MAGNETITE MINES
High Grade Iron Ore Concentrate

ASX Announcement

1 March 2021

Muster Dam Iron Project Tenements awarded to Magnetite Mines

Highlights

- Magnetite Mines has been awarded the Muster Dam tenement package by South Australia's Department for Energy and Mines following a competitive exploration tenement application process.
- Tenement contains the Muster Dam 1.5 billion tonne, Inferred Resource.[1] (2004 JORC Code & Guidelines)
- Muster Dam is hosted by the same Braemar Iron Formation as the Razorback Iron Project and is located 110km to the north east of Razorback.[2]
- The tenements are highly prospective for additional Braemar Iron Formation as demonstrated by aeromagnetics and extensive past exploration work.[1]
- Muster Dam is referred to in the South Australian Government's Magnetite Strategy.
- Muster Dam offers a new growth and development opportunity for Magnetite Mines and is a natural complement to the large Razorback High Grade Iron Ore Project.

Introduction

Magnetite Mines Limited (ASX:**MGT**) (**Company**) is pleased to announce that it has secured a 100% interest in the tenement package which hosts the Muster Dam Iron Project. The tenement package was awarded following a competitive application and tender process from the South Australian Department for Energy and Mines. The Company's application outlined its industry experience, managements proven skills, capabilities and the ability to explore and evaluate the tenements.

The Muster Dam Iron Project represents an important exploration and development opportunity for the Company. The Muster Dam Project has a range of potential synergies with the Company's flagship Razorback High Grade Iron Project, which is located approximately 110kms to the south west of the proposed tenement. The Company intends to continue to press ahead with its accelerated development pathway for the Razorback High Grade Iron Ore Project[3,4], while evaluating the Muster Dam Iron Project, which has the potential to offer a logical and natural expansion pathway.

Muster Dam Iron Project Details

The Muster Dam Iron Project tenement package consists of a tenement located in the north-east pastoral district of South Australia, roughly 40 km south east of the town of Olary. The tenement which is currently being processed (tenement ID to be determined) includes the iron ore prospects known as Muster Dam, Surrender Dam, Duffields and Peaked Hill.

The Muster Dam Iron Project is located near to existing infrastructure, positioned 40km from rail and roads, 75km from the nearest high voltage powerline and 110km from the mining town of Broken Hill. The tenement package has in the past been explored by Minotaur Exploration Limited. In addition to iron ore the tenement has historically been explored for uranium and cobalt mineralisation.

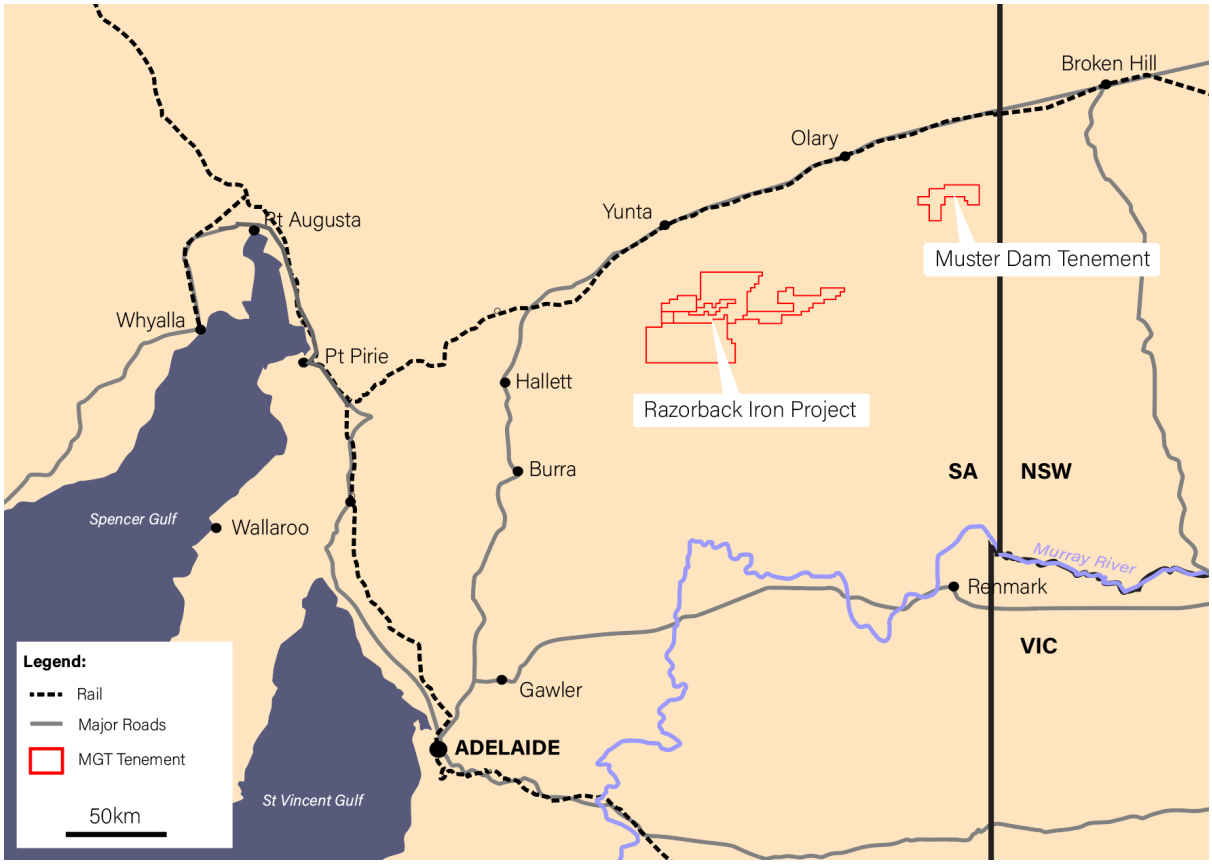

Figure 1. Regional schematic map indicating Muster Dam and Razorback Iron Project Locations

Similar to the Razorback High Grade Iron Ore Project, the Muster Dam Iron Project is situated within the folded, Neoproterozoic rocks of the Adelaide Geosyncline. The Braemar Ironstone Formation is the host stratigraphy and comprises a series of narrow, strike extensive magnetite-bearing siltstones with a steep dip of 70-80 degrees. Outcropping in part, mineralisation is mostly covered by sediments with the base of weathering of the prospect ranging from 0 to 50m with aeromagnetic data clearly indicating the lateral continuity of the host ore bodies at shallow depths.[1]

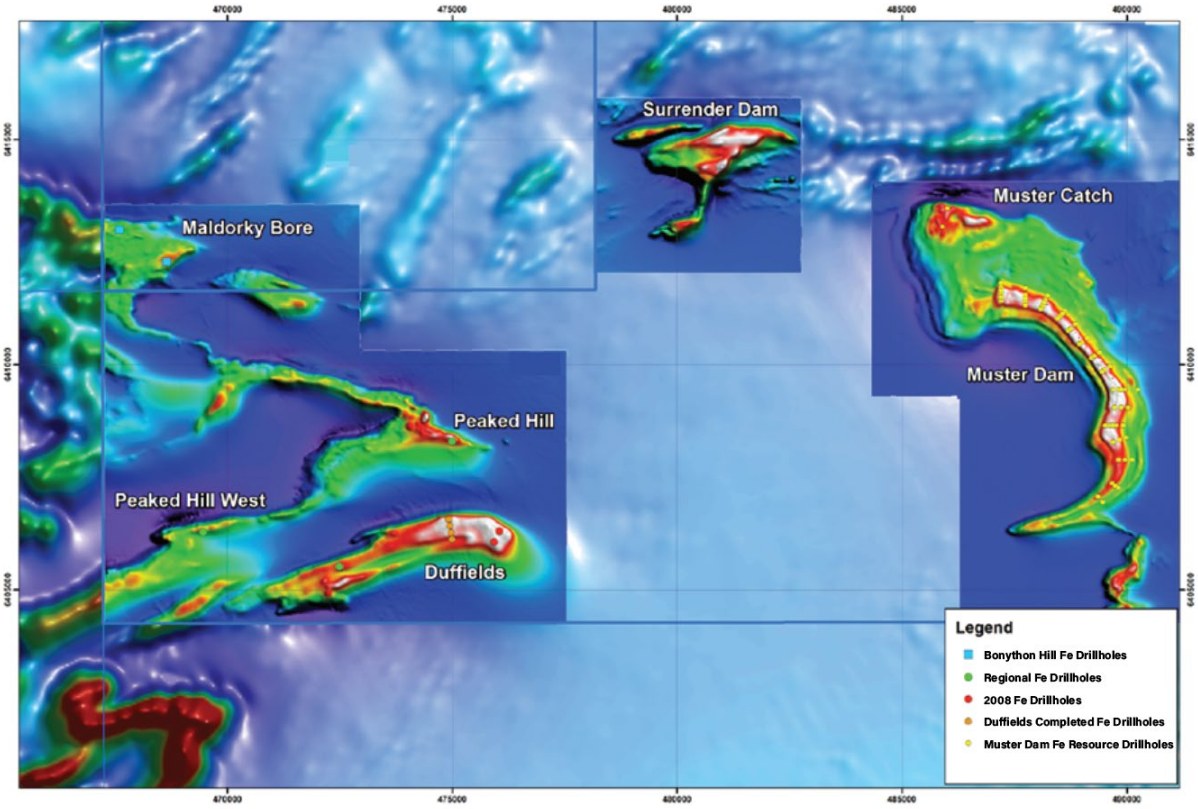

Figure 2. Airborne magnetic image for the Mutooroo area showing regional prospects and drillhole locations. As taken from Maiden JORC Resource for Mutooroo.[1]

Company Exploration and Evaluation Strategy

The Company intends to first review all available exploration and technical data concerning the tenement package to confirm its resource potential and to develop targets for further exploration and evaluation. Once the programme is determined, the Company will update stakeholders accordingly.

Mineral Resource Estimate and Cautionary Statements

The Muster Dam Iron Project has a Mineral Resource estimate of 1.5 billion tonnes of iron ore at the Inferred category reported under the JORC Code 2004.[1]

Table 1. Muster Dam resource estimate and concentrate results at 10% DTR cut-off[1]

Muster Dam			Concentrate Grades					
JORC Category	Billion Tonnes	DTR % (Mass Recovery)	Fe %	Al_2O_3 %	P_2O_5	S %	SiO_2 %	LOI %
Inferred	1.5	15.2	69.8	0.4	0.002	0.002	2.8	-3.3

As per the H&S report1, the resource estimates are reported for a 10% DTR magnetite cut-off grade constrained by the top of fresh rock to a depth of 360m below surface.

The Mineral Resource estimate was previously reported and announced by the former owner of the tenement Minotaur Exploration Limited (ASX:MEP). The Mineral Resource estimate was originally announced to the public as an ASX announcement on the 24 November 2011 under the title 'Maiden JORC Resource for Mutooroo'.[1] That announcement can be found at the following link. In addition, the Mineral Resource estimate was reported under the JORC Code 2004

A Competent Person has not done sufficient work to classify the Mineral Resources or Ore Reserves in accordance with the JORC Code 2012 and no ore reserves were declared by the former owner. It is possible that following evaluation and/or further exploration work the currently reported estimates may materially change and hence will need to be reported afresh in accordance with the JORC Code 2012. Nothing has come to the attention of the Company that causes it to question the accuracy or reliability of the former owner's estimates; but the Company has not independently validated the former owner's estimates and therefore is not to be regarded as reporting, adopting or endorsing those estimates.

Based on limited data provided to date, Magnetite Mines Limited believes the reliability of the estimate to conform to the JORC 2004 code with appropriate experienced Competent Persons Mr Simon Tear (external consultant with Hellman and Schofield Pty Ltd (H&S)) and Dr Antonio Belperio (director and geological consultant of Minotaur Exploration Ltd.) originally taking responsibility for the Mineral Resources and Exploration Results respectively. They have provided their consent for the inclusion in this announcement of their respective responsibilities. The Mineral Resource estimate has been maintained at JORC Code 2004 on the basis that no material changes or new results have been obtained that may alter the current Mineral Resource estimate. No applicable Modifying Factors or Economic Modifying Factors have been identified as part of an initial review of the deposit.

The Muster Dam Iron Project has been extensively drilled with a total of 59 RC (49) and diamond (10) holes for 15,914m on 400m spaced sections. 2,913 samples have been tested for recovered magnetic fraction (Davis Tube Recovery (DTR)) with X-Ray Fluorescence (XRF) testwork undertaken on the head and concentrate grade material. The Mineral Resources were reported to a depth of approximately 360m below surface with mineralisation open at depth. At the 10% DTR cut-off the magnetite body varies in width between 200m and 400m. Unconstrained grade interpolation using 3,193, 5m composites was undertaken via the Ordinary Kriging method with a maximum search distance of 450m by 225m and 75m oriented parallel to the bedding with a minimum number of 8 data points. A complete description of the resource estimate and the parameters utilised is given in the H&S Mineral Resource report appended below.

It is expected that Magnetite Mines will review the Mineral Resources as soon as possible with a view to reporting the Mineral Resources in accordance with the 2012 JORC Code & Guidelines.

Evaluation and/or exploration work is expected to occur from the tenement grant date, with an initial review of historic datasets to be undertaken within 3 months (as described above). After that assessment the Company will advise Shareholders of its intent to progress the Project.

There was no upfront consideration payable for the tenement and the value of the proposed exploration programme amounts to $3.4 million over 2 years.

Other Prospects

Some additional exploration drilling occurred at the Duffields and Peaked Hill prospects. At all prospects, the potential to produce a high grade (+68% Fe) and low deleterious element (silica, alumina and phosphorus) concentrate products has been supported by Davis Tube Recovery testwork.[1]

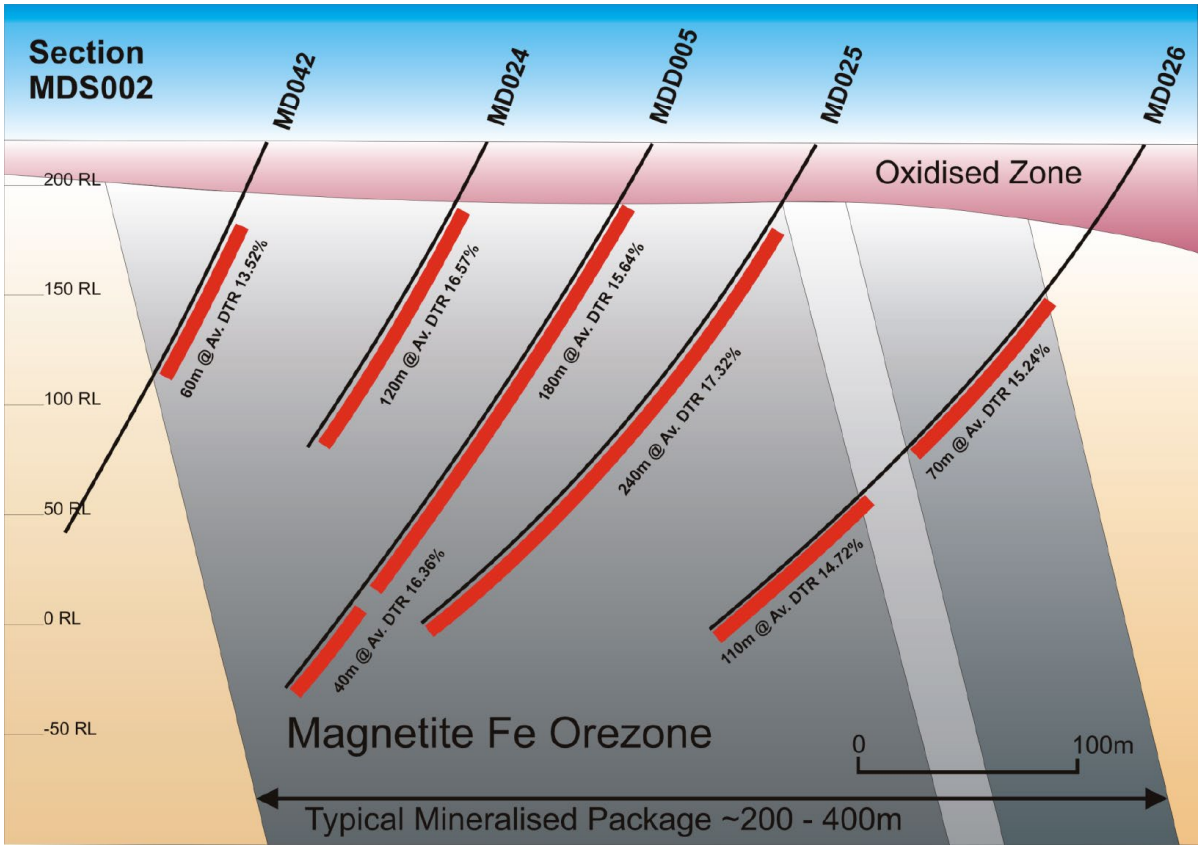

Figure 3. Cross Section from the Muster Dam Resource displaying typical mineralisation package. As taken from Maiden JORC Resource for Mutooroo.[1]

Chairman's Statement

Magnetite Mines Chairman Peter Schubert said, "We are delighted to have been selected by the South Australian Government to progress the Muster Dam Iron Project and we are excited to further increase the Company's substantial footprint in this highly prospective iron ore province. We believe market conditions are ideal to advance high grade iron ore projects in regions endowed with extensive infrastructure such as the Braemar Iron Formation.

Magnetite Mines has assembled an extremely talented team of experts to deliver the Razorback Pre-Feasibility Study, and there are many overlapping synergies that can be immediately and advantageously applied to the Muster Dam Iron Project. We will deploy the same systematic and thorough development approach that is delivering for us as we progress Razorback and we look forward to updating stakeholders in coming months after we review the ground in detail and assess the extensive work done to date on Muster Dam."

Competent Persons Statement

In relation to the original Mineral Resource Estimate for Muster Dam[1]

The information in this report that relates to Exploration Results is based on information originally compiled by Dr Antonio Belperio and represents an accurate representation of the available data. Dr Belperio is a Fellow of the Australian Institute of Mining and Metallurgy and a director and geological consultant of Minotaur Exploration Ltd and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' ("JORC Code 2012"). Dr Belperio consents to the disclosure of this information in this report in the form and context in which it appears.

The information in this report that relates to Mineral Resources is based on information evaluated by Mr Simon Tear, who is a Member of The Australasian Institute of Mining and Metallurgy (MAusIMM). And who has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' ("the JORC Code"). Mr Tear is a Director of H&S Consultants Pty Ltd and he consents to the inclusion in the report of the Mineral Resources in the form and context in which they appear.

References:

1. Minotaur Exploration (ASX:MEP) ASX Announcement - 24/11/11 – Maiden JORC Resource for Mutooroo
2. Magnetite Mines Limited (ASX:MGT) ASX Announcement – 7/11/19 – Positive Razorback Scoping Study Results
3. Magnetite Mines Limited (ASX:MGT) ASX Announcement – 18/06/20 – Commencement of PFS and Appointment of Expert Advisors
4. Magnetite Mines Limited (ASX:MGT) ASX Announcement – 17/12/20 – Pre Feasibility Study Update

This announcement has been authorised for release to the market by the board.

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geochemical exploration

23rd November 2011

Ian Garsed,
Minotaur Exploration Limited
(by email)

Resource Estimation for the Muster Dam Prospect, Mutooroo Iron Ore Project, SA

Hellman & Schofield has completed new Mineral Resource Estimates for the Muster Dam prospect as part of the Mutooroo Iron Ore Project in Eastern South Australia. The project lies within exploration licence EL3745 which is granted to Minotaur Exploration Limited ("MEP") but under joint venture with Sumitomo Metal Mining Oceania Pty Ltd (who have 59.1%). MEP manages exploration of the project and commissioned this report. The target commodity is iron ore as fresh rock magnetite. The prospect area is located 90km south west of Broken Hill, close to Carpentaria Exploration's Hawsons Iron Ore Project. The maiden resource estimates incorporate all the available drillhole data from the recent 2011 drilling programme and a new geological interpretation. The estimates have been reported using the JORC Code and Guidelines and the author has the requisite experience to act as a Competent Person under the code.

The Mutooroo Iron Ore Project is situated within folded, upper greenschist facies Neoproterozoic rocks of the Adelaide Geosyncline. The Braemar Ironstone Facies is the host stratigraphy and comprises a series of relatively narrow, strike extensive magnetite-bearing siltstones with a steep dip (circa 70º to 80º). Parts of the Mutooroo prospective stratigraphy are exposed but there are large tracts that are concealed by transported ferricrete and other younger cover. The base of oxidation due to weathering over the prospective horizons is variable ranging from 0m to up to 50m. The airborne magnetic data clearly indicates the continuity of the magnetite siltstones as a series of parallel, narrow, high amplitude magnetic anomalies with considerable strike length.

Exploration work completed by MEP in 2010-11 includes 2D and 3D geophysical modelling of airborne magnetic data with follow up diamond and RC drilling. At Muster Dam a total of 59 RC and diamond holes (for 15,914m) have been completed as a series of fence holes on 400m spaced sections. Analysis of the drillhole samples has utilised the Davis Tube Recovery ("DTR") method to provide a measure of the recoverable magnetic fraction. In addition XRF analysis was completed on head and concentrate grade material. Sampling of the drilling consisted of 2,913 samples, some of which was under geological control. A nominal 10% DTR value defines the limits of the magnetite siltstone and may include some internal dilution.

Modelling used 3,193 5m composites with the Ordinary Kriging method. Conditional Expectation of the downhole geophysical data was used to supplement the composite DTR data where the latter was unavailable. Elements modelled include the magnetic fraction (magnetite), the iron head grade and concentrate grades for iron, alumina, phosphorous, silica, sulphur and LOI. Unconstrained

modelling was undertaken with a maximum search of 450m by 225 and 75m oriented parallel to the bedding with a minimum number of 8 data points. A block size of 100m by 50 by 20m was used.

The resource estimates are reported for a 10% DTR magnetite cut off grade constrained by the top of fresh rock surface, within the defined mineral shape and to a depth limit of 360m below surface. The Mineral Resource estimates are classified as Inferred. Additional detail of the resource estimates are supplied in Appendix 1.

Muster Dam			**Concentrate Grades**					
Category	**Billion Tonnes**	**Magnetite DTR %**	**Fe%**	**Al_2O_3 %**	**P_2O_5 %**	**S %**	**SiO_2 %**	**LOI %**
Inferred	**1.5**	**15.2**	**69.8**	**0.4**	**0.002**	**0.002**	**2.8**	**-3.3**

(average density 2.96t/m^3; minor rounding errors)

The mineralisation at Muster Dam remains open at depth but is believed to be closed off at the northern and southern margins. However Muster Dam is one of a series of similar exploration targets within MEP's exploration licence.

The data in this report that relates to Exploration Results for the Mutooroo Project is based on information evaluated by Dr A. P. Belperio, who is a Member of The Australasian Institute of Mining and Metallurgy (MAusIMM) and who has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the "JORC Code"). Dr Belperio is a full-time employee of Minotaur Exploration Ltd and he consents to the inclusion in the report of the Exploration Results in the form and context in which they appear.

The data in this report that relates to Mineral Resource Estimates for the Mutooroo Project is based on information evaluated by Mr Simon Tear who is a Member of The Australasian Institute of Mining and Metallurgy (MAusIMM) and who has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Persons as defined in the 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the "JORC Code"). Mr Tear is a full-time employee of Hellman & Schofield Pty Ltd and he consents to the inclusion in the report of the Mineral Resources in the form and context in which they appear.

Introduction

The Mutooroo Iron Ore Project is located approximately 90 km south-west of Broken Hill in Eastern South Australia (Figure 1) within Exploration Licence EL3745, which is granted to Minotaur Exploration Limited ("MEP"). EL 3745 is under a joint venture agreement with Sumitomo Metal Mining Oceania Pty Ltd (59.1%). Minotaur manages exploration at the prospect. H&S completed an Exploration Target assessment report on the area for MEP in May 2011.

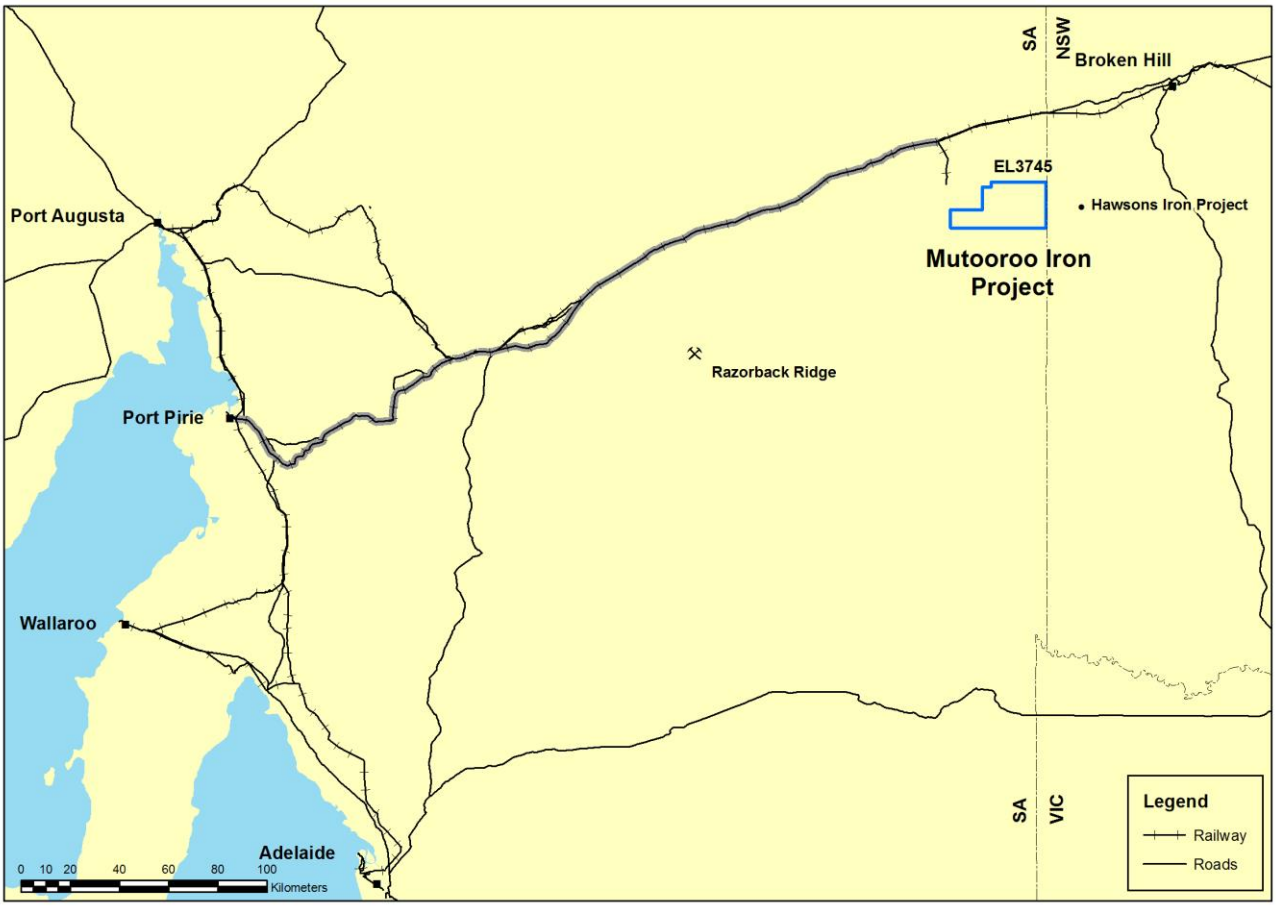
The deposit is 35km from the Adelaide-Sydney railway line, a main highway and a power supply. The licence also occurs 25km west of Carpentaria Exploration Limited's Hawsons Iron Ore Project with has an Inferred Resource (see table below).

Table 1 Hawsons Magnetite Deposit Inferred Resources

Hawsons			Concentrate Grades				
Category	**Billion Tonnes**	**Magnetite DTR %**	**Fe%**	**Al_2O_3 %**	**P_2O_5 %**	**SiO_2 %**	**LOI %**
Inferred	**1.4**	**15.5**	**69.9**	**0.22**	**0.002**	**2.5**	**-3.0**

(12% DTR cut off; average density 3.05t/m^3; minor rounding errors; source ASX release 17/12/10)

Figure 1 Mutooroo Location Map



(Supplied by MEP)

Deposit Geology

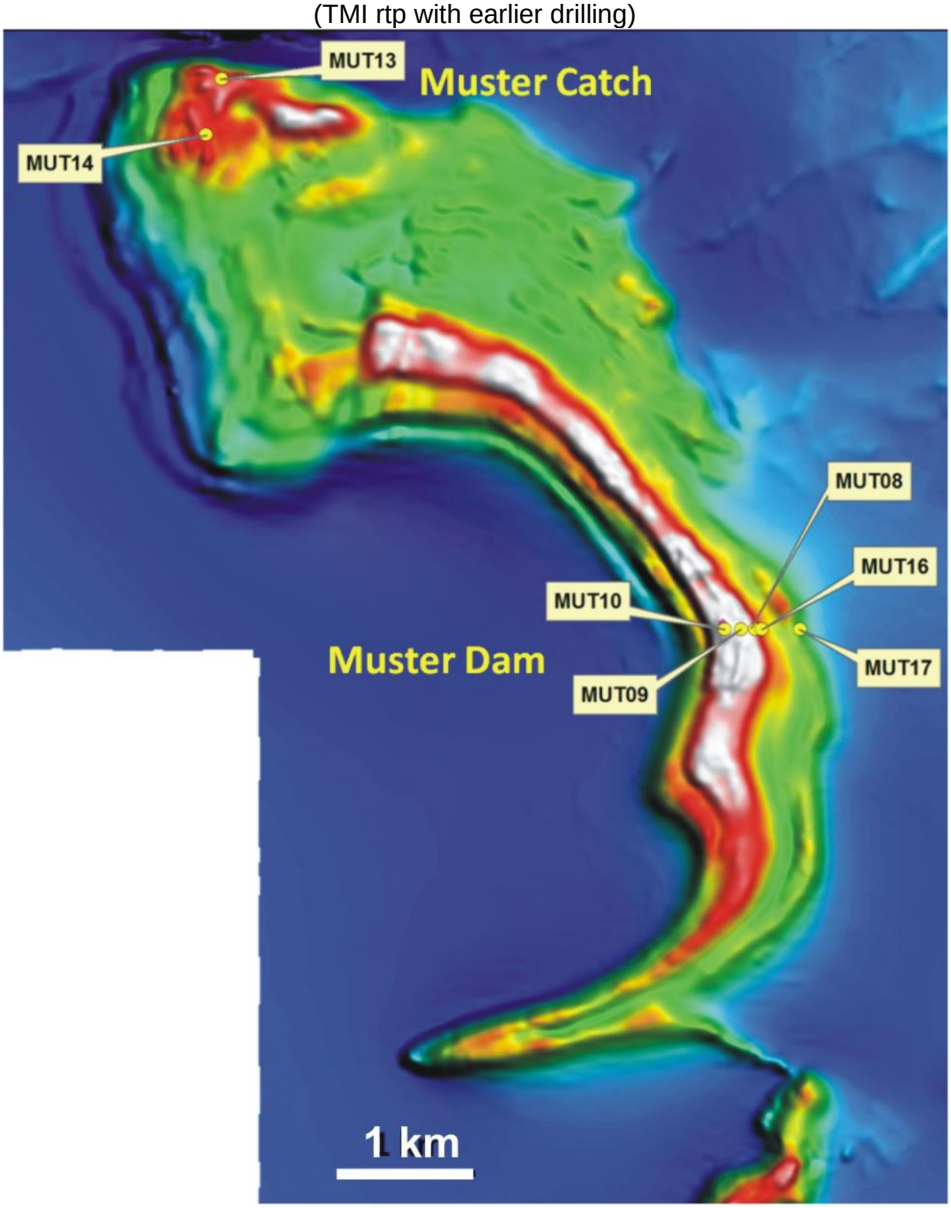
The prospect lies within folded Neoproterozoic sediments of the Nackara Arc of the Adelaide Fold Belt. The rocks exposed at Mutooroo contain diamictitic siltstones (tillites), quartz sandstones,

calcareous siltstones, dolomite and magnetic ironstone units of the Braemar Ironstone Facies. The ironstones are examples of glaciomarine Raptian-Sturtian sedimentary iron-formation type which has a world-wide occurrence in the Neoproterozoic (Klein & Beukes, 1993 and Lottermoser & Ashley, 2000).

Magnetite mineralisation primarily occurs as very fine grained crystals within the silty matrix of the diamictites and siltstones. More details are provided in MEP's drilling report.

The Mutooroo Project comprises a series of pronounced airborne magnetic features that occur as a set of large, curvilinear, high amplitude anomalies interpreted to be regional scale folding of the magnetite-rich Braemar Ironstone. The Mutooroo project is subdivided into a series of target areas over which MEP has selectively completed both ground and detailed helimag surveys on the most prospective anomalies. Survey specifications included 3,497 line km, a flight-line spacing of 50m and a terrain clearance of 25m. An example of the new helimag data is included as Figure 2, which clearly shows the strike continuity of the magnetite siltstone for the Muster Dam prospect. Muster Dam is the first target on which MEP have undertaken systematic exploration drilling attempting to delineate a Mineral Resource.

Figure 2 Detailed Magnetic Image for Muster Dam
(TMI rtp with earlier drilling)

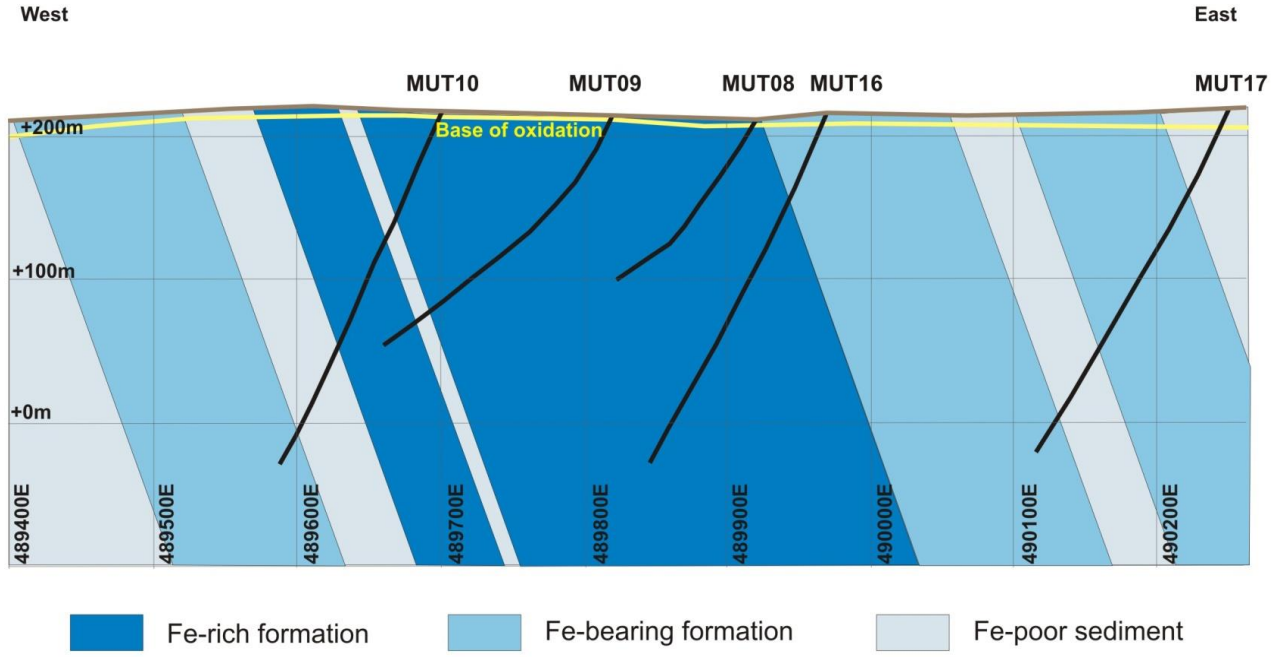


(Supplied by MEP) (Yellow circles = MEP drillholes)

Exposure in the Muster Dam area is limited to windows of folded, upper greenschist metamorphosed strata. Up to 5m of transported cover overlies the majority of the deposit, with variable depths of oxidation over the mineralisation, generally penetrating to about 2-60m below surface. This oxidised section of the magnetic siltstone comprises low grade hematite and goethite mineralisation in combination with magnetite ranging between 15-30% Fe.

A fence of five RC/diamond drillholes was completed by MEP at Muster Dam in early 2011. This work targeted the central part of the main Muster Dam Prospect and successfully delineated a magnetite-bearing siltstone with an approximate true thickness of 300m. A geological interpretation of the drilling data is included as Figure 3 and shows the magnetite unit dipping at 75^{o} to the east; with the unit open at depth. The interpreted mineralised unit has a strike length of 6-7km with an interpreted vertical depth of at least 300m. The drilling interpretation was assisted by the patterns in the magnetic susceptibility data that helped to characterise lithological boundaries, although it should be noted that the mineralisation contacts are diffuse and transitional.

Figure 3 Geological Interpretation of the Discovery Section at Muster Dam



(Supplied by MEP)

Data Validation

MEP has supplied the drill hole database for the deposit, which H&S has accepted in good faith as an accurate, reliable and complete representation of the available data. H&S performed only very limited validation of the data and did not detect any obvious problems likely to impact significantly on the resource estimates. The drillhole database for Muster Dam is satisfactory for resource estimation purposes. The quality control procedures for assay and sampling used by MEP were reviewed by H&S and are to industry standard. However responsibility for quality control of the drillhole data resides solely with MEP.

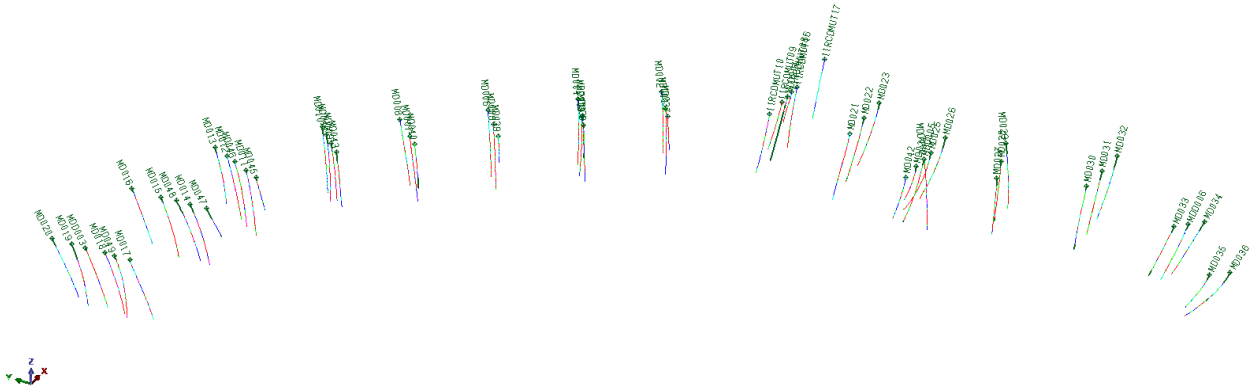
Drilling has been in two phases with an initial exploratory programme completed in early 2011 that aimed at establishing Exploration Targets for the region. A second phase of drilling has centred on the Muster Dam area with the aim of delineating an initial Mineral Resource. The resource estimates were produced from a mixture of surface RC and diamond drillholes (mixed HQ and NQ core sizes). A total of 59 holes for 15,914m were drilled as detailed in Table 2.

Table 2 Muster Dam Drillhole Details

Hole Type	No. of Holes	Metres Drilled	No of samples
Diamond	10	2,883	558
RC	49	13,031	2,355
Total	59	15,914	2,913

Drillhole spacing was on 400m spaced sections with the on section spacing ranging between 50 and 150m. Drillhole collars have been located by a DGPS with an accuracy of +/-0.4m (Figure 4) and all data have been compiled by H&S into an Access database (mutooroo.mdb and mutooroo_111111.ddb).

Figure 4 Muster Dam Prospect Drillhole Location Map



(view looking down to north east)

Downhole survey methods have mainly been measured by a wireline north-seeking gyro with some supplementary digital single shot downhole measurements where gyro measurement was not possible.

Core recovery is generally >95% and RC recovery in the fresh rock zone has been very good with some minor zones of moderate recovery.

RC drilling encountered predominantly dry samples; some samples were slightly damp and there were minor reports of groundwater inflows, which usually resulted in the RC drilling being stopped. Three RC holes had minor intervals of wet samples (MD024 – 5m, MD028 -18m and MD044 – 15m), the last two corresponded to end of hole positions. These two zones might be related to cross cutting oblique faults rather than saturated beds.

The RC drill chips from the earlier drilling were composited to 4m on site from 1m sample bags using a spear sampler. The diamond core sampling comprised sawn quarter NQ core and was also composited to 4m for a total (RC + DD) of 302 samples. The core sampling was under geological control. Follow up RC and diamond drilling resulted in a total of 2,611 5m sample composites being collected with the RC samples collected for 1m intervals with a 1/8:8 riffle splitter and then composited to 5m intervals using a 25/75 riffle splitter. The diamond core sampling continued to be quarter core (generally NQ) composited into 5m intervals.

All the composites were sent to Amdel and ALS laboratories in Adelaide and Perth respectively to undergo an industry standard Davis Tube Recovery (“DTR”) analytical method. This method is used for measuring the recoverable magnetic fraction of the sample, in effect its magnetite concentration. The lab analyses the ‘heads’ (unprocessed pulverised feed) and the ‘cons’ (the Davis Tube concentrate) for major iron-ore specification important elements via lithium borate fusion XRF (codes XF100 for Amdel and ME-XR11B, ME-XR21C & ME-XR21H for ALS). MEP completed some previous testwork on drill samples from the Duffield area as to the likely grind size required to

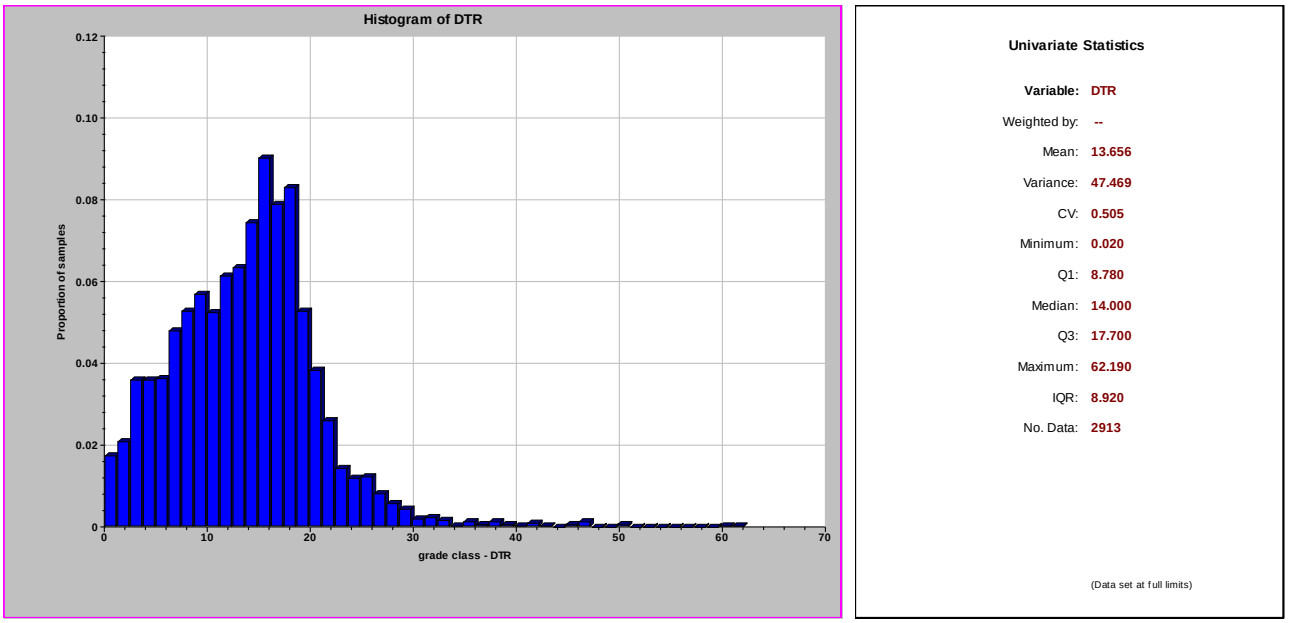
produce a suitable concentrate for blast furnace feed. This work concluded that 53μm was the optimal size and was used for the 4m composites. MEP subsequently modified the grind size to 45μm for the follow up 5m sampling.

There has been some limited diamond/RC hole twinning. Comparison of diamond hole MDD001 with RC hole MD003 showed an average DTR grade over 250m of 15.9% and 15.4% respectively with corresponding iron head grades of 18% and 17.7% respectively. This represents a 3.3% and 1.7% difference, which H&S considers insignificant and would appear to strengthen the validity of the RC sampling and assays. More hole twinning is strongly suggested to confirm the RC validity.

Downhole geophysical logging has been collected for a majority of the drillholes and has provided downhole magnetic susceptibility and density readings at 0.01m intervals. Cross checking of the downhole density data with the water immersion method for a sub-set of drillcore was undertaken. The mean density of 157 core samples from the drillcore/water immersion method was 3.05t/m^3 which is identical to that used for the Hawson's deposit. The corresponding mean from the downhole geophysical survey was 3.0t/m^3 signifying a 1.6% difference which is considered insignificant and validates the downhole geophysical density data.

Figure 5 shows a histogram of the DTR magnetite sample results indicating no obvious break in the data to point to a distinct cut off grade for the mineralisation.

Figure 5 Mutooroo Iron Project DTR Sample Histogram & Summary Statistics



Previous work by MEP on the magnetite siltstone unit has indicated, as from the multi-element XRF analysis, that a very clean concentrate could be produced from selected DTR composites with the average figure given in Table 3.

Table 3 Muster Dam Concentrate Grades from Testwork (grind size 53μm)

%Fe	%SiO_2	%Al_2O_3	% P_2O_5	%S
69	4	0.4	<0.01	<0.01

H&S has reviewed MEP's drilling report that contains details of a substantial QA/QC programme, which indicates there are no significant issues with the drillhole sampling and assay data.

Resource Estimation

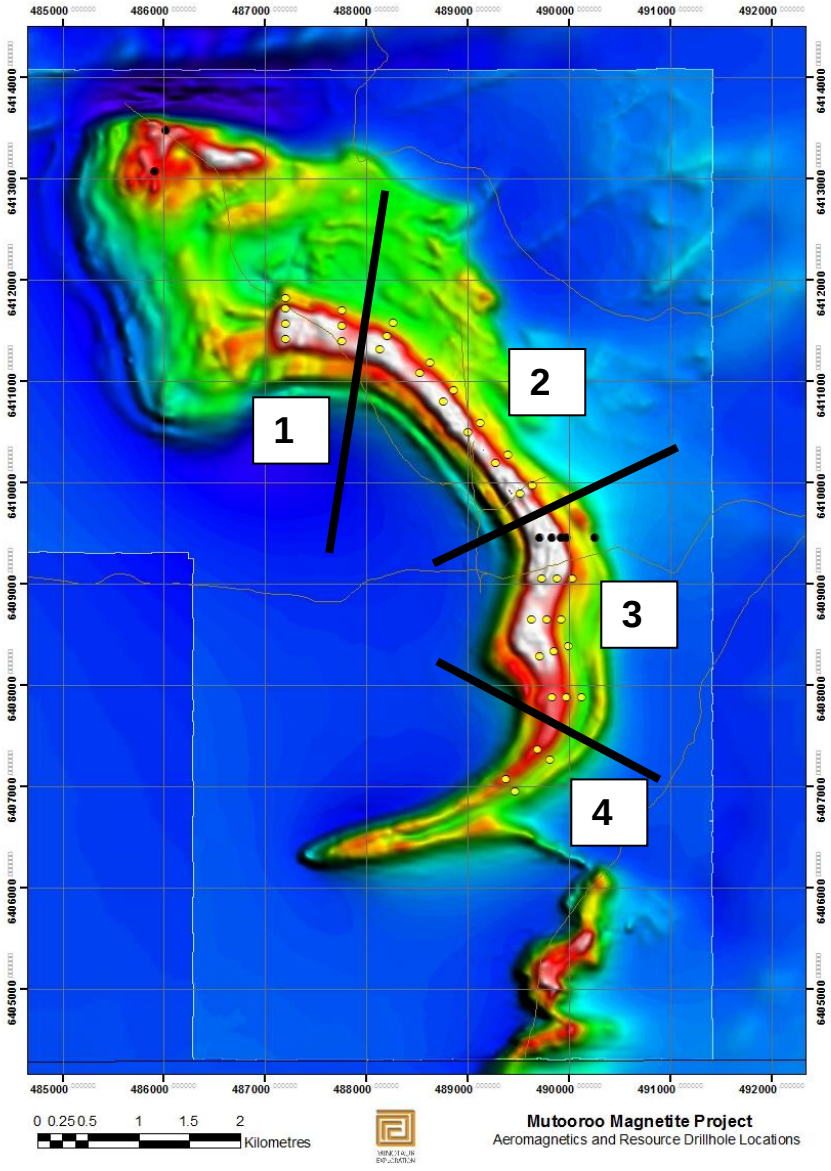
A total of 2,860 5m composites were generated from the drillhole database for DTR magnetite recovery and iron head grade Missing DTR data was estimated using the Conditional Expectation statistical technique to generate regression equations for DTR from the downhole magnetic susceptibility data and if that was unavailable then from hand held magnetic susceptibility readings. A total of 3,193 5m composites were used for resource estimation (see Table 4 below).

Table 4 Muster Dam Drillhole Composite Details

Item	Number	Comment	
DTR Analyses	2,913	Original samples from drillhole database	
DTR 5m Composites & Concentrate Composites	3,193	2,860 from database 283 from downhole mag sus 50 from hand held mag sus	2,653 in fresh rock 540 in partial oxidised, complete oxidation and overburden zones

The variation in strike of the deposit meant that the area was sub-divided into four domains for subsequent variogram modelling and modelling searches (Figure 6).

Figure 6 Muster Dam Prospect Modelling Sub-divisions



(black lines = search domains)

H&S

Summary statistics for the DTR magnetic fraction composite data are included as Table 5. Figures for the four modelling domains are shown along with a separation of oxide (above the top of fresh rock) and fresh rock material. Analysis of the oxide data indicated that there were significant DTR magnetite recovery values within the oxide zone, which made it worthwhile modelling the zone.

Table 5 Muster Dam DTR Magnetic Fraction Composite Summary Statistics

	All	Fresh	Domain 1	Domain 2	Domain 3	Domain 4		Oxide
No. Data:	3193	2653	524	950	975	204		540
mean:	12.744	14.056	13.985	14.374	14.173	12.195		6.301
variance:	55.662	48.656	75.238	56.503	31.085	23.804		40.108
CV:	0.585	0.496	0.62	0.523	0.393	0.4		1.005
Minimum:	0	0	0	0.26	0	0.22		0.03
Q1:	7.25	9.27	7.17	8.91	10.82	8.75		0.79
Median:	13.3	14.52	13.08	15	14.61	13.45		3.99
Q3:	17.48	17.96	19.06	18.71	17.56	15.68		11.06
Maximum:	62.19	62.19	50.42	62.19	41.05	29.09		29.01
IQR:	10.23	8.69	11.89	9.8	6.74	6.93		10.27

The coefficient of variation for the DTR magnetite is relatively low to allow for Ordinary Kriging ("OK") as a valid modelling method. The histogram plot of the composite data is very similar to Figure 5. No top cut was applied to the data.

Concentrate grades were composited for iron, alumina, phosphorous, sulphur, silica and loss on ignition. Missing Fe concentrate grades were estimated from the DTR grades and the remaining concentrate elements were estimated from the iron concentrate grade. Included below are summary statistics for the fresh rock concentrate composites (Table 6). Also included is the oversize material from the first grind which can be used to infer a level hardness for the material.

Table 6 Muster Dam DTR Magnetic Fraction Composite Concentrate Summary Statistics

Fresh	Fe_con	Al_2O_3_con	P_con	S_con	SiO_2_con	LOI_Con	Oversize
No. Data:	2653	2653	2653	2653	2653	2653	2653
mean:	69.63	0.376	26.114	22.895	2.967	-3.235	32.398
variance:	1.391	0.036	403.814	2118.904	1.665	0.059	56.816
CV:	0.017	0.504	0.77	2.011	0.435	0.138	0.233
Minimum:	58.98	0.01	5	0	0.33	-4.19	9.4
Q1:	68.97	0.26	10	5	2.05	-3.35	27.02
Median:	69.68	0.37	25	5	2.93	-3.24	31.64
Q3:	70.46	0.45	31	27	3.66	-3.17	36.73
Maximum:	71.92	4.37	170	1070	15.6	-0.14	85.36
IQR:	1.49	0.19	21	22	1.61	0.18	9.71

Preliminary analysis of the oversize composites appeared to indicate a harder zone from what is perceived to be the oxide domain. This may be the iron duricrust that was mentioned by Carpentaria Exploration at their Hawson's Project.

Figures 7 and 8 show scatter plots of iron-as-magnetite (DTR grade x Fe concentrate grade) against iron head grade for the composites from the fresh rock and oxide zone material. They demonstrate that some of the iron head grade in fresh rock does not occur as magnetite and that the use of the

iron head grade to predict magnetite grade is untenable. If all the iron was magnetite then the data would plot on and around the heavy black line.

Figure 7 Muster Dam Fresh Rock DTR Magnetite vs Iron Head Grade

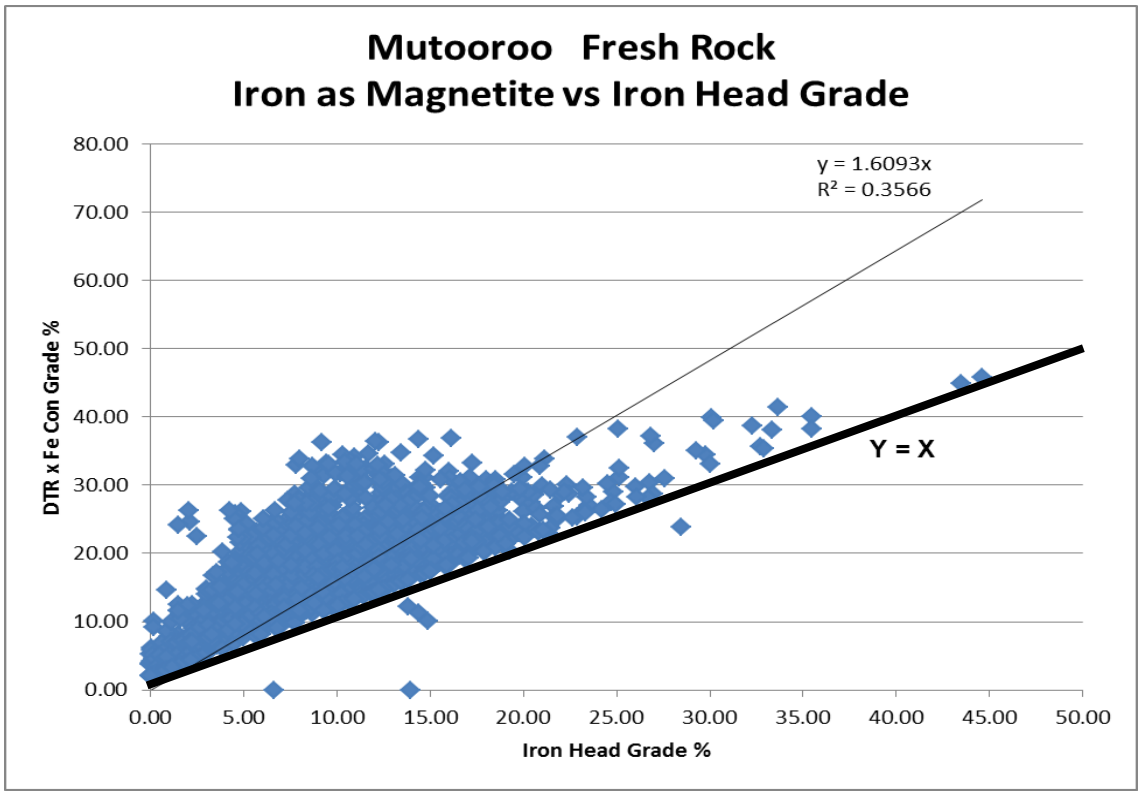
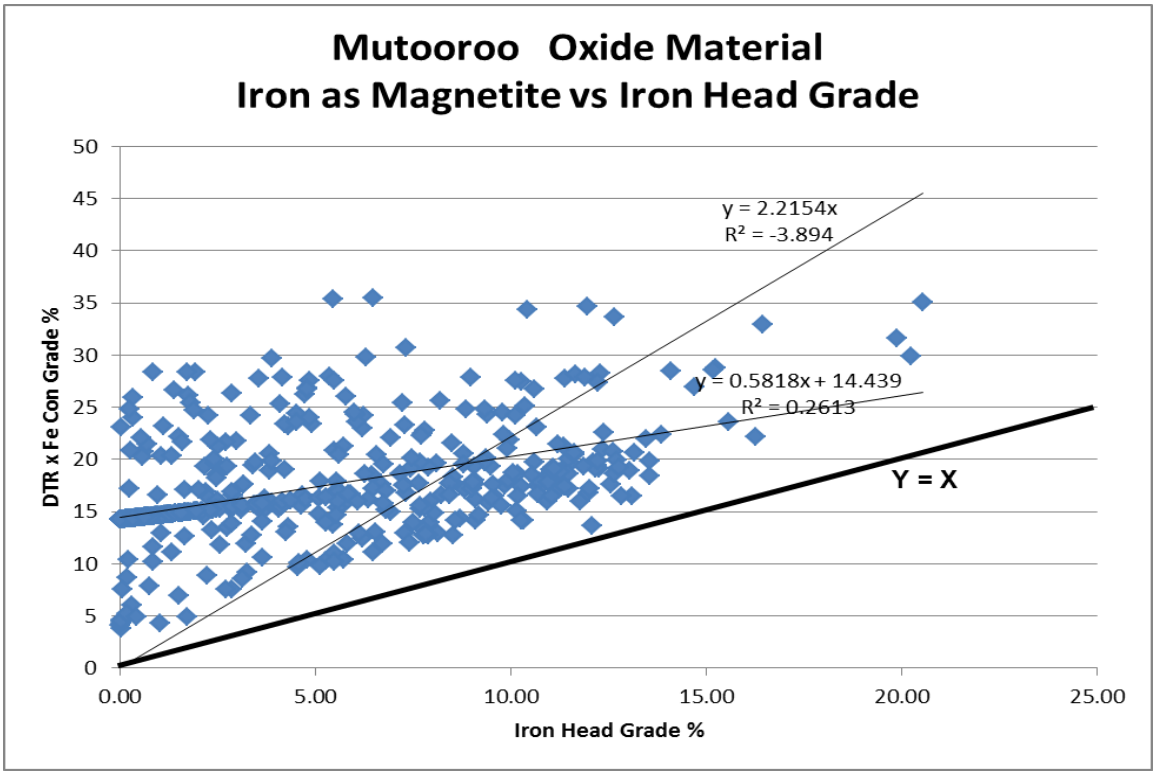


Figure 8 Muster Dam Oxide Zone DTR Magnetite vs Iron Head Grade



Variogram modelling on both the fresh and oxide+fresh composite data indicates relatively short ranges for the grade continuity including the downhole direction. This is mainly due to a lack of data in combination with the geometry and sedimentary nature of the mineralisation (ie bed parallel).

Density was estimated using 2,357 5m composites from the downhole geophysics with summary statistics included below as Table 7. This includes results for the oxide and fresh rock domain subdivisions, which shows only a 7% difference in density suggesting that a substantial amount of primary magnetite material may exist in the oxide zone.

Table 7 Muster Dam Density Composites Summary Statistics

	All	Domain 1	Domain 2	Domain 3	Domain 4	Oxide	Fresh
No. Data:	2357	713	743	629	272	392	1965
mean:	2.921	2.899	2.974	2.934	2.804	2.748	2.956
variance:	0.042	0.054	0.032	0.037	0.029	0.082	0.027
CV:	0.07	0.08	0.06	0.066	0.061	0.104	0.056
Minimum:	2.151	2.212	2.255	2.151	2.244	2.151	2.364
Q1:	2.803	2.764	2.881	2.827	2.724	2.541	2.842
Median:	2.936	2.916	2.996	2.938	2.828	2.771	2.956
Q3:	3.043	3.03	3.083	3.034	2.918	2.929	3.053
Maximum:	4.187	3.759	3.447	4.187	3.192	4.187	3.759
IQR:	0.24	0.266	0.202	0.207	0.194	0.388	0.211

There is a slightly lower density for Domain 4 which corresponds to the lower DTR magnetite content and the drop in magnetic intensity from the airborne geophysics.

A 3 pass search strategy was employed with unconstrained OK for the fresh zone composites and the combined oxide and fresh zone composites (see Table 8 below). Modelling used H&S's in-house GS3M modelling software.

Table 8 Muster Dam Search Strategies

Domain 1	**Steep**	**Search 1**		
Search	**Pass 1**	**Pass 2**	**Pass 3**	**Rotations**
X	300	450	450	0
Y	50	75	75	0
Z	150	225	225	0
Min Data	16	16	8	
Max Data	32	32	32	
Min Octants	4	4	2	
Domain 2	**Steep**	**Search 1**		
Search	**Pass 1**	**Pass 2**	**Pass 3**	**Rotations**
X	50	75	75	0
Y	400	600	600	-5
Z	150	225	225	45
Min Data	16	16	8	
Max Data	32	32	32	
Min Octants	4	4	2	

Domain 3	**Steep**	**Search 1**		
Search	**Pass 1**	**Pass 2**	**Pass 3**	**Rotations**
X	50	75	75	0
Y	300	450	450	-15
Z	150	225	225	0
Min Data	16	16	8	
Max Data	32	32	32	
Min Octants	4	4	2	
Domain 4	**Steep**	**Search 1**		
Search	**Pass 1**	**Pass 2**	**Pass 3**	**Rotations**
X	50	75	75	0
Y	400	600	600	-15
Z	150	225	600	-30
Min Data	16	16	8	
Max Data	32	32	32	
Min Octants	4	4	2	

(trigonometrical orientation)

All the estimated blocks were loaded into a Surpac block model with the top of fresh rock surface used to restrict the fresh rock mineralisation. Details of the block model are included as Table 10.

Table 10 Muster Dam Block Model Details

mutooroo_working_201111.mdl	Y	X	Z
Minimum Coordinates	4075	20100	-350
Maximum Coordinates	6375	24000	250
User Block Size	50	100	20
Min. Block Size	50	100	20
Rotation	0	0	0

Density estimation was a more complicated process due to the difference in the number of composites when compared to the DTR figure. Initially the same searches were used as for the DTR composites for the four domains to create a fresh rock density value. A second, larger search was used to supplement missing density data values for Domain 3 for blocks that had DTR grades (Table 9). This was where the majority of missing drillhole density data occurred.

Table 9 Muster Dam Domain 3 Density Search 2 Strategy

Domain 3	**Steep**	**Search 2**	**Density**	
Search	**Pass 1**	**Pass 2**	**Pass 3**	**Rotations**
X	75	150	150	0
Y	450	900	900	-15
Z	225	450	450	0
Min Data	8	8	4	
Max Data	32	32	32	
Min Octants	2	2	1	

(trigonometrical orientation)

A single larger flat search was then used to populate additional blocks for both the fresh rock density grades and to provide density for the oxide zone. The resulting density attribute in the block model is a combination of the original steep search outcomes followed by the flat search results. Some minor editing of blocks was required to ensure that all DTR magnetite blocks had a density value.

The resource estimates (Table 11) are reported for a 10% DTR magnetite recovery cut off grade constrained by the mineral wireframe (trimmed to the topography and a depth limit of -130mRL). No segregation is made at this stage for the oxide and fresh rock material.

Table 11 Muster Dam Prospect Constrained Resource Estimates

Oxide_Dom	Category	Volume (m^3)	M Tonnes	DTR_Mag %	Fe_Head %
Colluvium	Pass 1	100,000	0.2	11.41	16.92
	Pass 2	1,300,000	3.5	12.00	16.79
	Pass 3	3,800,000	9.9	13.19	17.31
	Sub Total	**5,200,000**	**13.6**	**12.86**	**17.17**
BOCO	Pass 1	900,000	2.5	12.12	18.55
	Pass 2	4,300,000	11.5	12.16	18.30
	Pass 3	2,800,000	7.7	12.51	18.02
	Sub Total	**8,000,000**	**21.8**	**12.28**	**18.23**
TOFR	Pass 1	6,000,000	17.5	13.24	19.06
	Pass 2	15,600,000	45.8	12.41	17.56
	Pass 3	7,200,000	21.1	12.66	16.56
	Sub Total	**28,800,000**	**84.4**	**12.65**	**17.62**
Fresh	Pass 1	112,400,000	335.2	15.85	18.74
	Pass 2	202,400,000	598.7	15.03	17.96
	Pass 3	194,700,000	578.5	14.96	18.14
	Sub Total	**509,500,000**	**1,512.4**	**15.18**	**18.20**
Total		**551,500,000**	**1,632.1**	**14.99**	**18.17**

(mean density 2.96t/m^3;use of significant figures does not imply precision)

The above figures show that over 90% of the resource lies in the fresh rock zone and that the oxide zone shows a considerably lower DTR grade. Thus in order to maintain some degree of consistency in the resource estimate reporting process, as for Carpentaria at Hawsons, only the fresh rock resource is reported here.

Table 12 shows the concentrate grades for resources reported in Table 11.

Table 12 Muster Dam Prospect Constrained Resource Estimates Concentrate Grades

			Concentrate Grades						
Category	M Tonnes	DTR_Mag %	Fe %	Al2O3 %	P_2O_5 %	S %	SiO2 %	LOI %	Oversize %
Colluvium									
Pass 1	0.2	11.41	69.34	0.43	0.002	0.002	3.07	-2.90	32.50
Pass 2	3.5	12.00	69.55	0.35	0.002	0.003	2.92	-3.02	32.35
Pass 3	9.9	13.19	69.38	0.40	0.002	0.003	3.14	-3.08	33.13
Sub Total	**13.6**	**12.86**	**69.43**	**0.38**	**0.002**	**0.003**	**3.08**	**-3.06**	**32.92**
BOCO									
Pass 1	2.5	12.12	69.16	0.40	0.003	0.003	3.11	-2.72	31.83
Pass 2	11.5	12.16	69.29	0.39	0.003	0.002	3.08	-2.86	31.45
Pass 3	7.7	12.51	69.31	0.39	0.003	0.003	3.02	-2.79	30.24
Sub Total	**21.8**	**12.28**	**69.28**	**0.39**	**0.003**	**0.003**	**3.06**	**-2.82**	**31.06**
TOFR									
Pass 1	17.5	13.24	69.53	0.37	0.003	0.002	2.91	-2.95	30.41
Pass 2	45.8	12.41	69.67	0.34	0.002	0.002	2.72	-2.96	30.75
Pass 3	21.1	12.66	69.48	0.38	0.002	0.003	3.00	-3.00	30.47
Sub Total	**84.4**	**12.65**	**69.59**	**0.36**	**0.002**	**0.003**	**2.83**	**-2.97**	**30.61**
Fresh									
Pass 1	335.2	15.85	69.83	0.36	0.002	0.002	2.77	-3.25	31.79
Pass 2	598.7	15.03	69.80	0.36	0.002	0.002	2.79	-3.24	31.64
Pass 3	578.5	14.96	69.87	0.35	0.003	0.002	2.74	-3.26	31.05
Sub Total	**1,512.4**	**15.18**	**69.83**	**0.35**	**0.002**	**0.002**	**2.77**	**-3.25**	**31.45**
Total	**1,632.1**	**14.99**	**69.81**	**0.35**	**0.002**	**0.002**	**2.78**	**-3.23**	**31.41**

(use of significant figures does not imply precision)

The level of supporting information and confidence justifies classifying all three passes as Inferred Resources (Table 13). The main factors affecting the resource classification are the drillhole (data) spacing, the weak to moderate variography, the relative small amount of data and the use of estimated data, the geological understanding and the style of mineralisation. MEP have informed H&S that the mining method will be a bulk mining method via an open pit operation and the resources have also been classified according to this assumption

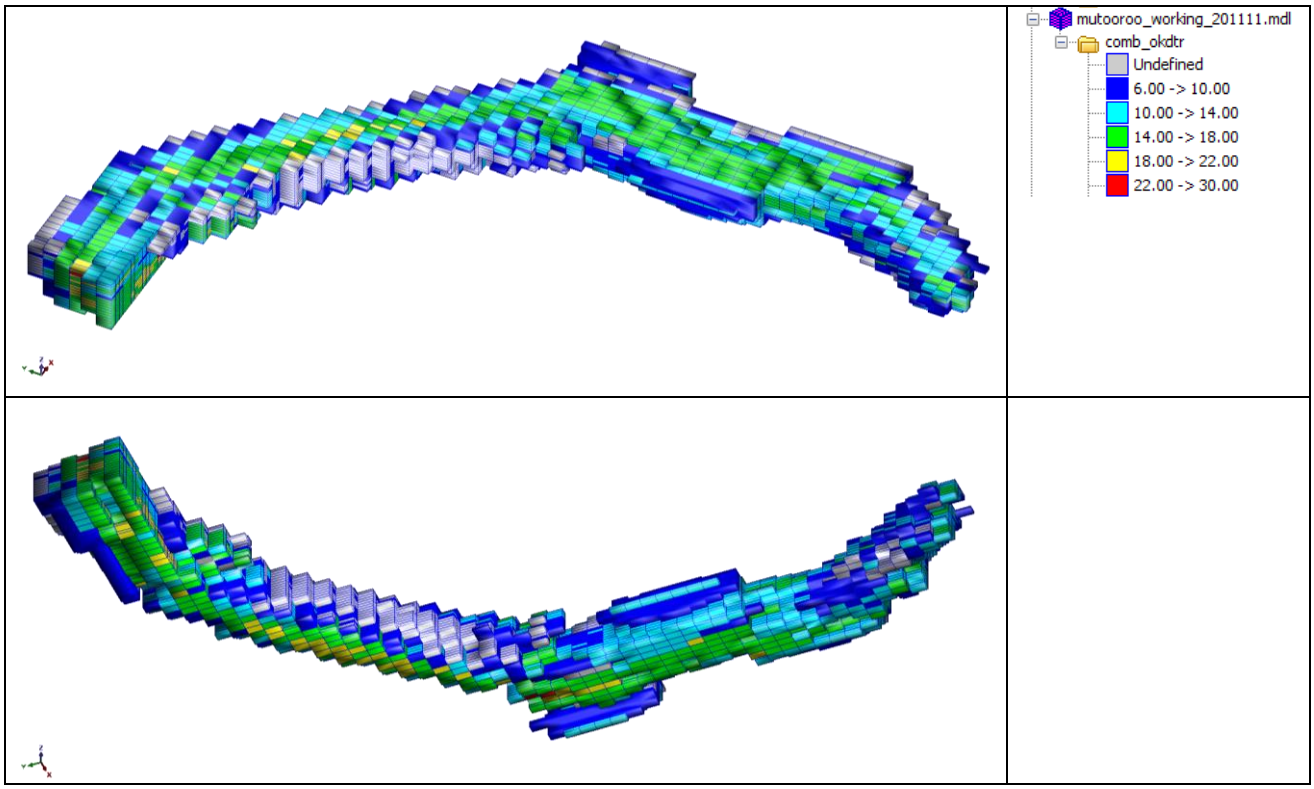
Table 13 Muster Dam Prospect Inferred Resources for Fresh Rock Magnetite

			Concentrate Grades					
Category	Billion Tonnes	Magnetite DTR %	Fe%	Al_2O_3 %	P_2O_5 %	S %	SiO_2 %	LOI %
Inferred	**1.5**	**15.2**	**69.8**	**0.4**	**0.002**	**0.002**	**2.8**	**-3.3**

(average density 2.96t/m^3; minor rounding errors)

Examples of the DTR magnetite block grade distribution are included as Figure 9. The figure shows the DTR grade for all blocks >0 and within the fresh rock zone, unconstrained by the mineral wireframe.

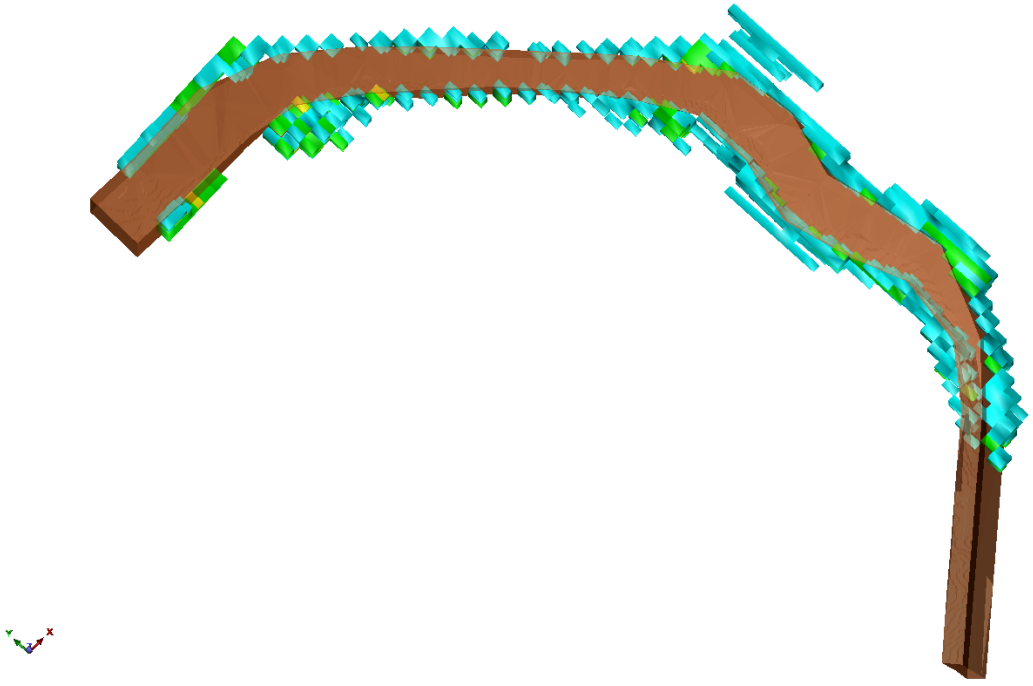
Figure 9 Muster Dam Prospect DTR Magnetite Grade Distribution



(view 1 looking down to grid NE; view 2 looking up to grid NE; DTR magnetite grade in % on right)

If the resource estimates are reported unconstrained by the mineral wireframe then there is an increase in the resource size by roughly 25% with a very modest drop in DTR magnetite recoverable grade. The additional material, generally lower grade material universally appears on the margin of the mineral wireframe (Figure 10) and is the result of the diffuse margins to the mineralisation and the lack of drillhole control.

Figure 10 Muster Dam Prospect Blocks >10% DTR outside Mineral Wireframe



Model Validation

On screen visual comparison in GS3M and Surpac for plan and section of the drillhole assay data, drillhole composite data and the H&S block grades demonstrated that the block model honours the drill hole composite grades. Examples of the block grade distribution in relation to the composite data are included below in plan and section (Figures 11 and 12).

Figure 11 Muster Dam Prospect Composite & Block Grade Comparison Plan 80mRL

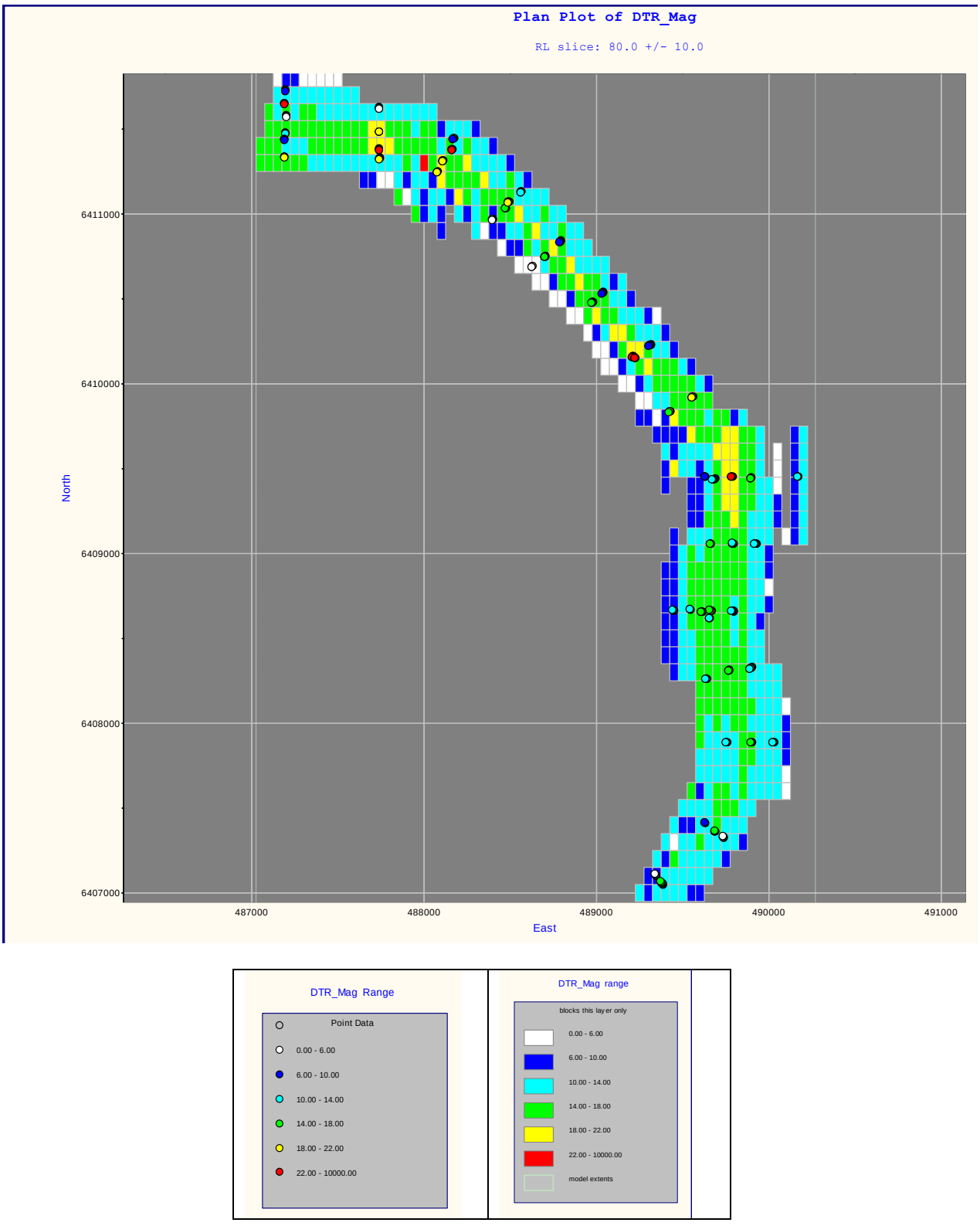
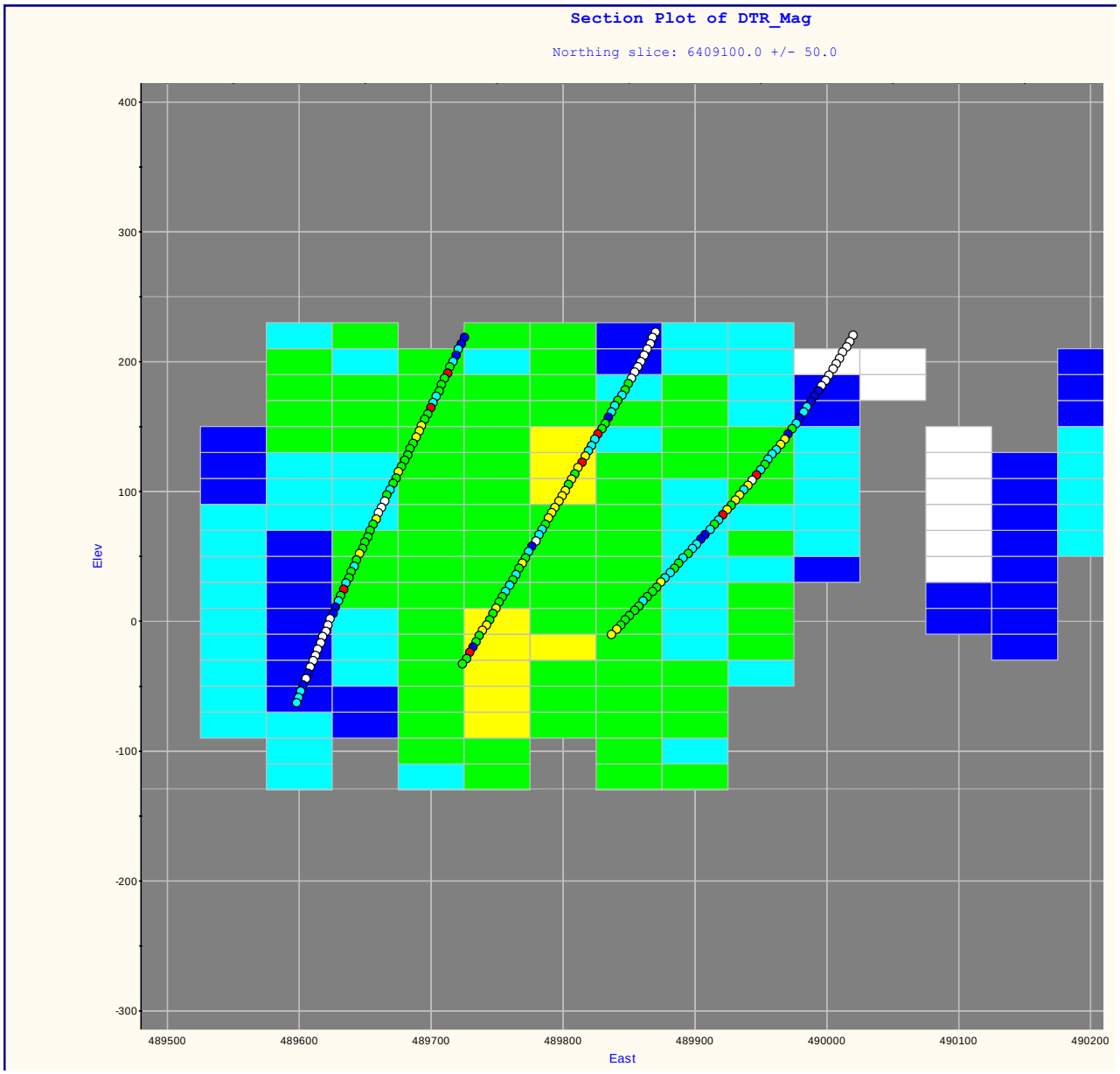


Figure 12 Muster Dam Domain 3 Composite & Block Grade Comparison 6409100mN

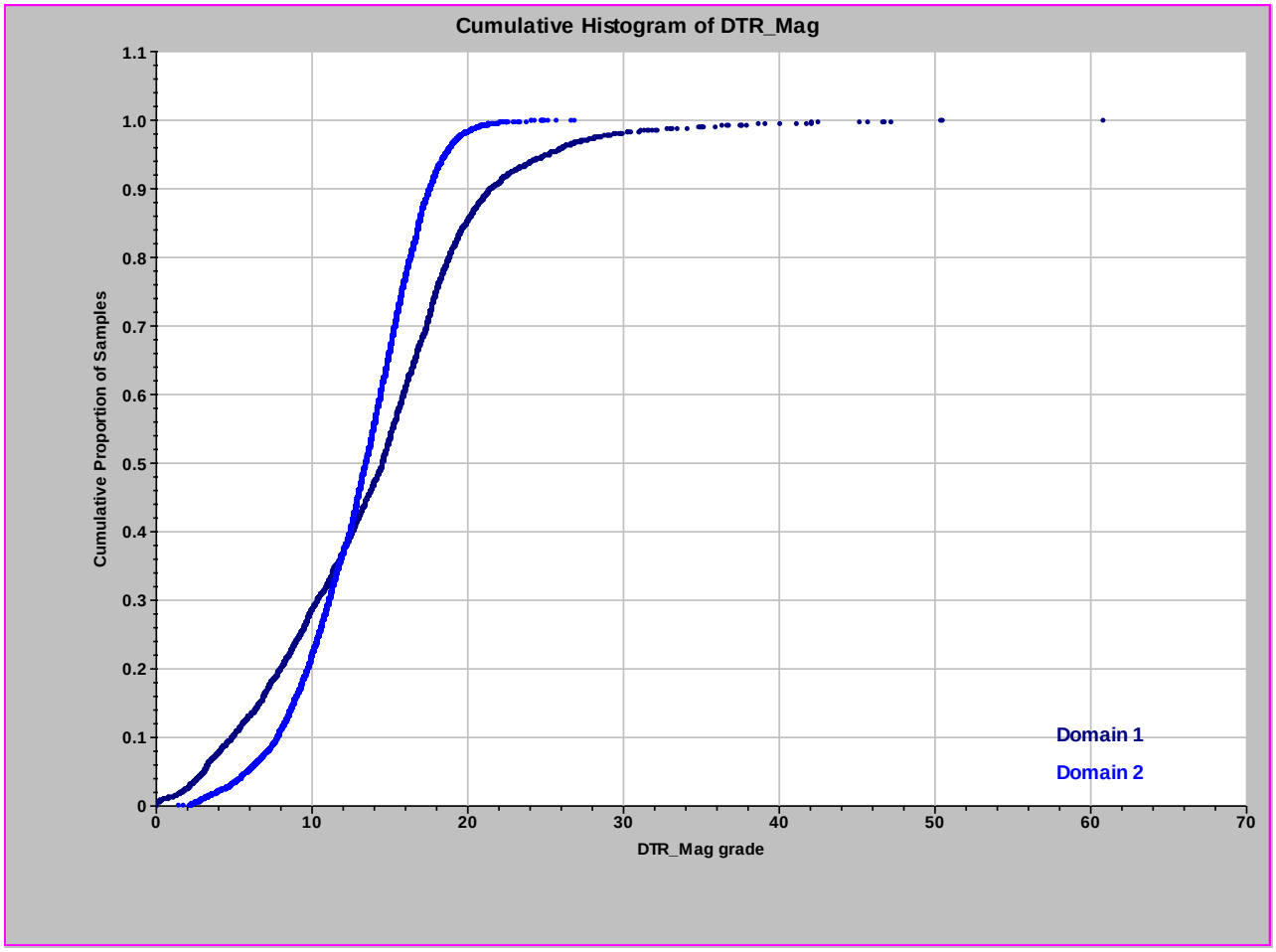


(key to colours as for Figure 11)

Comparison of the fresh rock DTR magnetite composite dataset with the block grade dataset is included below as Figure 13. In this case the terms Domain 1 represent the composites and Domain 2 represents the block grades. The data indicates nothing unreasonable with the modelled data.

Comparison with the published Hawsons Magnetite resource estimate shows both a similar size and grade of deposit for roughly the same amount of drilling. In addition the density values are comparable and the concentrate specifications are similar (noting that Carpentaria used a 12% DTR cut off and a 38μm grind).

Figure 13 Muster Dam Prospect Block Model & Composite Grade Comparison



The original Exploration Target work by H&S for Mutooroo is included as Table 14.

Table 14 Mutooroo Iron Ore Project Exploration Target

Target Area	No of Bands	Strike (km)	Thickness (m)	Volume (Bill m^3)	Tonnage (Bt)
Muster Dam	1	5.5 to 6.5	100 to 325	0.30 to 0.45	1.0 to 1.5
Muster Catch	2	1.7 to 2.3	80 to 150	0.03 to 0.06	0.05 to 0.15
Muster South	1	1.7 to 2.3	80 to 120	0.03 to 0.06	0.05 to 0.15
Duffield 1	1	3.0 to 3.5	100 to 300	0.09 to 0.13	1.0 to 1.5
Duffield 2	2	1.5 to 2.5	80 to 100	0.25 to 0.40	0.1 to 0.3
Surrender Dam	4	3.0 to 3.5	80 to 150	0.10 to 0.15	0.2 to 0.4
	Totals	**16.4 to 20.6**	80-325	**0.80 to 1.25**	**2.4 to 4.0**

The parameters used for the Exploration Target work included a fresh rock assumption, a 250m down dip extent with a likely grade of 14.5 to 16% magnetite for a density of 3.05t/m^3. Reporting the new resource estimates for the down dip factor gives 1.2Bt at a DTR magnetite grade of 15.1% at a 10% DTR magnetite cut off. This fits comfortably within the Exploration Target range.

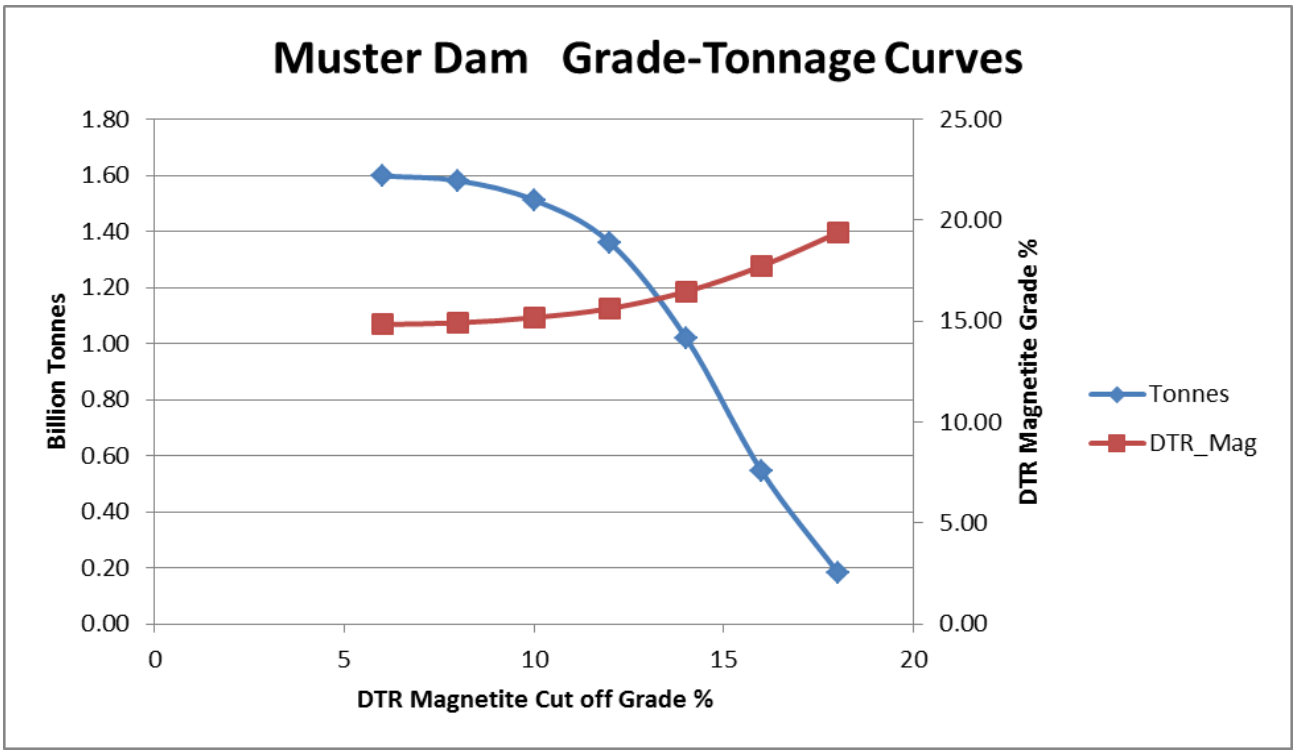
A table of Inferred Resources for a range of DTR magnetite recovery cut off grades is included below (Table 15) and represented as a grade-tonnage graph in Figure 14.

Table 15 Muster Dam Prospect Inferred Resources Grade Tonnage Figures

DTR Mag Cut Off %	BTonnes	DTR Mag Recovery %	Fe Head Grade %
6	1.60	14.84	17.96
8	1.58	14.93	18.02
10	1.51	15.18	18.20
12	1.36	15.64	18.57
14	1.02	16.47	19.17
16	0.54	17.74	20.01
18	0.18	19.38	20.77

(The use of significant figures does not imply precision)

Figure 14 Muster Dam Prospect Grade – Tonnage Curves



MEP have also requested that the resource estimates are reported for a 12% DTR magnetite cut off with the same constraints as for the 10% figure, for direct comparison with Carpentaria's Hawsons deposit. It should be noted that the Hawsons resource estimate was reported as unconstrained save for the top of fresh rock surface and some areal limits ie no mineral wireframe was used. The global figure is almost identical to Hawsons.

Table 15 Muster Dam Prospect Inferred Resources 12% DTR cut off

Category	B Tonnes	DTR Mag %	Fe_Head %	Fe Con %	Al_2O_3 Con %	P_2O_5 Con %	S_Con %	SiO_2 Con %	LOI Con %	Over size
Pass 1	0.32	16.06	18.95	69.85	0.35	0.002	0.002	2.75	-3.25	31.59
Pass 2	0.55	15.39	18.27	69.83	0.35	0.002	0.002	2.76	-3.24	31.39
Pass 3	0.49	15.63	18.65	69.92	0.34	0.003	0.002	2.68	-3.26	30.86
Total	**1.36**	**15.64**	**18.57**	**69.87**	**0.35**	**0.002**	**0.002**	**2.73**	**-3.25**	**31.24**

(The use of significant figures does not imply precision)

As a final note the mineralisation at Muster Dam remains open at depth but is believed to be closed off at the northern and southern margins. However Muster Dam is one of a series of similar exploration targets within MEP's exploration licence, some of which have had drill tests that indicate similar style and grade of mineralisation as Muster Dam eg Duffield.

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