

ASX Announcement

1 August 2022

**ASX: MKR
MARKET SENSITIVE**

Execution of Binding Term Sheet for the purchase of Trans-Tasman Resources Limited (TTR)

Manuka is pleased to announce that it has entered into a Binding Term Sheet for the purchase (subject to Manuka shareholder approval) of emerging vanadiferous titanomagnetite iron sands producer Trans-Tasman Resources Limited.

- **Manuka will acquire all of TTR for the issue of up to approximately 180 million new Manuka shares¹.**
- **Certain highly experienced TTR executives will join Manuka on completion.**
- **TTR founders and executive chairman commit to 18 month voluntary escrow for the Manuka consideration securities they will receive.**
- **Manuka confirms ongoing commitment to its assets within the Cobar Basin of NSW, where the Company continues to produce silver and has budgeted A\$3.6m for exploration across its projects over the coming financial year.**
- **The purchase provides both commodity and geographical risk diversification to existing Manuka shareholders.**
- **The purchase is subject to Manuka shareholder approval with meeting documents to be sent by end of August 2022.**

About TTR

TTR & the STB Project

TTR is a New Zealand incorporated company that owns Mineral Mining Permit 55581 and Mineral Exploration Permit 54068 situated in the South Taranaki Bight off the west coast of the North Island of New Zealand on which a Bankable Feasibility Study (BFS) for an offshore² iron sands project has commenced (STB Project). Manuka's vision is for a project

¹ At the election of some of the vendors of TTR shares and options, it is possible that Manuka will instead issue up to approximately 175 million new shares and 12 million options exercisable into new Manuka shares at \$0.35 per new option.

² In shallow waters typically to a maximum of 50m deep.

initially recovering ~5 million tonnes of vanadiferous titanomagnetite (VTM) iron ore concentrate per annum over a 20 year mine life.

In addition to its steel hardening properties, vanadium is at the forefront of the 'green economy' having assumed a pre-eminent role in its capacity to improve energy storage and battery life via the Vanadium Redox Flow Battery (VRFB). The STB project concentrates are expected to have > 11 pounds vanadium per tonne (current pricing US\$7.70/lb). The potential payability of these credits will be fully assessed in the BFS and could enhance the STB project's revenue stream.

Manuka envisages the STB Project being a low cost producer with C1 costs approximately US\$21 - US\$24³ per tonne of concentrate. Current pricing for Fe of similar grade is ~USD\$95/t⁴ cfr North China, and does not include the benefit of any Vanadium credits which may be achieved.

Table 1: Summary Estimated Operating Costs (C1) of STB Project (subject to completion of BFS). Based on 72% operational availability after allowing for inclement weather in South Taranaki Bight.

4.9Mtpa (concentrate) production scenario**	\$US	Unit cost/tonne (concentrate)	Percentage %
Labour	23,790,000	4.86	25%
Fuel*	32,079,661	6.55	34%
Maintenance	14,375,000	3.00	15%
FSO Operation	13,415,000	3.00	14%
Consumables	5,000,000	3.00	5%
Insurance	5,000,000	3.00	5%
Total	93,659,661	23.40	100%

* based on IFO380 bunker fuel at 26 July 2022 of US\$495.50/t ex Singapore

** subject to validation in BFS

Importantly the project is also expected to be positioned in the bottom quartile of CO₂ emitters for iron ore producers globally (62kgCO₂/t vs average of 125 - 250kgCO₂/t). Once the STB Project is in production it is expected to produce a vanadium rich titanomagnetite (VTM) concentrate of the following grades:

Table 2

Mineral	%
Fe	56.0 -57.2
V ₂ O ₅	0.5-0.54
TiO ₂	8.3- 8.7

³ Based up the TTR PFS (2013) updated to 2022 economics

⁴ Platts 29 July 2022 58% Iron Ore fines adjusted for grade

TTR completed the prefeasibility study (PFS) for the commercial recovery of the vanadium titanomagnetite resource in table 2 in 2013. Manuka expects to finalise the BFS within the next 12 months. It is worth noting that over AUD\$75m has been spent on the project since TTR's formation. The STB Project has a 3.8 billion tonnes⁵ of mineral resources reported in compliance with JORC Code (2012) and estimated in accordance with a Competent Person as defined by the JORC Code (2012), contained within granted Mineral Mining Permit (MMP55581⁶) covering 65.76km² and Minerals Exploration Permit (MEP54068) covering 635km².

TTR's reported 2018 Mineral Resource Estimate (**MRE**) is detailed at Table 3. Manuka has reviewed the block model using Micromine. No new interpretations or estimations have been made by Manuka and this MRE remains in the original form as completed by TTR. Manuka considers that the resource estimate is sufficient to progress the BFS and no further exploration work is required at this time.

Manuka is not aware of any matter in this MRE which would lead it to question the accuracy or reliability of this MRE and/or the results of the PFS. Manuka has not independently validated TTR's MRE and is not to be regarded as reporting, adopting or endorsing those estimates.

Table 3

TTR - JORC (2012) Mineral Resource Estimate					
		Mineral Resources		Concentrate	
		In-Situ tonnes			
		Mt	Fe ₂ O ₃ %	Mt	Fe %
Mining area 1*					
	Indicated	1,023.6	11.24	72.9	56.27
	Inferred	19.6	13.15	1.8	58.12
	Total	1,043.2	11.28	74.7	56.31
Kupe blocks north and south*					
	Indicated	498.0	10.95	34.8	56.64
	Inferred	157.3	11.01	10.7	57.02
	Total	655.3	10.97	45.5	56.73
Mining area 2 and outside areas**					
	Indicated	1,201.4	9.9		
	Inferred	935.8	9.35		
	Total	2,137.2	9.66		
Total Resources					
	Indicated	2,723.0	10.60		
	Inferred	1,112.7	9.65		
Total		3,835.7	10.32	120.2	56.47

* 3.5% Davis test tube cut-off

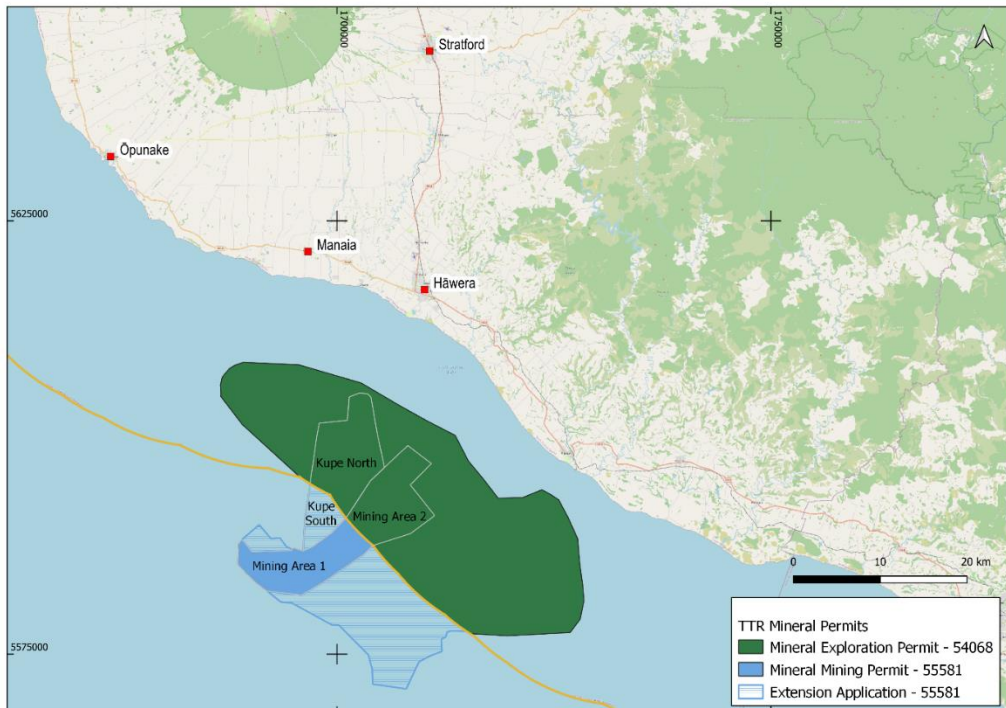
** 7.5% Davis test tube cut-off

⁵ TTR Mineral Resource Statement January 2018.

⁶ Extension application submitted in June 2022 to add an additional 177km² to MMP55581.

TTR Minerals Permit Locations

Figure 1



TTR was granted a Marine Consent and Marine Discharge Consent⁷ to operate the STB Project by NZ Environmental Protection Authority (EPA) in 2017. While this Consent was subject to third party challenge, the New Zealand Supreme Court⁸ has subsequently referred the Consent back to the EPA for final reconsideration on five narrowly defined matters, in a process which TTR expects to complete during Q1 2023. TTR believes it meets the tests as laid down by the Supreme Court and does not anticipate further scope to challenge the re-grant of the Consents.

In parallel with this formal EPA engagement process, Manuka will commission additional metallurgical test work to optimise the flowsheet for processing of the VTM concentrate (as well as the recovery of the vanadium and titanium) during 2H 2022 and will also undertake marketing (and related) studies building on work completed during the PFS.

The technology used to recover the ore from the seabed has been developed by De Beers Marine SA (DBC) over the past 40 years in their offshore diamonds operations off the Namibian coast of Southern Africa. DBC and Royal IHC (a Dutch-based supplier of marine technology with dredging expertise) have collaborated to develop the necessary IP for the proposed seabed recovery solution. Furthermore, DBC have provided a commissioning and operating solution to TTR for the first two years of production with an option to extend this arrangement.

⁷ Ref EEZ000011 – August 2017.

⁸ Judgment delivered 30 September 2021.

Once in full production, the STB Project is expected to be one of the largest exporters in NZ and will employ up to 250 operational and 50 administrative staff (as well as a further 165 indirect regional jobs in support, engineering, logistics and port operations).

The TTR Management Team

TTR is led by Alan Eggers in his capacity as executive chairman. Alan founded Summit Resources Limited (Summit) in 1987 and led that company until it was acquired by Paladin Energy via a contested takeover process which ultimately valued Summit at \$A1.2 billion.

It has been his fierce determination and resilience which has seen TTR progress through the various hurdles posed by the discovery, resource definition and development of the offshore iron sands project over the past 12 years.

Highly experienced directors, John Seton (formerly Summit's Chair and current TTR director) and Alan Eggers will be valuable additions to the Manuka board of directors and will join the board on completion of the proposed acquisition.

Further Information

Conditions precedent

The proposed acquisition of TTR by Manuka is subject to a number of conditions precedent, including the entry by the parties into long form transaction documentation, receipt by Manuka of any necessary regulatory or other third-party approvals and approval by Manuka shareholders under and in accordance with ASX Listing Rule 7.1. Meeting documents seeking this approval are expected to be sent to Manuka shareholders before the end of August 2022. None of the vendors of TTR shares are related parties of Manuka or associates of related parties of Manuka.

Acquisition Consideration

Under the Binding Term Sheet, Manuka and TTR have agreed that Manuka will acquire all of TTR's fully paid ordinary shares for a total consideration of up to approximately 180 million new Manuka shares⁹ (equating to approximately 37.5% of the fully diluted issued Manuka shares on completion).

Financing

In order to bring the STB Project into production, Manuka plans to engage with global steel mills and offtakers to continue to build the portfolio of parties that expressed interest in being involved in project development since the PFS. At the appropriate time Manuka will engage with experienced global ship financiers and export credit agencies to structure a balanced funding book that seeks to optimise shareholder returns whilst offsetting risk where possible.

⁹ At the election of some of the vendors of TTR shares and options, it is possible that Manuka will instead issue up to approximately 175 million new shares and 12 million options exercisable into new Manuka shares at \$0.35 per new option.

During the PFS phase, an external independent marketing initiative under TTR direction secured funding, sales commitments and MOU's over and above a 5Mtpa production scenario. Metalcorp Group, the metals and minerals subsidiary of the Monaco Resources Group has already expressed strong interest in assisting to bring the project to production, and interest from other similar companies is anticipated once the approval status of the project gains broader awareness.

Project Construction and Operations

As above, the technology used to recover the ore has been developed and utilised by De Beers Marine over the past 40 years in their diamond operations off the Namibian coast of Southern Africa (they have built and operated seven such vessels). De Beers Marine has provided a commissioning and operating solution for the first two years of production with an option for TTR to extend this arrangement. While they will work together with Royal IHC, it is again important to note the fact this is a tried and tested recovery solution.

Transaction Rationale

Manuka's board of directors has been determined to reduce the Company's risk profile by broadening the range of commodities it produces.

The proposed acquisition of TTR fits that strategy and leverages the Company to the emerging dynamic of 'green steel' production with reduced CO₂ intensity.

In addition, the Company believes that:

- Low carbon footprint bulk commodities are increasingly sought after as the world continues its expected transition to a 'green' energy future.
- Exposure to vanadium as a commodity via a well advanced and expected low-cost multi-element project is considered to be a key strategic addition to Manuka's portfolio.
- The acquisition diversifies the Company's production base away from its sole reliance on the Cobar Basin.

Competent Person Statement and JORC Information

The information in this release that relates to reported Exploration Targets, Exploration Results or Mineral Resources for the STB Project is based on information compiled by Mr Alan J Eggers, a Competent Person who is a Corporate Member of the Australasian Institute of Mining and Metallurgy (AusIMM) and the Australian Institute of Geoscientists (AIG). Alan Eggers is a professional geologist, a full-time employee of Wesmin Corporate Pty Ltd and executive chairman of Trans-Tasman Resources Limited. Mr Eggers has sufficient experience that is relevant to the style of mineralisation and type of mineral deposits being reported on in this release 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 (JORC Code 2012 Edition). The information in this market announcement provided is an accurate representation of the available data and studies for the STB Project. Mr Eggers consents to the inclusion in the release of the information on Exploration Results and Mineral Resources based on his information in the form and context in which it appears.

About Manuka Resources

The Company and its Projects

Manuka Resources Limited (ASX: MKR) is an Australian mining and exploration company located in the Cobar Basin, central west NSW. It is the 100% owner of two fully permitted mining projects, one gold and one silver, which include the following:

- Mt Boppy Gold mine and neighbouring tenements hosting an existing open pit Measured Indicated and Inferred Resource of 281,850 tonnes grading 4.95 g/t gold, based on a cut-off grade of 1.6 g/t for material within its current open pit design and a cut-off grade of 3.0 g/t for material below the current pit design. The Mt Boppy project having ceased current open pit mining activities in Q4 2021 is in advanced exploration as additional exploration is conducted beneath the pit floor and nearby prospects.
- Wonawinta silver project, with mine, processing plant and neighbouring tenements, hosting 51 million ounces of silver in a JORC compliant silver resource grading 42 g/t silver at a cut-off grade of 20 g/t silver. The Wonawinta processing plant has a nameplate capacity of 850,000 tonnes per year. Stockpile processing at Wonawinta commenced in Q2 2022 as a trial to optimise the processing plant.
- Highly prospective exploration targets on its approximately 1150km² tenement portfolio in the Cobar Basin.

Manuka sees that its exploration and production footprint within the Cobar Basin adds considerably to the Company's inherent value. Its Wonawinta plant is one of just four operating plants within the Central Cobar Basin and brings with it further expansion potential enabling the processing of a full range of base metals. This infrastructure will form a valuable component in any longer-term consolidation of the Cobar Basin.



This announcement has been approved for release by the Board of Directors of Manuka Resources Limited.

For further information contact:

**Dennis Karp
Executive Chairman
Manuka Resources Limited
0412 268 114**

**Media Contact
Angela East
M+C Partners
0428 432 025**

Important Information

This report includes forward-looking statements and comments about future events, including the Company's expectations about the performance of its businesses. Forward-looking words such as "expect", "should", "could", "may", "predict", "plan", "will", "believe", "forecast", "estimate", "target" or other similar expressions are intended to identify forward-looking statements. Such statements involve known and unknown risks, uncertainties, assumptions and other important factors, many of which are beyond the control of the Company and which may cause actual results, performance or achievements to differ materially from those expressed or implied by such statements. Forward-looking statements are provided as a general guide only and should not be relied on as an indication or guarantee of future performance. Given these uncertainties, recipients are cautioned to not place undue reliance on any forward-looking statement. Subject to any continuing obligations under applicable law, the Company disclaims any obligation or undertaking to disseminate any updates or revisions to any forward-looking statements in this report to reflect any change in expectations in relation to any forward-looking statements or any change in events, conditions or circumstances on which any such statement is based. No Limited Party or any other person makes any representation, or gives any assurance or guarantee that the occurrence of the events expressed or implied in any forward-looking statements in the report will occur.

TRANS-TASMAN RESOURCES LIMITED

MINERAL RESOURCE STATEMENT

**SOUTH TARANAKI IRONSAND PROJECT – MINING AREA STAGE 1, KUPE BLOCKS
NORTH & SOUTH, MINING AREA STAGE 2 and OUTSIDE 1 & 2**

JULY 2015 (Revision 18 January 2018)

Trans-Tasman Resources and Resource Evaluation Services have updated the mineral resource estimate update for Area 2 of the Trans-Tasman Resources Ltd (TTRL) South Taranaki Iron sand Project. The mineral resource estimate is based on all available assay data as of 1 January 2015.

The mineral resource estimate was prepared and classified in accordance with the Australasian Code for the Reporting of Identified Mineral Resources and Ore Reserves (JORC Code, 2012).

SUMMARY

A Davis Tube Recovery (DTR) and Concentrate Grade estimation has been reported over Mining Area Stage 1 and Kupe Blocks North and South using a 3.5% DTR cut-off grade.

The mineral resource estimate for Mining Area Stage 1 reports an Inferred and Indicated recoverable mineral resource of 1,043.1Mt @ 11.28% Fe₂O₃ generating 74.6Mt concentrate at a grade of 56.31% Fe (Table 1, detail Table 3, Table 4).

The mineral resource estimate for Kupe Blocks North and South reports an Inferred and Indicated recoverable mineral resource of 655.3Mt @ 10.97% Fe₂O₃ generating 45.5Mt concentrate at a grade of 56.73% Fe (Table 1, detail Table 5, Table 6).

Additional STB mineral resource estimates for the Mining Area Stage 2 and Outside Mining Areas Stage 1 & 2 has been reported using a 7.5% Fe₂O₃ (head) cut-off grade. At this cut-off grade the updated estimation reports an Inferred and Indicated mineral resource of 2,137.2Mt @ 9.66% Fe₂O₃ (Table 1, detail Table 8).

Table 1 – Summary

STB Mineral Resource Estimates	Mineral Resources			Concentrate	
	Cut-Off Grade	Mt	Fe₂O₃%	Mt	Fe%
Mining Area Stage 1	3.5% DTR*	1,043	11.28	75	56.31
Kupe Blocks North & South	3.5% DTR*	655	10.97	45	56.73
Mining Area Stage 2 & Outside 1 & 2	7.5% Fe ₂ O ₃	2,137	9.66		

- *DTR is Davis Tube Recovery of the magnetic fraction of the sample*

ASSUMPTIONS AND METHODOLOGY

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

- The deposit is interpreted as being a blanket of sand overlying deeper geomorphologic features identified by geophysical surveys. The sands have been reworked by wave, current and tidal action but appear to reflect the underlying geomorphologic features as evidenced by the statistical differences noted across the area.
- The geomorphologic features have been categorised as fluvial, deltaic, dune, beach and slump domains.
- The Mineral Resource is constrained laterally by the geomorphologic domain boundaries and the extent of the drilling data available.
- The extent of Domain 6 has been adjusted to take into consideration step out drilling undertaken in 2014. Additional geostatistical evaluation shows that the area is still characteristic of the previous data.
- Modelling domains were extrapolated laterally 1000 m where unconfined by drilling or domain boundaries.
- Only reverse circulation drill samples have been used in the estimation of the resource. Only the -2 mm part of each sample has been analysed with the physical recovery (REC) recorded in the database.
- A total of 4,237 samples have analyses for Fe₂O₃, Al₂O₃, P₂O₅, SiO₂, TiO₂, CaO, K₂O, MgO, MnO and LOI (head grades). 1716 samples from the proposed mining area and the Kupe Blocks have Davis Tube Recovery (DTR) results and 1665 of these have analyses for the magnetic fraction.
- The Davis Tube Concentrate (DTC) samples have analyses for Fe, Al₂O₃, P, SiO₂, Ti, CaO, K₂O, MgO, Mn and LOI.
- Vertically, the Mineral Resource is constrained by a mineralisation envelope defined by a nominal 4% Fe₂O₃ edge cut-off grade.
- The survey control for collar positions is considered adequate for the purposes of this study.
- A review of the QAQC data was completed and the analytical data is considered satisfactory.
- Modelling domains were used to flag the sample data for statistical analysis and estimation.
- A three dimensional block model was built using the geomorphologic domains and mineralisation envelope to constrain the resource estimate.
- Statistical analysis used the drill sample data weighted by physical recovery (REC) and Davis Tube recovery (DTR) as appropriate.
- The resource was estimated using an Ordinary Kriging algorithm. Head grades were estimated using samples weighted by recovery. Estimations for concentrate grades were weighted by physical recovery and DTR. The weighting is applied in order to appropriately reflect the relationship between the physical recovery and head assays for the head samples, and physical recovery, Davis Tube Recovery and the Davis Tube Concentrate assays for the magnetic concentrate samples. Weighting was completed by calculating the accumulation (REC × Head Sample Assay, Rec × DTR × DTC assay) and subsequently back calculating the head and DTC grade estimates by dividing by the estimated REC and (REC × DTR) values.
- No high grade cutting or restraining of outlier samples was required.
- Head grades were estimated for Fe₂O₃, Al₂O₃, P₂O₅, SiO₂, TiO₂, CaO, K₂O, MgO, MnO, LOI, Recovery and DTR. DTC grades were estimated for Fe, Al₂O₃, P, SiO₂, Ti, CaO, K₂O, MgO, Mn and LOI.
- The model was constructed and estimated using Micromine.

- Dry bulk density was assigned based on a regression against Fe. The regression was developed based on the theoretical density of the mineral sands supported by 46 laboratory density measurements.
- The resource model estimates have been classified as Indicated Resource where the drill spacing is on a 1000 m by 1000 m grid or closer, and Inferred Resource where the deposit is less systematically drilled but geological continuity can be interpreted.

MODEL VALIDATION

The 2015 mineral resource model incorporated a number of changes from the 2013 model. These changes were applied to the Area 2 model, the proposed mine area and the Kupe North and Kupe South Blocks. The Koitiata model remains unchanged from 2013 and has not been reported within this statement. In summary the changes were:

- Bathymetry – The bathymetric surface was updated to include more detailed data acquired from multi beam sonar surveys undertaken by NIWA in 2013.
- Database
 - Five additional deep drill holes have been added to the database after review of recovery and quality of the sampling
 - The 2015 “Area 2” resource estimation used 689 drill holes, including 58 drill holes completed in 2014.
- The base of mineralisation (BOM) was revised for the deep drill holes and new drilling.
- The model has been rotated clockwise to a bearing of 070° to optimise the blocks with the proposed mining direction.
- The model Parent Block size was created at 300 m × 300 m to reflect the expected Selective Mining Unit (SMU) size.
- Variography was reviewed and revised where necessary.
- The Mine Area remains unchanged

The impact of each of the parameter changes were assessed. The impact of these changes by the base of mineralisation (BOM) is measured, the remainder are estimated (Table 2).

Table 2 - Impact of Model Changes

Bathymetry/BOM/Domain	Approximately +12% volume
Rotation	5% (from 050° to 070°)
Database	DTR Model: -2.6% tonnes :+2%, DTR Grade @3.5% cut-off Domain 6 increase in area of 10% Head Grade Model: +3.6% tonnes Fe2O3 Grade +2% @5% cut-off

The most significant difference between the 2015 and 2013 models is the drill data. The majority of the drilling was completed immediately adjacent to the proposed mining blocks, within the

areas identified as Kupe North (inside the 12 nautical mile limit) and Kupe South (outside the 12 nautical mile limit) Blocks.

Five deep drill holes completed in 2013 have been added to the database, but have not significantly changed the model.

MINERAL RESOURCE STATEMENT

The mineral resource estimates were classified in accordance with the Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves (JORC Code, 2012).

Grades and tonnages reported are for all material with the recovery of the resource shown on the tables. Reported Head Grades are the -2mm portion of the sample. Concentrate grades are for the magnetically recoverable portion of the sample. Concentrate tonnage is calculated from the head tonnage and DTR.

The mineral resources have been reported at 3.5% DTR cut-off grade where DTR analyses are available within the proposed mining area and the Kupe Blocks. Outside this area a cut-off grade of 7.5% Fe₂O₃ has been used based on the statistical relationship between Fe₂O₃ and DTR.

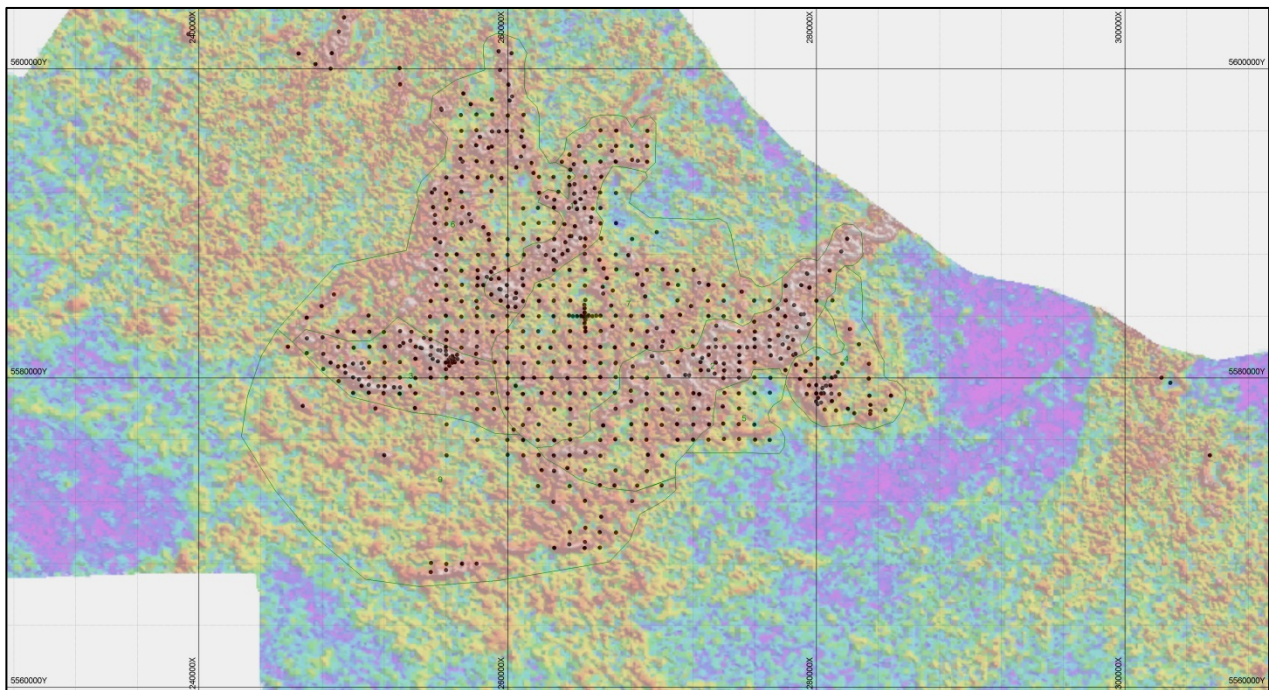


Figure 1: Drill hole locations with aeromagnetic survey data shown

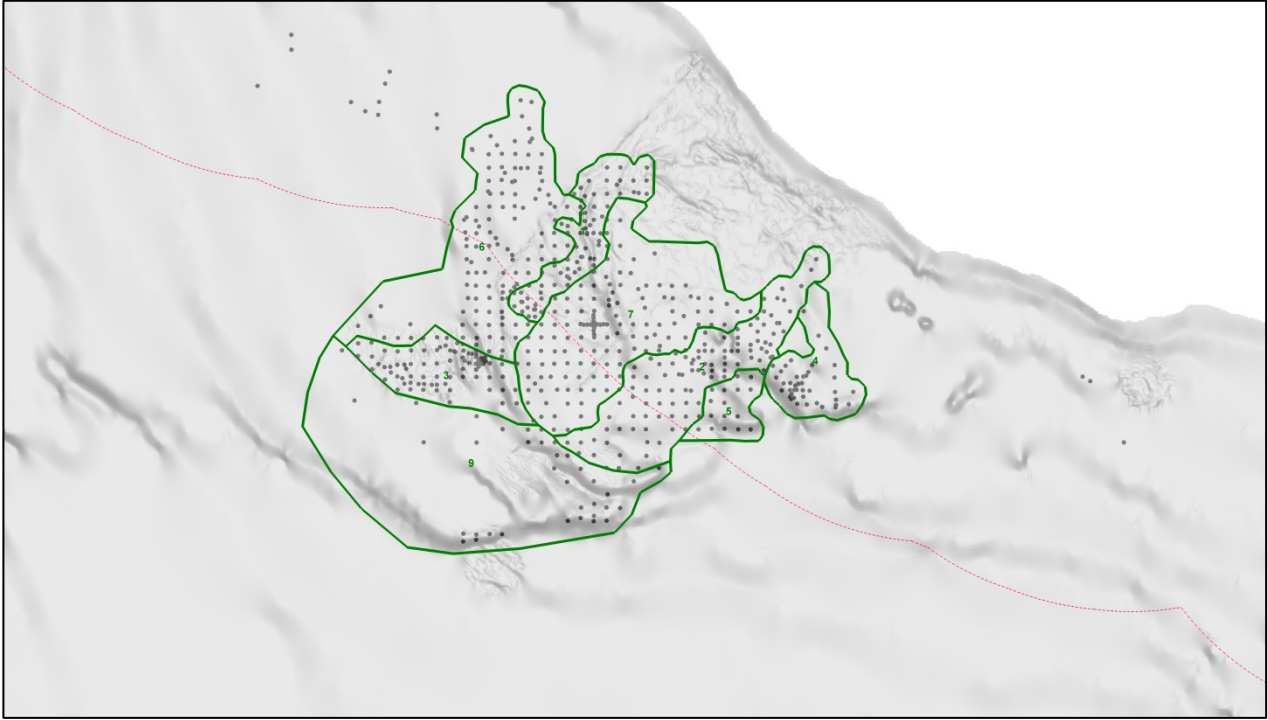


Figure 2: Drill hole locations with Domain locations and greyscaled bathymetric data

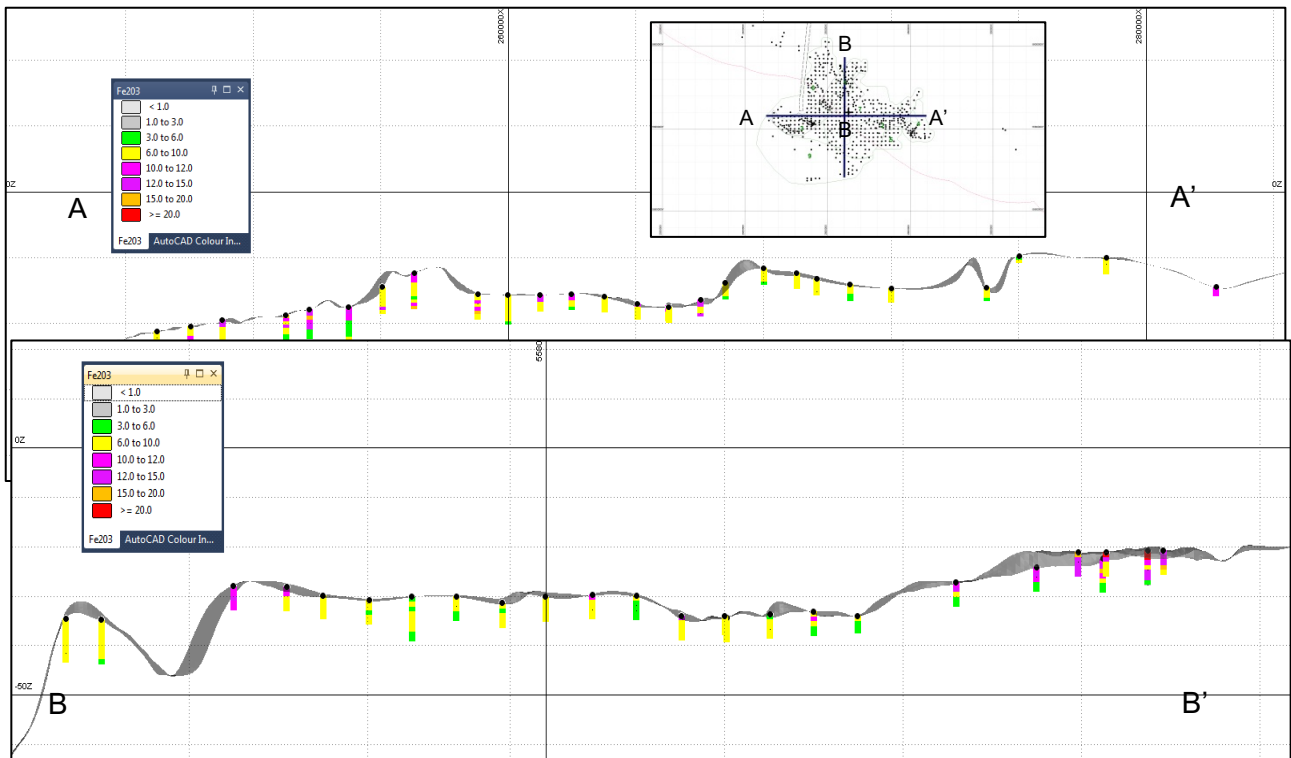


Figure 3: Typical cross sections with down hole drill data for Fe₂O₃– note 100 x vertical exaggeration

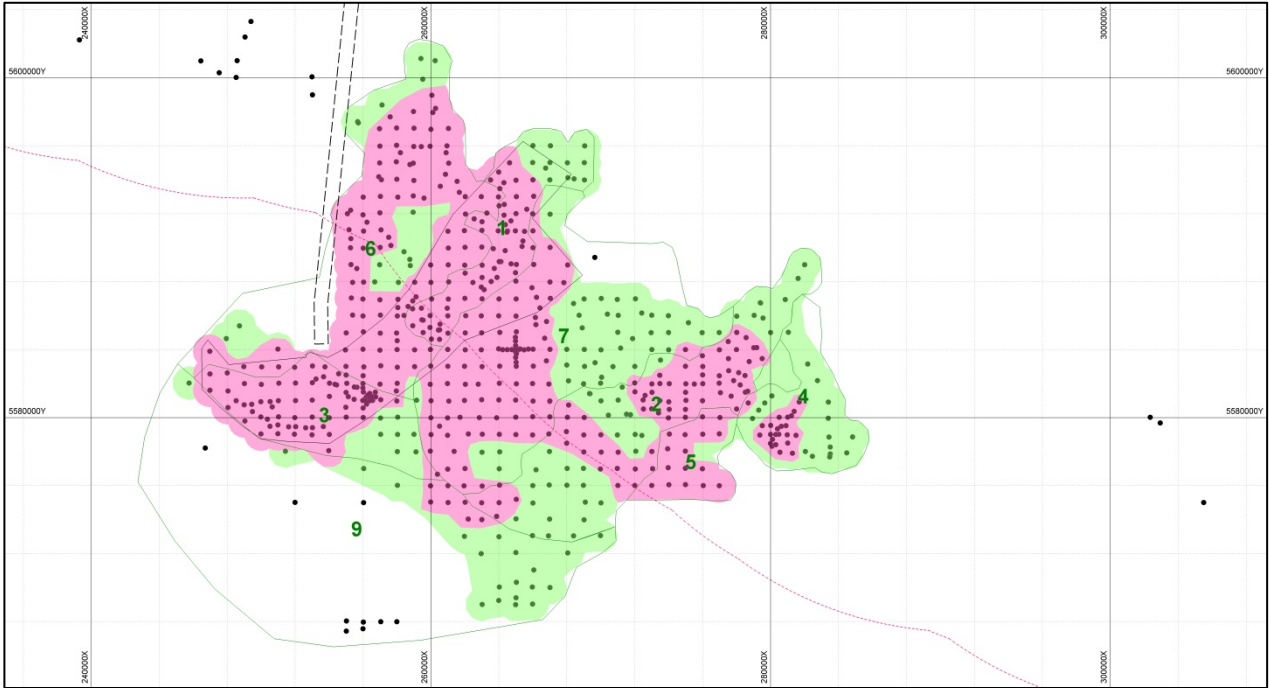


Figure 4: Inferred (Green) and Indicated (Pink) resource classification boundaries

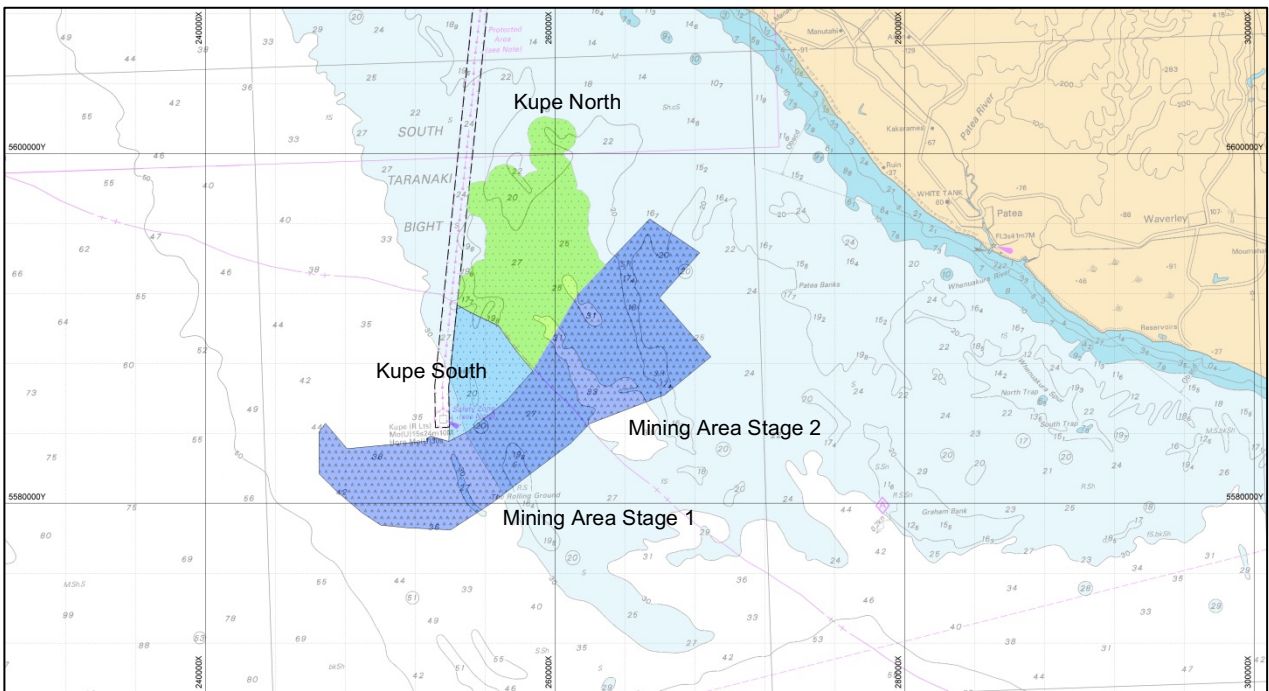


Figure 5: Location of DTR Blocks as reported in Table 2, Table 3, Table 4 and Table 5. Note the proposed mining areas are reported together, Stage 1 outside the 12 nautical mile limit and Stage 2 inside the 12 nautical mile limit and are reported in Table 2 and Table 3. Kupe North and Kupe South areas are reported together in Table 4 and Table 5.

Table 3 -2015 Tonnage and Head Grades (%) – Proposed Mine Area – 3.5% DTR* Cut-Off Grade

	Domain	Mt	Fe ₂ O ₃	DTR	Al ₂ O ₃	SiO ₂	TiO ₂	CaO	K ₂ O	MgO	MnO	P ₂ O ₅	LOI	REC(%)	Mt DTR Concentrate
Indicated	1	166.8	12.13	7.90	10.63	52.76	1.22	10.92	1.06	5.68	0.21	0.22	2.68	94.19	13.2
	3	468.8	11.83	7.70	12.64	51.23	1.21	10.94	1.15	5.40	0.21	0.26	2.19	97.88	36.1
	6	314.3	10.03	6.00	13.00	52.47	1.02	11.31	1.14	4.95	0.19	0.24	2.67	95.67	18.9
	7	69.8	10.80	6.48	10.72	48.38	1.05	14.45	0.95	6.10	0.21	0.23	4.38	85.64	4.5
	9	3.9	8.26	4.66	14.16	53.64	0.82	11.04	1.23	4.48	0.17	0.23	2.59	98.38	0.2
Indicated Total		1023.6	11.24	7.12	12.30	51.67	1.14	11.29	1.12	5.35	0.20	0.25	2.57	95.76	72.9
	Domain	Mt	Fe ₂ O ₃	DTR	Al ₂ O ₃	SiO ₂	TiO ₂	CaO	K ₂ O	MgO	MnO	P ₂ O ₅	LOI	REC(%)	Mt DTR Concentrate
Inferred	1	12.8	14.36	10.27	9.28	51.94	1.49	10.37	0.96	5.29	0.21	0.19	3.47	92.84	1.3
	3	0.0	10.99	7.10	12.72	52.01	1.12	11.10	1.12	5.01	0.20	0.25	2.57	96.04	0.0
	6	3.4	9.15	4.74	14.00	50.74	0.90	12.80	1.11	5.56	0.20	0.27	2.32	92.56	0.2
	7	3.3	12.70	8.51	9.75	47.93	1.32	14.43	0.81	7.54	0.25	0.23	3.34	86.82	0.3
	Inferred Total		19.6	13.15	8.99	10.19	51.03	1.36	11.51	0.96	5.73	0.22	0.21	3.24	91.73
Total		1,043.1	11.28	7.15	12.26	51.66	1.14	11.30	1.12	5.36	0.20	0.25	2.58	95.69	74.6

Table 4 - 2015 Tonnage and Concentrate Grades (%) – Proposed Mine Area – 3.5% DTR* Cut-Off Grade

	Domain	Mt	Fe	Al ₂ O ₃	SiO ₂	Ti	CaO	K ₂ O	MgO	Mn	P	LOI
Indicated	1	13.2	57.18	3.69	3.87	4.97	1.01	0.11	3.23	0.52	0.10	-3.18
	3	36.1	55.96	3.72	4.97	5.08	1.17	0.16	3.27	0.51	0.12	-2.99
	6	18.9	56.08	3.74	4.91	5.04	1.19	0.15	3.28	0.52	0.11	-3.04
	7	4.5	57.15	3.79	3.94	4.85	1.06	0.10	3.31	0.51	0.09	-3.29
	9	0.2	55.26	3.75	5.71	5.03	1.32	0.17	3.38	0.50	0.12	-2.93
Indicated Total		72.9	56.27	3.73	4.71	5.03	1.14	0.14	3.27	0.51	0.11	-3.06
	Domain	Mt	Fe	Al ₂ O ₃	SiO ₂	Ti	CaO	K ₂ O	MgO	Mn	P	LOI
Inferred	1	1.3	59.13	3.48	1.96	4.93	0.70	0.03	3.09	0.52	0.09	-3.37
	3	0.0	56.95	3.61	4.06	5.10	0.97	0.12	3.14	0.53	0.11	-2.96
	6	0.2	54.51	3.85	6.43	5.05	1.56	0.18	3.49	0.51	0.11	-2.92
	7	0.3	58.01	3.66	3.20	4.80	0.96	0.07	3.25	0.51	0.08	-3.37
	Inferred Total		1.8	58.12	3.58	2.96	4.93	0.90	0.07	3.19	0.52	0.09
Total		74.6	56.31	3.72	4.67	5.03	1.14	0.14	3.27	0.51	0.11	-3.06

Table 5 - 2015 Tonnage and Head Grades (%) – Kupe North and South Blocks Area – 3.5% DTR* Cut-Off Grade

Indicated Total	Domain	Mt	Fe ₂ O ₃	DTR	Al ₂ O ₃	SiO ₂	TiO ₂	CaO	K ₂ O	MgO	MnO	P ₂ O ₅	LOI	REC(%)	Mt DTR Concentrate
	6	498.0	10.95	6.98	12.73	50.93	1.13	11.44	1.11	4.74	0.19	0.24	3.43	95.60	34.8
Inferred Total	Domain	Mt	Fe ₂ O ₃	DTR	Al ₂ O ₃	SiO ₂	TiO ₂	CaO	K ₂ O	MgO	MnO	P ₂ O ₅	LOI	REC(%)	Mt DTR Concentrate
	6	157.3	11.01	6.82	12.33	52.18	1.15	10.97	1.13	5.05	0.19	0.22	2.99	93.60	10.7
Total		655.3	10.97	6.94	12.63	51.23	1.13	11.33	1.12	4.81	0.19	0.23	3.32	95.12	45.5

Table 6 - 2015 Tonnage and Concentrate Grades (%) – Kupe North and South Blocks Area – 3.5% DTR* Cut-Off Grade

Indicated Total	Domain	Mt	Fe	Al ₂ O ₃	SiO ₂	Ti	CaO	K ₂ O	MgO	Mn	P	LOI
	6	34.8	56.64	3.62	4.30	5.07	1.07	0.13	3.17	0.52	0.11	-3.02
Inferred Total	Domain	Mt	Fe	Al ₂ O ₃	SiO ₂	Ti	CaO	K ₂ O	MgO	Mn	P	LOI
	6	10.7	57.02	3.66	4.11	4.98	1.02	0.12	3.16	0.51	0.10	-3.05
Total		45.5	56.73	3.63	4.25	5.05	1.06	0.13	3.17	0.51	0.11	-3.03

*The DTR estimate is based on analytical DTR and calculated DTR values

Table 7 - 2015 Tonnage and Head Grades (%) Full Area Reported – 5% Fe₂O₃ Cut-Off Grade

	Domain	Mt	Fe ₂ O ₃	Al ₂ O ₃	SiO ₂	TiO ₂	CaO	K ₂ O	MgO	MnO	P ₂ O ₅	LOI	REC
Indicated	1	232.08	10.82	10.99	54.20	1.10	10.53	1.13	5.21	0.19	0.21	2.97	93.14
	2	339.55	7.49	13.35	49.97	0.77	13.76	1.26	4.27	0.16	0.23	5.52	86.21
	3	634.72	10.62	13.32	52.35	1.09	10.47	1.26	4.93	0.19	0.26	2.41	97.42
	4	82.74	9.48	12.04	46.57	0.91	16.07	0.93	6.00	0.20	0.26	5.01	89.36
	5	116.53	7.52	14.70	52.27	0.79	11.62	1.40	4.25	0.16	0.24	3.70	89.05
	6	1124.69	9.55	13.16	53.22	0.99	10.62	1.22	4.42	0.17	0.23	3.23	95.77
	7	530.67	8.35	14.10	52.09	0.85	11.87	1.31	4.72	0.18	0.23	3.01	86.32
	9	158.36	8.60	14.40	51.78	0.86	11.99	1.23	5.03	0.19	0.25	2.38	92.50
	Indicated Total	3219.37	9.27	13.31	52.27	0.95	11.41	1.24	4.67	0.18	0.24	3.30	92.55
Inferred	1	45.32	12.70	8.60	49.06	1.30	13.33	0.91	5.07	0.19	0.19	6.29	87.83
	2	323.31	7.67	14.95	50.21	0.80	12.78	1.35	4.19	0.16	0.23	4.16	85.69
	3	187.68	7.73	15.54	53.40	0.81	10.53	1.42	4.07	0.16	0.25	2.46	93.94
	4	136.68	7.83	10.89	44.35	0.74	18.75	0.88	5.57	0.18	0.22	8.13	81.07
	5	7.04	7.15	13.86	52.69	0.73	12.13	1.32	4.69	0.16	0.25	3.33	86.43
	6	299.69	9.38	13.15	54.36	0.99	9.97	1.27	4.33	0.17	0.21	3.03	94.99
	7	315.19	7.68	12.36	47.55	0.77	15.94	1.10	4.92	0.17	0.22	6.45	83.23
	9	506.79	7.58	15.94	53.12	0.78	10.98	1.42	4.28	0.16	0.25	2.04	92.82
	Inferred Total	1822.00	8.06	14.02	50.94	0.83	12.73	1.27	4.50	0.17	0.23	4.06	89.05
Total	5041.36	8.83	13.57	51.79	0.91	11.89	1.25	4.61	0.17	0.23	3.57	91.29	

Table 8 - 2015 Tonnage and Head Grades (%) Outside Proposed Mine Area – 7.5% Fe₂O₃ Cut-Off Grade

	Domain	Mt	Fe ₂ O ₃	Al ₂ O ₃	SiO ₂	TiO ₂	CaO	K ₂ O	MgO	MnO	P ₂ O ₅	LOI	REC
Indicated	1	7.5	17.38	8.50	49.83	1.79	9.35	0.86	6.12	0.27	0.19	3.55	95.53
	2	129.7	8.87	12.59	48.58	0.89	14.56	1.11	5.37	0.19	0.25	4.64	82.13
	3	45.9	9.05	14.22	51.13	0.91	12.27	1.19	5.19	0.19	0.26	2.55	90.60
	4	70.2	9.92	11.75	46.18	0.95	16.22	0.89	6.17	0.21	0.26	5.01	88.85
	5	39.2	9.37	14.05	50.26	0.92	12.80	1.19	5.89	0.20	0.27	2.12	82.03
	6	523.7	10.98	12.70	50.91	1.13	11.49	1.11	4.77	0.19	0.24	3.42	95.65
	7	261.1	8.93	13.88	51.07	0.89	12.52	1.23	5.30	0.20	0.25	2.60	84.10
	9	123.4	9.03	14.13	51.09	0.90	12.40	1.18	5.36	0.20	0.26	2.31	91.20
	Indicated Total	1201.4	9.90	13.13	50.39	1.00	12.53	1.14	5.17	0.20	0.25	3.28	89.83
Inferred	1	24.3	14.28	7.63	46.24	1.43	15.04	0.76	5.50	0.20	0.21	6.63	88.15
	2	166.1	8.61	13.96	49.32	0.87	13.49	1.22	5.08	0.19	0.24	3.83	84.43
	3	97.3	8.71	14.75	51.72	0.89	11.58	1.28	4.76	0.18	0.26	2.53	91.28
	4	67.2	8.97	11.01	45.47	0.85	17.47	0.89	6.15	0.20	0.23	6.24	80.66
	5	2.0	8.07	13.49	51.85	0.78	12.23	1.21	5.60	0.18	0.26	2.14	81.90
	6	206.4	10.75	12.64	52.42	1.12	10.80	1.16	4.88	0.19	0.22	2.92	94.30
	7	155.5	8.73	11.24	45.34	0.84	17.49	0.92	5.94	0.20	0.24	6.56	79.56
	9	216.5	9.05	14.32	51.47	0.90	12.18	1.21	5.55	0.20	0.27	1.88	91.55
	Inferred Total	935.8	9.35	12.96	49.57	0.94	13.54	1.12	5.36	0.19	0.24	3.84	87.62
Total	2137.2	9.66	13.05	50.03	0.97	12.97	1.13	5.26	0.19	0.24	3.52	88.86	

- Note: The substantial increase in tonnes reported for Domain 6 has been due to additional step out drilling undertaken in 2014. This has increased the area of the Domain by an additional 10%, as well as extending the depth of mineralisation due to the use of 11m drilling sampler, within this Domain, used during the 2014 drilling programme.

COMPLIANCE WITH THE JORC CODE ASSESSMENT CRITERIA

The JORC Code (2012) describes a number of criteria, which must be addressed in the documentation of Mineral Resource estimates, prior to public release of the information. These criteria provide a means of assessing whether or not parts of or the entire data inventory used in the estimate are adequate for that purpose. The resource estimate stated in this document was based on the criteria set out in Table 1 of that Code.

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. 	<ul style="list-style-type: none"> The material being sampled is subsea sand originally deposited in marine and terrestrial environments. Samples used in the resource estimation are from drill holes only. Grab samples have only been used as qualitative indicators of the presence of magnetic heavy minerals during early exploration. The majority of the drilling used a passive triple tube reverse circulation system. Deep drilling used tri cone roller bit with deep drilling limited to an operating water depth of approximately 30 m. The full sample for each metre was collected and a sub-sample split, with the >2 mm material screened which is then analysed by XRF. Drill samples from the proposed mine area and the Kupe Blocks have been subject to Davis Tube Recovery to determine the magnetically recoverable portion of the sample. The concentrate recovered has been analysed by XRF
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). 	<ul style="list-style-type: none"> The drill sampling uses a proprietary passive triple tube reverse circulation technique drilling a 75.75 mm diameter hole to a maximum depth of 11 m. Thirteen 5 inch diameter RC drill holes were drilled in 2012 and 2013 to a maximum depth of 30 m.
Drill sample recovery	<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 	<ul style="list-style-type: none"> Golder Associates have previously reviewed the drilling and sampling and consider that a representative sample is being collected. Sample weights are recorded.

Criteria	JORC Code explanation	Commentary
	<p><i>representative nature of the samples.</i></p> <ul style="list-style-type: none"> • <i>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.</i> 	<ul style="list-style-type: none"> • Oversized samples due to hole 'blow outs' are excluded from the resource estimation. • Recovery analysis has been undertaken to ensure representative samples are used in the model.
Logging	<ul style="list-style-type: none"> • <i>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.</i> • <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i> • <i>The total length and percentage of the relevant intersections logged.</i> 	<ul style="list-style-type: none"> • The qualitative logging of samples is of sufficient detail to support the current mineral resource.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> • <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i> • <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i> • <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i> • <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i> • <i>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.</i> • <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i> 	<ul style="list-style-type: none"> • 1 m samples were taken from the sample cyclone. The sample is then dried and split using a rotary splitter. Sample sizes are appropriate for the sandy material being collected. • Duplicate samples are routinely submitted to monitor the sample preparation process. • All procedures are well documented and understood by the operational personnel.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> • <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i> • <i>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.</i> • <i>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.</i> 	<ul style="list-style-type: none"> • The analytical techniques, particularly the Davis Tube Recovery analysis, are appropriate for this type of deposit. • Regular reference standards (IRM), blanks and duplicate samples are submitted to the laboratory to monitor the accuracy and precision of the analysis process and results. • Analysis of the QAQC sample results to date indicate that the accuracy and precision of the assay data is adequate for the mineral resource estimation
Verification of sampling and assaying	<ul style="list-style-type: none"> • <i>The verification of significant intersections by either independent or alternative company personnel.</i> • <i>The use of twinned holes.</i> • <i>Documentation of primary data, data entry procedures, data</i> 	<ul style="list-style-type: none"> • Independent verification of sampling has not been undertaken due to the logistics involved. • At Golders request a series of samples from the 2010 drilling campaign were resubmitted to an alternative laboratory. These

Criteria	JORC Code explanation	Commentary
	<p>verification, data storage (physical and electronic) protocols.</p> <ul style="list-style-type: none"> • Discuss any adjustment to assay data. 	<p>referee samples returned analyses results consistent with the original analyses.</p> <ul style="list-style-type: none"> • Drilling and sampling of several holes has been observed by Golder Associates consultants. Referee sampling has been used to validate the accuracy and precision of historical samples. Twin holes have been drilled but the results from twin holes are inconclusive. • All sampling and data management procedures are documented. • Data management is considered adequate. • Rotary Reverse circulation sampling has been trialled. Golder observed the drilling of two of these holes and considers the samples to be non-representative due to sample loss. Data from these holes has not been used.
Location of data points	<ul style="list-style-type: none"> • 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. • Specification of the grid system used. • Quality and adequacy of topographic control. 	<ul style="list-style-type: none"> • For the scale of the deposit the location of samples by hand held GPS is considered adequate. • GPS data is in latitude and longitude. • Modelling data is in UTM – WGS 84 Zone 60 • Commercial/Public domain bathymetric data is considered adequate over most of the tenements and good in the mine area where the data has been supplemented with NIWA multibeam sonar data.
Data spacing and distribution	<ul style="list-style-type: none"> • Data spacing for reporting of Exploration Results. • 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. • Whether sample compositing has been applied. 	<ul style="list-style-type: none"> • Much of the resource area is now drilled on a nominal 1000 m by -1000 m grid. Analysis to date suggests that this is an adequate sample spacing to define an Indicated Mineral Resource. • Deeper drilling may start to introduce more variability and lead to a requirement for infill drilling. • Samples are not composited for analysis
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> • Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. • 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. 	<ul style="list-style-type: none"> • All drill holes are vertical providing the optimum orientation for sampling these bedded sand deposits.
Sample	<ul style="list-style-type: none"> • The measures taken to ensure sample security. 	<ul style="list-style-type: none"> • Sample security is good with all samples being under TTR supervision up until submission at the laboratory.

Criteria	JORC Code explanation	Commentary
<i>security</i>		<ul style="list-style-type: none"> Laboratory chain of custody and security have been reviewed by Golders Associates previously and are considered fit for purpose.
<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"> In 2010 Golder undertook a detailed audit of the drill hole database. Minor anomalies in the database were found and corrected. In 2012 QG (Perth) undertook a due diligence of the resource data and estimation. To address issues raised by Golder in their QAQC data analysis, Jeremy Batchelor of Chem Tek Consulting undertook an independent lab audit and QAQC data analysis in 2013 finding the laboratory procedures and results satisfactory. There have been no procedural changes with sampling, sample preparation or testing since this audit was undertaken. Mr Stephen Godfrey (Resource Evaluation Services) and Matthew Brown (TTR GM Exploration) reviewed and the database for the 2015 resource model.

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"> TTRL hold granted Continental Shelf Licence 50753 and Exploration Permit 54068. These tenements allow exploration activities to be undertaken. Licence 50753 is currently under application for an extension of duration for a further 4 years. EP 54068 expires in December 2017. TTR have a granted Mining Permit 55581 which expires in May 2034. All tenements are owned 100% by TTRL. Royalty commitment for mining permit 55581 is 1% of net sales revenue when net sales revenues exceed NZD\$100 000; and be the greater of 1% of net sales revenue or a 5% accounting profits royalty when net sales revenues exceed NZD\$1 000 000. Under the Crown Minerals Act (1991) mining permits are subject environmental approvals under the following legislation:

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> ○ Marine consents under the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 (EEZA) for activities beyond the 12 nm limit. ○ Resource consents under the Resource Management Act 1991 (RMA) for activities (including discharges) within the 12 nm limit. ○ Marine discharge consents under the EEZA or Discharge Management Plans under the Maritime Transport Act 1994 (MTA) for discharges beyond the 12 nm limit.
<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"> • Some petroleum bore logs record near surface iron sands • Geophysical surveys were largely reconnaissance in nature providing limited offshore detail. • Limited, historical sampling of shallow offshore deposits has been undertaken providing indicative results only.
<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"> • The deposit is a submarine aeolian/alluvial/marine accumulation of ironsand in palaeo channels, beaches and dunes. • The main mineral of interest is titanomagnetite.
<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"> • 726 vertical seafloor drill holes have been drilled. • The current resource model uses 689 of these drill holes, drilled and sampled, averaging 6.024 m in depth for a total of 4150.6 m. • The remaining holes are reconnaissance, bulk sampling and trial holes.
<i>Data aggregation methods</i>	<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> 	<ul style="list-style-type: none"> • Exploration drilling results are not reported here.

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> The assumptions used for any reporting of metal equivalent values should be clearly stated. 	
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. 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'). 	<ul style="list-style-type: none"> The iron sands are bedded deposits. Drilling to date has only defined the true thickness of the deposit in ten drill holes.
Diagrams	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> See Figures 1 to 5, in the Mineral Resource Statement
Balanced reporting	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Exploration results are not reported here.
Other substantive exploration data	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Exploration data to date includes geophysical surveys, grab samples, bulk samples and drilling. Metallurgical test work has been done on the magnetic recovery, physical separation and comminution testing of bulk samples with the TTR pilot plant. Enough data is available to make a reasonably confident estimate of the dry bulk density.
Further work	<ul style="list-style-type: none"> The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. 	<ul style="list-style-type: none"> Potential for further infill drilling to extend the available mining area. Pending budget approval a detailed vessel based geophysical survey over the mine area is planned.

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"> Golder Associates have previously undertaken a detailed audit of the drill hole database validating the data and ensuring that adequate security and backup procedures are in place. Drill data is routinely checked for internal consistency, anomalies and omissions prior to each resource estimation.
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"> The site has been visited by the competent person, Stephen Godfrey, on four occasions. <ul style="list-style-type: none"> January, 2010 – reviewed drilling and sampling. Recommendations for improved procedures made and implemented. July 2012 – reviewed pilot plant, project in general February 2013 – reviewed rotary RC drilling. Identified sampling issues. March 2015 – review of database and development of the model using Micromine software.
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"> Preliminary drilling showed the deposit to be relatively consistent in the top 6 m with most material being mineralised. The infill drilling is now showing better qualitative correlation with the airborne magnetic surveys with higher grade mineralisation in general being coincident with magnetic highs. The correlation is not always consistent and the impact on exploration and the resource is still being assessed. Confidence in the geological interpretation is medium to high.
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 has been drilled over a strike length of 100 km and a width of 6 to 12 km.
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 	<ul style="list-style-type: none"> The available sampling data is sufficient to allow variogram models and kriging parameters to be defined. The models were estimated using Ordinary Kriging. The estimation has a maximum extrapolation of 1000 m from any data point. The models were estimated and constructed using Micromine software.

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	<p><i>appropriate account of such data.</i></p> <ul style="list-style-type: none"> <i>The assumptions made regarding recovery of by-products.</i> <i>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</i> <i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i> <i>Any assumptions behind modelling of selective mining units.</i> <i>Any assumptions about correlation between variables.</i> <i>Description of how the geological interpretation was used to control the resource estimates.</i> <i>Discussion of basis for using or not using grade cutting or capping.</i> <i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i> 	<ul style="list-style-type: none"> The estimate has been made into 300 m × 300 m × 1 m parent blocks oriented at 070°. These blocks represent the mining SMU as defined in the PFS, and are approximately one third of the average drill spacing. Head Fe₂O₃ and DTR show a positive correlation. This correlation has been used to estimate DTR outside the mining area where DTR has been measured. The sample population showed no significant outlier samples so no grade cutting or grade restraint was applied. The estimation was unfolded to the bathymetric surface. The models have estimated the major and deleterious elements for the -2 mm fraction for the full model. In addition Davis Tube Recovery and Concentrate grades have been estimated for the proposed mining area. The models were validated against the drill holes visually and statistically. The estimations for both models are considered to have a medium to high level of confidence.
Moisture	<ul style="list-style-type: none"> <i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i> 	<ul style="list-style-type: none"> All tonnages are estimated on dry basis consistent with the sample analysis which is reported as a dry mass percent.
Cut-off parameters	<ul style="list-style-type: none"> <i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i> 	<ul style="list-style-type: none"> The Fe₂O₃ cut-off used to define the mineralisation was based on the population statistics for Fe₂O₃. The DTR cut-off of 3.5% applied to reporting is based on preliminary economic estimates of mining cut-off grade. Based on the good correlation between head Fe (or Fe₂O₃) and DTR 3.5% DTR is equivalent to 7.5% Fe₂O₃.
Mining factors or assumptions	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> The current assumption is that this will be a dredging operation using subsea crawler technology. It will be a bulk mining scenario with any subgrade overburden incorporated into the mineralised zone where practicable. Consequently only a base of mineralisation is defined in the geological model with minor amounts of subgrade overburden and interburden incorporated into the model. The base of mineralisation was defined at 4% Head Fe₂O₃.based

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		on the population statistics of the analyte. DTR analyses are incomplete for the entire model area and could not be used to define the cut off, however there is a strong positive correlation between Fe ₂ O ₃ and DTR.
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 recovery factors have been applied. Samples are screened to -2 mm before analysis. The screened recovery is used to weight the head grade estimation. Davis Tube Recovery (DTR) analyses have been performed on samples from drill holes in the proposed mining area and within the Kupe Blocks.
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 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. 	<ul style="list-style-type: none"> Tailings from the mining operation are to be returned to the seafloor in mined out areas. Baseline environmental studies have been undertaken and have determined that any environmental impact can be avoided, remedied or mitigated.
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"> Dry bulk density was determined by laboratory analysis and verified by comparison to the theoretical bulk density. Bulk density is sensitive to the heavy mineral content. A regression formula was used to estimate bulk density based on the Fe content. A small number of samples (3) suggest decreasing porosity with Fe grade. If the samples prove valid they have the potential to increase the tonnage of the deposit by several percent.
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 	<ul style="list-style-type: none"> Those parts of the resource classified as Indicated have been sampled at density considered adequate to support the classification. No adverse quality or geological uncertainty parameters affect this classification. The Inferred classification of the deposit reflects the assumed geological and geostatistical continuity in parts of the current model where the drill spacing

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	<i>view of the deposit.</i>	<ul style="list-style-type: none"> exceeds 1000 m by 1000 m. Classification of the deposit was undertaken by the competent person.
<i>Audits or reviews</i>	<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"> The current mineral resource estimate has not been externally audited. In 2012 QG (Perth) undertook a due diligence of the resource data and estimation.
<i>Discussion of relative accuracy/ confidence</i>	<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 current resource is a global estimate. The relatively sparse data does not allow a high confidence local estimate. The model is considered adequate to use in a mine planning study for a bulk dredging style operation.

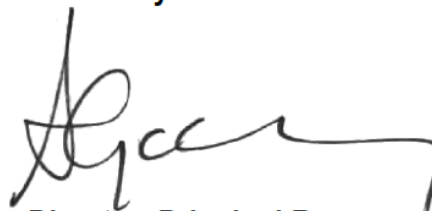
Statement and Resource Estimation Prepared by

Matthew Brown



**General Manager Exploration
Trans-Tasman Resources Ltd**

Stephen Godfrey



**Director, Principal Resource Geologist
Resource Evaluation Services**