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In reply please refer: Tas/2017

16 February 2017

The Manager Announcements
Australian Stock Exchange Limited
GPO Box 100A
Hobart TAS 7001

Technical Report

Dear Sir/Madam,

Tasmania Mines Limited (TML) has today released an updated Technical Report as at 31 December 2016 prepared by Mr A.D. Fudge of Polberro Consulting for Kara No. 1 reserve estimate (attached).

Yours faithfully
Tasmania Mines Limited

Ken Broadfoot
Director

Tasmania Mines

Kara No 1 Magnetite Deposit

Ore Reserve Report January 2017

Kara No 1 SE Pit & Haul Road

Prepared by: **Alan D Fudge MSc BSc MAusIMM**
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On behalf of: - **Tasmania Mines Ltd**

Executive Summary

This reserve estimate is produced for Tasmania Mines for annual reporting and audit purposes. The Kara No 1 reserve has been estimated based upon the January 2017 digital resource model as described in both the December 2014 Kara No 1 Resource report and January 2017 technical memorandum (*Resource and Exploration Geology)* utilising an FeO>30% mineralised cut off (*see* Appendix 6). References to *global in-situ resource* in this report correspond to the January 2017 digital resource model.

Reference to *minable resource* referred to in this report represents the FeO>30% component of the *global in-situ resource* that lies above the current pit life of mine (LOM) pit DTM and which has not been sterilised by its location.

- **Kara No 1 Global Resource is 14,600,000 tonnes at 49.5% FeO**
- **Kara No 1 Minable Resource is 10,304,000 tonnes at 50.2% FeO**
- **Kara No 1 Total Ore Reserve is 9,974,000 tonnes at 49.7% FeO**

The Kara No 1 pit life based upon the current production rate of 400,000 tonnes of ore per annum is 25 years.

This reserve estimate is derived from sectional perimeters which represent realistic mining shapes and include planned waste and low grade dilution. Reserve perimeter sets utilise, but are not wholly constrained by, the LOM pit shape as a guide. The reserve estimate excludes 95,000 tonnes of *inferred resources* (59.5% FeO) that lie within the LOM pit boundary and will be mined during the normal operation of the open pit.

It is estimated that 7% of the material reporting to the reserve within the pit design shell contains material classified as oxidised. It is currently considered that up to 30% of this oxidised material is unsuitable for generation of a magnetite product and may have weathered to limonite, goethite, haematite etc. The estimate for oxide material has been adjusted in this *reserve* estimate accordingly and a 30% reduction factor is applied to oxide *reserve* estimates reflecting current applied practice in the open cut which indicates an increased throughput of oxidised ore compared to 2014 and 2015.

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1. Introduction

Tasmania Mines operates the Kara No 1 open cut mine in north-west Tasmania producing primarily magnetite concentrate with scheelite concentrate as a by product.

Resources in Kara No 1 orebody were estimated in November 2014 by *Resource and Exploration Geology* who generated a digital resource block model based upon data supplied to them by Tasmania Mines, the model has been adjusted in January 2017 for production and a small change in the geological interpretation in the SE corner of the pit. No new exploration or in fill drilling has taken place since the generation of that digital resource model (*see* Kara No 1 Ore Resource report - December 2014 - *Resource and Exploration Geology*.) The resource model utilised in this reserve estimate is the January 2017 digital resource model as described in January 2017 technical memorandum attached as a part of Appendix 6. The 2014 model has been utilised for reconciliation purposes.

This *reserve* estimate was produced by A.D.Fudge of *Polberro Consulting* who is a Member of the Aus IMM and has significant experience with resource/reserve estimation in skarn style mineralisation.

The *reserve* estimate is based upon a life of mine (LOM) pit design confirmed in January 2015, 2016 and 2017 utilising pit optimisation software (Threedify Flowpit) which continues to derive a close fit to the existing LOM manual pit design from which long term infrastructure for pit benches, access and boundaries have been designed.

This *reserve* estimate utilises shape information constructed from perimeter sets which include planned dilution at mining boundaries and internal dilution, by waste and low grade material reflecting, as far as is possible, operating practice. All data is accommodated within the *reserve* shapes such that the material quantity and grade may be estimated directly from the digital resource model.

Recovery loss is accommodated both within the mining perimeters and by the application of a global mining recovery factor of 95%.

The practice at the Kara No 1 operation of in-pit ore sorting (visual grade control) is accommodated in the reserve estimation by the elimination of some diluents and the above reduction in the global mining recovery. Only visual grade control is performed in the open cut Tasmania Mines have no means or intent, at this time, of instituting other forms of grade control other than the clear visual difference between ore and waste material.

The Kara No 1 *reserve* estimate addresses the issue of near surface weathered resources. At this time 7% of the tonnage reporting to reserve is categorised as oxidised – it is assumed in this estimate that 30% of such weathered resource material is not recovered. This material has been removed from the *reserve* estimate as a stage of the estimation process.

In addition to a gravity product Tasmania Mines continue to develop and improve a scheelite flotation process, at this time there is insufficient data regarding operating cost, revenue and recovery that would enable the estimation of a scheelite reserve.

2. Location

The Tasmania Mines Kara No 1 Open Cut magnetite-scheelite deposit is located approximately 40km south of Burnie in northwest Tasmania. The mine is linked by unsealed and minor roads to the Murchison Highway.

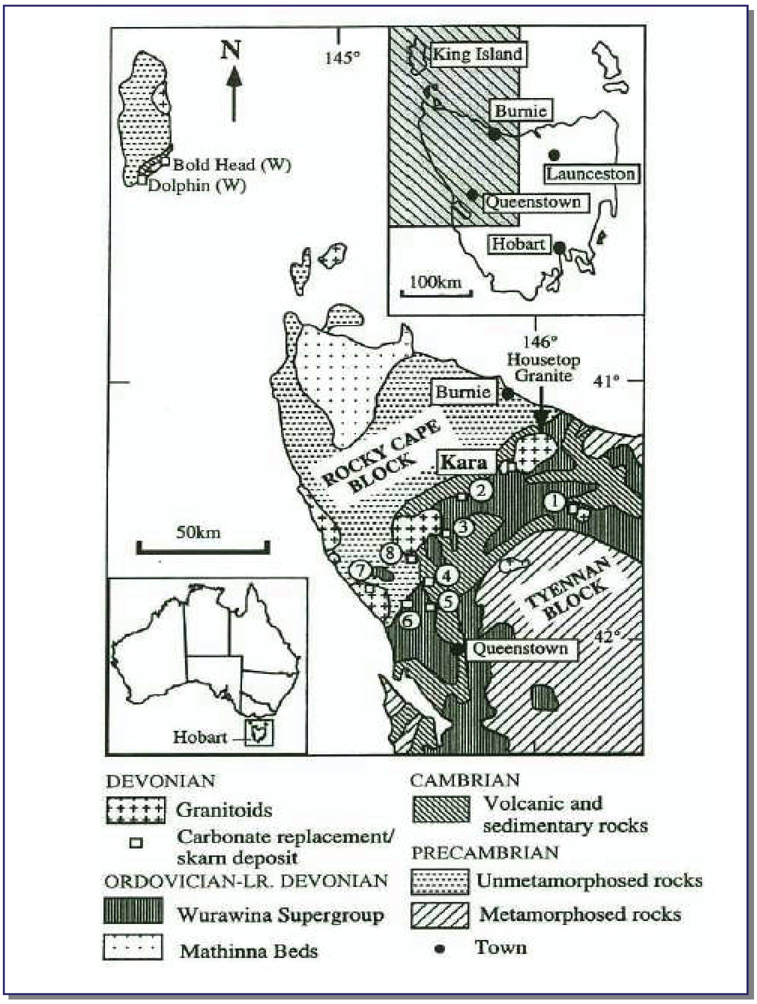


Figure 1: Kara No 1 Magnetite-Scheelite Deposit (Zaw 2000)

Tasmania mines also maintains two open cuts, Kara North 266 and Eastern Ridge, within the same mining lease as potential sources of scheelite/magnetite mineralisation. The Kara North 266 deposit is immediately to the north of the Kara No 1 deposit whilst the Eastern Ridge deposit is north east of the Kara No 1 deposit. During 2016 ore products were derived solely from the Kara No 1 deposit.

3. Geology

A number of magnetite skarns lie within, or adjacent to, the outcrops of the Housetop, Ringwood and Kara granites. Turner (1989) lists magnetite skarns at Kara No I, Kara No 2, Sutton's, Hampshire (near the railway crossing), Redwater Creek, Laurel Creek and Peak Hill Farm. In the past, these magnetite bodies were worked sporadically as sources of iron for steel making, for example, at Pearson's workings in the Kara No 2 Main deposit. Some of the magnetite skarns contain concentrations of scheelite mineralisation, for example Kara No 1, Eastern Ridge, Bob’s Bonanza, Location 5 and Kara 266.

Several scheelite-magnetite skarns occur on the Kara mine lease. The skarns are developed within folded Ordovician limestone rocks which are in contact with Devonian granite.

The geology of the Kara magnetite-scheelite deposits has been generally described by Burrett and Martin (1989):

"Several scheelite-bearing garnet-diopside-magnetite-amphibole- vesuvianite skarns have formed at a transitional boundary between siliceous sandstone and quartzwacke (Moina Sandstone) and overlying Gordon Group limestone. Most deposits are within a synformal structure in the Ordovician sedimentary rocks which are underlain and intruded by porphyritic and equigranular biotite-hornblende granite of the magnetite-series of the Devonian Housetop Granite.

The main deposits are within a trough-like pendant of skarn within the Housetop Granite. At Kara No.1 ore-grade scheelite mineralisation forms an irregularly-shaped blanket draped 15-25 m above the granite. Between the skarn and the granite is a tungsten-poor, quartz-epidote reaction zone. Skarn lithologies are varied but there is a sharp division between magnetite dominant and garnet (grossular-andradite) dominant units.

Photo 1: Epidote(yellow/green), Magnetite skarn(black) and granite(white/pink)

Scheelite is distributed through all lithologies, but higher grade ore is associated with magnetite-amphibole skarn. Garnet skarn is only strongly mineralised adjacent to magnetite-rich skarn. Whilst the overall shape of the scheelite distribution is an irregular tabular body, there is considerable local enrichment in specific lithologies. Tin, in silicates, and molybdenum are minor components of the skarn, though scheelite concentrates contain 1-1.5% molybdenum. Much of the skarn is deeply weathered and in such cases the scheelite in the high-grade zone is altered to secondary hydrous tungsten minerals."

Within the weathered zone magnetite may have partially or completely broken down to secondary minerals including haematite, limonite and goethite. For a detailed description of local and regional geological features please refer to the December 2014 Kara No 1 Resource report (*Resource and Exploration Geology).*

Photo 2: Kara No 1 Open Cut looking north

4. History

The magnetite deposits in the Hampshire area have been known since the nineteenth century and scheelite was discovered in 1970. Initially the production of scheelite commenced at Kara No 1 open cut in 1977. The earliest mining commenced on the eastern limb of the Kara No 1 deposit, including the area which now forms the Kara No 1 pit, and at 'Bob's Bonanza' which was worked as a glory hole with steep sides. The original mill was built above the orebody and, consequently, this mill was dismantled and the present mill was built in the mid 1980's.

Following a sharp decline in demand and price of scheelite in the 1980's the mine concentrated on the production and sale of magnetite concentrates for coal wash use as a dense media. Between 1977 and 1983 both magnetic and non-magnetic tailings had been stored on the upper banks of the Old Park River to the west of the Kara No 1 pit. The stockpile, known as the Tasminex tailings dump, was reclaimed and retreated.

Magnetite concentrate was subsequently sold for use in cement manufacture between 1983 and 2001, as blast furnace feed between 1988 and 1995 and as dense medium magnetite (DMM) since late 1994.

At this time a production rate of 400,000 tonnes of ore per annum reflects current market conditions and demand.

Photo 3: Eastern Wall of Kara No 1 - targeted production area for 2017/2018

Typically a gravity scheelite by product can be produced, averaging 40 tonnes of product per year between 2011 and 2015, adding $0.75-1.0M to site revenue each year. Currently a flotation process remains under development with the intention of recovering a greater quantity of this operational by-product.

5. Production

In 2016 the Tasmania Mines operation reported production of 397,218 dry tonnes of magnetite ore from the Kara No 1 open cut. Mining operations currently consist of the mechanised excavation of weathered (oxidised) ore and overburden and blasting of fresh ore and waste rock with production blast holes with all mining operations conducted by contract operators. Waste produced is currently utilised in construction projects or placed within permanent waste storage facilities. Basic production statistics for the 2016 calendar year based upon trucking and processing plant data were as follows: -

> Open cut magnetite ore production reported as 397,218 dry tonnes at nominal Fe 40%
> Waste and overburden total reported 416,257 tonnes
> Mill Feed reported as 402,153 tonnes at a nominal 40% Fe
> DMM produced 186,178 tonnes at a nominal 68.5% Fe
> Scheelite produced 25.27 tonnes of product at an unspecified grade.

The waste tonnage removed from the open pit area was 309,131 tonnes compared to the total reported 416,257 tonnes. The pit waste mining rate remains relatively low compared to production levels - relatively low recent waste stripping rates mean that significantly increased waste stripping rates should be anticipated in the near future to maintain viable continuous ore production. A 0.6 swell factor has been used to modify historic truck waste data based on current reconciliation estimates.

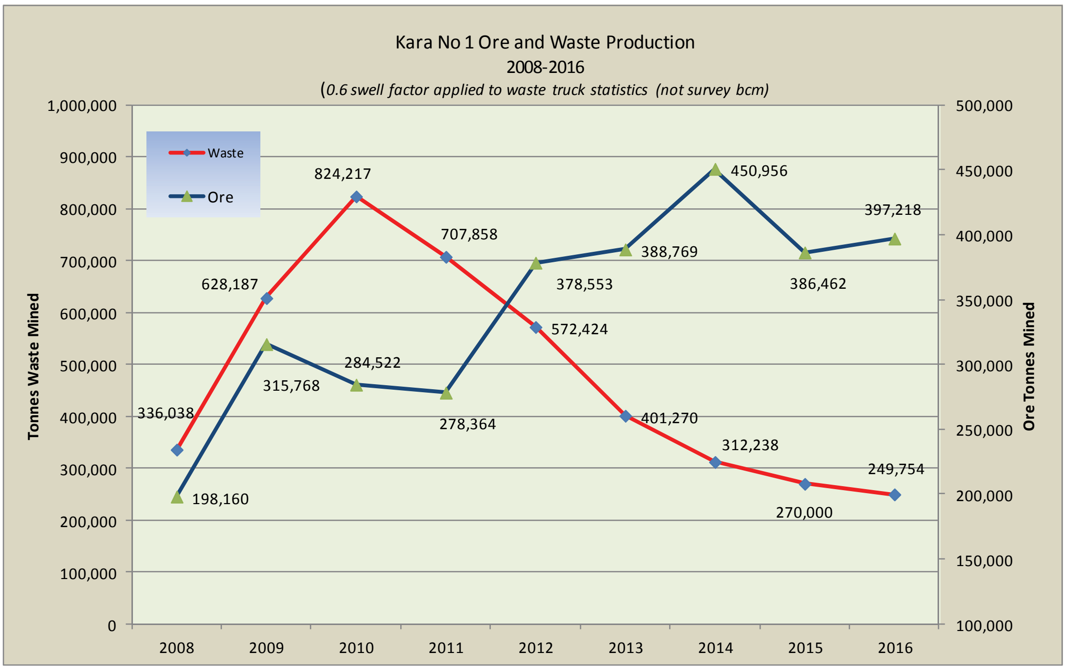


Figure 2: Ore and Waste production 2008-2016

The Kara No 1 deposit extends for more than 1 kilometre in a south to north direction. Currently the pit is approximately 580m long and is sited at the southern end of the deposit.

The current operating pit is contained within what is locally known as the Stage 1 pit design which was generated and scheduled to maintain the supply of high grade magnetite whilst conducting waste stripping for a series of pit 40m northward extensions required to maintain long term pit ore supply. At this time Tasmania Mines does not utilise a formal long term schedule for Kara No 1 open cut ore and waste production.

6. Processing

The extraction process for magnetite utilised gravity and magnetic separation to produce 186,178 tonnes of magnetite concentrate during 2016 calendar year. Water used in the process is re-circulated wherever it is viable to re-use it. The processing operations are conducted by operators employed directly by Tasmania Mines.

An increased level of oxidised material has been successfully blended with fresh ore during 2016 compared to 2014 and 2015, the impact of this has been to return material to the reserve estimate because of the improved pit recoveries that have been forecast (the oxide discard rate in the reserve estimate has been reduced from 50% to 30%).

Scheelite concentrate continues to be intermittently produced. The process for scheelite recovery historically used gravity concentration on tables, sulphide cleaning by flotation and the removal of iron compounds by roasting and magnetic separation. Development and commissioning of a scheelite flotation circuit continues – current gravity recovery, when operating, remains at a low level. Data for flotation recovery continues to change as the process is developed. Scheelite concentrate produced by the gravity process is a high grade concentrate and contains approximately 73% WO_3. At this time the product produced by the flotation process is a lower grade concentrate of approximately 35% WO_3.

Due to the sporadic nature of the scheelite mineralisation, the status of the flotation project and the wide distribution of drill holes a *reserve* estimate for scheelite may not be reliably estimated at this time.

Photo 4: Rehabilitation (Bob's Bonanza) and haul road works

Granite and quartzite aggregates may be generated from mine waste rock and sold - no resource/reserve is proposed at this time for aggregate materials.

7. Reconciliation

The reconciliation data in this report is based upon survey results and production statistics supplied by *Tasmania Mines* and utilises the digital resource model provided by Resource and Exploration Geology. A review of depletion was conducted by comparing surface DTM's directly above the operating area of the pit for Dec 2015 and Dec 2016 and viewing the depletion of the November 2014 resource model. The review was checked by reviewing the depletion in the immediate pit area and the LOM pit areas as shown below.

Depletion	SFC DTM	PIT DTM	LOM DTM
Dec-15	14,957,896	10,069,342	14,657,544
Dec-16	14,602,451	9,724,200	14,298,751
Estimated depletion	355,445	345,143	358,793
Variance	-0.66%	2.26%	-1.60%

The data in Table 1 indicates that material was mined that is not incorporated in resource data and that the total grade may have been up to 12% above the indicated depletion grade - such positive reconciliations typically result from the presence of vertical magnetite plumes which fall outside of the resource estimate but should not be relied upon and do not in any way form a part of the resource/reserve estimates.

Item (No reported oxide discard for 2016)

Item (excludes oxide - no discard reported	Tonnes	FeO%
Reported Ore Production	397,218	51.5
Depletion of 2014 Model	345,143	47.6
Dilution 5.7%	19,673	9.1
Depletion adjusted for dilution	364,816	45.5
Recovery loss (95%)	346,575	45.5
Ore mined from outside resource model	50,643	92.4
Reconciled estimate of waste mined	309,130	0.0
Implied ore supplied/depletion	397,218	51.5

Table 1 Reconciliation Table reported versus model depletion

(Note: FeO 53.6% represents the implied grade of the model depletion and ore mined outside of the resource model to support the reported mill feed grade of FeO 51.5%.)

The mining operation significantly relaxed the discrimination of oxide ore during in pit sorting in 2016. As a result of the revised practice the oxide discard rate for reserve estimation has been reduced from 50% to 30% and a mining recovery factor of 95% is again applied as a global recovery. The discard rate of 30% is higher than that actual practice for 2016 and to allow for potentially more difficult metallurgy in the remaining oxidised material.

In summary based upon historic reconciliation and current pit operating practice the following factors have been applied to the ore reserve estimate to provide a realistic and conservative estimate of the ore reserve that may be present for processing.

- Global Mining Recovery Factor - 95%
- In pit grade control – Discard FeO<30% and waste rock in mining shapes.
- Oxide ore discrimination rate – Discard 30% of oxidised resource.

8. Resource Estimates

The *minable resource* estimate represents the component of the *in-situ global mineral resource* above the cut off of FeO>30% that remains within current proposed open pit boundaries. The *in-situ global mineral resource* extends south of 5860N in the south beneath the in-pit waste dump and up to, and beneath, the Emu River to the north-west. A south east pit recovering resources south of 5860N was incorporated in last years reserve estimate and stripping operations have commenced. A *minable resource* was defined utilising an open pit shell that maximises the recovery of FeO >30% whilst maintaining a 30m distance from the Emu River to the north. The *minable resource* is that proportion of mineralisation where FeO>30%, as determined by the digital resource model that lies within the design pit shell.

Table 1 shows the *in-situ global resource* estimate from January 2017 which represents the 2014 resource depleted by mining between November 2014 and December 2016 and a minor interpretive change to the geology in the SE area of the pit.

Classification	Tonnes	FeO%	WO_3 ppm
Inferred	350,000	55.0	1302
Indicated	1,600,000	50.1	678
Measured	12,650,000	49.2	337
Total	**14,600,000**	**49.5**	**397**

Table 2: Depleted In-situ Global Mineral Resource (rounded down)

The pit shape for this estimate utilises the long term mine design pit shell as determined in December 2014 which utilises both manual and optimised pit shell analysis. Pit shapes were defined after first applying a pit optimisation process to the resource model cells to produce an optimal pit shell. (An optimised pit shell based upon 2016 cost and revenue data has also been applied to check the validity of the long term mine design pit shell.)

From the optimal shell and the FeO>30% contours a pit design was produced and utilised to define the proposed life of mine (LOM) pit area. The FeO 30% contour is typically found at the orebody/waste contact - ore/waste contacts at Kara No 1 are visually identifiable. The *minable resource* estimate shown in Table 2 incorporates the FeO>30% resource that lies above the LOM pit design DTM.

Classification	Tonnes	FeO%	WO_3 ppm
Inferred	69,000	60.0	3305
Indicated	599,000	51.5	1024
Measured	9,636,000	50.0	359
Total	**10,304,000**	**50.2**	**417**

Table 3: Minable Resource Estimate (rounded down)

9. Reserve Estimation

In order to produce a reserve estimate for the Kara No 1 deposit the January 2017 digital resource model generated for the Kara No 1 deposit by *Resource and Exploration Geology - December 2014/January 2017* was utilised. The reserve that could be targeted for extraction was defined by the following surfaces: -

- The existing Life of Mine pit design shell (excluding haulage roads) derived from a FeO>30% contour set and the December 2014/2015 optimal pit shells. (Also checked using a December 2016 optimal pit shell based on 2016 costs and revenues to ensure that there was no significant difference in the optimised pit shells (Fig 3)
- Realistic mining perimeters were constructed incorporating mining loss and dilution directed to maximising Fe>30% material within mining shapes.
- A DTM produced from the year end December 2016 open cut survey pick up
- Material affected by a 30m exclusion zone below the Emu River excluded.

All material outside of any boundary surface was excluded from minable resource and ore reserve estimates and all material inside included with the exception of isolated pods of material FeO>30% that could not be reasonably expected to be recovered through normal grade control procedures. The estimate utilised the long term pit design shell, which is in use for planning long term access and bench locations, as follows: -

1. Use of the LOM pit design pit shape based upon the December 2014 optimal pit shell with added reference to horizontal contours of the FeO>30% at 10m vertical intervals. Utilised pit design parameters of 10m bench height, 8.3m berm, 70 degree bench angle, 42 degree overall pit angle and the 2016 end of year survey surface pick up.

2. Design realistic mining shapes (incorporating mining loss, planned and internal dilution) defining ore and waste within the LOM pit shell. Shapes were generated on 10-20m northerly separation as east-west sections and specifically included some local refinements of LOM pit shell boundaries to recover additional resources (564,000 tonnes at FeO 45%).

As indicated the mining shapes incorporate both planned external and internal dilution and planned mining recovery loss. External dilution represents waste and low grade mined at shape boundaries and is included as a part of the mining shape design. Internal dilution is defined as any material below the cut-off grade of FeO>30% (which includes waste) within mining shapes – grade and SG is assigned to all the diluents from the resource block model. The mining shapes are contained in the following shape files magnetite skarn west of 7400E (*magw17*), magnetite skarn east of 7400E (*mage17*) and isolated upper magnetite skarn (*magu17*). A number of waste shape files were also created as an aid for management of granite, skarn rock, waste dump material and overburden waste information. In addition to the above the following factors have been applied to this reserve estimate based upon 2016 reconciliation data and current operating practice as follows: -

- 30% of all weathered material meeting other ore reserve criteria has been deducted from the reserve estimate. (Previous years utilised 25%, 50% & 80% reduction).

- In pit grade discrimination (ore sorting) following firings is accommodated by introducing a grade filter discounting all material below FeO 30%. (Unchanged.)

- A global mining recovery factor of 95% has been applied to the estimate, this factor accommodates resources lost during the in pit waste, low grade and oxide ore grade control process.

This years reconciliation process indicated that there was 50,000t of mineralised material mined outside of resource model estimates - no forward assumptions regarding material mined outside of published resource estimations are or should be made.

Classification	Tonnes	FeO%	WO_3 ppm
Inferred	83,000	59.4	2621
Probable	624,000	51.1	799
Proven	9,350,000	49.6	337
Proven + Probable	**9,974,000**	**49.7**	**366**

Table 4: Mining Reserve Estimate

Tables are attached in Appendix 3 showing the resource to reserve process in a series of tabulations. All forward estimates in this report at this time are based on the assumption of continued production of a rate approaching 400,000 tonnes of ore per annum from the open cut. Reconciling this years reserve against the January 2016 reserve indicates the reserve has only fallen by 12,500 tonnes this is because 177,000 tonnes have been returned to reserve estimates due to the forecast lower oxide discard rate, 50,000 tonnes were mined that were not in the resource model and additional tonnes were added to the reserve redrawing the reserve perimeter sets. Reconciliation thus indicates an approximate +1% variance between the two reserve estimates.

A production rate of 400,000 tonnes per annum equates to a life of mine estimate for Kara No 1 deposit of 25 years. This life of mine estimate does not include any of the other site resources.

10. Mineralised Resources

In addition to the main Kara No 1 orebody the Tasmania Mines ML contains a number of other mineralised areas for which magnetite and/or scheelite ore reserve estimates are not proposed at this time. The mineralised areas are as follows: -

10.1 Eastern Ridge

The Eastern Ridge area is generally viewed as the eastern extension of the Kara No 1 orebody – it represents a scheelite target with accessory magnetite. Large and small scale open cut scheelite pre-JORC reserve estimates were published in the past for scheelite at Eastern Ridge. No accurate knowledge of the scale of the magnetite resource was derived at that time because the target of the earliest drill programs was the scheelite rich component of the orebody. The current Eastern Ridge pit is a small operating pit from which some material is occasionally mined to provide scheelite feed for the processing plant or for test purposes. No reserves are currently proposed for the area pending further research into scheelite flotation.

A drill program was previously completed permitting estimation of an *in-situ mineral resource* during 2012 (JORC 2004 code) for the deposit which was released in a separate report (*Eastern Ridge Mineral Resource Estimate NW Tasmania, September 2012 by Resource and Exploration Geology*).

A separate reserve estimate and report will be issued for the Eastern Ridge mineralisation at a future time when the most appropriate approach for mining and processing of resources from the area has been determined. At this time scheelite processing methodology, cost and recovery continues to be researched.

10.2 Location 5

Location 5 represents a potential underground magnetite/scheelite mineral deposit contained within a magnetite skarn – a drill program to test the northern and southern extents and to infill earlier drill program information returned disappointing results and a resource estimate from the combined drill programs remains to be evaluated. It is considered that an Eastern Ridge to Location 5 line of lode may exist representing a line of scheelite enrichment along up to 2 km of strike along the eastern margin of the host magnetite deposit. This area represents a long term project target and is not the subject of current exploration.

10.3 Kara North 266

A mining reserve estimate continues to be reviewed for magnetite and scheelite at Kara North 266 and a separate report will be issued at an appropriate stage. Improved knowledge of the processing method, cost and recovery for the scheelite component of the deposit is essential to support a reserve estimate. As with Eastern Ridge the principal mineral target is scheelite with accessory magnetite present although previous optimisation studies have indicated a stand alone magnetite potential.

The most recent mineralised resource estimate may be viewed in detail in the report *Kara North and Northern Magnetic Anomaly Mineral Resource Estimate NW Tasmania August 2013) by Resource and Exploration Geology.*

10.4 Kara North Magnetic Anomaly

The Kara North Magnetic Anomaly deposit is a magnetite host orebody to the west of, and below, the Emu River – it may represent the northern extension of the Kara No 1 orebody. The Kara Magnetic Anomaly was identified by an early drill campaign in the 1980's. The deposit did not represent a scheelite target at the time of the drill program and was not reviewed until recently – it remains solely a target for potential magnetite mineralisation. An exploration drill program was completed during 2012 permitting an estimation of magnetite resources present. The results of the program may be viewed in the report *Kara North and Northern Magnetic Anomaly Mineral Resource Estimate NW Tasmania August 2013) by Resource and Exploration Geology.*

The Kara Magnetic Anomaly data has been reviewed at concept level utilising the pit optimisation process and a determination to proceed with a target drilling program to raise the resource status of the potentially viable section of the deposit remains to be made.

10.5 Summary of site resources

The following table shows a summary of all Tasmania Mines mineral resources including Kara No 1 as at January 2016 – the estimated Kara No 1 reserves in this report were derived from the measured and indicated resources in this table for Kara No 1.

Tasmania Mines: Summary of Resources (January 2017)

Location	Class	Tonnes	FeO%	WO3ppm
Kara No 1	Inferred	350,000	55.0	1302
Jorc 2012	Indicated	1,600,000	50.1	678
	Measured	12,650,000	49.2	337
	Sub-total	**14,600,000**	**49.5**	**397**
Eastern Ridge	Inferred	1,260,000	50.6	400
Jorc 2004	Indicated	5,240,000	47.8	1200
	Measured			
	Sub-total	**6,500,000**	**48.3**	**1045**
Kara North 266	Inferred	260,000	46.9	800
Jorc 2012	Indicated	2,590,000	47.3	2000
	Measured			
	Sub-total	**2,850,000**	**47.3**	**1891**
Magnetic Anomaly	Inferred	11,960,000	42.7	160
Jorc 2012	Indicated			
	Measured			
	Sub-total	**11,960,000**	**42.7**	**160**
All Locations	Inferred	12,570,000	48.2	245
	Indicated	9,430,000	48.0	1331
	Measured	12,650,000	49.2	337
Total Resources		**34,650,000**	**48.5**	**574**

Table 5 Tasmania Mines Mineral Resource Summary

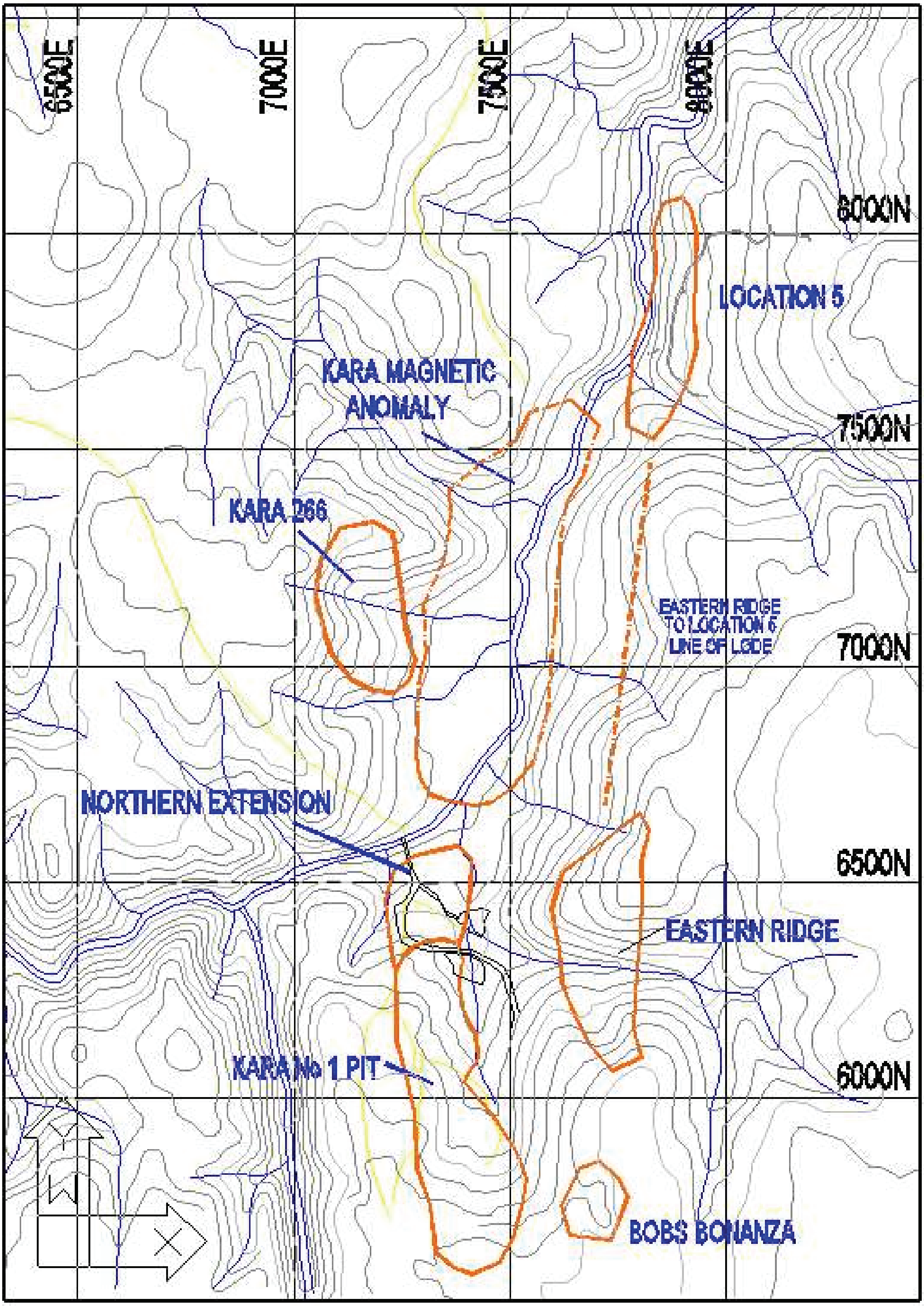


Figure 3 : Location of Deposits

11. Current and Future Work

The following recommendations/projects in progress represent outstanding exploration drilling, infill drilling and resource assessment tasks which might be considered as part of the ongoing resource/reserve evaluation process for Tasmania Mines: -

- Estimate a Kara North 266 mining reserve at such time as the processing and economics of the scheelite component of the deposit are better understood.

- A small section of the Location 5 deposit has been drilled out in two stages. No mineral resource has been evaluated following the second stage of the drilling. A magnetite-scheelite ore resource should be estimated for this deposit permitting completion of the assessment and any proposals for further work.

- Further drilling along the line of the deposit (Bob's Bonanza to Eastern Ridge to Location 5) may be considered to improve the understanding and scope of this mineralisation – this mineralisation could be developed as an underground option and appears to have some potential along a 3km strike length based on old widely spaced drill data.

- Eastern Ridge – An ore reserve estimate should be prepared for magnetite and scheelite for this location at such time as the processing and economics of the scheelite component of the deposit are better understood.

- Kara North magnetic anomaly. Initial conceptual designs and a pit optimisation study were conducted in 2014 to identify areas of interest within this mineralised area. A plan to raise the resource status of the southern section of the deposit immediately adjacent to the Kara 266 deposit remains under consideration.

- Evaluate potential scheelite resources contained within the mine tailings.

Most of the above are dependant upon the completion of scheelite flotation research and development aimed at improving scheelite recovery and obtaining realistic costs and revenues for an appropriate estimation process to be conducted.

12. References

1. Kara No 1 Mineral Resource Estimate, December 2014 - *Resource and Exploration Geology*

2. January 2017 technical memorandum - *Resource and Exploration Geology*

3. Kara North and Northern Magnetic Anomaly Mineral Resource Estimate, July 2013 - *Resource and Exploration Geology*

4. Eastern Ridge Mineral Resource Estimate, September 2012 - *Resource and Exploration Geology*

5. Kara No 1 Ore Reserve Report, January 2016 - *Polberro Consulting*

6. Stock and Production Summary 2016 – *Tasmania Mines Internal Spreadsheet*

7. Tasmania Mines Costs and Revenues December 2016 – *Tasmania Mines Internal Spreadsheets.*

8. Jorc 2012 Code

LIMITATIONS AND CONSENT

This report is provided to Tasmania Mines Ltd in the context of a Mineral Reserve Estimate for FeO and should not be used or relied upon for any other purpose.
This report has been prepared using information available to the author at the time of writing as supplied by Tasmania Mines. The opinions stated herein are given in good faith and with the belief that the basic assumptions are factual and correct and the interpretations reasonable.
This report is not intended for use as a public document nor, in whole or in part, in a public document without written consent to the form and context in which it appears.

COMPETENT PERSON AND JORC CODE

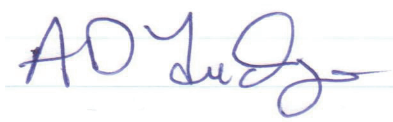
This Mineral Reserve Estimation report was prepared in accordance with the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' ("JORC Code") by Alan Fudge. Mr Fudge has 35 years of experience relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the Australian Code for Reporting Exploration Results, Mineral Resources and Ore Reserve. Mr Fudge consents to the inclusion in the report of matters based on his information in the form and context it appears.

STATEMENT OF INDEPENDENCE

Alan Fudge has no material interest or entitlement in the securities or assets of Tasmania Mines Ltd or any subsidiary

Polberro Consulting conducted the reserve and optimisation process utilising the following licensed software:-

CAE (Datamine) Studio 3 Version 3.24.73.0
Threedify Flowpit Version 6.5.2.6178



Report Prepared by .... of Polberro Consulting

2nd February-2017
Release Date...

Appendix One

Conversions Used

The following conversions were used in this report to derive equivalent grades from reported assay information and in the pit optimisation script files as constants.

Assay conversion factors

From	To	Factor
Fe	FeO	1.286497
Fe	Fe_3O_4	1.381995
FeO	Fe_3O_4	1.074232

All estimates in this report are based on FeO as reported in the resource digital model – no inferences about the distribution of Fe_3O_4 contained within the FeO are drawn or should be made based upon this report.

Appendix Two

Competent Person Statement

Polberro Consulting

Competent Person's Consent Form

Pursuant to the requirements of ASX Listing Rules 5.6, 5.22 and 5.24 and Clause 9 of the JORC Code 2012 Edition (Written Consent Statement)

Report name

Kara No 1 Magnetite Deposit – Ore reserve Report January 2017

(Insert name or heading of Report to be publicly released) ('Report')

Tasmania Mines

(Insert name of company releasing the Report)

Kara No 1 Magnetite Deposit

(Insert name of the deposit to which the Report refers)

If there is insufficient space, complete the following sheet and sign it in the same manner as this original sheet.

2nd February 2017

(Date of Report)

Statement

I,

Alan Douglas Fudge

(Insert full name(s))

confirm that I am the Competent Person for the Report and:

- I have read and understood the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition).
- I am a Competent Person as defined by the JORC Code 2012 Edition, having five years experience that is relevant to the style of mineralisation and type of deposit described in the Report, and to the activity for which I am accepting responsibility.
- I am a Member or Fellow of The Australasian Institute of Mining and Metallurgy or the Australian Institute of Geoscientists or a 'Recognised Professional Organisation' (RPO) included in a list promulgated by ASX from time to time.
- I have reviewed the Report to which this Consent Statement applies. I

am a full time employee of

(Insert company name)

Or

I am a consultant working for

Polberro Consulting

(Insert company name)

and have been engaged by

Tasmania Mines Ltd

(Insert company name)

to prepare the documentation for

Kara No 1 Magnetite Orebody

(Insert deposit name)

on which the Report is based, for the period ended

2nd February 2017

(Insert date of Resource/Reserve statement)

I have disclosed to the reporting company the full nature of the relationship between myself and the company, including any issue that could be perceived by investors as a conflict of interest.

I verify that the Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in my supporting documentation relating to Exploration Targets, Exploration Results, Mineral Resources and/or Ore Reserves (*select as appropriate*).

Consent

I consent to the release of the Report and this Consent Statement by the directors of:

Tasmania Mines

(Insert reporting company

	2nd February 2017
Signature of Competent Person	Date:
AUS IMM	209297
Professional Membership: (insert organisation name)	Membership Number:
	Christine Fudge, Table Cape, TAS
Signature of Witness:	Print Witness Name and Residence: (eg town/suburb)

Appendix Three

1. Resource and dilution data
2. Shape file data and checks
3. Oxidation data tabulations
4. Resource to Reserve by Class
5. Reconciliation data
6. Optimisation data
7. Stripping Ratio

1. Raw unrounded data from mining shape (perimeter) files

Total Unprocessed mining shape file contents 1/1/17

Mining Shapes containing ore and planned dilution

Shape ID	Vol	SG	Tonnes	FeO%	WO3	Class	Wthr
MAGU17	31,126	3.2	100,411	35.2	226	2.3	1.3
MAGE17	655,052	3.6	2,333,294	45.5	504	2.7	1.8
MAGW17	2,511,129	3.6	9,100,332	47.2	355	2.8	1.9
Total	3,197,306	3.6	11,534,037	46.8	384	2.8	1.9

Waste mining shapes including waste, low grade and mining loss

Shape ID	Vol	SG	Tonnes	FeO%	WO3	Class	Wthr
SKNE17	982,206	2.6	2,556,683				1.1
SKNU17	1,936,956	2.6	5,053,995	0.3	62		1.3
SKNW17	341,143	2.6	889,360	0.3	50		1.9
GRANW17	1,668,610	2.6	4,338,385	0.0	0		1.8
GRANE17	586,404	2.6	1,525,238	0.1	0		1.2
WDMP17	310,477	2.1	638,651				1.1
Total	5,825,796	2.6	15,002,311	0.1			

Stripping Ratio	Waste	Ore
Tonnes	1.44	1
Volume	2.04	1

(from resource estimates)

The above raw data is prior to classification and weathering (30% oxide reduction to apply) i.e. actual stripping ratio will be higher

KEY

MAGU17 – Upper magnetite skarn – isolated unit
MAGW17–Magnetite skarn west of 7400E
MAGE17 – Magnetite skarn east of 7400E
GRANW17- Granite west of orebody
GRANE17 – Granite east of orebody
SKNU17, SKNW17, SKNE17 - Skarn waste units above, west & east of orebody
WDMP17 – Waste Dump material overlying south end of pit

2. Resource and dilution summary data – all classes (within mining shape files) before incorporating adjustments

Summary Resources within Reserve Shapes

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	593,175	3.6	2,156,333	49.8	546.0	1.8
Magnetite Skarn W	2,349,464	3.7	8,630,138	50.0	370.2	1.9
Magnetite Skarn U	23,790	3.4	81,339	46.0	253.0	1.3
Summary	**2,966,429**	**3.7**	**10,867,811**	**49.9**	**404**	**1.9**

Summary of low grade planned dilution

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	14,192	3.7	52,509	21.1	56	2.0
Magnetite Skarn W	45,190	3.7	166,797	25.8	61	1.9
Magnetite Skarn U	0	0.0	0	0.0	0	0.0
Summary	**59,382**	**3.7**	**219,306**	**25.5**	**61.9**	**2.0**

Summary of pro rata'd waste dilution

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	36,724	2.6	94,894	0.0	140	1.6
Magnetite Skarn W	109,551	2.6	284,504	0.0	142	1.8
Magnetite Skarn U	7,188	2.6	18,690	0.0	139	1.2
Summary	**153,463**	**2.6**	**398,088**	**0.0**	**141**	**1.7**

Summary Inventory within mining shape file

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	644,090	3.6	2,303,735	47.0	520.1	1.8
Magnetite Skarn W	2,504,205	3.6	9,081,440	48.0	358.0	1.9
Magnetite Skarn U	30,979	3.2	100,029	37.4	231.7	1.3
Summary	**3,179,274**	**3.6**	**11,485,204**	**47.7**	**389**	**1.9**

3. Oxidation data

Raw Data

All Resource within pit shell - FeO>1% but without waste							
Weathered Material FeO>1% within shape files							
ID	**VOL**	**SG**	**Tonnes**	**FeO%**	**WO3**	**CLASS**	**WF**
Magw17 -Inferred	6,010	3.30	19,834	61.5	4,706	1.0	1.0
Magw17Probable	435	3.30	1,435	52.3	69	2.0	1.0
Magw17_Proven	149,628	3.30	493,773	52.7	1,269	3.0	1.0
Mage17_inferred	880	3.30	2,904	52.1	2,159	1.0	1.0
Mage17_probable	7,308	3.30	24,117	49.9	894	2.0	1.0
Mage17_proven	87,673	3.30	289,320	54.8	869	3.0	1.0
Magu17_Inferred	0	0.00	0	0.0	0	1.0	1.0
Magu17_Probable	0	0.00	0	0.0	0	2.0	1.0
Magu17_Proven	16,723	3.30	55,184	46.5	312	3.0	1.0
Total	268,657	3.30	886,569	53.1	1,147	2.9	1.0

Reduction Model at 30% reduction – process performed on mining shape files only

Weathering Reduction Calculation - based on proven/probable data only							
ID	**VOL**	**WRF**	**VOL (ADJ)**	**SG**	**Tonnes**	**FeO**	**WO3**
MAGW	150,063	0.30	45,019	3.3	148,563	52.7	1265.9
MAGE	94,981	0.30	28,494	3.3	94,031	54.4	870.8
MAGU	16,723	0.30	5,017	3.3	16,555	46.5	312
TOTAL					259,149	52.9	1,062

Summary reserve reduction estimate as applied to reserve totals (after reductions) at WRF=30% (Proposed rate of 30% is based on current practice in pit)

Weathering Reduction (excludes inferred oxidised material)

	Volume	**SG**	**Tonnes**	**FeO%**	**WO3**	**Weathering**
Magnetite Skarn E	28,494	3.3	94,031	54	871	1.0
Magnetite Skarn W	45,019	3.3	148,563	53	1,266	1.0
Magnetite Skarn U	5,017	3.3	16,555	46	312	1.0
	78,530	**3.3**	**259,149**	**52.9**	**1,062**	**1.0**

4. Resource to reserve tabulations

Minable resource (within shape files) – stage 1

Minable Resources FeO>30%

Inferred Resource (Class=1)

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	3,230	3.6	11,600	55.5	1232	1.7
Magnetite Skarn W	23,293	3.6	83,785	60.0	2964	1.7
Magnetite Skarn U						
Inferred	26,523	3.6	95,385	59.5	2753	1.7

Indicated Resource (Class =2)

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	87,439	3.7	320,638	47.5	1122	1.9
Magnetite Skarn W	93,093	3.7	344,259	54.3	500	2.0
Magnetite Skarn U						
Indicated	**180,532**	**3.7**	**664,896**	**51.0**	**800**	**2.0**

Measured Resource (Class=3)

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	502,506	3.6	1,824,095	50.1	440	1.8
Magnetite Skarn W	2,233,078	3.7	8,202,095	49.7	338	1.9
Magnetite Skarn U	23,790	3.4	81,339	46.0	253	1.3
Measured	**2,759,374**	**3.7**	**10,107,529**	**49.7**	**356**	**1.9**

Summary Resources within Reserve Shapes

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	593,175	3.6	2,156,333	49.8	546.0	1.8
Magnetite Skarn W	2,349,464	3.7	8,630,138	50.0	370.2	1.9
Magnetite Skarn U	23,790	3.4	81,339	46.0	253.0	1.3
Summary	**2,966,429**	**3.7**	**10,867,811**	**49.9**	**404**	**1.9**

Low Grade internal dilution – stage 1

Low Grade FeO<30%

Planned LG Dilution (Class=1)

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	0	0.0	0	0.0	0	0.0
Magnetite Skarn W	0	0.0	0	0.0	0	0.0
Magnetite Skarn U	0	0.0	0	0.0	0	0.0
Inferred dilution						

Planned LG Dilution (Class =2)

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	15	3.7	54	26.2	73	2.0
Magnetite Skarn W	0	0.0	0	0.0	0	0.0
Magnetite Skarn U	0	0.0	0	0.0	0	0.0
Probable dilution	**15**	**3.7**	**54**	**26.2**	**73**	**2.0**

Planned LG Dilution (Class =3)

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	14,177	3.7	52,454	20.4	53	2.0
Magnetite Skarn W	45,190	4	166,797	27.1	65	2.0
Magnetite Skarn U	0	0.0	0	0.0	0	0.0
Measured dilution	**59,367**	**3.7**	**219,251**	**25.5**	**62**	**2.0**

Summary of low grade planned dilution

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	14,192	3.7	52,509	21.1	56	2.0
Magnetite Skarn W	45,190	3.7	166,797	25.8	61	1.9
Magnetite Skarn U	0	0.0	0	0.0	0	0.0
Summary	**59,382**	**3.7**	**219,306**	**25.5**	**61.9**	**2.0**

Waste dilution – stage 1

Waste

Pro-Rata'd Waste Dilution (Class=1)

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	205	2.6	530	0.0	140	1.6
Magnetite Skarn W	1,160	2.6	3,012	0.0	142	1.8
Magnetite Skarn U						
Inferred	**1,365**	**2.6**	**3,542**	**0.0**	**142**	**1.8**

Pro-Rata'd Waste Dilution (Class=2)

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	5,767	2.6	14,903	0.0	140	1.6
Magnetite Skarn W	4,473	2.6	11,616	0.0	142	1.8
Magnetite Skarn U						
Indicated	**10,240**	**2.6**	**26,519**	**0.0**	**141**	**1.7**

Pro-Rata'd Waste Dilution (Class=3)

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	30,751	2.6	79,461	0.0	140	1.6
Magnetite Skarn W	103,918	2.6	269,876	0.0	142	1.8
Magnetite Skarn U	7,188	2.6	18,690	0.0	139	1.2
Measured	**141,858**	**2.6**	**368,027**	**0.0**	**141**	**1.7**

Summary of pro rata waste dilution

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	36,724	2.6	94,894	0.0	140	1.6
Magnetite Skarn W	109,551	2.6	284,504	0.0	142	1.8
Magnetite Skarn U	7,188	2.6	18,690	0.0	139	1.2
Summary	**153,463**	**2.6**	**398,088**	**0.0**	**141**	**1.7**

Summary of stage 1 – Material contained within FeO>30% mining shapes

Preliminary Inventory within Mining Shape Files

Inferred Inventory within mining shape file

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	3,435	3.5	12,130	53.0	1184.3	1.7
Magnetite Skarn W	24,453	0	86,797	57.9	2866.1	1.7
Magnetite Skarn U						
Inferred	**27,888**	**3.5**	**98,927**	**57.3**	**2660**	**1.7**

Probable Inventory within mining shape file

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	93,221	3.6	335,595	45.4	1077.9	1.9
Magnetite Skarn W	97,566	3.6	355,875	52.5	488.1	2.0
Magnetite Skarn U	0	0.0	0	0.0	0.0	0.0
Probable	**190,787**	**3.6**	**691,470**	**49.1**	**774**	**1.9**

Proven Inventory within mining shape file

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	547,434	3.6	1,956,011	47.3	417.8	1.8
Magnetite Skarn W	2,382,186	3.6	8,638,768	47.7	326.9	1.9
Magnetite Skarn U	30,979	3.2	100,029	37.4	231.7	1.3
Proven	**2,960,599**	**3.6**	**10,694,808**	**47.5**	**343**	**1.9**

Summary Inventory within mining shape file

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	644,090	3.6	2,303,735	47.0	520.1	1.8
Magnetite Skarn W	2,504,205	3.6	9,081,440	48.0	358.0	1.9
Magnetite Skarn U	30,979	3.2	100,029	37.4	231.7	1.3
Summary	**3,179,274**	**3.6**	**11,485,204**	**47.7**	**389**	**1.9**

Stage 2 – Reserve estimation process – Material excised at FeO<30% applying sorting cut off

In pit grade control reduction

Grade Control Reduction (Class=1)

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	205	2.6	530	0.0	140.0	1.6
Magnetite Skarn W	1,160	2.6	3,012	0.0	142.0	1.8
Magnetite Skarn U						
Inferred	1,365	2.6	3,542	0.0	142	1.8

Grade Control Reduction (Class=2)

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	5,782	2.6	14,957	0.1	140	1.6
Magnetite Skarn W	4,473	2.6	11,616	0.0	142	1.8
Magnetite Skarn U						
Probable	**10,255**	**2.6**	**26,573**	**0.1**	**141**	**1.7**

Grade Control Reduction (Class=3)

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	44,928	2.9	131,916	8.1	105.6	1.8
Magnetite Skarn W	149,108	2.9	436,673	10.4	112.4	1.9
Magnetite Skarn U	7,188	2.6	18,690	0.0	139.2	1.2
Proven	**201,225**	**2.9**	**587,278**	**9.5**	**112**	**1.8**

Summary Grade Control Reduction

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	50,915	2.9	147,402	6.9	110.8	1.7
Magnetite Skarn W	154,741	2.9	451,301	9.8	113.9	1.9
Magnetite Skarn U	7,188	2.6	18,690	0.0	139.2	1.2
Summary	**212,845**	**2.9**	**617,393**	**8.8**	**114**	**1.8**

Stage 2 – Adjusted inventory (In pit grade control and Mining Recovery

Inventory adjusted for Grade Control and Mining Recovery

Adjusted Inferred Inventory | *RECOV* | *0.95* |

Inventory	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	*3,069*	*3.6*	*11,020*	*55.5*	*1232.0*	*1.7*
Magnetite Skarn W	*22,128*	*3.6*	*79,596*	*60.0*	*2964.0*	*1.7*
Magnetite Skarn U						
Inferred	***25,197***	***3.6***	***90,616***	***59.5***	***2753***	***1.7***

Adjusted Probable Inventory

Reserve	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	83,067	3.7	304,606	47.5	1121.7	1.9
Magnetite Skarn W	88,439	3.7	327,046	54.3	499.8	2.0
Magnetite Skarn U						
Probable	**171,505**	**3.7**	**631,652**	**51.0**	**800**	**2.0**

Adjusted Proven Inventory

Reserve	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	477,380	3.6	1,732,891	50.1	440.4	1.8
Magnetite Skarn W	2,121,424	3.7	7,791,990	49.7	338.3	1.9
Magnetite Skarn U	22,601	3.4	77,272	46.0	253.0	1.3
Proven	**2,621,405**	**3.7**	**9,602,153**	**49.7**	**356**	**1.9**

Adjusted Total Inventory

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	563,516		2,048,516	49.8	546.0	1.8
Magnetite Skarn W	2,231,991		8,198,631	50.0	370.2	1.9
Magnetite Skarn U	22,601		77,272	46.0	253.0	1.3
Summary	**2,818,108**	**3.7**	**10,324,420**	**49.9**	**404**	**1.9**

Stage 2 – Oxidised material depletion – excise 30% of weathered material

Oxidation deduction

Weathering Reduction

Weathering Factor	*0.3*

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	*264*	*3.3*	*871*	*52.1*	*2,159*	*1.0*
Magnetite Skarn W	*1,803*	*3.3*	*5,950*	*61.5*	*4,706*	*1.0*
Magnetite Skarn U	*0*	*0.0*	*0*	*0.0*	*0*	*1.0*
Inferred	*2,067*	*3.3*	*6,821*	*60.3*	*4,380*	*1.0*

Weathering Reduction

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	2,192	3.3	7,235	49.9	894	1.0
Magnetite Skarn W	130	3.3	431	52.3	69	1.0
Magnetite Skarn U	0	0.0	0	0.0	0	0.0
Probable	**2,323**	**3.3**	**7,666**	**50.0**	**848**	**1.0**

Weathering Reduction

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	26,302	3.3	86,796	54.8	869	1.0
Magnetite Skarn W	44,888	3.3	148,132	52.7	1,269	1.0
Magnetite Skarn U	5,017	3.3	16,555	46.5	312	1.0
Proven	**76,207**	**3.3**	**251,483**	**53.0**	**1,068**	**1.0**

Weathering Reduction - all classes

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	28,758	3.3	94,902	54.1	880	1.0
Magnetite Skarn W	46,822	3.3	154,513	52.7	1,255	1.0
Magnetite Skarn U	5,017	3.3	16,555	46.5	312	1.0
Summary	**80,597**	**3.3**	**265,971**	**52.8**	**1,062**	**1.0**

Reserve Estimate Summary

Reserves Breakdown

Inferred Inventory

Inventory within pit	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	*2,805*	*3.6*	*10,149*	*55.8*	*1152.5*	*1.8*
Magnetite Skarn W	*20,325*	*3.6*	*73,645*	*59.9*	*2823.3*	*1.8*
Magnetite Skarn U	*0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*
Inferred inventory	***23,130***	***3.6***	***83,794***	***59.4***	***2621***	***1.8***

Probable Reserve

Reserve	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	80,874	3.7	297,371	47.5	1127.2	1.9
Magnetite Skarn W	88,308	3.7	326,615	54.3	500.3	2.0
Magnetite Skarn U	0	0.0	0	0.0	0.0	0.0
Probable	**169,182**	**3.7**	**623,986**	**51.1**	**799**	**2.0**

Proven Reserve

Reserve	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	451,078	3.6	1,646,094	49.9	417.8	1.9
Magnetite Skarn W	2,076,535	3.7	7,643,858	49.6	320.3	2.0
Magnetite Skarn U	17,584	3.5	60,717	45.9	237.0	1.4
Proven	**2,545,198**	**3.7**	**9,350,670**	**49.6**	**337**	**1.9**

Summary of Reserves Probable and Proven only

Summary Reserve - adjusted

	Volume	SG	Tonnes	FeO%	WO3	Weathering
Magnetite Skarn E	531,953	3.7	1,943,465	49.5	526.4	1.9
Magnetite Skarn W	2,164,843	3.7	7,970,473	49.8	327.6	2.0
Magnetite Skarn U	17,584	3.5	60,717	45.9	237.0	1.4
Measured	**2,714,380**	**3.7**	**9,974,655**	**49.7**	**366**	**1.9**

5. Reconciliation Information

Open Cut reconciliation for December 2016 utilised the November 2014 and January 2017 resource models and the December 2015 surface DTM data.

Reconciliations on this sheet are based on Surface DTM's for PIT2016 and PIT2017 - Pit area only and utilise both the 2014 & 2017 resource models

FeO>=30 ALL

	Vol	SG	Tonnes	FeO	WO3	WTH	CLASS
PIT2016 DTM	2,751,938	3.66	10,069,342	48.0	549.3	1.9	2.8
PIT2017 DTM	2,656,159	3.66	9,724,200	48.0	539	1.9	2.8
Resource Depletion	**95,779**	**3.60**	**345,143**	**47.6**	**849**	**1.7**	**2.5**

FeO>1 AND FeO<30 ALL

	Vol	SG	Tonnes	FeO	WO3	WTH	CLASS
PIT2016 DTM	22,979	3.70	85,020	28.0	88	2.0	3.0
PIT2017 DTM	23,125	3.70	85,563	28.0	89	2.0	3.0
Low Grade Depletion	**-147**	**3.70**	**-542**	**29.5**	**170**	**2.0**	**3.0**

WASTE

	Vol	SG	Tonnes
PIT2016 DTM	49,807,804	2.59	129,151,634
PIT2017 DTM	49,720,172	2.59	128,924,405
Waste Mined	**87,632**	**2.59**	**227,229**

(Excludes waste restored to pit)

FeO>30 AND Weathering =1

	Vol	SG	Tonnes	FeO	WO3	WTH	CLASS
PIT2016 DTM	280,193	3.30	924,636	52.7	1,245	1.0	2.9
PIT2017 DTM	255,721	3.30	843,878	53.3	1,325	1.0	2.9
FeO>30 Oxidised	**24,472**	**3.30**	**80,758**	**34.3**	**-1,011**	**1.0**	**2.8**

(Oxide mined)

Item (excludes oxide - no discard reported)	Tonnes	FeO%
Reported Ore Production	397,218	51.5
Depletion 2014 Model (model grade 47.6%)	345,143	53.6
Dilution 5.7%	19,673	9.1
Depletion adjusted for dilution	364,816	51.2
Recovery loss (95%)	346,575	51.2
Ore mined from outside resource model	50,643	53.6
Reconciled estimate of waste mined	309,130	0.0
Implied ore supplied/depletion	397,218	51.5

The above table represents the implied model depletion grade FeO 53.6% (model indicated grade FeO 47.6%) based upon reconciliation of model cells depleted and apparent ore mined outside of the resource. It represents a 14% positive reconciliation of tonnes and a 12% positive reconciliation of grade. This positive reconciliation should not be viewed as likely to carried forward and is not used in any way to modify the reserve estimate.

6. Optimisation Summary

The following is a plan view showing the optimal pit shell (green) derived from the optimisation process conducted to check the current life of mine pit design shell (blue) and ultimately this reserve estimate. Some review of total western wall cut back design is indicated but the pit shells remain sufficiently coincident as demonstrated in Fig 5.

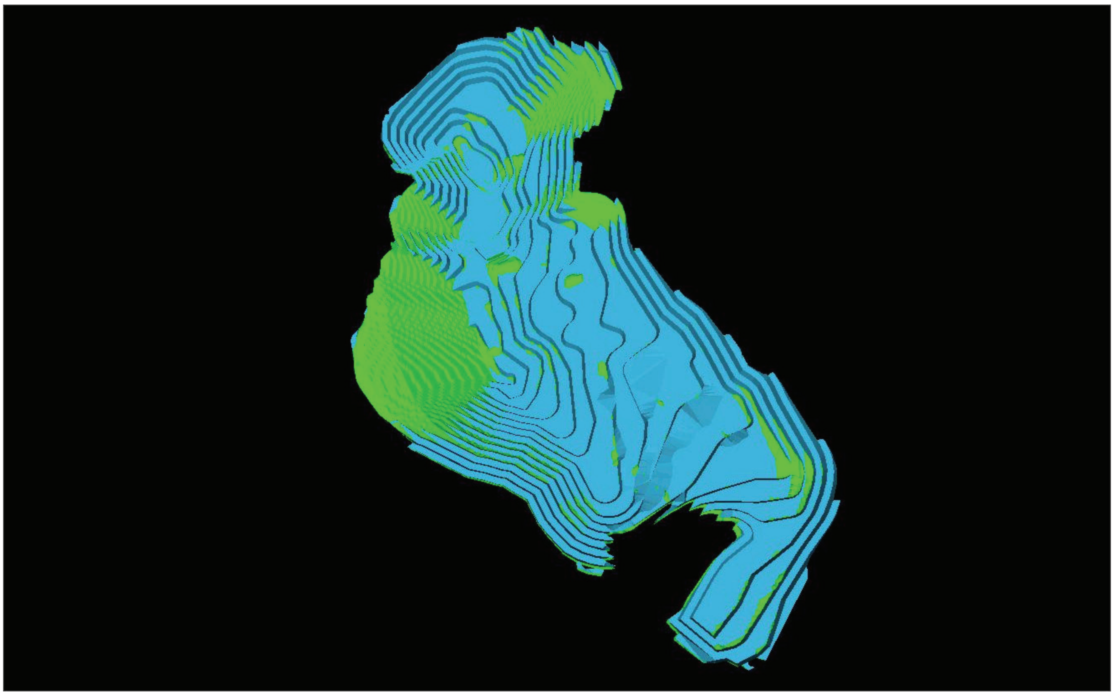


Figure 4 Optimal Pit Shell (Flowpit)

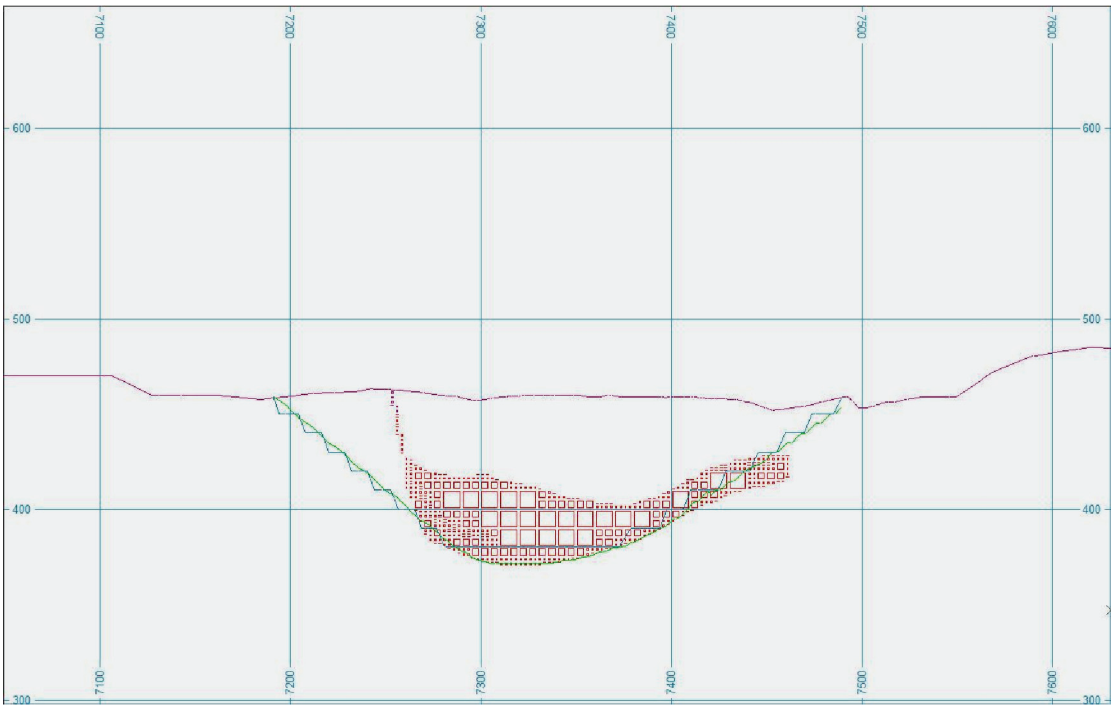


Figure 5Typical W-E section (6350N) showing pit design(blue) and optimal pit shell (green) outlines

7. Stripping Ratio

Stripping ratio's are shown firstly for the target orebody contained within the 2016 LOM pit shell and secondly within the proposed mining shape files.

The third stripping ratio shown is the effective stripping ratio for the reserve estimate taking into account in pit grade control re-direction of waste, low grade, oxide ore (30%) and mining recovery loss (FeO>=30) material.

Stripping Ratio for 2016 Resource Data (FeO>30 vs Waste + FeO<30)

1. By LOM Pit Shell

Stripping Ratio	Vol	SG	Tonnes
LOM Pit Shell ORE inc INF	2,815,799	3.66	10,305,199
LOM Pit Shell WASTE	6,249,190	2.60	16,247,893
Stripping Ratio	**2.22**		**1.58**

2. By Mining Shape Files

Stripping Ratio	Vol	SG	Tonnes
Shape File ORE inc INF	2,966,429	3.66	10,869,459
Shape File WASTE	6,056,674	2.59	15,666,888
Stripping Ratio	**2.04**		**1.44**

3. Effect of in pit grade control management (low grade, waste and oxide removal)

Stripping Ratio	Vol	SG	Tonnes
Total Inventory inc INF	2,737,510	3.67	10,058,450
WASTE + OXIDE + LOW GRADE	6,285,592	2.62	16,477,898
	Volume		**Tonnage**
Stripping Ratio	**2.30**		**1.64**

The impact of in pit ore discrimination has a significant impact and is accordingly accommodated within the reserve estimate.

An overall stripping ratio of 1.64 tonnes of waste to 1 tonne of ore is indicated

Appendix Four

Cut Off Considerations

Break Even

Marginal

Operating costs and revenues may be considered as sensitive information and are not published within this report. Mine site operating costs and revenues for the 2016 calendar year supplied by Tasmania Mines have been utilised to determine an overall break even cut off grade and a marginal cut off grade (for broken ore in the pit) as well as being used for checking optimal pit shells at various metal prices.

- The Break Even cut off grade estimate for in-situ ore is FeO 41.9% (Fe 32.5%)

- The marginal break even for broken ore in the open cut is FeO 35.6% (Fe 27.7%)

Reduced the break even grades compared to last years are a result of the following changes to unit costs (per tonne of ore mined) and metal price: -

- Transport -10%
- Mining Costs +2%
- Processing Costs -21%
- Depreciation +83%
- Metal Price -7%
- Site Costs are allocated back as indirect mining and processing costs

The proposed reserve estimate could deliver the following from within the FeO>30% mining shapes: -

- 11.4Mt at FeO 47.6% with no in pit ore sorting or,
- 9.97Mt at FeO 49.7% with in pit ore sorting to an effective in pit C/O of FeO>30% and exclusion of 30% of the oxide ore.

The above evaluations incorporate the costs for the by-products scheelite and aggregate but not the revenues. No reserves for scheelite or aggregate material are proposed for Kara No 1. The revenues are accommodated in optimisation evaluations as a 1.2% increase in the price received for each tonne of DMM concentrate.

Break even data is provided for information purposes only – the option of utilising the in-pit sorting process to achieve an effective cut off of FeO>30% and oxidised ore removal within the FeO>30% (magnetite skarn) viable mining shapes is considered the most reliable means for determining the reserve estimate for the following reasons: -

- The current resource model does not define which form of iron mineralisation (magnetite or haematite) is present within the stated FeO grade estimate.

- The proposed reserve estimate utilises simulation of the actual operating performance which is mining within the magnetite skarn and conducting visual discrimination of waste, low grade, gangue minerals (e.g. epidote) and oxidised (haematite) material.

- The minable resource within the pit shell is relatively insensitive to cut offs below FeO>35% (see grade/tonnage data curve following) and all c/o options deliver a grade above the current break even grade. (See Figure 5)

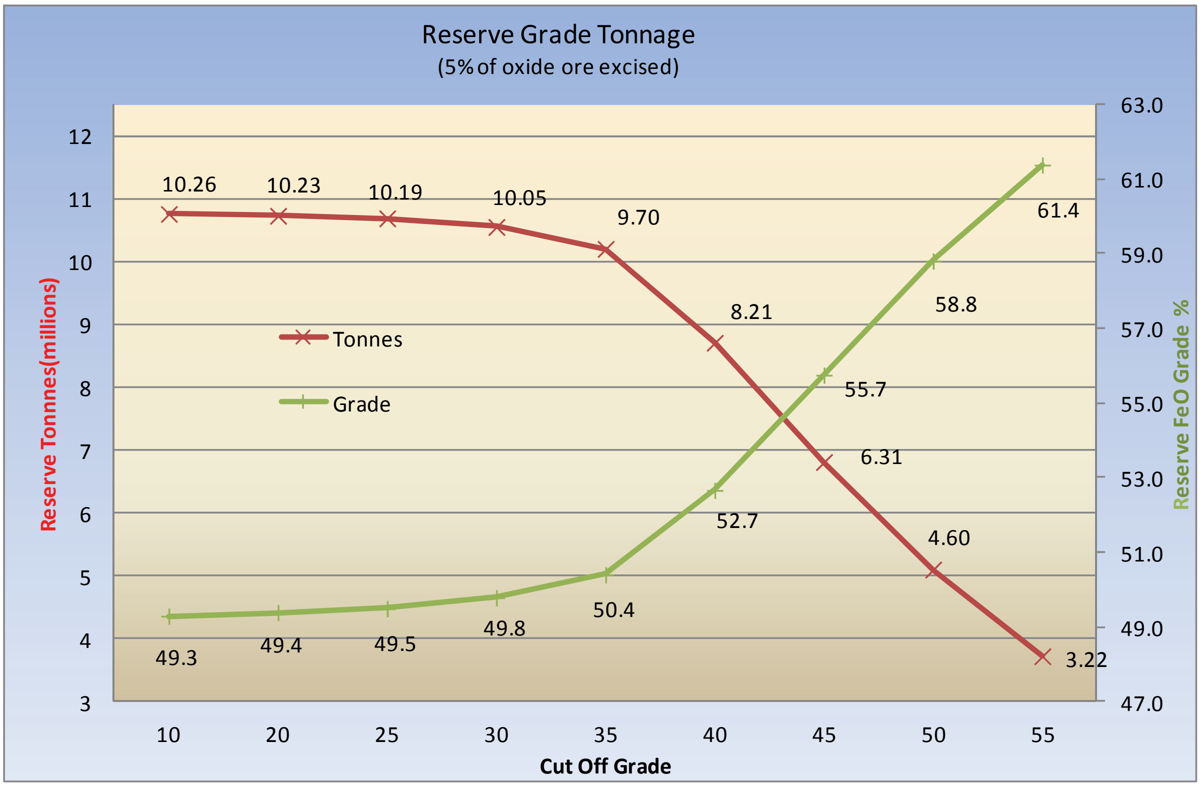


Figure 6 Grade Tonnage Curve for Kara No 1 deposit

Appendix Five

Sensitivity Analysis

1. Optimal pits for a range of magnetite prices

As a part of the optimisation process examination of product price sensitivity was conducted with a series of optimised pit shells determined for a range of revenue options utilising pit optimisation software. Figure 7 summarises the optimised profits for a range of effective metal prices for magnetite. This analysis determines points at which both the current reserve estimate and life of mine pit design should be reviewed. The metal price shown is the effective metal price per tonne of magnetite concentrate which includes by product revenue (mainly scheelite) which made up 1.2% of the total effective price in 2016.

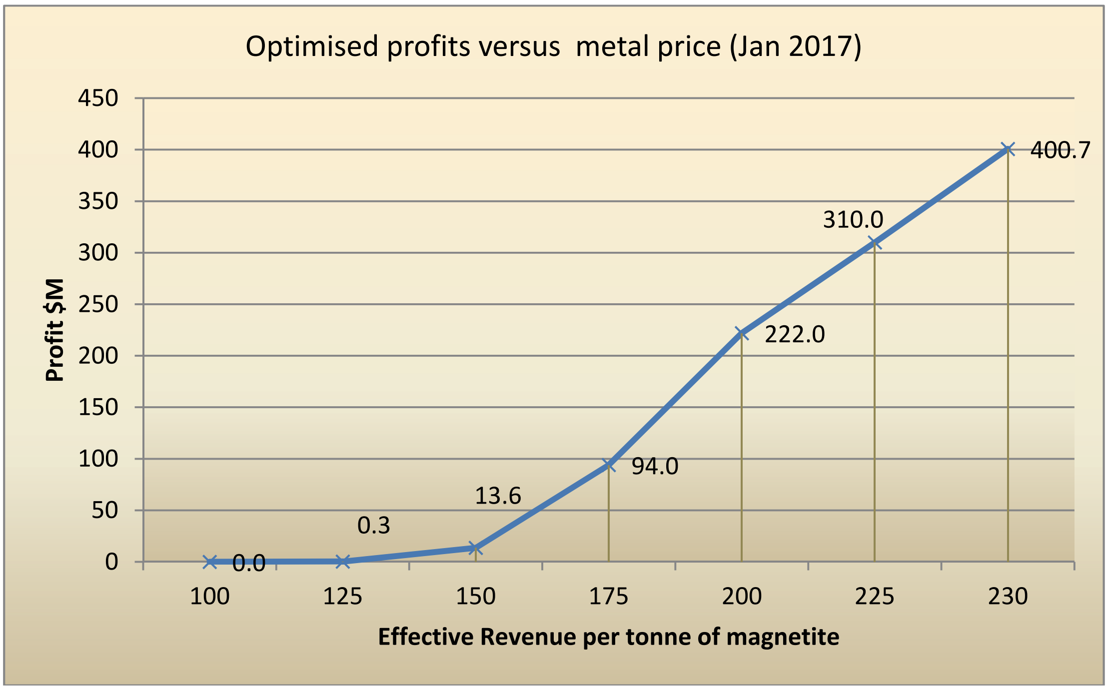


Figure 7 Metal Price sensitivity

In the current operation format a price below $200 for an extended period should represent a trigger to review the long term pit design and the reserve estimate. Prices in the $150-$175 range would require a significant adjustment to operations in order to maintain an ongoing operation.

Prices below $150 are unlikely to maintain a viable operation for an extended period and might prompt consideration of a care and maintenance option to maintain the resource. The extended period of reduced waste stripping has left Tasmania Mines more exposed to extreme low prices as the option of an extended period of ore only mining to combat such low prices is not an option.

Appendix Six

JORC 2012 Check List
Supporting documentation

JORC 2012

Section 4: Estimation and Reporting of Ore Reserves for Reserve Only Report

Criteria	Explanation
Mineral Resource estimate for conversion to Ore Reserves	• The resources utilised in this estimation were derived from a digital resource block model as described in the Mineral Resource report December 2014 Kara No 1 Resource (JORC 2012) and supplement Kara No 1 Resource Statement January 2017 and provided *Resource and Exploration Geology*. • This report deals with reserve estimation derived from the January 2017 *in-situ global resource* referred to above.
Site visits	• Routine site visitor as the mine planning, production scheduling and geotechnical engineer – close involvement with site over 15 years permitting knowledge of production and operating practices taking place at site.
Study status	• Operating mine. • The reserve reporting process has improved in recent years due to continued improvement in on-site record keeping, resource modelling and reporting of reconciliation data.
Cut-off parameters	• Reserve estimation utilises a FeO>30% cut off based upon historical operations - this remains a practical option and reflects the magnetite-waste boundary. In this estimate a FeO>30% cut off has been used to define the mining shapes used to estimate the reserve – in order to reflect operating practice the impact of discounting 30% of oxidised ore and the effect of in pit ore sorting to FeO>30% have been incorporated into the estimation process. In pit ore sorting by visual means remains the most practical means for operational grade control given the lack of in pit assay based grade control. Grade-tonnage data indicates that the deposit is relatively insensitive to c/o grades below 35% FeO.
Mining factors or assumptions	• Tasmania Mines conduct drill and blast operations using contractors guided by medium/long term production demand. • The reserve estimation process attempts to emulate operating practices and constraints. • Current operations are simple excavation in weathered ore or 10m high bench blasts in hard rock which are limited in scale to the capacity of the explosives delivery vehicle. • Pit walls are mined to a 40-42 degree overall slope, bench faces are 10m high and faces mined to 70 degrees – all assumptions are conservatively based upon historical experience with the rock types at the mine with additional conservatism applied to known areas of wall weakness and weathering e.g. 55 degree slopes in weathered granite • It has been assumed operational practices will not change significantly. • Mining dilution with waste and low grade plus recovery losses are initially accommodated within the first stage of the design process of minable shapes. Further mining loss and some reduction of the effects of dilution have been accommodated into a second stage by removing 30% of weathered material (that would otherwise be categorised as ore), the application of a 95% mining recovery and by the application of an effective FeO>30% cut to material within the original reserve mining shape(s). • The total pit shell contains 95,000tonnes at FeO 59.5% inferred resource – this material is not considered at any stage of any evaluation for economic purposes. • The current operations have most of the required infrastructure in place with the exception of the ongoing need to develop and maintain bench access. The 20m eastward movement of the northern section of the main haul road is currently in progress. • Open cut stripping campaigns should be planned for the Western Wall of pit to guarantee long term ore supply.

Metallurgical factors or assumptions	• The current metallurgical process for the recovery of magnetite will continue. • Tasmania Mines conducts ongoing research and development to improve recovery and increase throughput. • The presence of oxidised iron minerals was considered and 30% of oxidised material is currently excluded from reserves. • Scheelite data is shown but no reserve is proposed until flotation research and development is completed. • Mineralogical studies suggest the magnetite orebodies at Kara No 1, Kara North etc are similar in nature with the major variation at each site being the degree of weathering present. Weathering profiles are well understood and weathering information recorded within resource and reserve data sets.
Environmental	• All appropriate EMP, EP and Closure Plans are in place and up to date. The Kara suite of ore bodies and the mill process waste products are all non-acid forming. • The site is known to host tremolite and actinolite minerals within skarn rock types – dust monitoring has not detected any asbestos minerals within dust samples collected in the open cut and stockpile areas.

Criteria	Explanation
Infrastructure	All site infrastructure is in place with the exceptions of: - • A haulage road movement – in progress - 90% completed. • Extensions and new sites (within the lease) for waste rock storage facilities will continue to be required. • Completion of the tailings storage facility will be required to permit extraction of reserves within this estimate. • New mine water settling area under construction 70% completed. • Power transmission line move on west side of pit required.
Costs	• A Pit optimisation study update utilising Threedify Flowpit was conducted utilising the previous financial year costs, revenues and operational mining and processing factors. An optimal pit shell was defined and used – with the FeO >=30% ore envelope - to confirm the life of mine pit shape in use to estimate the reserve material. • Operating costs were also utilised in this study to demonstrate operating and marginal break even grades (FeO 41.9% and 35.6% respectively).
Revenue factors	• Operational practice for 2016 – most particularly in-pit ore sorting - which provides the revenue stream has been utilised to derive the reserve estimate. • Revenue sensitivity was examined utilising optimised pits for a range of metal prices. • Scheelite and aggregate mining costs and revenues were incorporated in the review but not the break even analysis.
Market assessment	• Assumes continued demand for 200,000 tpa of coal wash product.
Economic	• Pit optimisation studies conducted to determine pit shell and life of mine profit estimates and sensitivities.
Social	• The site is relatively isolated and has both a low public profile and a good relationship with local authorities.
Other	• No risk identified – operations ongoing since late 1970's no unexpected legal, tenement, government or marketing issues were considered in the reserve estimation process. • The principal issues are assumed to permit the extraction of the reserve 1. The development of the subsequent stages of the tailings storage facility and 2. Maintenance of appropriate waste/overburden stripping rates to maintain future access to ore.
Classification	• The ore reserve classification is purely on the basis of the mineral resource classification. • No probable reserves were estimated from measured resources. • There is high confidence in resource classification provided by Resource and Exploration Geology.
Audits or reviews	• There have been no known audits or reviews conducted on a commercial basis. • An explanation of the Tasmania Mines reserve estimation process was previously reviewed and accepted by ASX in 2009.
Discussion of relative accuracy/ confidence	• This reserve estimation process references the reconciliation data for the previous four operating years – most particularly with respect to the treatment of oxidised material and the impact of in-pit operations visual grade control. • The mineral resource model which provides the base data set is the most complete that has been available for the site and coupled with the incorporation of a continued improved standard of site data reporting and recording provides a continued confidence level in this proposed reserve estimate. • Oxidised material treatment and in pit sorting are fully documented in the main report. • Sensitivity to price examined as part of the reserve estimate review process.

The following is a document issued by Resource and Exploration Geology.

TECHNICAL MEMORANDUM

KARA No 1 RESOURCE, 2017

The reserve estimation for the 2016 annual report is based on the December 2014 block modelled resource estimation (ASX release 15th February, 2015). The December 2014 block model has been adjusted for operational depletion derived from the December 2016 topographic survey and minor alterations to the geology model from grade control mapping in the SE corner. There has been no additional drilling or material changes to the estimation from that reported in the Tasmania Mines 2014 Annual Report.

The adjusted resource as of January 2017, reported according to the guide lines of the 2012 edition of the JORC Code is tabulated below:

Kara No 1. Mineral Resource January 2017. FeO > 30% cut off			
Classification	Mtonnes	FeO %	WO3 %
Inferred Resource	**0.35**	**54.94**	**0.13**
Indicated Resource	**1.60**	**50.07**	**0.07**
Measured Resource	**12.65**	**49.20**	**0.03**
Total Resource	14.60	49.43	0.04