



## New cobalt-nickel oxide deposit delineated 3km north of Mt Thirsty Cobalt Deposit

**Barra Resources Limited** (ASX: **BAR**)(Barra) in conjunction with its joint venture partner **Conico Limited** (ASX: **CNJ**)(Conico), is pleased to advise that recent air-core (AC) drilling on E63/1267, located approximately 3km north of the Mt Thirsty Cobalt Deposit (Figure 1) has delineated a new zone of cobalt-nickel oxide mineralisation.

The mineralisation lies at shallow depth beneath outcropping laterite in strongly weathered ultramafic rocks and is of similar style to that of the Mt Thirsty Cobalt Deposit. The Joint Venture partners are highly encouraged by the drilling results which demonstrate the potential for further upside to the existing Mt Thirsty Cobalt Resource (refer Table 2 in Background on Mt Thirsty Cobalt Project).

**Best Intersections from the AC drilling program include:**

- 14m @ 0.12% Co & 0.8% Ni from 13m (MTAC771)
- 18m @ 0.16% Co & 0.8% Ni from 15m (MTAC772)
- 10m @ 0.17% Co & 0.8% Ni from 16m (MTAC 773)
- 10m @ 0.13% Co & 1% Ni from 22m (MTAC778)

### Next Steps

Barra and Conico will look towards identifying further drill targets to the north of the recently completed drilling, as well as commencing work to determine a preliminary resource estimate for the new deposit.

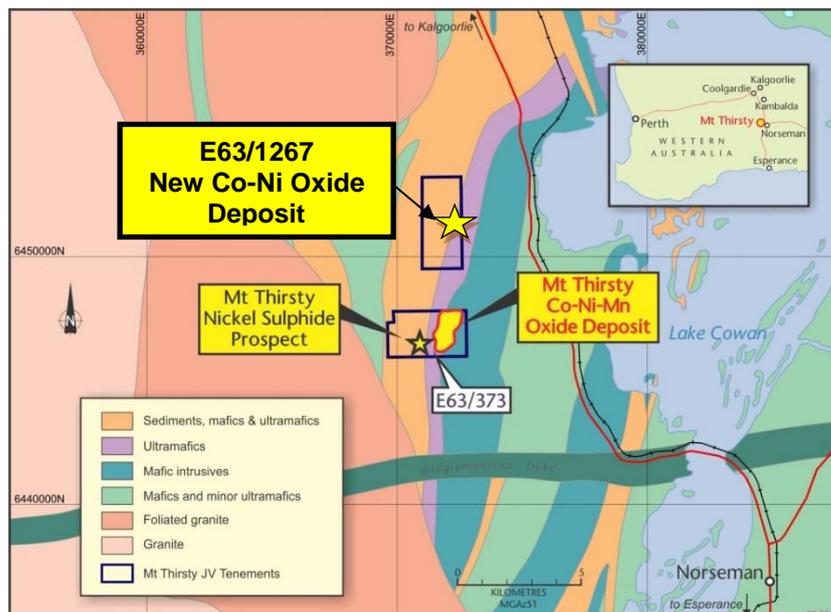
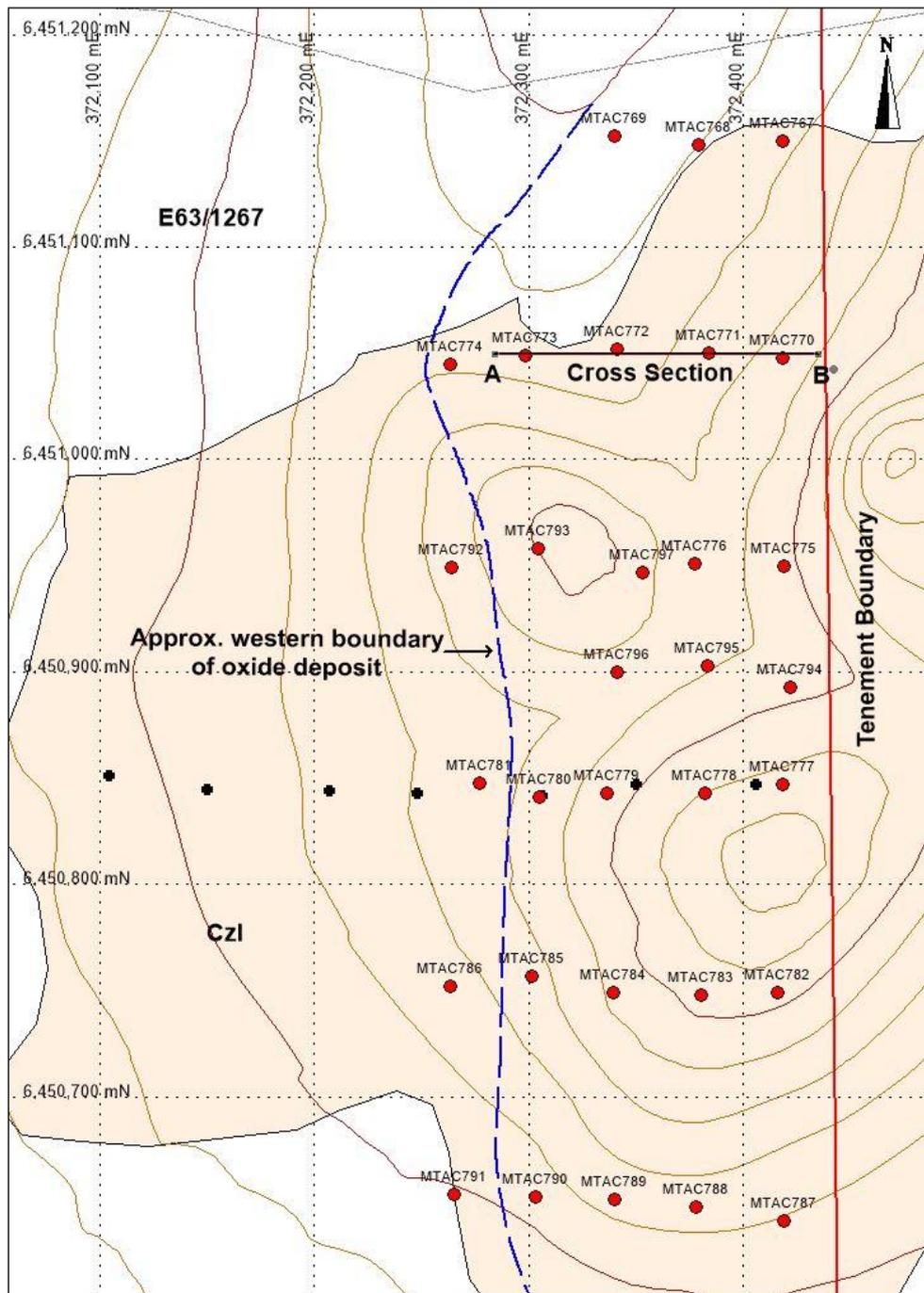


Figure 1: Mt Thirsty Cobalt Project location plan, showing area of recent AC drilling on E63/1267

## Drilling Details

Thirty-one shallow AC holes were drilled in late April for an aggregate of 1,084m to test a Geological Survey of Western Australia (GSWA) mapped laterite outcrop on the eastern side of E63/1267 where a single AC traverse drilled by the joint venture in May 2015 intersected significant cobalt (Co) and nickel (Ni) assays in the three most eastern holes. The latest drilling was mostly on a 100m by 40m grid with one infill line to 50m by 40m in the central portion (Figure 2).



**Figure 2: Drill Hole Location Plan. Mapped laterite (shaded brown) and topographic contours (brown lines). Red dots are recent AC drilling, black dots are 2015 AC drilling. Approximate western boundary of Co-Ni oxide mineralisation shown in blue and eastern tenement boundary in red. Grid AGD84 Zone 51. Cross Section A-B shown in Figure 3.**

Cobalt assays greater than or equal to 0.06% Co over a true thickness of 2m or more were exhibited in 27 of the 31 holes drilled. Significant intersections are shown in Table 1. All but one of the AC holes were drilled vertically except for MTAC797, which was inclined at -60° to the west due to steep topography at the intended location.

The newly defined zone of mineralisation is strongest in the northern portion of the area drilled and weakens to the south. With the exception of the two northernmost lines, the mineralised zone has been closed off to the west, remains open to the east across the tenement boundary, with potential to extend further to the north and south.

**Table 1: E63/1267 Significant Cobalt and Nickel Intersections in Recent AC Drilling (≥0.06% Co)**

Hole No	East AGD84	North AGD84	RL m	Hole Depth m	From m	To m	Downhole Thickness m	Co %	Ni %
MTAC767	372418	6451150	342	34	14	16	2	0.095	0.39
MTAC768	372379	6451148	340	26	0	2	2	0.092	0.51
					15	25	10	0.085	1.09
MTAC769	372340	6451152	338.4	30	1	3	2	0.091	0.61
					17	26	9	0.098	0.62
MTAC770	372418	6451048	346.1	42	5	7	2	0.073	0.73
					13	24	11	0.085	0.58
MTAC771	372384	6451050	343.7	30	13	27	14	0.123	0.78
MTAC772	372341	6451052	341.5	39	15	33	18	0.161	0.75
MTAC773	372298	6451049	341.8	46	16	26	10	0.167	0.79
MTAC774	372263	6451045	342.2	21	8	10	2	0.069	0.42
MTAC775	372419	6450950	349.5	47	22	30	8	0.222	0.74
MTAC776	372377	6450951	347.5	45	19	33	14	0.135	0.86
MTAC777	372418	6450847	353.5	40	15	17	2	0.044	1.08
					36	38	2	0.077	0.40
MTAC778	372382	6450843	352.5	39	22	32	10	0.126	1.04
MTAC779	372336	6450843	348.8	48	27	38	11	0.076	0.61
MTAC780	372305	6450841	346.2	39	22	30	8	0.093	0.69
MTAC782	372416	6450749	350.7	42	29	34	5	0.095	0.54
MTAC783	372380	6450748	350.9	34	19	31	12	0.086	0.60
MTAC784	372339	6450749	347.9	36	17	27	10	0.093	0.52
MTAC785	372301	6450757	344.2	33	15	28	13	0.083	0.45
MTAC787	372419	6450642	340	23	4	6	2	0.141	0.38
MTAC788	372378	6450648	341.9	27	18	25	7	0.121	0.41
MTAC789	372340	6450652	340.8	16	14	16	2	0.068	0.41
MTAC790	372303	6450653	338.7	24	15	18	3	0.122	0.38
MTAC793	372304	6450958	350	54	31	41	10	0.140	0.38
MTAC794	372422	6450893	349.4	51	24	29	5	0.105	0.61
MTAC795	372383	6450903	347.5	42	5	7	2	0.124	0.57
MTAC796	372341	6450900	347.5	45	1	18	17	0.134	0.62
					21	26	5	0.088	0.68
MTAC797*	372353	6450947	348.1	45	24	39	15*	0.123	0.57

Note: All holes drilled vertical except for MTAC797 inclined at -60°W. As mineralisation is interpreted to be relatively flat lying, downhole depth is interpreted to be equivalent to true thickness except for hole MTAC797 where true thickness of mineralisation is approximately 13m. All holes were sampled in one metre intervals.

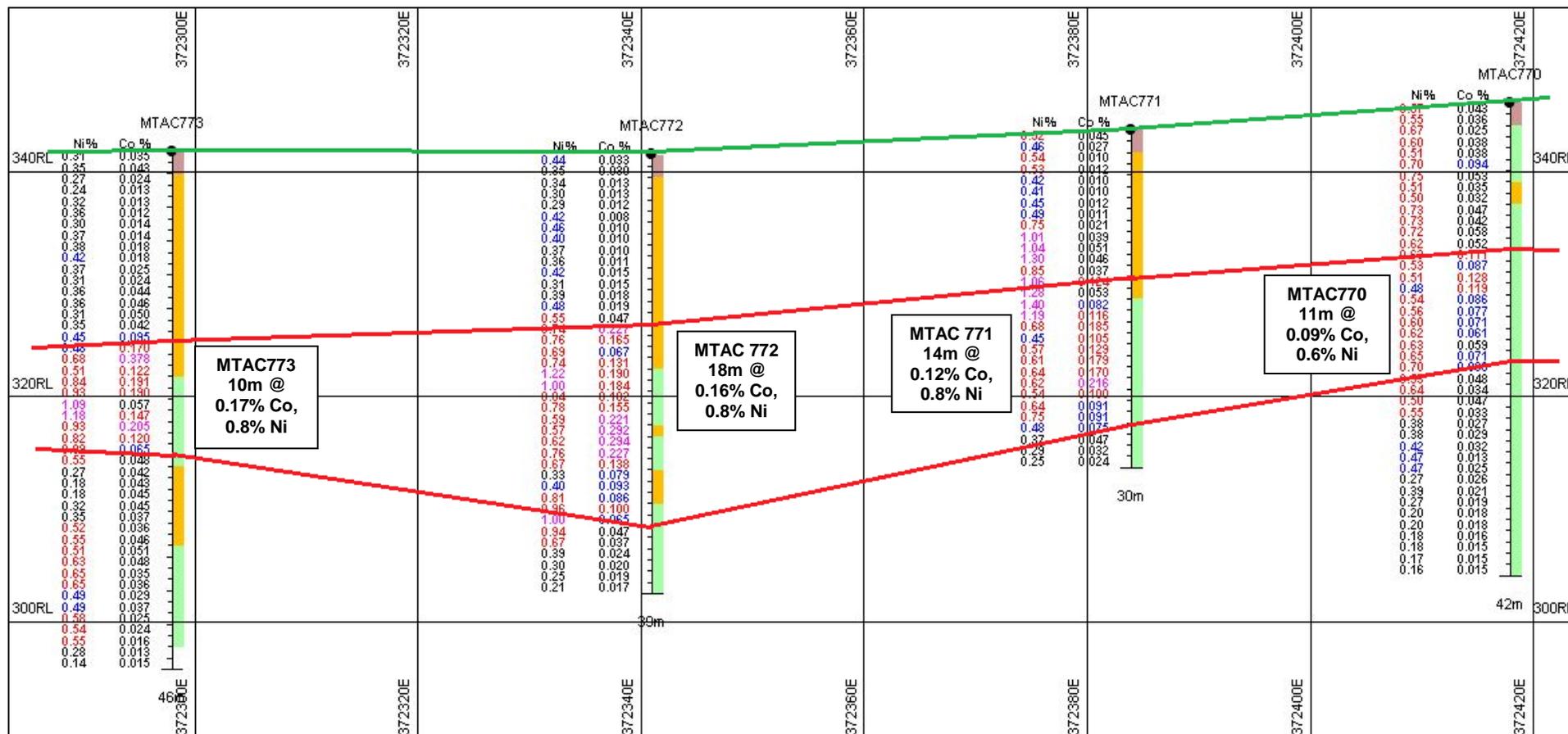


Figure 3: Cross Section 6451050N, looking north through holes MTAC770 to 773. Brown hatch is laterite, orange is goethitic saprolite and green is nontronitic saprolite. Ni% assays on the left and Co% assays on the right.

ENDS

A handwritten signature in black ink, appearing to read 'G. Berrell'.

**Gary Berrell**  
Chairman & CEO  
Barra Resources Limited

#### **Competent Persons Statement**

The information in this announcement that relates to Exploration Targets, Exploration Results and Mineral Resources is based on and fairly represents information compiled by Michael J Glasson and Robert N Smith, Competent Persons who are members of the Australian Institute of Geoscientists. Mr Glasson and Mr Smith are employees of Tasman Resources Ltd and in this capacity act as part time consultants to Conico Ltd. Mr Glasson and Mr Smith hold shares in Conico Ltd.

Mr Glasson and Mr Smith have sufficient experience which is relevant to the style of mineralisation and type of the deposits under consideration and to the activity being undertaken to qualify as Competent Persons as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Glasson and Mr Smith consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.

#### **Disclaimer**

The interpretations and conclusions reached in this report are based on current geological theory and the best evidence available to the authors at the time of writing. It is the nature of all scientific conclusions that they are founded on an assessment of probabilities and, however high these probabilities might be, they make no claim for complete certainty. Any economic decisions that might be taken on the basis of interpretations or conclusions contained in this report will therefore carry an element of risk.

It should not be assumed that the reported Exploration Results will result, with further exploration, in the definition of a Mineral Resource.

## Background on Mt Thirsty Cobalt Project

Mt Thirsty is one of Australia’s largest known stand-alone cobalt resources at 32 million tonnes with approximately 40,000 tonnes of contained cobalt (Table 2). The great advantages of Mt Thirsty compared to other potential cobalt miners is the nature of the resource, being a flat lying, continuous and thick deposit starting from near surface to around 70 metres below surface. Due to intense oxidation, the deposit is very soft, fine grained and low in silica. As the cobalt is attached to the manganese, initial test work has indicated that an agitated leach process done at around 40°C and atmospheric pressure will be sufficient to extract the cobalt. The very nature of the deposit and leaching process being pursued has the potential to translate to a very low CAPEX/OPEX operation.

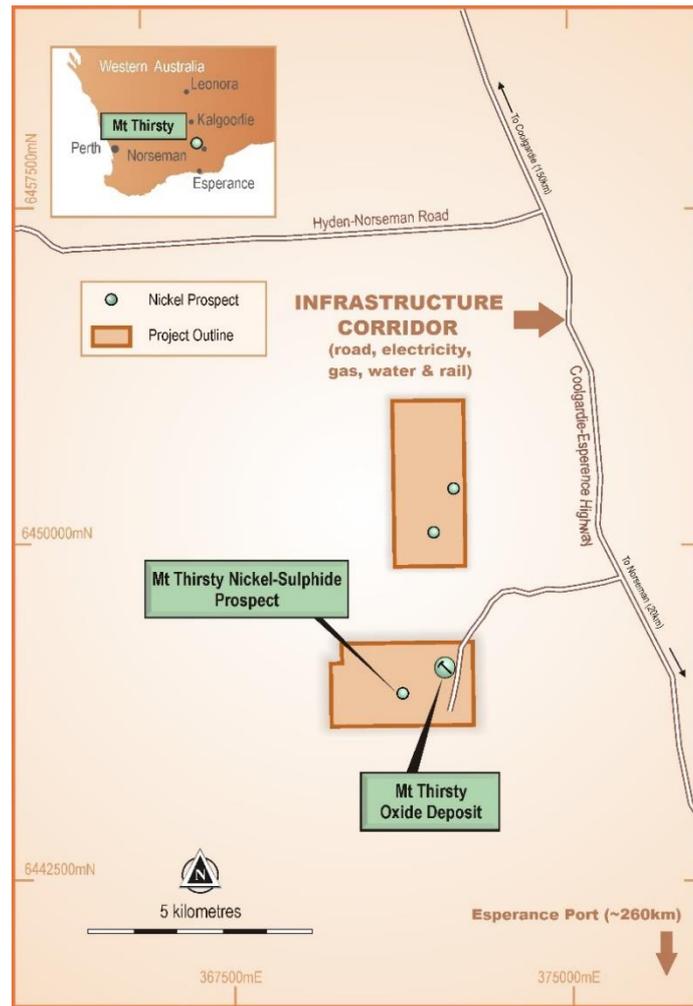
Given Mt Thirsty’s ideal positioning close to infrastructure including power and port access in Western Australia, the Joint Venture remains confident Mt Thirsty has the potential to become a major supplier to the burgeoning battery supply chain.

**Table 2: Mt Thirsty Cobalt Deposit Resource (using a cut-off grade of 0.06% Co)**

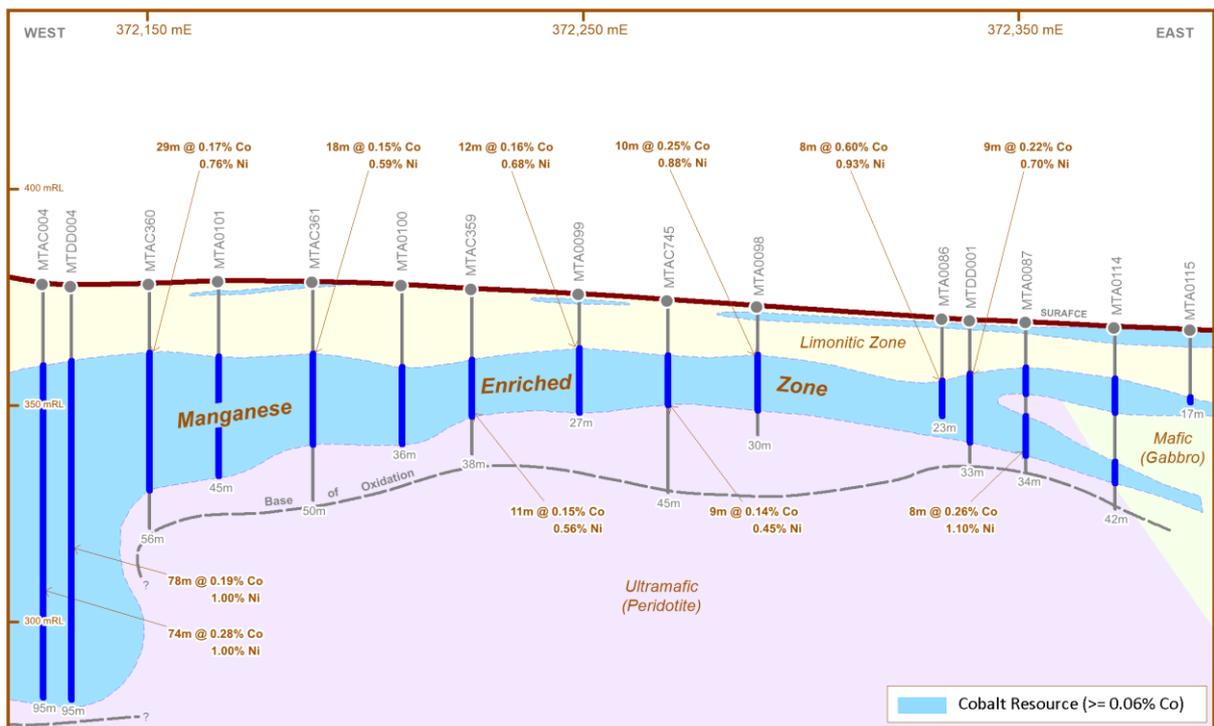
Mineral Resource Category	Tonnes	Cobalt (Co) (%)	Nickel (Ni) (%)	Manganese (Mn) (%)
Indicated	16,600,000	0.14	0.60	0.98
Inferred	15,340,000	0.11	0.51	0.73
<b>Total Mineral Resource</b>	<b>31,940,000</b>	<b>0.13</b>	<b>0.55</b>	<b>0.86</b>

*The Mt Thirsty Cobalt Oxide Deposit mineral resource was prepared and first reported in accordance with the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported; refer to ASX announcement 8<sup>th</sup> March 2011: “Resource Upgrade Mt Thirsty Cobalt-Nickel Oxide Deposit”: available to view at [www.barraresources.com.au](http://www.barraresources.com.au)). The Company is not aware of any new information or data that materially affects the information included in the previous announcement and that all of the previous assumptions and technical parameters underpinning the estimates in the announcement dated 8<sup>th</sup> March 2011 have not materially changed.*

For more details on the Mt Thirsty Cobalt Project, shareholders and investors are encouraged to visit the Project website at [www.mtthirstycobalt.com](http://www.mtthirstycobalt.com)



**Mt Thirsty Cobalt Project location map**



**Representative schematic cross-section through the Mt Thirsty Cobalt – Nickel Oxide Deposit**

## Appendix 1: E63/1267 Mt Thirsty, Air Core Drilling and Sampling

Section 1: Sampling Techniques and Data		
Criteria	JORC Code explanation	Commentary
<b>Sampling techniques.</b>	<p><i>Nature and quality of sampling (eg. cut channels, random chips or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i></p> <p><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></p> <p><i>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where “industry standard” work has been done this would be relatively simple (eg “reverse circulation drilling was used to obtain 1m samples from which 3 kg was pulverised to produce a 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 mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</i></p>	<p>The samples have been obtained by drilling 30 vertical air core (AC) holes to a maximum depth of 54m and one inclined hole to 45m within E63/1267.</p> <p>Holes were drilled at 40m spacings along 7 lines mostly 100m apart. Holes were sampled at even regular 1m intervals.</p> <p>AC drilling was used to obtain 1m samples from which a 2kg split was bagged and sent to the laboratory. The sample was then dried and pulverised and a 40gm sub sample analysed for Co, Ni, Mn, Al &amp; Fe using a four acid digest with an ICP MS finish for Co and ICP OES for the other elements.</p>
<b>Drilling techniques.</b>	<p><i>Drill type (eg. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka etc.) and details (eg. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).</i></p>	<p>AC blade drilling (100mm hole diameter) was used throughout as drilling was mostly in soft clays.</p>
<b>Drill sample recovery.</b>	<p><i>Whether core and chip sample recoveries have been properly recorded and results assessed.</i></p> <p><i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></p> <p><i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i></p>	<p>Sample recovery was excellent as all samples were dry. No intervals with poor recovery were observed.</p> <p>Drill hole cuttings were collected in a cyclone, and subsequently reduced in volume with a riffle splitter attached to the cyclone. The cyclone and splitter were cleaned thoroughly between each 3 metre rod.</p> <p>Most of the material drilled is strongly oxidised, soft and relatively fine grained. No significant sample bias is expected to have occurred due to preferential loss of fine/coarse material.</p>

<p><b>Logging.</b></p>	<p><i>Whether core and chip samples have been logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i></p> <p><i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel etc.) photography.</i></p> <p><i>The total length and percentage of the relevant intersections logged.</i></p>	<p>Logging is conducted in detail at the drill site by the site geologist, who routinely records weathering, lithology, alteration, mineralisation, or any other relevant features. It is considered to be logged at a level of detail to support appropriate Mineral Resource estimation and mining studies.</p> <p>Logging is qualitative in nature.</p> <p>The entire length of each hole was logged in 1m intervals.</p>
<p><b>Sub-sampling techniques and sample preparation.</b></p>	<p><i>If core, whether cut or sawn and whether quarter, half or all core taken.</i> <i>If non-core, whether riffled, tube sampled, rotary split etc. and whether sampled wet or dry.</i></p> <p><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></p> <p><i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></p> <p><i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicates/second half sampling.</i></p> <p><i>Whether sample sizes are appropriate to the grainsize of the material being sampled.</i></p>	<p>n/a.</p> <p>All drill chips were split with a riffle splitter and the remaining sample placed in rows on the ground. Duplicate samples were obtained from the sample piles with a plastic scoop. All samples were dry.</p> <p>Sample preparation followed industry standard practice of drying, coarse crushing to -6mm, before pulverising to 90% passing 75 micron.</p> <p>To meet QAQC requirements duplicates were placed at irregular intervals in the sample stream, one or two duplicates per drill hole. Certified blanks (OREAS 24P or 22e) were also placed in the sample stream at the rate of 1 in 50. Additionally a certified standard was also used in the sample stream (OREAS 182) at the rate of 4 standards per 100 samples.</p> <p>Duplicates were collected from approx. 1 in every 20 samples. A comparison of the results has not yet been completed but will be prior to any resource estimation.</p> <p>Material being sampled is generally fine grained, and a 2-3kg sample from each metre is considered quite adequate.</p>
<p><b>Quality of assay data and laboratory tests.</b></p>	<p><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></p> <p><i>For geophysical tools, spectrometer, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation etc.</i></p> <p><i>Nature of quality control procedures adopted (eg. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie. lack of bias) and precision have been established.</i></p>	<p>Samples were crushed and pulverised, and analysed for Co, Ni, Mn, Al &amp; Fe by Bureau Veritas using a four acid digest with an ICP MS finish for Co and ICP OES for the others. These procedures are considered appropriate for the elements and style of mineralisation. Analysis is considered total.</p> <p>No tools used.</p> <p>The internal laboratory QAQC procedures included analysing their own suite of internal standards and blanks within every sample batch and also adding sample duplicates.</p>

<p><b>Verification of sampling and assaying.</b></p>	<p><i>The verification of significant intersections by either independent or alternative company personnel.</i></p> <p><i>The use of twinned holes.</i></p> <p><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></p> <p><i>Discuss any adjustment to assay data.</i></p>	<p>Significant intersections are determined by company personnel, and checked internally.</p> <p>As this is early stage drilling no twin holes were used.</p> <p>Individual sample numbers are generated and matched on site with down hole depths. Sample numbers are then used to match assays when received from the laboratory. Verification of data is managed and checked by company personnel with extensive experience. All data is stored electronically, with industry standard systems and backups.</p> <p>Data is not subject to any adjustments.</p>
<p><b>Location of data points.</b></p>	<p><i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i></p> <p><i>Specification of the grid system used.</i></p> <p><i>Quality and adequacy of topographic control.</i></p>	<p>Collar locations were determined by hand held GPS and are accurate to approximately +/- 5m); GPS derived RLs are not sufficiently accurate for use.</p> <p>The grid system used is AGD84; AMG Zone 51 to match a previously established grid. 2.5m spaced topographic contours have been prepared from ortho-photomaps and hole RLs are measured from these. This topographic control is considered quite adequate for the current purposes.</p>
<p><b>Data spacing and distribution.</b></p>	<p><i>Data spacing for reporting of Exploration Results.</i></p> <p><i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i></p> <p><i>Whether sample compositing has been applied.</i></p>	<p>The data spacing used (mostly 40x 100m) is considered sufficient for estimation of an inferred resource.</p> <p>All holes were sampled and assayed in 1m intervals and no compositing has been applied.</p>
<p><b>Orientation of data in relation to geological structure.</b></p>	<p><i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></p> <p><i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i></p>	<p>The mineralisation is mostly contained within a flat lying weathering blanket and vertical holes achieve unbiased sampling in most cases.</p> <p>n/a</p>
<p><b>Sample security</b></p>	<p><i>The measures taken to ensure sample security.</i></p>	<p>Samples were delivered to a dedicated cartage contractor in Norseman and sealed in bulka bags by company employees.</p>
<p><b>Audits or reviews.</b></p>	<p><i>The results of any audits or reviews of sampling techniques and data.</i></p>	<p>No audits or reviews carried out for this drilling exercise as it was considered not to be warranted.</p>

<b>Section 2: Reporting of Exploration Results</b> (criteria listed in the preceding group apply also to this group)		
<b>Criteria</b>	<b>JORC Code explanation</b>	<b>Commentary</b>
<b>Mineral tenement and land tenure status.</b>	<p><i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i></p> <p><i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i></p>	<p>The exploration results relate to the Mt Thirsty Project, located approximately 20km north west of Norseman, Western Australia. The tenements are owned 50% by Conico Ltd through its subsidiary Meteore Metals Pty Ltd and 50% by Barra Resources Ltd (The Mt Thirsty Joint Venture). The project includes retention licence, R63/4, and exploration licence 63/1267, A cobalt-nickel oxide resource is located on R63/4 and this announcement deals with a potential small satellite resource located 3km to the north on E63/1267.</p> <p>A 1.75% NSR royalty is payable on any production from R63/4 to a third party relating to Meteore's interest. The tenements lie within the Ngadju native title claim (WC99/002), and agreements between the claimants and Conico are designed to protect Aboriginal heritage sites and facilitate access. There are no historical or wilderness sites or national parks or known environmental settings that affect the Mt Thirsty Project although the project area is located within the Great Western Woodlands. The MTJV has secure tenure over the project area and there are no known impediments to obtaining a licence to operate in the area.</p>
<b>Exploration done by other parties.</b>	<p><i>Acknowledgment and appraisal of exploration by other parties.</i></p>	<p>The Mt Thirsty area was explored for nickel sulphide mineralisation in the late sixties and early seventies by Anaconda, Union Miniere, CRA, WMC/CNGC and others. Although no significant sulphide discoveries were made during that time, limonitic nickel/cobalt mineralisation was encountered but not followed up. In the 1990's Resolute-Samantha discovered high grade cobalt mineralisation in the oxidised profile above an orthocumulate peridotite..</p>
<b>Geology.</b>	<p><i>Deposit type, geological setting and style of mineralisation.</i></p>	<p>The Mt Thirsty Co-Ni-Mn oxide mineralisation has developed as a result of weathering of ultramafic (peridotite) rocks located at the southern end of the Archaean Norseman - Wiluna greenstone belt. Most of the Co and some of the Ni mineralisation is associated with manganese oxides which have formed in the weathering profile.</p>
<b>Drill hole information.</b>	<p><i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i></p> <p><i>Easting and northing of the drill hole collar</i></p> <p><i>Elevation or RL (Reduced Level-elevation above sea level in metres) of the drill hole collar</i></p> <p><i>Dip and azimuth of the hole</i></p> <p><i>Down hole length and interception depth</i></p> <p><i>Hole length</i></p>	<p>Included in table in body of report</p>

<p><b>Data aggregation methods.</b></p>	<p><i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg. cutting of high grades) and cut-off grades are usually material and should be stated.</i></p> <p><i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i></p> <p><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></p>	<p>All samples are of the same length hence weighting by length was mostly not required. Due to the nature of the mineralisation no cutting of high grades is required. 0.06% Co has been used as a cut off grade.</p> <p>All holes were sampled in 1m intervals and hence all samples are of the same length.</p> <p>No metal equivalent values have been calculated or reported.</p>
<p><b>Relationship between mineralisation widths and intercept lengths.</b></p>	<p><i>These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down-hole lengths are reported, there should be a clear statement to this effect (eg. 'downhole length, true width not known').</i></p>	<p>As the mineralised envelope is generally flat lying and 30 of the 31 holes were drilled vertically; down hole width is generally considered to be true width.</p>
<p><b>Diagrams.</b></p>	<p><i>Where possible, maps and sections (with scales) and tabulations of intercepts should be included for any material discovery being reported if such diagrams significantly clarify the report.</i></p>	<p>Not relevant</p>
<p><b>Balanced reporting.</b></p>	<p><i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i></p>	<p>Not relevant</p>
<p><b>Other substantive exploration data.</b></p>	<p><i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples - size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></p>	<p>A number of bulk samples have been collected from identical mineralisation in R63/4 and extensive metallurgical testwork has been completed which has been the subject of previous announcements. There are no potential deleterious or contaminating substances.</p>
<p><b>Further work.</b></p>	<p><i>The nature and scale of planned further work (eg. tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></p>	<p>Further work is required to close off the extent of the deposit to the north and south. Preliminary resource estimation to be conducted following further drilling.</p>