490 201	630. 524	16	Not Assayed											
EXRC 072	7119 00.9	7490 200	628. 167	13	Not Assayed											
EXRC 073	7117 96	7490 200	625. 932	10	Not Assayed											
EXRC 074	7117 00.9	7490 201	624. 397	10	Not Assayed											
EXRC 075	7115 93.5	7490 017	622. 09	10	No Significant Assays											
EXRC 076	7116 96.2	7490 004	623. 299	11	3	4	1	50.98	7.51	6.50	0.60	-	-	0.03	0.03	12.12
EXRC 077	7117 97.3	7490 001	624. 919	10	0	1	1	51.83	8.10	6.76	0.72	-	0.02	0.05	0.04	9.61
EXRC 078	7119 00.3	7490 001	626. 715	10	6	7	1	51.25	8.31	7.07	0.24	-	-	0.09	0.03	10.51
EXRC 079	7119 99.6	7490 001	628. 888	12	No Significant Assays											
EXRC 080	7120 96.5	7490 001	631. 769	7	No Significant Assays											
EXRC 081	7121 96.7	7490 004	635. 815	7	0	3	3	53.79	8.41	6.24	0.27	0.01	0.02	0.12	0.03	7.52
EXRC 082	7122 97.3	7489 998	638. 88	7	No Significant Assays											
EXRC 083	7123 96.6	7489 998	641. 462	7	No Significant Assays											
EXRC 084	7124 98.9	7489 997	643. 477	4	No Significant Assays											
EXRC 085	7118 03	7489 807	627. 683	7	4	7	3	53.78	9.35	5.07	0.15	-	0.06	0.08	0.03	7.95
EXRC 086	7117 02.8	7489 802	626. 182	10	5	7	2	56.64	5.45	4.39	0.23	-	0.01	0.10	0.03	8.50
EXRC 087	7115 97.1	7489 797	623. 945	10	No Significant Assays											
EXRC 088	7115 92.4	7489 605	623. 388	7	1	2	1	50.49	8.68	10.13	1.79	0.02	0.02	0.04	0.03	6.63
EXRC 089	7115 00.8	7489 598	623. 5	10	Not Assayed											
EXRC 090	7114 99.5	7489 437	622. 194	7	1	2	1	50.96	7.83	9.03	0.51	-	-	0.03	0.03	9.22
EXRC 091	7114 02.8	7488 398	617	10	0	1	0.5	56.25	4.45	4.88	0.30	-	0.01	0.03	0.08	9.56
EXRC 092	7112 94.6	7488 606	618. 105	19	0	1	1	53.83	5.61	6.21	0.26	-	0.03	0.04	0.04	10.53
EXRC 093	7113 89.8	7488 602	619. 659	10	No Significant Assays											
EXRC 094	7115 00.9	7488 600	619. 647	7	No Significant Assays											
EXRC 095	7115 88.4	7488 598	620. 495	7	No Significant Assays											
EXRC 096	7115 04.2	7488 794	619. 761	7	0	2	2	53.99	7.50	7.55	1.31	0.02	0.03	0.04	0.03	6.16
EXRC 097	7114 97.2	7489 011	620. 946	7	No Significant Assays											
EXRC 098	7114 01.4	7488 997	620. 683	7	0	1	1	52.53	6.79	6.89	0.39	-	-	0.03	0.03	10.63
EXRC 099	7113 15.7	7488 992	612. 241	7	No Significant Assays											
EXRC 100	7113 94.3	7489 197	620. 981	10	0	1	1	51.22	8.25	6.53	0.36	-	0.03	0.02	0.02	11.75



Hole	East	North ing	RL	Dep th	Fro m	To	Inter val	Fe%	SiO ₂ %	Al ₂ O ₃ %	TiO ₂ %	MnO %	CaO %	P%	S%	LOI10 00%
EXRC 101	7127 94.2	7490 605	632. 303	7	No Significant Assays											
EXRC 102	7126 97.5	7490 602	631. 49	13	No Significant Assays											
EXRC 103	7126 01.1	7490 606	630. 179	10	No Significant Assays											
EXRC 104	7125 01.9	7490 596	631. 16	10	0	2	2	52.41	6.90	8.09	0.54	-	0.05	0.04	0.03	9.34
EXRC 105	7123 98.9	7490 601	632. 319	16	4	5	1	55.27	5.88	5.15	0.17	-	0.06	0.04	0.07	9.49
EXRC 106	7123 04.1	7490 601	632. 024	13	4	7	3	54.95	5.49	4.93	0.39	-	0.08	0.04	0.05	10.49
EXRC 107	7122 02.4	7490 603	631. 356	10	3	7	4	53.72	6.33	6.47	0.44	-	0.05	0.04	0.04	9.70
EXRC 108	7121 05	7490 601	630. 167	13	2	8	6	53.05	5.26	6.94	0.31	-	0.03	0.07	0.03	11.50
EXRC 109	7120 04.4	7490 603	630. 18	13	Not Assayed											
EXRC 110	7119 07.7	7490 603	629. 732	16	Not Assayed											
EXRC 111	7118 08.9	7490 603	628. 381	16	Not Assayed											
EXRC 112	7117 05	7490 599	629. 099	16	Not Assayed											
EXRC 113	7116 04.5	7490 603	628. 548	13	Not Assayed											
EXRC 114	7114 94	7490 603	624. 729	13	2	6	4	52.03	9.85	5.14	0.52	-	-	0.03	0.05	9.69
					4	6	2	53.52	9.84	3.84	0.46	0.02	0.05	0.03	0.02	9.19
EXRC 115	7114 03.4	7490 598	625. 708	13	6	8	2	53.58	9.82	3.32	0.25	0.03	0.07	0.02	0.01	9.69
EXRC 116	7113 01.8	7490 597	627. 397	16	0	1	1	50.35	15.00	4.05	0.39	0.02	0.09	0.02	0.02	8.06
EXRC 117	7111 98.2	7490 597	630. 603	19	10	11	1	52.49	11.89	3.17	0.30	-	0.07	0.01	0.02	9.29
EXRC 118	7111 09.1	7490 600	631. 431	19	No Significant Assays											
EXRC 119	7110 01.4	7490 600	624. 419	9	No Significant Assays											
EXRC 120	7109 03.1	7490 603	622. 948	7	No Significant Assays											
EXRC 121	7108 05.2	7490 613	623. 558	13	No Significant Assays											
EXRC 122	7107 04.1	7490 610	623. 14	10	No Significant Assays											
EXRC 123	7106 01.3	7490 602	624. 574	10	No Significant Assays											
EXRC 124	7105 00	7490 599	625. 291	9	No Significant Assays											
EXRC 125	7103 98.3	7490 602	626. 14	10	No Significant Assays											
EXRC 126	7103 01.7	7490 599	628. 711	10	No Significant Assays											
EXRC 127	7102 01	7490 602	627. 698	7	No Significant Assays											
EXRC 128	7100 86.1	7490 600	628. 093	7	No Significant Assays											
EXRC 129	7100 02.5	7490 599	628. 806	4	No Significant Assays											
EXRC 130	7098 98.7	7490 597	632. 118	4	No Significant Assays											
EXRC 131	7098 05	7490 603	630. 406	4	No Significant Assays											
EXRC 132	7097 00.5	7490 601	635. 336	4	1	3	2	53.02	9.40	4.98	0.27	0.02	0.21	0.17	0.02	8.67



Hole	East	North ing	RL	Dep th	Fro m	To	Inter val	Fe%	SiO ₂ %	Al ₂ O ₃ %	TiO ₂ %	MnO %	CaO %	P%	S%	LOI10 00%	
EXRC 133	7090 88	7490 796	636. 324	4	No Significant Assays												
EXRC 134	7091 89.2	7490 800	640. 403	4	4	6	2	51.55	12.31	4.46	0.21	0.01	0.06	0.14	0.01	8.74	
EXRC 135	7092 93	7490 798	642	10	No Significant Assays												
EXRC 136	7095 00	7490 601	639. 748	7	No Significant Assays												
EXRC 137	7094 00.5	7490 601	642. 284	7	0	1	1	54.41	6.54	6.44	1.98		0.08	0.04	0.02	6.75	
EXRC 138	7093 01.3	7490 598	643. 415	7	0	1	1	51.56	7.16	8.43	1.69		0.03	0.05	0.03	9.00	
					6	7	1	52.68	14.49	3.55	0.12		0.06	0.13	0.00	5.78	
EXRC 139	7092 09.4	7490 598	644. 502	7	3	4	1	60.31	4.51	2.33	0.07	0.02	0.02	0.18	0.01	6.23	
EXRC 140	7091 01.7	7490 602	641. 9	4	No Significant Assays												
EXRC 141	7093 97.4	7490 798	641. 554	7	No Significant Assays												
EXRC 142	7094 92.6	7490 797	641. 501	7	No Significant Assays												
EXRC 143	7095 93.9	7490 802	639. 412	7	No Significant Assays												
EXRC 144	7096 91.9	7490 800	636. 916	7	No Significant Assays												
EXRC 145	7097 93	7490 800	633. 675	4	No Significant Assays												
EXRC 146	7098 93.9	7490 794	630. 518	7	No Significant Assays												
EXRC 147	7099 95.1	7490 803	630. 833	10	No Significant Assays												
EXRC 148	7100 97.3	7490 799	632. 698	11	No Significant Assays												
EXRC 149	7101 94.1	7490 799	638. 718	19	No Significant Assays												
EXRC 150	7102 97.9	7490 803	630. 72	13	No Significant Assays												
EXRC 151	7103 95.8	7490 795	631	16	2	3	1	51.03	7.38	7.41	0.59		0.07	0.03	0.03	11.48	
EXRC 152	7105 00.9	7490 797	627. 468	10	2	4	2	52.25	6.97	6.08	0.38		0.03	0.03	0.03	11.34	
EXRC 153	7105 95.1	7490 799	627. 767	13	1	8	7	54.42	5.14	4.94	0.35			0.03	0.04	11.40	
EXRC 154	7106 96.2	7490 801	628. 802	13	9	16	7	53.07	5.67	6.10	0.30		0.05	0.05	0.04	11.64	
EXRC 155	7107 98.9	7490 801	635. 844	19	7	15	8	54.04	5.96	5.29	0.32		0.04	0.04	0.03	10.86	
EXRC 156	7108 94.9	7490 800	635. 042	19	8	9	1	52.82	7.63	6.94	0.43		0.06	0.03	0.02	8.88	
EXRC 157	7109 96.7	7490 798	633. 803	18	5	10	5	54.91	5.52	4.76	0.33	0.00	0.00	0.03	0.03	10.63	
EXRC 158	7111 02.2	7490 799	630. 636	13	7	10	3	52.12	6.49	6.36	0.37		0.10	0.03	0.02	11.72	
EXRC 159	7112 11	7490 797	628. 801	13	6	8	2	53.98	10.15	3.23	0.47		0.09	0.02	0.02	8.60	
EXRC 160	7112 97.7	7490 794	627. 318	13	2	7	5	52.14	6.66	6.91	0.44			0.03	0.04	11.20	
EXRC 161	7113 98.2	7490 801	625. 959	14	1	4	3	50.77	8.41	7.42	0.48		0.04	0.04	0.04	10.68	
EXRC 162	7114 97.3	7490 797	627. 293	10	2	4	2	52.84	6.70	7.07	0.61		0.11	0.05	0.05	9.57	
EXRC 163	7115 92	7490 801	629. 728	13	6	7	1	50.28	11.33	4.98	0.51		0.08	0.04	0.06	10.94	
EXRC 164	7116 97.5	7490 798	629. 673	16	2	6	4	53.12	5.76	7.25	0.53		0.02	0.05	0.04	9.98	



Hole	East	North ing	RL	Dep th	Fro m	To	Inter val	Fe%	SiO ₂ %	Al ₂ O ₃ %	TiO ₂ %	MnO %	CaO %	P%	S%	LOI10 00%
EXRC 165	7117 95.2	7490 795	630. 516	7	2	11	9	54.39	4.56	6.38	0.37			0.05	0.06	10.51
EXRC 166	7118 93.9	7490 798	631. 338	13	4	13	9	51.94	6.34	7.74	0.52		0.02	0.04	0.04	10.77
EXRC 167	7118 10	7490 799	630. 698	16	1	9	8	52.10	6.86	7.63	0.44			0.04	0.04	10.15
EXRC 168	7119 99.9	7490 800	632. 206	13	1	4	3	54.80	6.31	4.99	0.39		0.03	0.03	0.03	9.62
EXRC 169	7120 95.7	7490 796	632. 884	10	5	13	8	51.78	8.33	6.55	0.65		0.15	0.04	0.04	9.90
EXRC 170	7121 99.9	7490 797	633. 437	13	5	9	4	55.31	6.45	4.58	0.14		0.11	0.04	0.06	9.34
EXRC 171	7122 99.5	7490 800	634. 543	13	7	10	3	54.17	6.58	5.11	0.58		0.18	0.05	0.08	9.66
EXRC 172	7123 96.1	7490 795	634. 736	13	No Significant Assays											
EXRC 173	7125 00.5	7490 799	633. 279	7	No Significant Assays											
EXRC 174	7126 01.2	7490 801	636. 33	6	No Significant Assays											
EXRC 175	7122 04	7491 002	637. 474	10	No Significant Assays											
EXRC 176	7122 99.4	7491 002	639. 207	4	4	9	5	52.36	10.13	4.80	1.81		0.05	0.05	0.07	7.66
EXRC 177	7121 07.4	7490 999	635. 461	13	5	9	4	51.03	10.42	7.66	1.57		0.09	0.04	0.05	7.07
EXRC 178	7120 04.4	7491 000	633. 774	13	7	10	3	52.88	6.97	8.05	1.78		0.07	0.05	0.04	7.32
EXRC 179	7119 05.4	7491 000	632. 857	13	No Significant Assays											
EXRC 180	7118 03.7	7491 000	632. 187	10	2	4	2	51.70	5.51	8.73	0.55			0.05	0.06	11.11
EXRC 181	7117 04.4	7490 999	631. 553	13	No Significant Assays											
EXRC 182	7116 03.3	7490 999	632. 175	13	2	8	6	54.32	6.15	4.66	0.87	0.02	0.10	0.04	0.04	10.32
EXRC 183	7114 99.2	7491 002	632. 426	13	2	3	1	50.33	8.32	7.20	0.58		0.05	0.05	0.04	11.64
					5	8	3	51.88	5.84	7.51	0.54		0.05	0.04	0.04	11.82
EXRC 184	7114 02.6	7491 001	631. 027	13	0	1	1	50.56	8.93	8.43	0.66		0.04	0.03	0.04	9.69
EXRC 185	7113 06.8	7490 997	628. 849	13	3	8	5	51.43	8.38	5.93	0.43		0.03	0.05	0.03	11.58
EXRC 186	7111 99.3	7491 002	630. 487	16	2	3	1	51.25	9.31	6.91	0.53		0.13	0.03	0.06	9.82
					5	12	7	54.56	6.08	4.16	0.26		0.07	0.04	0.02	11.11
EXRC 187	7111 04.9	7490 998	630. 378	19	3	12	9	52.39	6.72	6.75	0.43		0.05	0.04	0.04	10.98
EXRC 188	7110 04.4	7491 000	631. 998	18	1	8	7	53.10	5.02	7.09	0.53			0.06	0.06	11.17
EXRC 189	7109 08.5	7491 002	630. 818	14	5	12	7	54.28	7.38	4.45	0.28		0.04	0.04	0.03	10.12
EXRC 190	7108 00.9	7490 998	633. 909	19	6	13	7	52.56	7.55	5.61	0.44		0.03	0.06	0.03	10.94
EXRC 191	7106 99.8	7491 003	635. 999	19	9	9.5	1	50.36	8.02	8.87	0.64		0.01	0.05	0.04	10.41
EXRC 192	7106 01.6	7491 000	635. 382	19	10	16	6	53.99	7.40	4.88	0.34		0.03	0.04	0.02	10.10
EXRC 193	7104 98	7490 995	639. 503	19	11	16	5	53.52	7.06	5.38	0.37		0.04	0.03	0.02	10.62
EXRC 194	7104 09.3	7491 005	641. 046	22	3	6	3	52.99	7.92	4.65	0.26			0.02	0.02	11.39
EXRC 195	7103 10	7490 999	632. 837	10	8	11		51.90	9.48	5.18	0.34		0.06	0.02	0.01	10.63



Hole	East	North ing	RL	Dep th	Fro m	To	Inter val	Fe%	SiO ₂ %	Al ₂ O ₃ %	TiO ₂ %	MnO %	CaO %	P%	S%	LOI10 00%
EXRC 196	7101 99.1	7490 996	636. 22	19	No Significant Assays											
EXRC 197	7101 20.1	7491 010	646. 445	25	No Significant Assays											
EXRC 198	7100 02.9	7491 001	638. 732	17	No Significant Assays											
EXRC 199	7099 06.7	7491 003	635. 129	14	No Significant Assays											
EXRC 200	7098 01	7491 005	633. 315	10	No Significant Assays											
EXRC 201	7096 97.8	7490 997	632. 986	10	No Significant Assays											
EXRC 202	7096 02.5	7490 998	635. 123	10	No Significant Assays											
EXRC 203	7095 06.1	7491 002	638. 16	10	No Significant Assays											
EXRC 204	7094 00.8	7491 003	640. 47	7	No Significant Assays											
EXRC 205	7093 01.8	7491 002	642. 317	7	No Significant Assays											
EXRC 206	7092 05.1	7491 002	642. 95	4	No Significant Assays											
EXRC 207	7091 04.2	7490 999	643. 092	4	No Significant Assays											
EXRC 208	7090 10.1	7491 002	643. 262	4	No Significant Assays											
EXRC 209	7089 91.9	7491 199	646. 464	4	0	1	1	51.91	9.29	7.58	1.29		0.06	0.06	0.02	7.10
EXRC 210	7090 89.7	7491 199	643. 416	7	3	4	1	50.29	11.69	6.79	1.14		0.35	0.04	0.01	7.39
EXRC 211	7091 99.3	7491 197	640. 634	10	No Significant Assays											
EXRC 212	7092 94.4	7491 199	639. 802	10	No Significant Assays											
EXRC 213	7094 03.9	7491 203	638. 928	10	No Significant Assays											
EXRC 214	7095 02.8	7491 200	639. 349	13	No Significant Assays											
EXRC 215	7095 94.3	7491 198	637. 771	10	No Significant Assays											
EXRC 216	7096 93.1	7491 199	638. 766	16	No Significant Assays											
EXRC 217	7097 95.1	7491 198	639. 933	12	No Significant Assays											
EXRC 218	7098 99.5	7491 200	650. 514	19	No Significant Assays											
EXRC 219	7099 85.7	7491 203	646. 649	10	No Significant Assays											
EXRC 220	7100 92.6	7491 198	643. 362	22	No Significant Assays											
EXRC 221	7101 91.6	7491 198	642. 597	21	13	16	3	52.22	9.17	4.97	0.33		0.03	0.03	0.01	10.36
EXRC 222	7102 97.3	7491 201	640. 691	18	10	13	3	53.76	6.46	4.68	0.41		0.02	0.05	0.01	11.02
EXRC 223	7103 97.8	7491 196	637. 316	19	9	10	1	51.18	9.78	6.13	0.57			0.03	0.01	9.95
EXRC 224	7104 97.2	7491 195	635. 712	19	9	12	3	52.04	8.70	5.33	0.44		0.04	0.03	0.01	10.79
EXRC 225	7106 01.9	7491 199	636. 317	19	10	10. 5	0.5	50.24	8.75	7.17	0.75		0.04	0.05	0.03	11.27
EXRC 226	7106 96.5	7491 200	636. 587	16	No Significant Assays											
EXRC 227	7107 96.2	7491 203	637. 431	16	No Significant Assays											



Hole	East	North ing	RL	Dep th	Fro m	To	Inter val	Fe%	SiO ₂ %	Al ₂ O ₃ %	TiO ₂ %	MnO %	CaO %	P%	S%	LOI10 00%	
EXRC 228	7108 94.2	7491 202	636. 25	16	No Significant Assays												
EXRC 229	7109 98.3	7491 196	637. 808	19	5	15	10	52.81	6.36	6.23	0.56		0.07	0.04	0.04	11.04	
EXRC 230	7110 91.7	7491 196	634. 738	16	5	12	7	54.32	4.97	5.67	0.49			0.04	0.04	10.86	
EXRC 231	7111 97	7491 197	632. 118	17	7	14	7	54.59	5.31	6.14	0.55		0.07	0.05	0.03	9.46	
EXRC 232	7113 01	7491 205	634. 834	19	2	3	1	50.73	7.78	7.52	0.58	0.02	0.12	0.03	0.05	11.07	
EXRC 233	7113 97.4	7491 194	634. 659	13	5	9	4	54.08	6.46	6.09	0.57		0.06	0.05	0.06	9.08	
EXRC 234	7114 94.8	7491 198	633. 066	16	7	8	1	50.75	6.61	8.28	0.82		0.04	0.04	0.06	11.22	
EXRC 235	7115 98.7	7491 199	631. 427	13	5	7	2	52.23	7.44	7.48	0.54		0.02	0.04	0.05	9.41	
EXRC 236	7116 89.7	7491 199	631. 625	16	7	9	2	53.44	6.27	5.90	0.69		0.02	0.04	0.05	10.16	
EXRC 237	7117 93.4	7491 201	633. 119	13	6	7	1	50.34	8.96	8.38	1.06		0.08	0.03	0.09	9.10	
EXRC 238	7118 93.5	7491 198	634. 439	13	No Significant Assays												
EXRC 239	7119 92.7	7491 199	636. 129	13	No Significant Assays												
EXRC 240	7120 97	7491 199	638. 676	10	No Significant Assays												
EXRC 241	7121 94.1	7491 200	641. 935	7	No Significant Assays												
EXRC 242	7122 93	7491 197	644. 886	4	No Significant Assays												
EXRC 243	7120 00.5	7491 400	638. 191	13	No Significant Assays												
EXRC 244	7120 91.5	7491 398	639. 72	10	6	7	1	50.85	11.59	9.12	2.00		0.02	0.04	0.03	4.53	
EXRC 245	7119 01.5	7491 403	636. 467	13	No Significant Assays												
EXRC 246	7117 97.5	7491 401	634. 419	10	No Significant Assays												
EXRC 247	7116 99.7	7491 400	632. 492	10	No Significant Assays												
EXRC 248	7116 02.3	7491 399	631. 183	10	No Significant Assays												
EXRC 249	7115 03.4	7491 398	629. 904	10	1	6	5	54.54	5.04	5.94	0.43		0.03	0.05	0.05	10.46	
EXRC 250	7114 05.3	7491 400	630. 307	11	2	9	7	52.26	7.35	6.00	0.49		0.06	0.06	0.03	11.12	
EXRC 251	7113 07	7491 401	631. 817	13	4	10	6	54.10	6.59	5.76	0.50	0.02	0.07	0.05	0.03	9.61	
EXRC 252	7112 04.1	7491 401	631. 441	13	3	9	6	53.87	5.43	6.51	0.91	0.02	0.03	0.05	0.03	9.91	
EXRC 253	7111 03.3	7491 404	632. 788	13	4	9	5	51.93	7.03	6.24	0.64	0.01	0.03	0.05	0.05	11.48	
EXRC 254	7109 99.7	7491 399	633. 789	13	No Significant Assays												
EXRC 255	7108 98	7491 402	633. 66	13	No Significant Assays												
EXRC 256	7108 00.2	7491 399	636. 66	19	No Significant Assays												
EXRC 257	7107 00.8	7491 403	636. 159	19	No Significant Assays												
EXRC 258	7106 03.9	7491 400	638. 771	19	No Significant Assays												
EXRC 259	7104 95.7	7491 401	638. 876	19	No Significant Assays												



Hole	East	North ing	RL	Dep th	Fro m	To	Inter val	Fe%	SiO ₂ %	Al ₂ O ₃ %	TiO ₂ %	MnO %	CaO %	P%	S%	LOI10 00%	
EXRC 260	7104 01.7	7491 397	642. 773	22	No Significant Assays												
EXRC 261	7103 03.4	7491 401	645. 371	25	13	16	3	50.40	12.72	4.24	0.22		0.03	0.02	0.03	10.59	
EXRC 262	7102 05.3	7491 395	641. 835	22	15	15. 5	1	50.72	9.70	6.24	0.53		0.02	0.03	0.03	10.45	
EXRC 263	7101 02.7	7491 397	644. 085	25	No Significant Assays												
EXRC 264	7100 01.9	7491 399	648. 572	28	No Significant Assays												
EXRC 265	7099 09.1	7491 409	637. 537	16	No Significant Assays												
EXRC 266	7097 98.3	7491 402	640. 228	16	11	12	1	50.23	12.44	5.53	0.37		0.05	0.06	0.02	9.09	
EXRC 267	7097 01.7	7491 401	639. 904	19	No Significant Assays												
EXRC 268	7096 05.9	7491 405	640. 423	7	No Significant Assays												
EXRC 269	7095 05.1	7491 397	639. 202	13	1	3	2	50.84	9.62	5.93	0.27		0.02	0.04	0.02	11.36	
EXRC 270	7094 03.4	7491 399	637. 965	7	No Significant Assays												
EXRC 271	7093 07	7491 402	635. 633	4	2	3	1	50.83	8.29	6.11	0.27			0.03	0.02	12.10	
EXRC 272	7092 04.9	7491 401	640. 313	10	0	1	1	50.43	11.01	8.36	0.75		0.06	0.06	0.02	7.23	
EXRC 273	7091 05.2	7491 404	642. 449	7	No Significant Assays												
EXRC 274	7090 01.9	7491 398	644. 204	7	No Significant Assays												
EXRC 275	7094 02.2	7491 606	637. 427	7	No Significant Assays												
EXRC 276	7094 97.6	7491 598	639. 779	7	No Significant Assays												
EXRC 277	7096 00.4	7491 601	641. 598	10	No Significant Assays												
EXRC 278	7096 90.5	7491 602	638. 632	7	1	5	4	50.95	7.16	7.19	0.43		0.04	0.04	0.03	11.94	
EXRC 279	7099 01.3	7491 602	635. 585	10	5	7	2	50.89	10.96	5.36	0.16		0.23	0.03	0.03	9.78	
EXRC 280	7099 89.9	7491 602	635. 806	13	10	11	1	50.03	11.98	6.17	0.28		0.04	0.04	0.03	10.04	
EXRC 281	7100 98	7491 599	640. 36	19	8	10	2	51.06	10.41	6.05	0.30			0.03	0.03	9.87	
EXRC 282	7101 93.1	7491 600	639. 333	19	17	18	1	50.36	9.31	6.79	0.77		0.07	0.05	0.02	10.61	
EXRC 283	7102 98.3	7491 593	644. 422	25	17	19	2	54.18	10.07	4.33	0.77	0.02	0.05	0.06	0.02	6.66	
EXRC 284	7103 87.8	7491 592	643. 248	25	No Significant Assays												
EXRC 285	7104 96.7	7491 602	638. 745	19	11	12	1	50.44	10.86	5.69	0.52		0.02	0.03	0.01	10.31	
EXRC 286	7105 98.8	7491 608	637. 04	16	No Significant Assays												
EXRC 287	7106 91.2	7491 611	633. 687	10	5	6	1	50.28	6.95	7.54	0.78		0.01	0.07	0.04	12.33	
EXRC 288	7107 95	7491 612	632. 263	10	4	6	2	52.45	7.79	6.73	1.12		0.04	0.06	0.04	8.70	
EXRC 289	7108 92	7491 604	631. 806	10	3	5	2	50.29	6.53	8.62	0.97		0.02	0.06	0.05	11.51	
EXRC 290	7109 96.7	7491 598	630. 232	10	3	7	4	55.14	5.70	4.56	0.27		0.05	0.04	0.03	10.17	
EXRC 291	7110 98.7	7491 598	629. 176	13	1	3	2	50.92	5.17	7.75	1.27			0.09	0.10	12.38	



Hole	East	North ing	RL	Dep th	Fro m	To	Inter val	Fe%	SiO ₂ %	Al ₂ O ₃ %	TiO ₂ %	MnO %	CaO %	P%	S%	LOI10 00%
EXRC 292	7111 97	7491 605	628. 241	10	2	4	2	53.04	5.08	5.44	0.98		0.04	0.10	0.04	12.19
EXRC 293	7112 95.4	7491 603	629. 196	7	1	2	1	51.06	7.75	9.44	2.18		0.03	0.05	0.02	7.27
EXRC 294	7113 98.4	7491 602	627. 546	7	No Significant Assays											
EXRC 295	7115 07.4	7491 600	631. 078	16	No Significant Assays											
EXRC 296	7115 96.8	7491 603	633. 231	7	No Significant Assays											
EXRC 297	7114 97.3	7491 803	629. 884	4	0	1	1	51.27	7.69	7.07	0.88		0.01	0.05	0.04	11.01
EXRC 298	7114 01.7	7491 795	625. 987	4	0	2	2	54.65	4.37	6.01	0.98		0.04	0.06	0.03	10.40
EXRC 299	7113 03.5	7491 805	627. 277	7	0	2	2	52.00	6.20	8.88	0.92			0.05	0.03	9.65
EXRC 300	7111 03.9	7491 803	626. 701	7	1	2	1	50.04	8.64	8.72	0.73		0.03	0.03	0.03	10.31
EXRC 301	7110 05.8	7491 803	628. 606	7	No Significant Assays											
EXRC 302	7109 05	7491 805	629. 713	10	3	7	4	51.61	8.74	6.64	0.88		0.00	0.05	0.01	9.79
EXRC 303	7108 04.7	7491 800	629. 829	10	4	6	2	53.00	6.85	5.55	0.66			0.04	0.03	10.99
EXRC 304	7107 09.1	7491 799	631. 226	10	No Significant Assays											
EXRC 305	7105 98.7	7491 808	633. 721	13	No Significant Assays											
EXRC 306	7104 96.4	7491 802	635. 335	13	No Significant Assays											
EXRC 307	7104 00.2	7491 799	636. 831	10	3	4	1	50.82	10.07	6.74	0.61		0.03	0.04	0.02	9.59
EXRC 308	7103 01.8	7491 797	632. 869	10	3	5	2	51.75	9.13	6.12	0.30		0.05	0.03	0.03	10.05
EXRC 309	7102 05.7	7491 800	632. 528	10	0	7	7	51.02	7.63	7.62	0.59		0.01	0.04	0.04	11.00
EXRC 310	7101 04.8	7491 804	632. 945	10	No Significant Assays											
EXRC 311	7099 98.2	7491 807	619. 448	4	No Significant Assays											
EXRC 312	7096 92.7	7491 809	633. 817	4	1	3	2	50.98	6.18	8.80	0.50		0.03	0.05	0.02	11.46
EXRC 313	7098 94.9	7491 804	633. 379	7	No Significant Assays											
EXRC 314	7103 02	7491 993	628. 596	4	No Significant Assays											
EXRC 315	7103 97.3	7491 999	631. 052	7	No Significant Assays											
EXRC 316	7104 96.2	7492 001	634. 188	10	6	8	2	52.08	8.45	6.04	0.72		0.03	0.04	0.02	10.07
EXRC 317	7106 05.9	7492 001	635. 137	11	No Significant Assays											
EXRC 318	7107 00.3	7492 003	633. 253	10	5	6	1	50.67	10.91	9.59	1.29		0.03	0.04	0.04	5.44
EXRC 319	7107 93.5	7492 003	632. 391	7	No Significant Assays											
EXRC 320	7109 02	7492 003	634. 585	10	No Significant Assays											
EXRC 321	7110 00.4	7492 006	634. 587	7	3	5	2	51.39	10.68	6.53	0.92	0.03	0.03	0.05	0.03	7.92
EXRC 322	7110 96.7	7491 998	630. 957	11	No Significant Assays											
EXRC 323	7111 95.8	7491 997	627. 978	7	2	4	2	52.26	6.46	5.27	0.44			0.06	0.05	12.46



Hole	East	North ing	RL	Dep th	Fro m	To	Inter val	Fe%	SiO ₂ %	Al ₂ O ₃ %	TiO ₂ %	MnO %	CaO %	P%	S%	LOI10 00%
EXRC 324	7102 99.1	7492 205	630. 411	7	2	3	1	50.12	6.49	8.76	0.80		0.03	0.04	0.03	12.19
EXRC 325	7103 95.8	7492 202	631. 865	7	No Significant Assays											
EXRC 326	7104 95.3	7492 196	635. 127	8	No Significant Assays											
EXRC 327	7105 86.6	7492 204	635. 231	10	No Significant Assays											
EXRC 328	7107 05.5	7492 201	635. 122	7	No Significant Assays											
EXRC 329	7107 92.7	7492 203	637. 895	7	No Significant Assays											
EXRC 330	7108 98.2	7492 198	639. 5	12	No Significant Assays											
EXRC 331	7109 99.4	7492 201	637. 7	4	0	1	1	51.92	7.34	8.41	0.96		0.03	0.05	0.02	8.60
EXRC 332	7105 84.2	7492 399	633	7	0	1	1	51.81	7.39	7.56	0.68		0.04	0.04	0.03	10.08
EXRC 333	7104 93.9	7492 396	632. 688	7	No Significant Assays											

Table 8: Collar and Intercept Details

Notes

- Coordinates are reported in MGA 94 Zone 50
- All drill holes completed were vertical



JORC Code, 2012 Edition – Table 1
Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where ‘industry standard’ work has been done this would be relatively simple (eg ‘reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay’). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information. 	<p>IOH Programmes</p> <ul style="list-style-type: none"> Samples were collected every 1 metre from RC Drill Holes. Samples were collected every 2 metres down hole, riffle split for routine assaying (3kg) and retention (1 litre plastic jar) with the remainder (about 45 kg) as the drill reject sample left on site <p>Maiden Iron Programme</p> <ul style="list-style-type: none"> Samples were collected from diamond drill holes. Diamond core samples were targeted at a nominal 250mm interval constrained to geologically identified boundaries where appropriate
Drilling techniques	<ul style="list-style-type: none"> Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc). 	<p>IOH Programmes</p> <ul style="list-style-type: none"> A total of 333 reverse circulation holes were drilled for 3992 meters during the period 21/9/2006 to 10/12/2006 on an exploration grid of 200m by 100m using a Hydco 150 RC drill rig with an onboard riffle splitter operated by drilling contractor, Mt Magnet Drilling Pty Ltd. <p>Maiden Iron Programme</p> <ul style="list-style-type: none"> Maiden has subsequently drilled 56 diamond holes for a total of 501 metres. Drill hole



Criteria	JORC Code explanation	Commentary
		locations are illustrated below. In the Initial Mining Area these holes twinned the 200m x 100 m IOH and infilled to 100m by 100m spacing.
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> • Method of recording and assessing core and chip sample recoveries and results assessed. • Measures taken to maximise sample recovery and ensure representative nature of the samples. • Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. 	<p>IOH Programmes</p> <ul style="list-style-type: none"> • RC recoveries are not known at this point. <p>Maiden Iron Programme</p> <ul style="list-style-type: none"> • Diamond drill hole recoveries were recorded by the field geologist • There is no apparent relation between sample recovery and grade
<i>Logging</i>	<ul style="list-style-type: none"> • Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. • Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. • The total length and percentage of the relevant intersections logged. 	<p>IOH Programmes</p> <ul style="list-style-type: none"> • All RC chips were logged <p>Maiden Iron Programme</p> <ul style="list-style-type: none"> • All diamond core was logged in detail and photographed.
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> • If core, whether cut or sawn and whether quarter, half or all core taken. • If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. • For all sample types, the nature, quality and appropriateness of the sample preparation technique. • Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. • Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. • Whether sample sizes are appropriate to the grain size of the material being sampled. 	<p>IOH Programmes</p> <ul style="list-style-type: none"> • The sample preparation method consisted of initial drying at 105° then jaw crushing the whole sample followed by vibrating disk pulverization to -200 mesh. <p>Maiden Iron Programme</p> <ul style="list-style-type: none"> • Whole core was sent to the laboratory for analysis.
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> • The nature, quality and appropriateness of the assaying and laboratory procedures used 	<p>IOH Programmes</p> <ul style="list-style-type: none"> • Drill samples were analysed using the X-Ray Fluorescence



Criteria	JORC Code explanation	Commentary
	<p>and whether the technique is considered partial or total.</p> <ul style="list-style-type: none"> For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established. 	<p>Spectrometry (XRF) method by Ultra Trace Laboratories in Perth for Fe, SiO₂, Al₂O₃, P, S, Mn, TiO₂, MgO, CaO and K₂O. In addition, loss on ignition (LOI) was determined by Thermo-Gravimetric Analysis (TGA) between 105°C and 1000°C and reweighing for content of combined water and carbon dioxide with results being reported on a dry sample basis.</p> <ul style="list-style-type: none"> The sample preparation method consisted of initial drying at 105°C then jaw crushing the whole sample followed by vibrating disk pulverization to -200 mesh. Company instigated duplicate samples were collected by riffle splitting 1 in 24 drill reject samples to 3kg on site using a bench top size splitter. Results are acceptable for the classification category proposed. <p>Maiden Iron Programme</p> <ul style="list-style-type: none"> Drill samples were analysed using the X-Ray Fluorescence Spectrometry (XRF) method for Fe, SiO₂, Al₂O₃, TiO₂, MnO, CaO, P, S, MgO, Zn, K₂O, Sn, V, Cr, Co, Ni, Cu, As, Pb, Ba, Na₂O, Cl, Sr and LOI. Company instigated blanks, standards and duplicate samples were inserted at approximately 25 metre intervals. Laboratory instigated standards were also introduced as well as repeat samples. Results are acceptable for the classification category proposed.
Verification of sampling and assaying	<ul style="list-style-type: none"> The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data. 	<p>IOH Programmes</p> <ul style="list-style-type: none"> All intervals were sampled; there was no selective sampling by intersection. No adjustments were made to assay data. All collar, downhole assay and logged geology data was entered into an Access database and validated. Computer-generated drill hole logs were prepared for holes



Criteria	JORC Code explanation	Commentary
		<p>and printed and reviewed as part of the validation process.</p> <ul style="list-style-type: none"> • Collar, assay and logged geology tables were imported into Micromine software in preparation for resource estimation <p>Maiden Iron Programme</p> <ul style="list-style-type: none"> • All intervals were sampled; there was no selective sampling by intersection. • No adjustments were made to assay data. • All collar, downhole assay and logged geology data was entered into an Access database and validated. Computer-generated drill hole logs were prepared for holes and printed and reviewed as part of the validation process. • Collar, assay and logged geology tables were imported into Micromine software in preparation for resource estimation
<i>Location of data points</i>	<ul style="list-style-type: none"> • <i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i> • <i>Specification of the grid system used.</i> • <i>Quality and adequacy of topographic control.</i> 	<p>IOH Programmes</p> <ul style="list-style-type: none"> • All holes have been surveyed by DGPS. • All holes are vertical and relatively short; there are no down hole surveys. <p>Maiden Iron Programme</p> <ul style="list-style-type: none"> • All holes have been surveyed by DGPS, which has an expected relative accuracy of 0.02m East and North and 0.05m RL for the control, and 0.05m East, North and RL for the collars. • All holes are vertical and relatively short; there are no down hole surveys.
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> • <i>Data spacing for reporting of Exploration Results.</i> • <i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i> • <i>Whether sample compositing has been applied.</i> 	<p>IOH Programmes</p> <ul style="list-style-type: none"> • Drill spacing is 200m (N) x 50m (E) <p>Maiden Iron Programme</p> <ul style="list-style-type: none"> • Infill drill spacing is 50m x 50m. • Spacing is considered satisfactory for the level of classification applied.



Criteria	JORC Code explanation	Commentary
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> • <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i> • <i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i> 	<ul style="list-style-type: none"> • Mineralisation is sub-horizontal; drill orientation is vertical. • Sampling is considered unbiased geologically.
<i>Sample security</i>	<ul style="list-style-type: none"> • <i>The measures taken to ensure sample security.</i> 	<ul style="list-style-type: none"> • Standard sampling protocols have been used to ensure security.
<i>Audits or reviews</i>	<ul style="list-style-type: none"> • <i>The results of any audits or reviews of sampling techniques and data.</i> 	<ul style="list-style-type: none"> • No sampling audits have been carried out.



Section 2 Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i> <i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i> 	<ul style="list-style-type: none"> The Extension deposit is located in Maiden Iron's tenements M47/1353 to M47/1356. It lies in the central portion of the Hamersley Ranges, and is located 3km north of BHPB Yandicoogina Mine and near to established mine service infrastructure in the Central Pilbara. WA State Government royalty of 7.5% of royalty value Derek Noel Ammon royalty of 1.25% FOB production Martu Idja Banyjima (Native Title) royalty of 0.5% Iron Ore Holdings Royalty of 1.25% to 2.5% of production, dependent on prevailing prices and other factors. Deferred consideration payment of \$1.75m upon commercial production
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <i>Acknowledgment and appraisal of exploration by other parties.</i> 	<ul style="list-style-type: none"> Exploration was carried out by IOH and Maiden Iron Pty Ltd
<i>Geology</i>	<ul style="list-style-type: none"> <i>Deposit type, geological setting and style of mineralisation.</i> 	<ul style="list-style-type: none"> Iron mineralisation within the project area is present as predominantly fluvial pisolite channel iron deposits with minor residual bedded hematite-goethite and eluvial canga deposits. The channel iron deposits infill palaeotributary channels which are genetically related to the Marillana Formation/Yandi CID occupying the main palaeochannel which occurs alongside the present day Marillana Creek system.
<i>Drill hole Information</i>	<ul style="list-style-type: none"> <i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i> <ul style="list-style-type: none"> <i>easting and northing of the drill hole collar</i> <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i> <i>dip and azimuth of the hole</i> <i>down hole length and interception depth</i> <i>hole length.</i> <i>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i> 	<ul style="list-style-type: none"> Full table of intersections and results included in body of release



Criteria	JORC Code explanation	Commentary
Data aggregation methods	<ul style="list-style-type: none"> <i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</i> <i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i> <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i> 	<ul style="list-style-type: none"> Weighted averages of grade intervals using a 50% Fe cut off grade have been applied Metal equivalent values have not been utilised
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <i>These relationships are particularly important in the reporting of Exploration Results.</i> <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i> <i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</i> 	<ul style="list-style-type: none"> Drill holes are vertical with sub horizontal strata and therefore approximate true widths of mineralisation
Diagrams	<ul style="list-style-type: none"> <i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i> 	<ul style="list-style-type: none"> Maps and diagrams have been utilised in the body of the release
Balanced reporting	<ul style="list-style-type: none"> <i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i> 	<ul style="list-style-type: none"> All drill holes have been reported including those with no significant results
Other substantive exploration data	<ul style="list-style-type: none"> <i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i> 	<ul style="list-style-type: none"> All meaningful exploration data included in body of release
Further work	<ul style="list-style-type: none"> <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is</i> 	<ul style="list-style-type: none"> Further mapping and sampling prior to drill testing of extensions to mineralisation Drill planning will be conducted post mapping program being completed



Criteria	JORC Code explanation	Commentary
	<i>not commercially sensitive.</i>	



Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary																				
Database integrity	<ul style="list-style-type: none"> Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. Data validation procedures used. 	<ul style="list-style-type: none"> All drill hole data was validated using the Micromine software package, including: <ul style="list-style-type: none"> Checks for duplicate collars Checks for missing samples Checks for down hole from-to interval consistency Checks for overlapping samples Checks for samples beyond hole depth 																				
Site visits	<ul style="list-style-type: none"> Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case. 	<ul style="list-style-type: none"> Two site visits have been undertaken by the CP, during 2007 and 2014. 																				
Geological interpretation	<ul style="list-style-type: none"> Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. Nature of the data used and of any assumptions made. The effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation. The factors affecting continuity both of grade and geology. 	<ul style="list-style-type: none"> Confidence is high in the geological interpretation The various geological domains can generally be clearly identified using both visual and geochemical means. Alternative interpretations would be unlikely to materially affect the resource. 																				
Dimensions	<ul style="list-style-type: none"> The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource. 	<ul style="list-style-type: none"> The deposit is approximately 4 km North-South and varies from 2 km to 4km East-West The deposit has typical overburden of 5m to 10m and a thickness of 10m to 20m. 																				
Estimation and modelling techniques	<ul style="list-style-type: none"> The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. The assumptions made regarding recovery of by-products. Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation). In the case of block model interpolation, the block size in relation to the average 	<ul style="list-style-type: none"> An Inverse Distance Cubed interpolation method was used to estimate all elements. Micromine 2014 software was used. Block model parameters are summarised below. Sub-cells to a minimum of 1.25m by 1.25m were used to spatially honour geological and topographical boundaries. <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>Min Centre</th> <th>Block Size</th> <th>Max Centre</th> <th># Blocks</th> </tr> </thead> <tbody> <tr> <td>East :</td> <td>711156.25</td> <td>12.5</td> <td>712843.75</td> <td>136</td> </tr> <tr> <td>North :</td> <td>7489956.25</td> <td>12.5</td> <td>7490843.75</td> <td>72</td> </tr> <tr> <td>Z :</td> <td>575.125</td> <td>.25</td> <td>659.875</td> <td>340</td> </tr> </tbody> </table> <ul style="list-style-type: none"> No grade capping was applied. Search ellipses applied in the estimate were based on down hole variography, drill hole spacing and the interpreted geological continuity and orientation of the deposits. ID3 was preferred over kriging as it gave better validation results and the horizontal variograms were not particularly good 		Min Centre	Block Size	Max Centre	# Blocks	East :	711156.25	12.5	712843.75	136	North :	7489956.25	12.5	7490843.75	72	Z :	575.125	.25	659.875	340
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Criteria	JORC Code explanation	Commentary
	<p><i>sample spacing and the search employed.</i></p> <ul style="list-style-type: none"> • Any assumptions behind modelling of selective mining units. • Any assumptions about correlation between variables. • Description of how the geological interpretation was used to control the resource estimates. • Discussion of basis for using or not using grade cutting or capping. • The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available. 	<p>quality. The low nugget effect observed in the down hole variograms confirms use of the cubed power in the inverse distance interpolation.</p> <ul style="list-style-type: none"> • The primary search ellipse had radii of 125m horizontally and 1.5m vertically. A minimum of 2 samples and a maximum of 16 samples were required in the search pass. A maximum of 4 samples per drill hole was used. Where blocks were not informed in the first pass, a second search was used with radii of 250m horizontally and 5m vertically. A minimum of 1 sample and a maximum of 16 samples were required in this search pass.
Moisture	<ul style="list-style-type: none"> • Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content. 	<ul style="list-style-type: none"> • Tonnages have been estimated on a dry basis. No moisture factors have been applied.
Cut-off parameters	<ul style="list-style-type: none"> • The basis of the adopted cut-off grade(s) or quality parameters applied. 	<ul style="list-style-type: none"> • Cut-offs are based on preliminary economic analysis, and review of similar deposits nearby.
Mining factors or assumptions	<ul style="list-style-type: none"> • Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made. 	<ul style="list-style-type: none"> • Mining is assumed to be by conventional open pit methods. • No dilution or loss factors have been applied to the Mineral Resource Estimate.
Metallurgical factors or assumptions	<ul style="list-style-type: none"> • The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made. 	<ul style="list-style-type: none"> • No metallurgical assumptions have been made. The deposit is of a type that is well known and understood from many mining operations in the Pilbara region; no major metallurgical issues are expected.
Environmental factors or assumptions	<ul style="list-style-type: none"> • Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic 	<ul style="list-style-type: none"> • No assumptions have been made regarding environmental factors. • The general area around the project has seen extensive mining of similar type deposits.



Criteria	JORC Code explanation	Commentary																
	<p><i>extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</i></p>																	
Bulk density	<ul style="list-style-type: none"> • Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. • The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. • Discuss assumptions for bulk density estimates used in the evaluation process of the different materials. 	<ul style="list-style-type: none"> • On advice from MI densities were taken from Ammtec's report (2008) and applied on the basis of domains. <table border="1"> <thead> <tr> <th>Domain</th> <th>Density</th> </tr> </thead> <tbody> <tr> <td>QA</td> <td>2.00</td> </tr> <tr> <td>RCID</td> <td>2.56</td> </tr> <tr> <td>UCID</td> <td>2.73</td> </tr> <tr> <td>MCID</td> <td>2.73</td> </tr> <tr> <td>LCID</td> <td>2.73</td> </tr> <tr> <td>LGC</td> <td>2.85</td> </tr> <tr> <td>Basement</td> <td>2.65</td> </tr> </tbody> </table>	Domain	Density	QA	2.00	RCID	2.56	UCID	2.73	MCID	2.73	LCID	2.73	LGC	2.85	Basement	2.65
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Classification	<ul style="list-style-type: none"> • The basis for the classification of the Mineral Resources into varying confidence categories. • Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data). • Whether the result appropriately reflects the Competent Person's view of the deposit. 	<ul style="list-style-type: none"> • The Extension Mineral Resource has been classified as Indicated, in accordance with The 2012 Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC Code). A range of criteria has been considered in determining this classification including: <ul style="list-style-type: none"> • Geological Continuity • Geological continuity is understood with reasonable confidence given detailed logging and mapping. The classification reflects this level of confidence. • Data Quality • Resource classification is based on information and data provided from the MI database. Descriptions of drilling techniques, survey, sampling/sample preparation, analytical techniques and database management/validation provided for both the IOH and MI Data indicate that data collection and management is well within industry standards. Widenbar considers that the database represents an accurate record of the drilling undertaken at the project. • Drilling Spacing • Drill hole spacing of the diamond drill holes in the model update area is 100 by 100m with close spaced sampling at 0.25m 																



Criteria	JORC Code explanation	Commentary
		<p>intervals. In the other parts of the resource area drilling is nominally 200m x 100m.</p> <ul style="list-style-type: none"> • Modelling Technique • The Extension update resource model was generated using an ID3 interpolation method, with a multi-pass search approach. The first search ellipsoid had dimensions of 125 x 125 x 1.5m with a minimum of 2 samples and a maximum of 16. The second search, used where not enough data was found in the first search had dimensions 250m x 250m x 5m. 95% of blocks were estimated in the first search pass. • The search pass used, the number of samples used and the average distance of samples from each block, were all stored in the block model. • In general the search pass and average distance are all broadly correlated with a combination of drill hole spacing and domain thickness. • The above parameters were used as a guide in combination with drill spacing to arrive at a final resource classification. • Final Classification • All CID domains have been allocated to the Indicated category. The classification criteria for the previous IOH model are summarised in Widenbar, 2012; the mineralised material was classified in the Indicated Category
Audits or reviews	<ul style="list-style-type: none"> • <i>The results of any audits or reviews of Mineral Resource estimates.</i> 	<ul style="list-style-type: none"> • There have been no audits or reviews
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> • <i>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</i> • <i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i> • <i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i> 	<ul style="list-style-type: none"> • The relative accuracy of the Mineral Resource is reflected in the reporting of the Mineral Resource as being in line with the guidelines of the 2012 JORC Code. • The statement relates to global estimates of tonnes and grade, with reference made to resources above a certain cut-off that are intended to assist mining studies. • No production data is available for comparisons