

# Updated Resource Statement

## April 2015



### ASX: KIS

Market Capitalisation	\$24.3 million
Shares on Issue	152.0 million
52 Week High	16.5 cents
52 Week Low	10.5 cents
Share Price	16.0 cents

### Board of Directors

Johann Jacobs	Chairman
Allan Davies	Director
Chris Ellis	Director

**Tungsten APT USD 25,750 / tonne (21 April 2015)**

### King Island Scheelite Limited (KIS)

through its 100% Dolphin Project on King Island, Tasmania is one of the world's richest tungsten deposits and could meet a significant proportion of the world's tungsten requirements over a minimum 13 years.

### King Island Scheelite Limited

**ABN 40 004 681 734**

Level 26, 259 George Street

Sydney NSW 2000

GPO Box 5154

Sydney NSW 2001

P. +61 2 8622 1400

F. +61 2 8622 1401

[www.kingislandscheelite.com.au](http://www.kingislandscheelite.com.au)

P. +61 2 8622 1400

F. +61 2 8622 1401

[www.kingislandscheelite.com.au](http://www.kingislandscheelite.com.au)

- **Revised Dolphin Resources Statement in compliance with JORC 2012 recently issued, indicating:**
  - **Total Resources at 0.2% WO<sub>3</sub> cut-off of 9.60 Mt at 0.90% WO<sub>3</sub> yielding 86,400 tonnes WO<sub>3</sub>**
  - **Total Resources at 0.5% WO<sub>3</sub> cut-off of 6.62 Mt at 1.14% WO<sub>3</sub> yielding 75,470 tonnes WO<sub>3</sub>**
- **This Resource estimation has resulted in a reduction of Resource tonnes of 12% from the previously reported Resource (July 2014) but with an 11% increase in WO<sub>3</sub> grade (0.81% to 0.90%) and consequentially a negligible (~1%) reduction in "contained metal".**
- **The major consequence of the Resource update on the project economics is that essentially the same amount of concentrate can be produced by mining and processing around 90% of the ore, resulting in significant savings to both operating and capital costs.**
- **Work is currently progressing on converting a significant proportion of these resources into reserves and quantifying the potential operating and capital cost savings.**

King Island Scheelite Limited (ASX: KIS) is pleased to announce an updated Resource Statement for its 100% owned Dolphin project on King Island, Tasmania.

Following a drilling programme in the last calendar quarter of 2014 comprising 42 diamond core-holes for 1,660 metres of drilling the Company has, together with its historical data, updated its 2012 JORC compliant resources to be:

**Table 1. Dolphin Indicated Mineral Resource**

0.20% WO <sub>3</sub> cut off			0.5% WO <sub>3</sub> cut off		
Mt	WO <sub>3</sub> %	Tonnes WO <sub>3</sub>	Mt	WO <sub>3</sub> %	Tonnes WO <sub>3</sub>
9.6	0.90	86,400	6.62	1.14	75,470

For comparison the previous Resource Statement (July 2014) estimated the following Resources.

**Table 2. Dolphin Indicated Mineral Resource (July 2014)**

<b>0.20% WO<sub>3</sub> cut off (414)</b>			<b>0.5% WO<sub>3</sub> cut off (410)</b>		
<b>Mt</b>	<b>WO<sub>3</sub> %</b>	<b>Tonnes WO<sub>3</sub></b>	<b>Mt</b>	<b>WO<sub>3</sub> %</b>	<b>Tonnes WO<sub>3</sub></b>
10.82	0.81	87,630	7.06	1.06	74,890

The revised resource is anticipated to enhance the project economics by enabling the same amount of tungsten in concentrate to be produced by mining and processing around 10% less ore. The amount of overburden required to be removed to uncover the ore is not anticipated to change materially.

The updated Resource Report (appended below) also divides/categorises the overall Dolphin Resource into that area which is anticipated to be mined by Open-cut methods and that area that is anticipated to be mined by Underground methods (using a 0.2% WO<sub>3</sub> and 0.5% WO<sub>3</sub> cut-off grade respectively). The Open-cut Resource area is delineated by -140 m RL (the depth of the proposed "7 year pit") and Easting 220250 E which is a line that defines the easterly limit of a potential mining operation without the requirement to construct a membrane cut-off wall beyond the existing coast-line. The Underground Mining area is the deeper area of resource to the south and east of the Open-cut mining area. The break-up of the overall Resource into these components is shown in Table 3 below.

**Table 3. Dolphin Indicated Resource by location**

<b>Open Cut Resource &gt; 0.20% WO<sub>3</sub> cut off</b>			<b>Underground Resource &gt; 0.5% WO<sub>3</sub> cut off</b>		
<b>Mt</b>	<b>WO<sub>3</sub> %</b>	<b>Tonnes WO<sub>3</sub></b>	<b>Mt</b>	<b>WO<sub>3</sub> %</b>	<b>Tonnes WO<sub>3</sub></b>
4.12	0.74	30,490	4.16	1.20	49,920

Mine Planning and Design work is in progress to convert the Open-cut mining area (which is anticipated to be extracted in the first 7 years of the proposed Dolphin mine life) from Resource to Reserve. Based on previous studies for a 4 year open-cut mine life the conversion ratio (Resource to Reserve) was around 90% and it is anticipated that the conversion ratio in this larger area will be similar.

Reserve Statements for the open-cut Resource area and revised project economics based on the higher grade Resource will be released to the market in the next 4 to 6 weeks.



Johann Jacobs  
0416 125 449

## **Compliance Statements**

The information in this Report that relates to JORC Mineral Resources estimate 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 Tim Callaghan. Mr Callaghan has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the Australian Code for Reporting Exploration Results, Mineral Resources and Ore Reserve. Mr Callaghan consents to the inclusion in the report of matters based on his information in the form and context it appears.



## TECHNICAL MEMORANDUM

### DOLPHIN RESOURCE ESTIMATION 2015

King Island Scheelite (KIS) is re-assessing the re-opening of the Dolphin Scheelite Mine through re-accessing and expanding the historic open cut mine followed by re-accessing remnant resources contained in the historic underground mine workings. Following dewatering of the historic open cut, KIS completed an infill/resource definition drilling program in the base of the Dolphin pit between October 2014 and January 2015. A 42 hole diamond drilling program was completed for 1659.9m.

The world class Dolphin Scheelite Mine operated intermittently from 1917 until its closure in 1990. Mining commenced as an open cut before a decline accessed underground mine was established in the 1970's to access the deeper eastern end of the deposit. The underground operation recorded a total production of 2.6Mt @ 1.0% WO<sub>3</sub> up to 1990 before low tungsten prices ceased operations.

The Dolphin Mine is hosted in calcareous volcanoclastic sediments near the base of the Grassy Group. Scheelite mineralisation is associated with calcareous skarn developed adjacent to the contact of the Lower Grassy Group and the Grassy Granodiorite. Mineralisation is localized in and around two main carbonate horizons termed B lens and C Lens as well as occurring in calcareous sediments known as the Banded Footwall Beds. Mineralisation is best developed in the C Lens where it is in proximity to faults. C Lens has three principal mineralized horizons, the most significant of which is the high grade Upper C-Lens garnet hornfels in the centre of C Lens. The Lower C-Lens consists of lower grade banded pyroxene-garnet hornfels. At the top of C Lens is a pyroxene-garnet hornfels (PGH) that contains less consistent scheelite mineralization.

The host sequence dips shallowly south east, steepening in proximity to the Decline Fault. The deposit is bound to the south by the Grassy Granodiorite, the north by the northern boundary fault and the east by the Grassy River Fault. The Decline Fault is a brittle-ductile shear which has attenuated and down warped the Grassy Group on its eastern margin. Mineralisation extends over 1150m in strike length by 750m in width and extends from 80m above sea level in the west plunging to -380m in the east. B lens mineralisation is between 3 and 30m in width and C lens 3 and 40m in width. Near mine resource extension is limited in the far southern and western areas but may have significant potential between the Decline Fault and Grassy Fault to the south where the faults diverge.

This resource estimation is based on historic and recent drilling data, geological sections and mine infrastructure plans. The drillhole data has been provided in digital format by KIS and was used for the previous 2005 and 2010 estimates with minor modifications and additional drill hole data. King Island Scheelite (KIS) have drilled a series of confirmatory and geotechnical drillholes between 2005 and 2015. Data and geological interpretation is assessed to be of good quality and suitable for resource estimation. Details of the recent drilling program are provided in Tables 1 – 4 and Figures 1 to 5.

This estimation updates the 2014 estimation (KIS ASX release 14/7/2014).

The estimation is based on geology solid models created from mineralogical banding and a 3m @ 0.2% minimum grade contour to allow estimation of lower grade



resources amenable to open cut mining. Drillhole data was composited on 1m intervals. Univariate statistical analysis was completed on all domains. Variogram modeling was completed on the four main mineralised layers.

Block modeled resource estimation was calculated using an ordinary kriged algorithm. The resource is reported in accordance with the 2012 edition of the JORC Code (Table 1).

**Table 1. Dolphin Indicated Mineral Resource**

0.20% WO <sub>3</sub> cut off			0.5% WO <sub>3</sub> cut off		
Mt	WO <sub>3</sub> %	Tonnes WO <sub>3</sub>	Mt	WO <sub>3</sub> %	Tonnes WO <sub>3</sub>
9.6	0.90	86,400	6.62	1.14	75,470

The 2015 estimation has resulted in a minor increase in grade (0.09% WO<sub>3</sub>) and a corresponding drop in tonnes (-1.22Mt) for a minor loss of metal (-1,230t) at the 0.2% WO<sub>3</sub> cutoff compared to the 2014 estimation. The losses have resulted from improved geology modeling and the elimination of areas of fill identified within the pit that. Although minor the improved geology model has resulted in improved resource estimation. The estimation reconciles very well with historic production records and historic resource statements, particularly the estimated WO<sub>3</sub> grade.

The resource has been classified as Indicated Resource as there is a high degree of confidence in the simple geological model and the deposit is well drilled and understood. There is moderate confidence in the grade estimation at a global level given the high nugget effect and short range of variogram models and the reliance on historic data.

A significant proportion (approximately 60%) of the remnant resource is contained in pillars or has been sterilized by previous operations and therefore will not be amenable to underground extraction but may be available for open pit operations. Several pit designs have been investigated in the past varying between minor cut backs to recover remnants in the pit floor to larger options recovering 60-70% of the resource.

The 0.20% WO<sub>3</sub> domain blockmodel has been created specifically to assess the open cut potential of the project. Currently this is likely to occur west of 220250E and above -140mRL. A total of 4.12Mt at 0.74% WO<sub>3</sub> is located in this area, mainly as remnant mineralisation in the pit floor. Below -140mRL contains resources above 0.5% of 4.16Mt @ 1.20% WO<sub>3</sub> occurring as stoping areas and remnant pillars.

**Table 2. Dolphin Indicated Resource by location**

Open Cut Resource >0.20% WO <sub>3</sub> cut off			Underground Resource >0.5% WO <sub>3</sub> cut off		
Mt	WO <sub>3</sub> %	Tonnes WO <sub>3</sub>	Mt	WO <sub>3</sub> %	Tonnes WO <sub>3</sub>
4.12	0.74	30,490	4.16	1.20	49,920

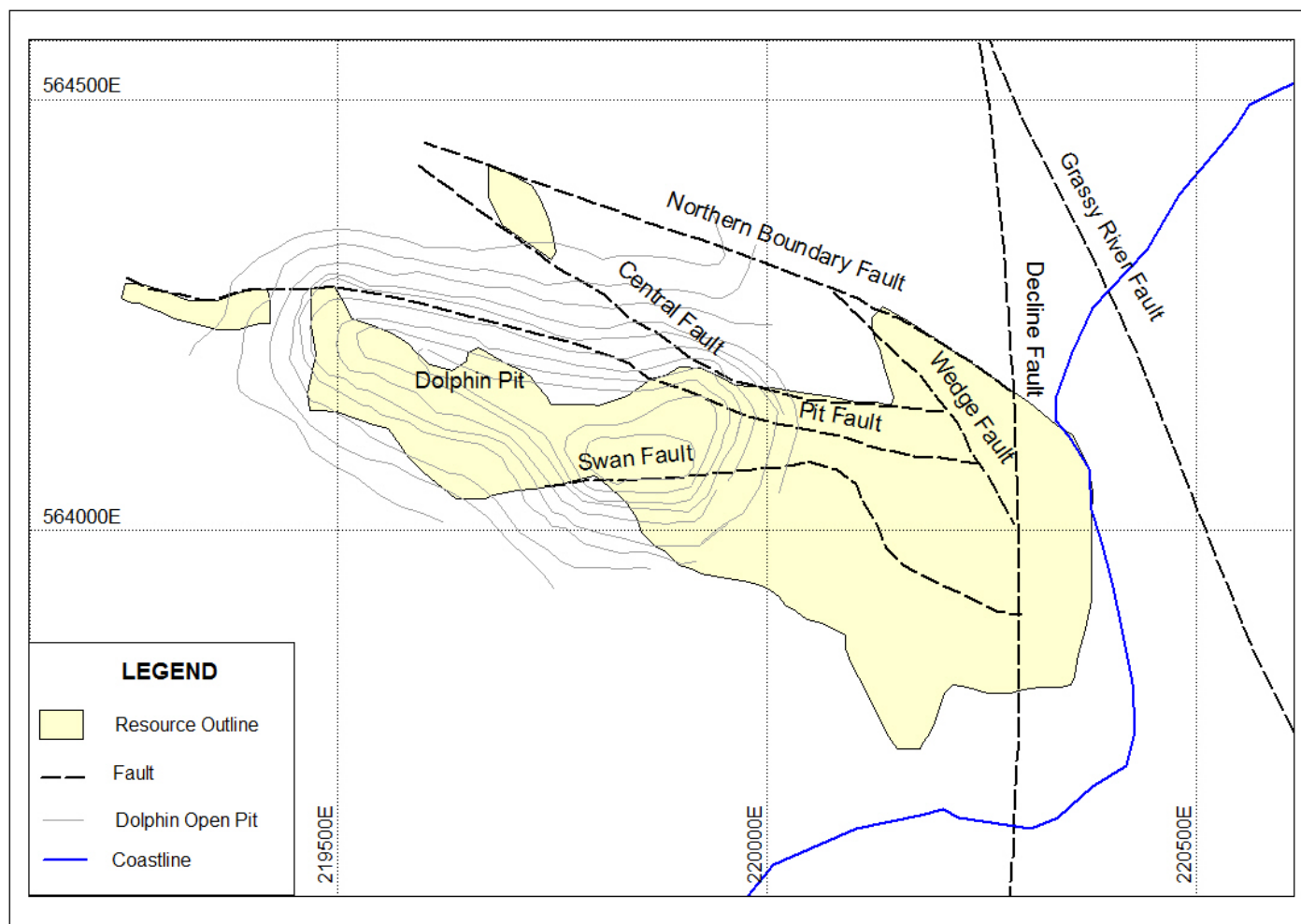


Figure 1. Dolphin resource plan, fault blocks and historic open cut



Tim Callaghan – Resource and Exploration Geology

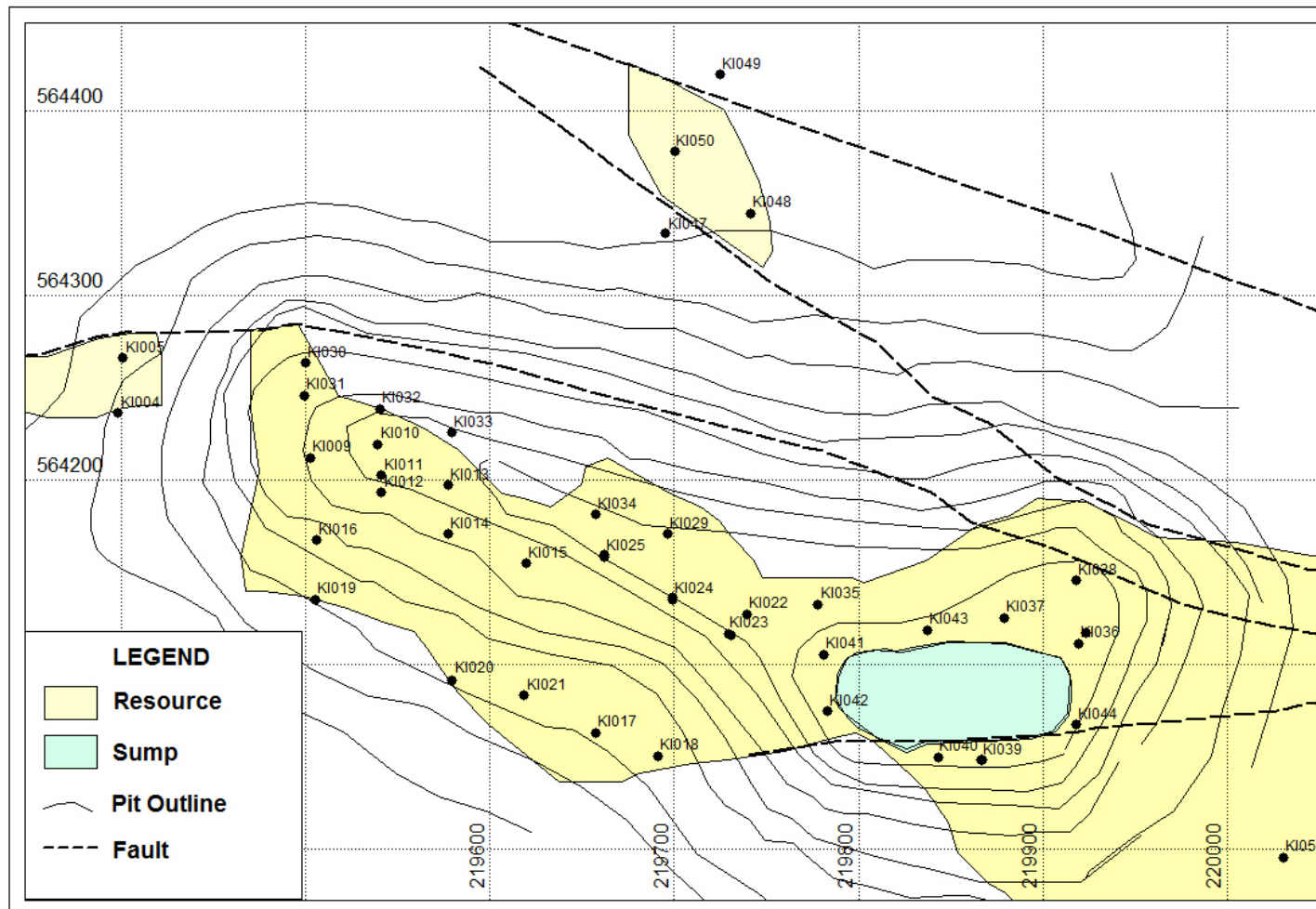


Figure 2. Dolphin resource plan, historic open pit and 2015 infill drilling collars





Tim Callaghan – Resource and Exploration Geology

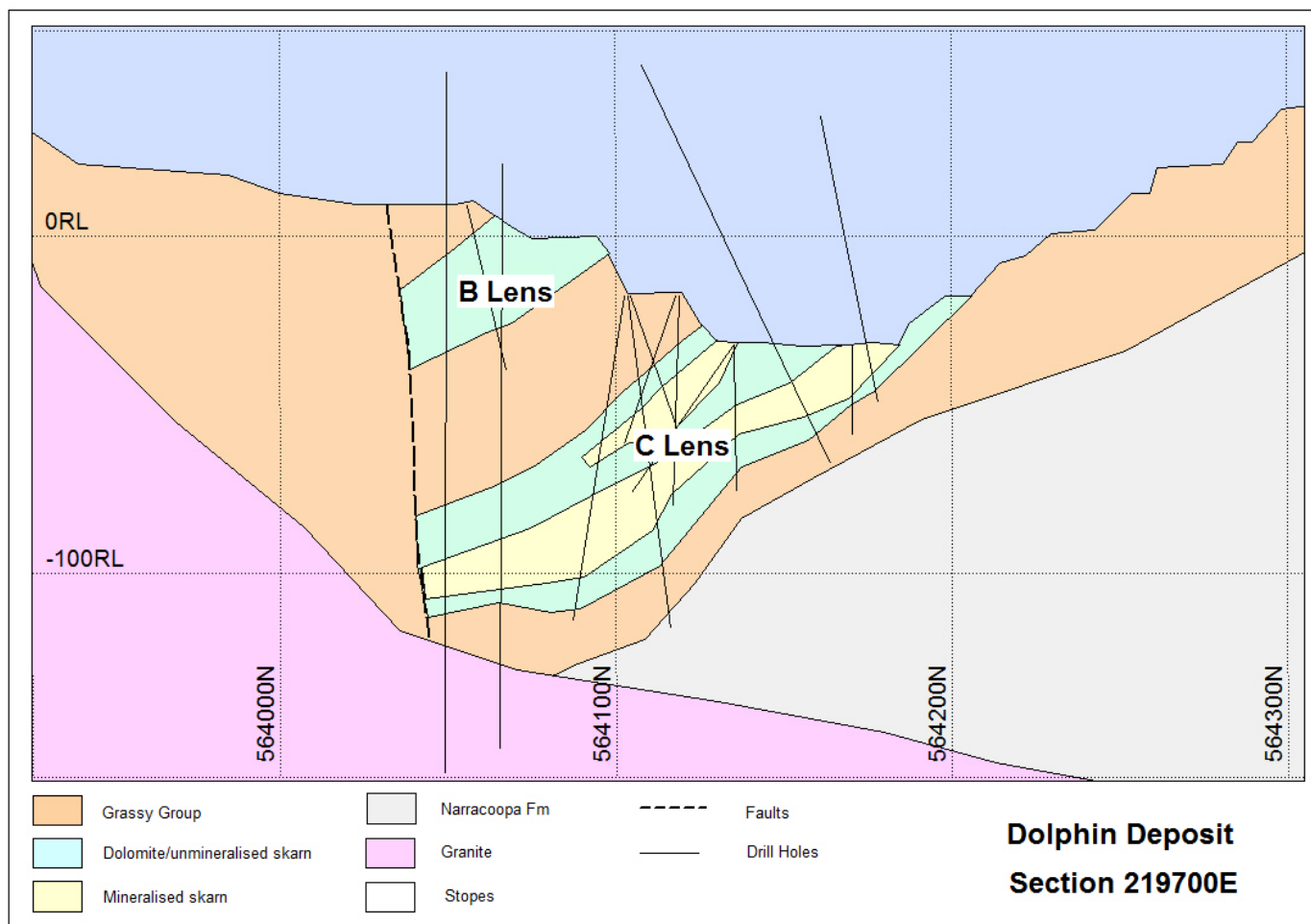


Figure 3. Dolphin Scheelite Deposit Section 219920E





Tim Callaghan – Resource and Exploration Geology

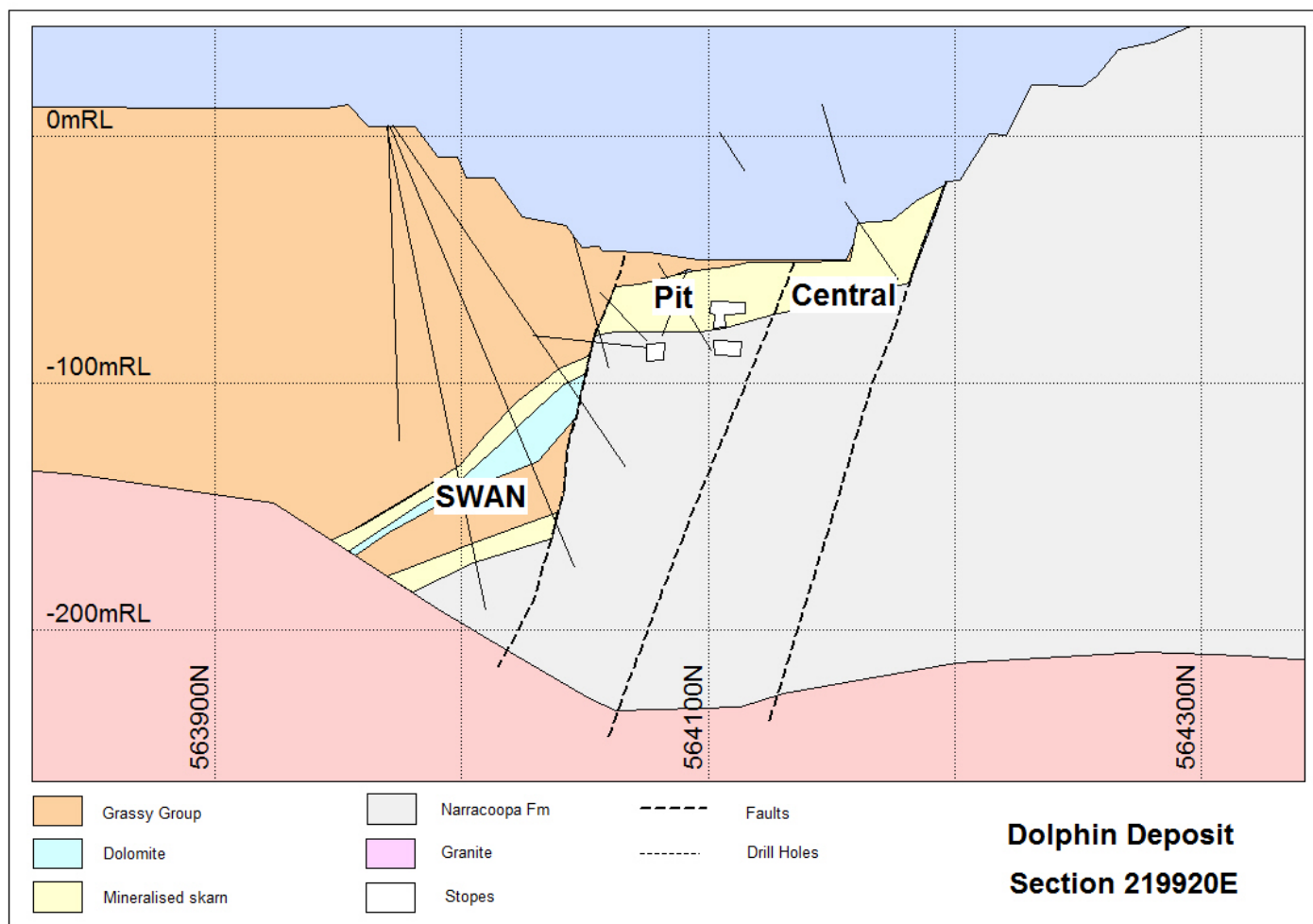


Figure 4. Dolphin Scheelite Deposit Section 219920E



Tim Callaghan – Resource and Exploration Geology

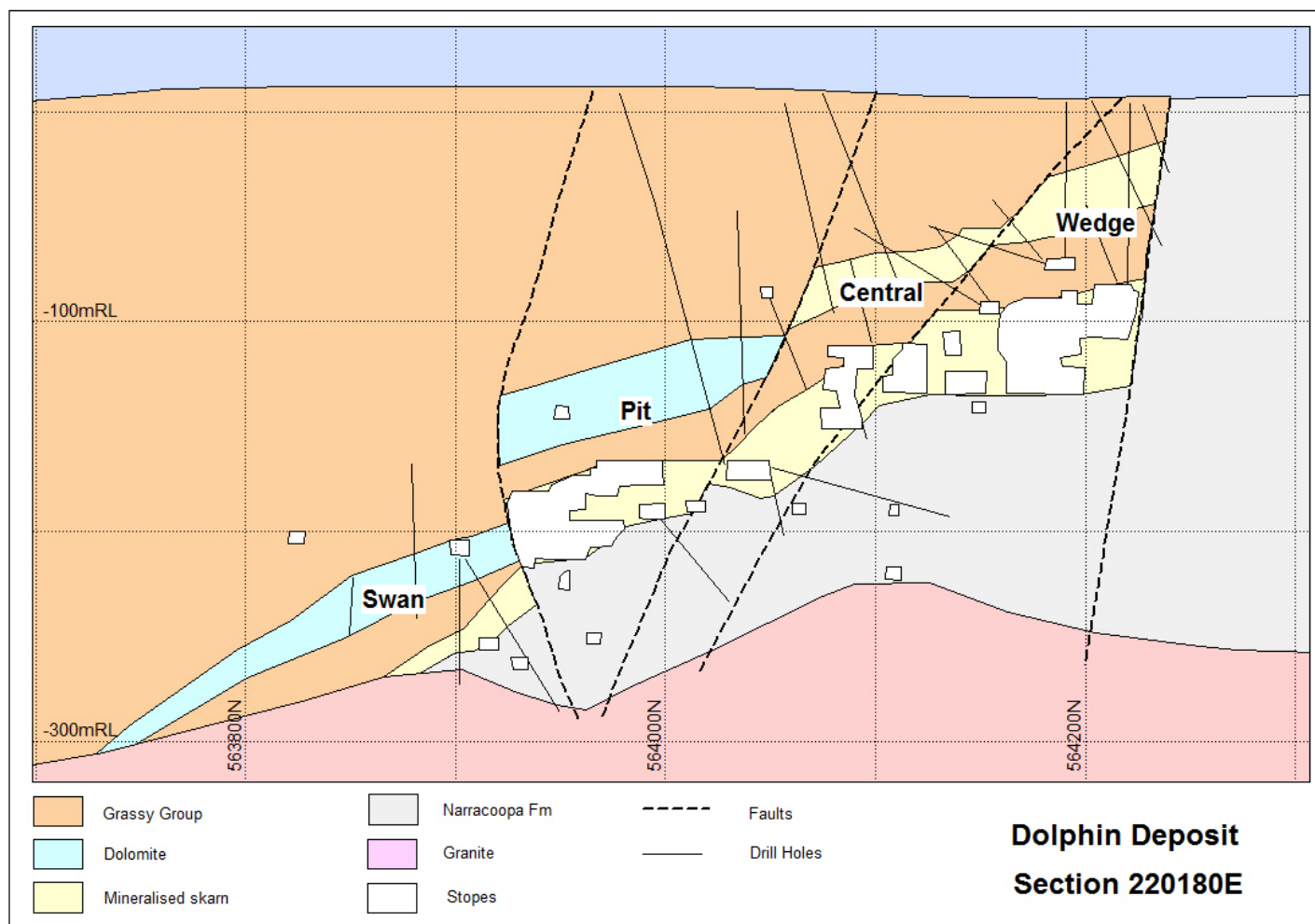


Figure 5. Dolphin Scheelite Deposit Section 220180E



## JORC (2012) Table 1 report

Section 1. Sampling Techniques and Data		
Criteria	JORC Code Explanation	Commentary
Sampling Techniques	<ul style="list-style-type: none"> <li>Nature and Quality of sampling (e.g. cut channels, random chips or specific specialized industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or hand held XRF instruments etc).</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>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 (e.g. 'reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverized to produce 30g 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 sampling types (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>The Dolphin Scheelite Skarn has been sampled through numerous historic underground and surface diamond drilling campaigns between 1947 and 1984 by the previous mine operators. ,</li> <li>Recent diamond drilling campaigns were completed by KIS in 2005, 2006, 2011, 2013 and 2014.</li> <li>636 historic diamond drill holes for 56,667.8m</li> <li>113 recent drillholes for 9,975.8m.</li> <li>Approximately 3 ft or 1m samples of 1-3kg were taken from diamond saw cut drill core whilst respecting geological boundaries.</li> </ul>
Drilling Techniques	<ul style="list-style-type: none"> <li>Drill type (e.g. core, reverse circulation, open hole hammer, rotary air blast, auger, bangka, sonic etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face sampling bit or other type, where core is oriented and if so by what method</li> </ul>	<ul style="list-style-type: none"> <li>Generally NQ diamond core for surface drillholes and BQ or BQ equivalent for underground drill holes.</li> <li>Core not oriented.</li> </ul>
Sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximize sample recovery and ensure representative nature of the samples.</li> </ul>	<ul style="list-style-type: none"> <li>Core reconstituted, marked up and measured in all drilling campaigns</li> <li>Generally excellent (95-100%)</li> <li>No relationship between recovery and grade was observed</li> </ul>



Tim Callaghan – Resource and Exploration Geology

Section 1. Sampling Techniques and Data		
	<ul style="list-style-type: none"> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred.</li> </ul>	
Logging	<ul style="list-style-type: none"> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel etc) photography.</li> </ul>	<ul style="list-style-type: none"> <li>Historic core geologically logged onto typed paper logs.</li> <li>Recent core geologically logged onto excel spreadsheets by experienced geologists over 2 campaigns.</li> <li>Standard lithology codes used for interpretation.</li> <li>RQD and recoveries logged</li> <li>Historic and recent logs loaded into excel spreadsheets and uploaded into access database.</li> </ul>
Sub-Sample techniques and sample preparation	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter of half taken.</li> <li>If non core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub sampling stages to maximize representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the insitu material collected, including for instance results of field duplicate/second half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled</li> </ul>	<ul style="list-style-type: none"> <li>No record of historic sample preparation</li> <li>Half core split by diamond saw on 0.5 – 1.0m samples while respecting geological contacts.</li> <li>Bagged core delivered to commercial Laboratories in Burnie (BRL, AMMTECH, ALS)</li> <li>Whole core crushed to 80% passing 2mm</li> <li>Crushed sample quartered to 500g and pulverized to pass 75 micron.</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysics tools, spectrometers, hand held XRF instruments, etc, the parameters used in determining the analysis including instrument</li> </ul>	<ul style="list-style-type: none"> <li>No record of QAQC procedures were available for historic sampling.</li> <li>Recent samples assayed for WO<sub>3</sub> and Mo by XRF at Burnie Research Laboratories (AMMTECH, ALS).</li> <li>Historic samples assayed for WO<sub>3</sub> and Mo by</li> </ul>



Tim Callaghan – Resource and Exploration Geology

Section 1. Sampling Techniques and Data		
	<p>make and model, reading times, calibration factors applied and their derivation etc.</p> <ul style="list-style-type: none"> <li>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	<p>XRF in on site mine laboratories with check samples assayed by Amdel.</p> <ul style="list-style-type: none"> <li>No formal QAQC analysis cited for recent drilling campaign.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel</li> <li>The use of twinned holes</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols</li> <li>Discuss any adjustment to assay data</li> </ul>	<ul style="list-style-type: none"> <li>No independent laboratory analyses completed.</li> <li>Minor verification of historic data with recent drilling campaigns.</li> <li>No twinned holes were completed</li> <li>Primary assay data was received electronically and stored by consultant geologist.</li> <li>All electronic data uploaded to access database</li> <li>Historic data loaded onto spreadsheets and uploaded to Access database by OMI Pty Ltd.</li> <li>Data validation with Surpac software, basic statistical analysis and comparison with historic plans and sections.</li> <li>Negative results for below detection limit assay data has been entered as 0.01%WO<sub>3</sub></li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (collar and downhole surveys) trenches, mine workings and other locations used in mineral resource estimation</li> <li>Specification of grid system used</li> <li>Quality and accuracy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>All hole collar surveys by licensed surveyor.</li> <li>All coordinates in historic mine grid ISG</li> <li>RL's as MSL</li> <li>Down hole surveys by downhole camera</li> <li>Topographic dtm created from detailed surveys</li> </ul>
Data Spacing and distribution	<ul style="list-style-type: none"> <li>Data spacing for exploration results</li> <li>Whether data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for Mineral Resource and Ore Reserve estimation procedures and classifications applied.</li> <li>Whether sample compositing has been applied</li> </ul>	<ul style="list-style-type: none"> <li>Sample spacing approximately 20 x 20m or better for much of the resource.</li> <li>Drill spacing is considered to be appropriate for the estimation of Indicated to Inferred Mineral resources.</li> <li>Samples have been composited on 1m intercepts for the resource estimation.</li> </ul>



## Tim Callaghan – Resource and Exploration Geology

<b>Section 1. Sampling Techniques and Data</b>		
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between drilling orientation and the orientation of key mineralised structures is considered to have introduced sampling bias, this should be assessed and reported if material.</li> </ul>	<ul style="list-style-type: none"> <li>The majority of DDH have been drilled north-south or vertical sub-perpendicular the gently dipping mineralisation.</li> <li>Drill hole orientation is not considered to have introduced any material sampling bias.</li> </ul>
Sample Security	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security</li> </ul>	<ul style="list-style-type: none"> <li>Recent samples ticketed and bagged on site.</li> <li>Delivered by courier to laboratories in Burnie.</li> <li>All historic data captured and stored in customised access database</li> <li>Data integrity validated with Surpac Software for EOH depth and sample overlaps.</li> <li>Manual check by reviewing cross sections with the historic drafted sections and plans.</li> <li>Basic statistical analysis supports data validation</li> </ul>
Audits or Reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data</li> </ul>	<ul style="list-style-type: none"> <li>No audits or reviews of sampling data and techniques completed.</li> </ul>

<b>Section 2 Reporting of Exploration Results</b>		
<b>Criteria</b>	<b>JORC Code Explanation</b>	<b>Commentary</b>
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <li>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.</li> <li>The security of tenure held at the time of reporting along with known impediments to obtaining a license to operate the area</li> </ul>	<ul style="list-style-type: none"> <li>1M/2006 is 100% owned by Australian Tungsten Pty Ltd, a subsidiary of King Island Scheelite Pty Ltd.</li> <li>Scheelite mining district with periodic operation since the 1930's.</li> <li>EPN notice being finalized after granting of 1M/2006</li> <li>There are no known or experienced impediments to operating a license in this area</li> </ul>



Tim Callaghan – Resource and Exploration Geology

Section 2 Reporting of Exploration Results		
Criteria	JORC Code Explanation	Commentary
Exploration done by other parties	<ul style="list-style-type: none"> <li>Acknowledgement and appraisal of exploration by other parties</li> </ul>	<ul style="list-style-type: none"> <li>Early exploration by King Island Scheelite and Geopeko commencing in the 1950's.</li> </ul>
Geology	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation</li> </ul>	<ul style="list-style-type: none"> <li>The Dolphin Deposit is a carbonate hosted metasomatic skarn hosted in hornfelsed Cambrian sedimentary rocks on the northern margin of the Grassy Granodiorite. The skarn consists of layered pyroxene skarn, garnet skarn and pyroxene-garnet skarn replacing two principal carbonate horizons. Scheelite occurs as coarse and fine grained disseminations in calc-silicate skarn.</li> </ul>
Drill Hole Information	<ul style="list-style-type: none"> <li>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               <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>downhole length and interception depth</li> <li>hole length</li> </ul> </li> <li>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</li> </ul>	<ul style="list-style-type: none"> <li>See Appendix 1 in this report.</li> </ul>
Data aggregation methods	<ul style="list-style-type: none"> <li>In reporting of Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cutoff grades are usually material and should be stated.</li> <li>Where aggregate intercepts include short lengths of high grade results and longer lengths of low grade results, the procedure used for</li> </ul>	<ul style="list-style-type: none"> <li>Mineralised zones are reported as length weighted intercepts.</li> </ul>





Tim Callaghan – Resource and Exploration Geology

Section 2 Reporting of Exploration Results		
Criteria	JORC Code Explanation	Commentary
	<p>aggregation should be stated and some examples of such aggregations should be shown in detail</p> <ul style="list-style-type: none"> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the downhole lengths are reported, there should be a clear statement to this effect (e.g. down hole length, true width not known)</li> </ul>	<ul style="list-style-type: none"> <li>Intercept lengths have been reported as downhole lengths.</li> <li>Most holes have been drilled to intercept the deposit at high angles to best represent true widths.</li> <li>Refer to the sections included in the body of the announcement to view the relationship between downhole lengths and mineralisation orientations.</li> </ul>
Diagrams	<ul style="list-style-type: none"> <li>Appropriate maps and sections (with scales) and tabulated intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill collar locations and appropriate sectional views.</li> </ul>	<ul style="list-style-type: none"> <li>See body of the announcement for relevant plan and sectional views and tabulated intercepts.</li> </ul>
Balanced reporting	<ul style="list-style-type: none"> <li>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</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li>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 results, bulk density, groundwater, geochemical and rock characteristics, potential deleterious or contaminating substances.</li> </ul>	



Tim Callaghan – Resource and Exploration Geology

Section 2 Reporting of Exploration Results		
Criteria	JORC Code Explanation	Commentary
Further work	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (e.g. test for lateral extensions or depth extensions or large scale step out drilling)</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>Continuing resource infill drilling and exploration drilling on known magnetite skarns in the district.</li> </ul>

Section 3. Reporting Of Mineral Resource Estimations		
Criteria	Explanation	Status
Database Integrity	<ul style="list-style-type: none"> <li>Measures to ensure the data has not been corrupted by, for example transcription or keying errors, between its initial collection and its use for Mineral Resource estimation.</li> <li>Data Validation and procedures used.</li> </ul>	<ul style="list-style-type: none"> <li>All historic data captured and stored in customised Access database by database consultants OMI.</li> <li>Digital data uploaded from laboratory reports to Access database.</li> <li>Data integrity validated with Surpac Software for EOH depth and sample overlaps and transcription errors.</li> <li>Historical data digitized by database consultants and uploaded to access database.</li> <li>Data validated against historic plans and sections</li> <li>Minor errors in data location, fixed in data base.</li> <li>Negatives in database converted to 0.01% WO<sub>3</sub> and Mo.</li> </ul>
Site Visits	<ul style="list-style-type: none"> <li>Comment on any site visits by the competent person and the outcome of any of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>Numerous site visits during various drilling campaigns between 2011 - 2015.</li> </ul>
Geological Interpretation	<ul style="list-style-type: none"> <li>Confidence in (or conversely the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and any assumptions</li> </ul>	<ul style="list-style-type: none"> <li>High confidence in the geological model. High quality sectional interpretation from mapping and drill hole data by Geopeko Ltd.</li> <li>Diamond drillholes and sections used for geological</li> </ul>



## Tim Callaghan – Resource and Exploration Geology

	<p>made.</p> <ul style="list-style-type: none"> <li>• The effect if any of alternative interpretations on Mineral Resource estimation</li> <li>• The use of geology in guiding and controlling the Mineral Resource estimation</li> <li>• The factors effecting continuity of both grade and geology</li> </ul>	<p>domaining.</p> <ul style="list-style-type: none"> <li>• No alternative geological interpretations were attempted.</li> <li>• Geology model used for mineralised domain modeling.</li> <li>• Brittle faulting and skarn mineralogy effect grade domaining.</li> </ul>
Dimensions	<ul style="list-style-type: none"> <li>• 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</li> </ul>	<ul style="list-style-type: none"> <li>• Semi-continuous shallow plunging and dipping stratabound mineralisation adjacent to granodiorite intrusion.</li> <li>• Mineralisation extends 1150m in strike length, by 750m width and dips from 80m above sea level in the west to 380m below sea level in the east.</li> </ul>
Estimation and Modelling techniques	<ul style="list-style-type: none"> <li>• 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.</li> <li>• The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>• The assumptions made regarding recovery of by products</li> <li>• Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterization).</li> <li>• In the case of blockmodel interpolation the block size in relation to the average sample spacing and search employed.</li> <li>• Any assumptions behind modeling of selected</li> </ul>	<ul style="list-style-type: none"> <li>• Block modeled estimation completed with Surpac<sup>TM</sup> software licensed to Tim Callaghan.</li> <li>• Wire-framed solid models created from diamond drillholes and 20m sectional interpretation.</li> <li>• Solid models snapped to drill holes</li> <li>• Minimum mining width of 3m @ 0.2% WO<sub>3</sub></li> <li>• Internal dilution restricted to 3m with allowances for geological continuity</li> <li>• Data composited on 1m intervals including WO<sub>3</sub> and Mo</li> <li>• Top cutting based on CV and grade histograms.</li> <li>• Excellent correlation between WO<sub>3</sub> and Mo grades for C lens, poor correlation for B Lens</li> <li>• Model extent of 563600N to 564500N, 219250E to 220600E, -400mRL to 100mRL. Block dimensions of 10mN x 10mE x 10mRL block size with sub-celling to 1.25m.</li> <li>• Variogram models well constructed with moderate to high nugget effect (30 - 50%) and moderate range of 15 to 30m to sill for most geological domains.</li> <li>• Search ellipse set at 100m spherical range to ensure all blocks populated with minor anisotropy of 1:2</li> </ul>



## Tim Callaghan – Resource and Exploration Geology

	<ul style="list-style-type: none"> <li>mining units</li> <li>Any assumptions about correlation between variables</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of the basis for using or not using grade cutting or capping</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and the use of reconciliation data if available.</li> </ul>	<ul style="list-style-type: none"> <li>Ordinary kriged model estimated model constrained by geology solid model</li> <li>Block grades validated visually against input data</li> <li>Good correlation with previous estimations</li> <li>Very good correlation of depleted model with historic production</li> </ul>
Moisture	<ul style="list-style-type: none"> <li>Whether the tonnages were estimated on a dry basis or with natural moisture, and the method of determination of moisture content.</li> </ul>	<ul style="list-style-type: none"> <li>The estimate based on a dry tonnage</li> </ul>
Cut-off Parameters	<ul style="list-style-type: none"> <li>The basis of the adopted cutoff grades or cutoff parameters</li> </ul>	<ul style="list-style-type: none"> <li>Cut off grades have been based on estimated mine grade break even costs. Operating costs and financial parameters were provided by external consultants and KIS. A break even cutoff grade of 0.3% WO<sub>3</sub> is calculated for open pit resources.</li> </ul>
Mining Assumptions	<ul style="list-style-type: none"> <li>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 made when estimating Mineral Resources may not always be rigorous. When this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>Conventional blast load haul open pit operation in the first 4 - 7 years of mine life. Ore production rate of 400ktpa and waste movement of approximately 1-2Mtpa is expected from scoping studies.</li> <li>Underground mining will involve conventional decline accessed room and pillar extraction with waste and sand backfill. Production rates are expected to be 300-400ktpa.</li> </ul>
Metallurgical assumptions	<ul style="list-style-type: none"> <li>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</li> </ul>	<ul style="list-style-type: none"> <li>Flow sheet design involves a standard 3 stage crushing-grinding circuit followed by a gravity concentration circuit prior to flotation. Metallurgical testwork suggests process recovery is expected to</li> </ul>



Tim Callaghan – Resource and Exploration Geology

	<p>extraction to consider potential metallurgical methods, but the assumptions made regarding metallurgical treatment processes and parameters made when estimating Mineral Resources may not always be rigorous. When this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</p>	<p>be around 80 - 85% producing a concentrate grade of 55% from the lower grade open cut mineralisation.</p> <ul style="list-style-type: none"> <li>The 2012 DFS proposed a 3 stage crushing and grinding circuit followed by whole ore floatation. Testwork suggested a recovery of 90% producing a 65% concentrate.</li> </ul>
Environmental assumptions	<ul style="list-style-type: none"> <li>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 for 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.</li> </ul>	<ul style="list-style-type: none"> <li>Detailed studies and permitting of waste dumps, tailings disposal and storage of hazardous materials has been completed for the 2009 and 2012 feasibility studies.</li> </ul>
Bulk Density	<ul style="list-style-type: none"> <li>Whether assumed or determined. If assumed the basis for the assumptions. If determined the methods used, whether wet or dry, the frequency of measurements, the nature size and representativeness of the samples.</li> <li>The bulk density for bulk materials must have been measured by methods that adequately account for void spaces (vughs, porosity etc), moisture and difference between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul style="list-style-type: none"> <li>Bulk density derived from historic operations (Balind 1989).</li> <li>B Lens = 3.1</li> <li>C Lens = 3.4</li> <li>Waste = 2.9</li> <li>Bulk density measurements made on diamond core from recent drilling using the Archimedes method support historic assumptions.</li> </ul>



## Tim Callaghan – Resource and Exploration Geology

Classification	<ul style="list-style-type: none"> <li>• The basis for the classification of the Mineral Resource into varying confidence categories.</li> <li>• Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in continuity of Geology and metal values, quality, quantity and distribution of the data).</li> <li>• Whether the result appropriately reflects the Competent Persons view of the deposit.</li> </ul>	<ul style="list-style-type: none"> <li>• Confidence in the geological model, data quality and interpolation is considered to be sufficient for Mineral Resource located within 30m of sample data to be classified as Indicated Resource.</li> <li>• Excellent correlation of grade with historic production provides confidence in the estimation.</li> <li>• The resource classification appropriately reflects the views of the Competent Person</li> </ul>
Audits or Reviews	<ul style="list-style-type: none"> <li>• The results of any Audits or Reviews of the Mineral Resource estimates.</li> </ul>	<ul style="list-style-type: none"> <li>• No audits or reviews have been completed for this estimation</li> </ul>
Discussion of relative accuracy/confidence	<ul style="list-style-type: none"> <li>• 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 of the estimate.</li> <li>• These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul style="list-style-type: none"> <li>• The geological model and data quality within 30m of level development is well understood and modeled.</li> <li>• The effects of localised brittle faulting is well understood from mapping and drilling.</li> <li>• There is good confidence in the global tonnage estimation.</li> </ul>



## **COMPETENT PERSONS' STATEMENT**

*The information in this report that refers to Exploration Results and Mineral Resource Estimations is based on information compiled by geology consultant Mr. Tim Callaghan who is a Member of The Australasian Institute of Mining and Metallurgy ("AusIMM"). Mr Callaghan has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the Australian Code for Reporting Exploration Results, Mineral Resources and Ore Reserve. Mr Callaghan consents to the inclusion in the report of matters based on his information in the form and context it appears.*

## **FORWARD LOOKING STATEMENTS**

*Some statements in this announcement regarding estimates or future events are forward-looking statements. They involve risk and uncertainties that could cause actual results to differ from estimated results. Forward looking statements include but are not limited to, statements concerning the Company's exploration program, outlook, target sizes and mineralised material estimates. They include statements preceded by words such as "expected", "planned", "target", "scheduled", "intends", "potential", "prospective" and similar expressions.*





# Tim Callaghan – Resource and Exploration Geology

Table 4. Drill Collar Details

Hole_id	x_isg	y_isg	z	x_gda94	y_gda94	Depth	Azm	Dip	From	To	Length	WO <sub>3</sub> %
KI009	219502.0	564212.0	-17.7	249037.9	5562178.1	43.0	0	-90	6.0	19.0	13.0	0.6
									22.0	25.0	3.0	0.3
KI010	219538.9	564219.3	-19.5	249074.6	5562186.3	27.3	0	-90	10.3	19.0	8.7	0.4
KI011	219540.9	564202.3	-18.8	249076.9	5562169.2	37.0	0	-90	15.0	25.0	10.0	0.3
									28.0	33.0	5.0	0.3
KI012	219540.7	564193.1	-19.1	249076.9	5562160.0	50.0	0	-90	6.0	46.0	40.0	0.3
KI013	219577.2	564197.1	-19.7	249113.3	5562164.9	40.0	0	-90	9.3	16.0	6.7	0.2
									24.0	33.0	9.0	0.4
KI014	219577.2	564170.8	-18.8	249113.9	5562138.6	50.0	0	-90	2.0	9.0	7.0	0.2
									42.0	49.0	7.0	0.3
KI015	219619.8	564154.6	-18.9	249156.9	5562123.4	90.0	0	-90	11.0	15.0	4.0	0.3
									26.0	29.0	3.0	0.3
									33.0	36.0	3.0	0.3
									50.0	62.0	12.0	0.4
KI016	219505.7	564167.1	-4.4	249042.5	5562133.3	80.2	0	-90	31.0	38.0	7.0	0.4
									43.0	61.0	18.0	0.6
									65.0	67.0	2.0	0.4
KI017	219657.3	564062.8	8.9	249196.6	5562032.3	25.0	0	-90	5.0	13.0	8.0	0.7
KI018	219691.4	564050.5	9.1	249230.9	5562020.8	50.0	0	-90	no significant analyses			
KI019	219504.9	564135.2	11.3	249042.5	5562101.3	30.0	0	-90	no significant analyses			
KI020	219579.4	564091.6	10.7	249117.9	5562059.4	25.0	0	-90	no significant analyses			
KI021	219618.1	564083.2	9.3	249156.9	5562051.9	30.0	0	-90	3.0	5.0	2.0	0.4
KI022	219739.3	564127.2	-34.2	249277.1	5562098.6	46.9	0	-90	8.0	10.0	2.0	0.6
KI023	219729.2	564116.3	-34.6	249267.2	5562087.5	60.5	180	-50	9.0	26.0	17.0	0.6
									49.5	50.5	1.0	0.3
									56.5	60.5	4.0	0.4
KI024	219699.1	564135.3	-34.1	249236.7	5562105.8	50.0	180	-55	2.5	29.0	26.5	0.7
									40.0	43.0	3.0	0.4
KI025	219661.8	564158.2	-33.8	249198.9	5562127.9	50.0	180	-65	0.0	7.0	7.0	0.9
									19.0	24.0	5.0	0.7
									39.0	41.0	2.0	0.3
KI026	219661.8	564159.4	-33.8	249198.9	5562129.1	40.0	0	-90	3.0	15.0	12.0	0.8
									23.0	29.0	6.0	0.3
									34.0	36.0	2.0	0.4
KI027	219731.0	564115.6	-34.6	249269.0	5562086.8	40.0	0	-90	17.0	28.0	11.0	0.4
KI028	219699.2	564136.2	-33.9	249236.7	5562106.8	40.0	0	-90	17.0	23.0	6.0	0.9
KI029	219696.1	564170.8	-34.0	249232.9	5562141.2	25.0	0	-90	0.7	15.0	14.3	0.4
KI030	219499.6	564263.5	-6.9	249034.3	5562229.5	25.0	0	-90	0.0	2.0	2.0	0.2
KI031	219498.9	564245.4	-15.4	249033.9	5562211.4	32.5	0	-90	21.0	22.0	1.0	0.5
KI032	219539.9	564238.2	-20.4	249075.2	5562205.1	20.0	0	-90	0.0	3.0	3.0	0.5
KI033	219579.2	564225.4	-25.3	249114.7	5562193.3	30.0	0	-90	5.0	6.0	1.0	1.2
KI034	219657.5	564181.0	-33.5	249194.1	5562150.6	25.0	0	-90	12.0	15.0	3.0	0.2
KI035	219778.0	564132.5	-43.6	249315.7	5562104.8	30.0	0	-90	1.0	2.0	1.0	0.6
KI036	219919.7	564111.4	-52.6	249457.9	5562086.9	40.0	0	-90	10.5	16.5	6.0	1.1
									21.4	24.2	2.8	0.6
KI037	219878.9	564125.2	-53.7	249416.7	5562099.8	30.0	0	-90	1.8	12.2	10.4	0.3
KI038	219917.9	564145.3	-53.0	249455.3	5562120.7	30.0	0	-90	0.0	7.0	7.0	0.6
									14.0	16.0	2.0	0.2
KI039	219866.3	564048.3	-53.8	249405.9	5562022.5	40.0	0	-90	20.0	28.0	8.0	0.2
KI040	219843.3	564049.2	-54.2	249382.8	5562023.0	50.0	0	-90	24.0	25.0	1.0	0.7
									40.0	46.0	6.0	0.2
KI041	219780.0	564104.2	-54.8	249318.2	5562076.5	35.0	0	-90	2.0	5.0	3.0	0.5
									10.0	13.0	3.0	0.2
KI042	219780.0	564073.3	-53.6	249318.9	5562045.6	30.0	0	-90	no significant analyses			
KI043	219837.7	564118.3	-53.9	249375.7	5562092.0	31.0	0	-90	no significant analyses			
KI044	219918.0	564067.4	-50.4	249457.2	5562042.8	50.0	0	-90	17.0	32.0	15.0	0.6
KI045	219866.9	564048.5	-53.9	249406.5	5562022.8	76.0	110	-55	no significant analyses			
KI046	219920.0	564120.4	-51.9	249457.7	5562095.7	24.2	110	-55	no significant analyses			
KI047	219695.1	564333.4	54.1	249228.2	5562303.9	40.0	0	-90	9.0	11.0	2.0	0.6
									35.8	37.4	1.6	0.4
KI048	219741.4	564344.5	53.9	249274.2	5562316.0	30.0	0	-90	0.0	4.0	4.0	0.6
KI049	219724.9	564419.9	89.8	249256.1	5562391.0	26.3	0	-90	no significant analyses			
KI050	219700.1	564377.7	77.1	249232.2	5562348.2	35.0	0	-90	11.0	12.0	1.0	0.3