# Donald Mineral Sands Project – Mineral Resource Update

**7 April 2016**

**Astron Corporation Limited (ASX: ATR)** ("Astron") provides a Mineral Resource update for the Donald Mineral Sands Project.

## Highlights:

- **Measured Mineral Resource estimate for the Donald Deposit doubled to 715Mt @ 4.3% HM compared to 2014[1] estimate of 340Mt @ 4.3% HM, both at 1% HM cut-off**
- **Two-stage infill drilling in 2013 and 2015 substantially increased project total Measured and Indicated Mineral Resource estimates - the sum of in situ HM tonnes in these two categories increased from 52Mt in the 2011[2] Mineral Resource estimate to 115Mt in this Mineral Resource estimate (both at 1% HM cut-off)**

**Summary**

The Donald Mineral Sands Project includes the Donald Deposit (Retention Licence 2002 and Mining Licence 5532) and the Jackson Deposit (Retention Licences 2003 and 2006). The retention and mining licences are held by Donald Mineral Sands Pty Ltd (DMS), a wholly owned subsidiary of Astron.

Following the 2015 in-fill drilling at the Donald and Jackson Deposits, Astron commissioned an independent consultant, AMC Consultants Pty Ltd, to update the Mineral Resource estimates in accordance with the requirements of the JORC 2012 Code.

The Donald Project includes some of the world's largest zircon and heavy mineral (HM) deposits with a currently updated total Mineral Resource estimate of 5.71 billion tonnes of sand at an average grade of 3.2% HM (at 1% HM cut-off) - with Measured, Indicated and Inferred categories classified as presented in Table 1 for the Donald and Jackson Deposits. In addition to assaying the total HM content, major valuable heavy minerals (VHM) were assayed in more than 50% of all drill holes and the heavy mineral assemblage is presented in Table 2.

Two stages of infill drilling at the Donald and Jackson Deposits in 2013[1] and 2015 have increased the sum of in situ HM tonnes in the total Measured plus Indicated Mineral Resource estimates from 52Mt in the 2011[2] Mineral Resource estimate to 115Mt in the current Mineral Resource estimate (both at 1% HM cut-off). In situ HM tonnes are evaluated by multiplying HM sand tonnes by average HM grade shown in Table 1. A summary of the information relevant to the current update of the Mineral Resource estimates is appended to this announcement (Appendix 1).

Deputy Managing Director and Chief Executive Officer Madam Kang Rong said "detailed exploration at the Donald Project has more than doubled its Measured and Indicated Mineral Resource estimates over the last 3 years and should allow a substantial upgrade of the project Ore Reserve estimate in the future."

[1] Refer to ASX announcements on 31st July and 21st August 2014
[2] Refer to ASX announcement on 1st December 2011

**Geology and Geological Interpretation**

The Donald and Jackson Deposits belong to the so-called "WIM-style" fine-grained mineral sands deposits discovered in the Wimmera area of the Murray Basin in the 1980s. They consist of large and broad lobate sheet-like heavy mineral accumulations deposited within the Late Miocene to Late Pliocene Loxton-Parilla Sands. These deposits are believed to represent accumulations that developed below the active wave base in a near shore environment, possibly representing the submarine equivalent of the strand style deposits. The WIM-style deposits are considerably larger in tonnage than strand-line deposits that are formed along the seaward face of shorelines.

**Drilling**

The Mineral Resource estimates for the Donald and Jackson Deposits are based on a total of 1,708 vertical drill holes with heavy mineral (HM) analysis data (Figures 1, 3 & 5) including 239 in-fill drill holes drilled by Astron in 2015 (Appendix 2). A total of 876 drill holes contain mineralogical data on the valuable heavy minerals (VHM) – Figures 2, 4 & 6.

Reverse Circulation drilling was used at the initial stage of the exploration of the Donald and Jackson Deposits in the late 1980s and early 1990s. Additional drilling at the deposits was carried out in 2004, 2010 and 2013 using Mantis 75 Air Core and Mantis 300 Air Core rigs and NQ drilling string. Astron drilled 239 in-fill drill holes in 2015 using Mantis 100 Air Core rig and NQ drilling string.

**Sample Analysis Method**

After the removal of slime (-38µm) and oversize (+1mm) fractions, the HM fraction was separated in a heavy liquid at an industry commercial laboratory. The +90µm HM fraction mostly containing iron oxide minerals was then screened out and only the -90µm + 38µm HM fraction was used in determining the HM content for the estimation of the Mineral Resource. Field and laboratory duplicates were used as quality control of the HM, slime and oversize content.

The HM assemblage was assayed using optical mineralogy grain counts by an independent mineralogist with checks on the zircon, monazite and titanium content using XRF methods. QEMSCAN mineralogy was selectively used for the VHM assaying of the -38µm fraction.

**Estimation Methodology**

The estimation method was Ordinary Kriging with an octant and ellipsoidal search using Datamine software. The mineralised zone was domained into low grade (< 1% HM), medium grade (>3 <5% HM) and high grade (above 5% HM), no domaining was used for slimes and oversize. The VHM minerals were domained within the area of assaying for VHM. Blocks sizes of 100 mE x 200 mN x 1 mRl were used.

**Cut-Off Grade**

A 1% HM grade was used for reporting the Mineral Resource. Mining optimisation studies at Astron's Donald Deposit have shown the economic cut-off grade of approximately 2% HM, based on dry mining methods. Wet mining methods that take all the minerals may lower the economic cut-off grade to approximately 1% HM.

**Mineral Resource classification**

The Mineral Resource classification is mainly based on the drill hole spacing. Generally, 100 mE by 400 mN is classified as a Measured Mineral Resource; from 250 mE to 400 mE by 400 mN is classified as an

Indicated Mineral Resource and wider grid spacing is classified as an Inferred Mineral Resource. In the Competent Person's opinion, the mineralization and geology is consistent and continuous and the deposits reasonable well understood. The drill hole data are considered to be suitable for the Mineral Resource classifications used.

**Mining and Metallurgical Methods and Parameters, and Other Material Modifying Factors**

It is assumed the dry mining methods will be employed with the option of using wet mining methods.
Metallurgical testing on ore from Astron's Donald Deposit shows all minerals reported can be processed. The samples above a 38µm size were used for assaying and the Mineral Resource estimation. Additional material may be obtained between 38µm and 20µm that could add to the value of the project.
The current understanding is that there are no social or environmental issues which will impact on processing or mining of the deposit. The Rupanyip township zone is excluded from the Mineral Resource estimate for the Jackson Deposit.

**Summary of Drill Hole Information**

The location of the drill holes within the Donald Deposit (MIN5532 and RL2002) is shown at Figure 1 & 3:

- Easting ranged from 653,400 m to 664,000 m
- Northing ranged from 5,943,300 m to 5,989,900 m
- RL ranged from 75 m to 137 m above sea level
- Drill holes ranged from 1 m to 34 m in length with an average of 20.8 m
- HM was first intersected at between 1 m and 40 m depth
- All holes were drilled vertically

The location of the drill holes within the Jackson Deposit (RL2003 and RL2006) is shown at Figure 5:

- Easting ranged from 641,500 m to 653,000 m
- Northing ranged from 5,941,500m to 5,951,000m
- RL ranged from 90 m to 151 m above sea level
- Drill holes ranged from 1 m to 56 m in length with an average of 16 m
- HM was first intersected at between 3 m and 7 m depth
- All holes were drilled vertically

Information on all drill holes drilled within the Donald and Jackson Deposits before 2015 is publicly available and was used in the previous Mineral Resource estimates reported by Astron in 2011[2] and 2014[1]. Detailed information on the in-fill drilling by Astron in 2015 is appended to this announcement (Appendix 2).

**Competent Persons Statement**

The information in this report that relates to Mineral Resources is based on information compiled by Mr Rod Webster, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy and Australian Institute of Geoscientists. Mr Webster is a full time employee of AMC Consultants Pty Ltd and is independent of DMS, the owner of the Mineral Resources. Mr Webster has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Webster consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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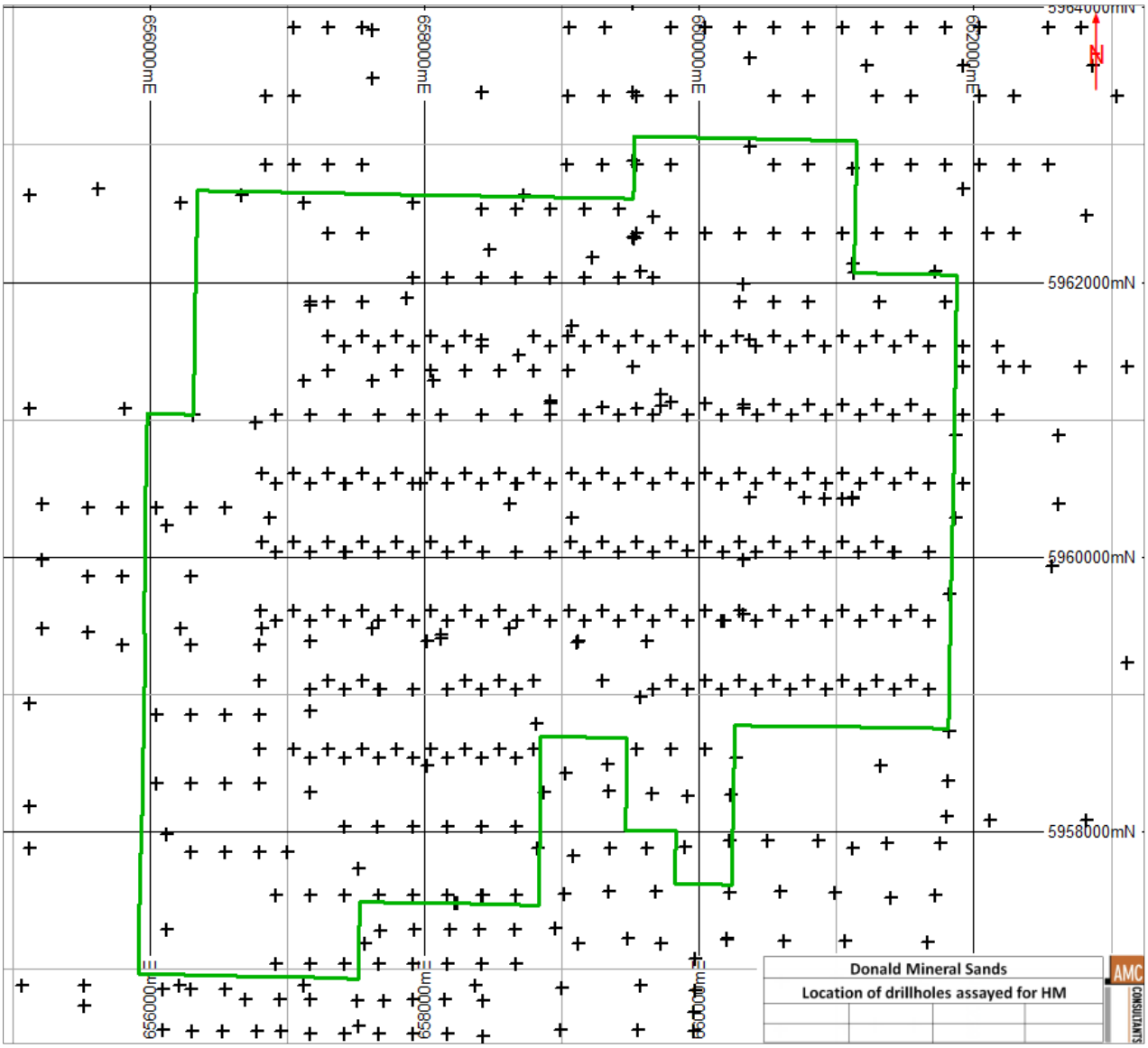
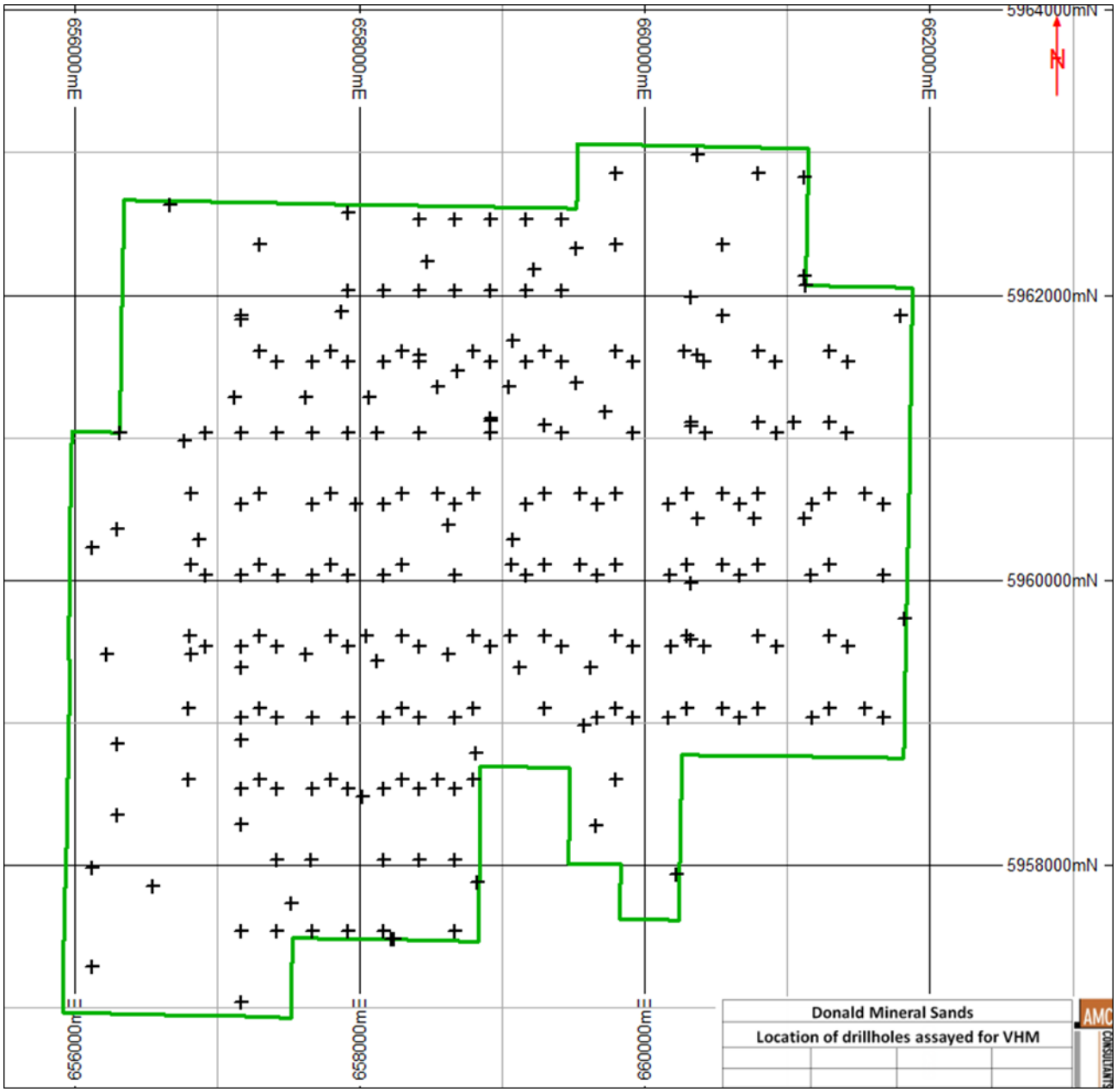
Figure 1: MIN5532 – location of drill holes assayed for HM



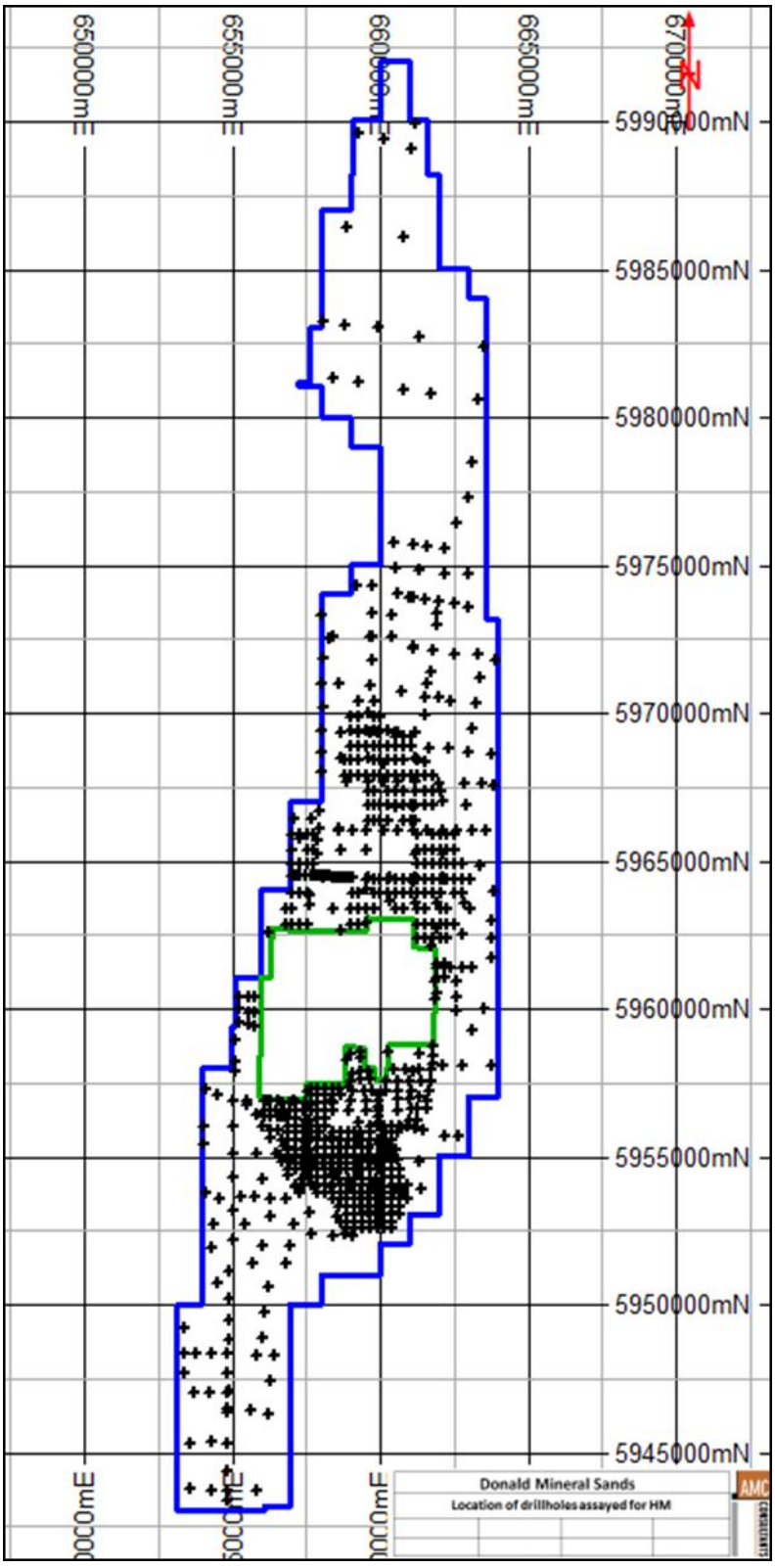

Note: Boundary of MIN5532 is coloured green

Figure 2: MIN5532 – location of drill holes assayed for VHM



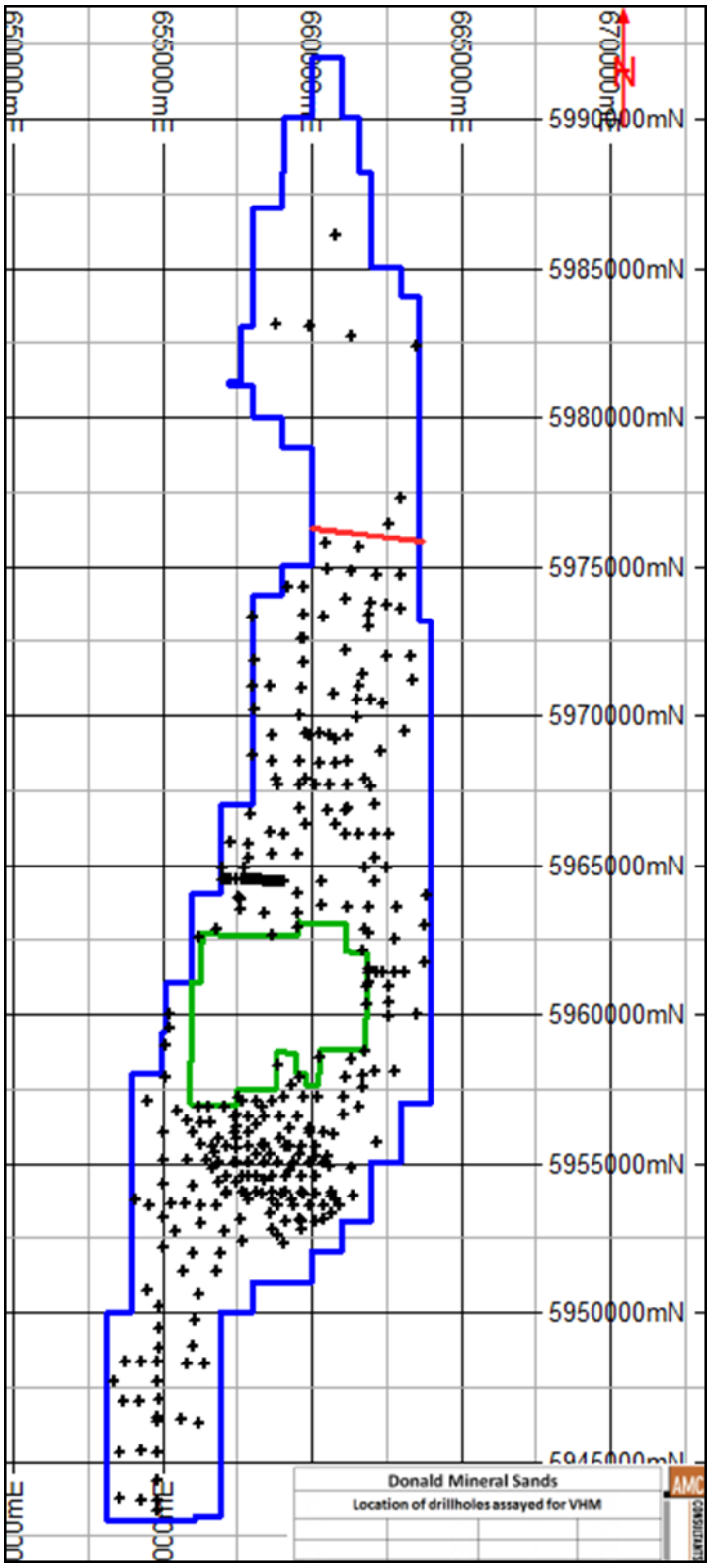

Note: Boundary of MIN5532 is coloured green

Figure 3: RL2002 – location of drill holes assayed for HM



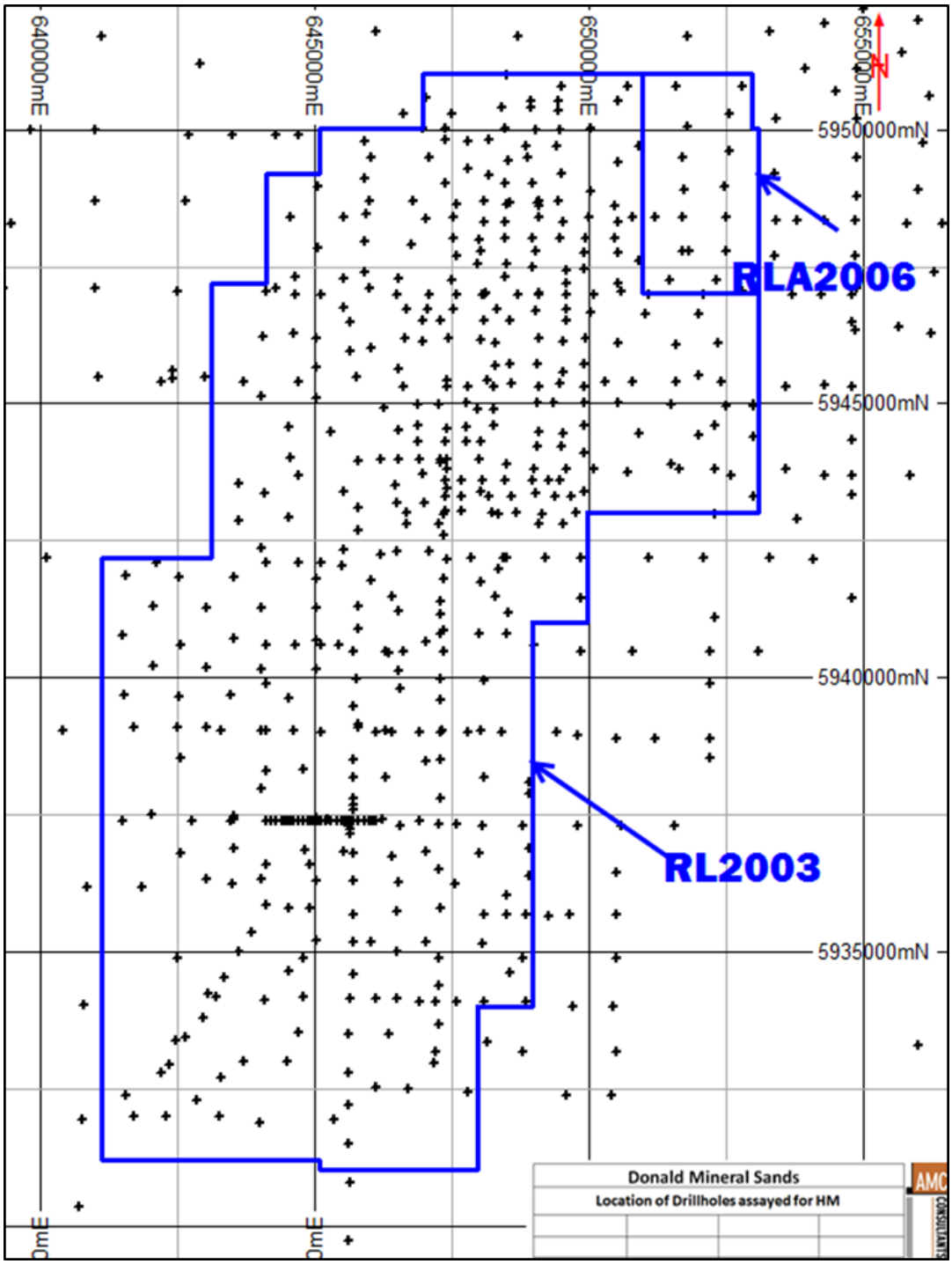

Note: Boundary of EL2002 is coloured blue; boundary of MIN5532 is coloured green

Figure 4: RL2002 – location of drill holes assayed for VHM



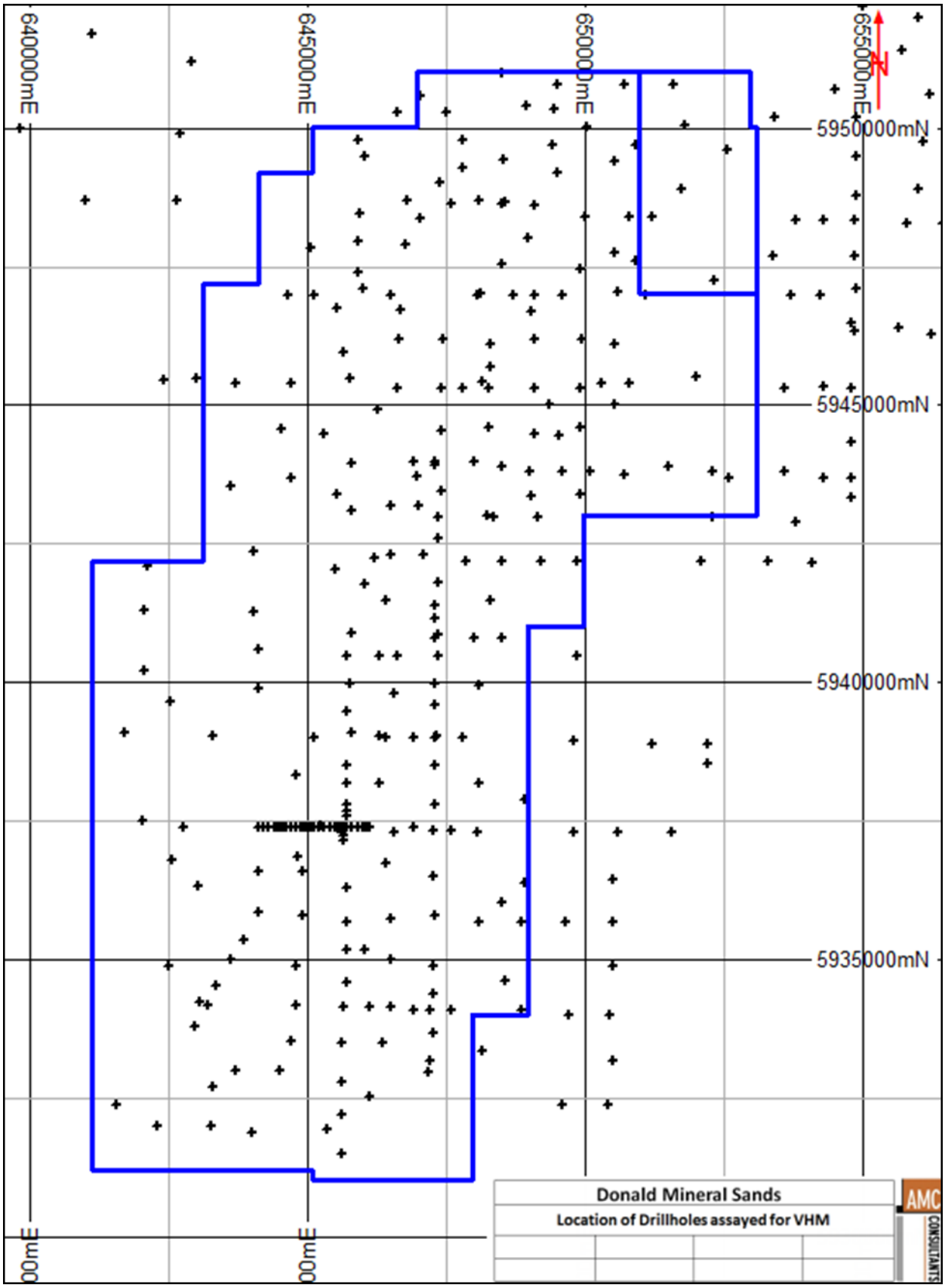

Note: Boundary of EL2002 is coloured blue; boundary of MIN5532 is coloured green

Figure 5: RL2003 & RL2006 – location of drill holes assayed for HM




Note: Boundary of EL2003 and RL2006 is coloured blue

Figure 6: RL2003 & RL2006 – location of drill holes assayed for VHM




Note: Boundary of EL2003 and RL2006 is coloured blue

**Mineral Resource Estimate**

Table 1: Heavy Mineral (HM) Sand – Mineral Resource Estimate

| Area | Classification | Tonnes (Mt) | HM (%) | Slimes (%) | Oversize (%) |
|---|---|---|---|---|---|
| RL2006 | *Measured* | 0 | 0.0 | 0.0 | 0.0 |
| | *Indicated* | 58 | 1.6 | 14.1 | 6.2 |
| | *Inferred* | 24 | 1.8 | 14.4 | 4.7 |
| | Subtotal | 82 | 1.6 | 14.2 | 5.8 |
| RL2003 | *Measured* | 0 | 0.0 | 0.0 | 0.0 |
| | *Indicated* | 1,845 | 2.8 | 19.2 | 5.8 |
| | *Inferred* | 560 | 2.9 | 16.8 | 3.2 |
| | Subtotal | 2,405 | 2.9 | 18.6 | 5.2 |
| Total Jackson Deposit (RL2003 & RL2006) | *Measured* | 0 | 0.0 | 0.0 | 0.0 |
| | *Indicated* | 1,903 | 2.8 | 19.0 | 5.8 |
| | *Inferred* | 584 | 2.9 | 16.7 | 3.3 |
| | Total | 2,487 | 2.8 | 18.5 | 5.2 |
| RL2002 | *Measured* | 343 | 3.9 | 19.8 | 8.1 |
| | *Indicated* | 833 | 3.3 | 16.2 | 13.5 |
| | *Inferred* | 1,595 | 3.4 | 15.7 | 6.0 |
| | Subtotal | 2,771 | 3.4 | 16.4 | 8.5 |
| MIN5532 | *Measured* | 372 | 4.5 | 14.4 | 12.8 |
| | *Indicated* | 75 | 4.0 | 13.8 | 13.1 |
| | *Inferred* | 7 | 3.5 | 13.5 | 10.6 |
| | Subtotal | 454 | 4.4 | 14.2 | 12.8 |
| Total Donald Deposit (RL2002 & MIN5532) | *Measured* | 715 | 4.2 | 17.0 | 10.6 |
| | *Indicated* | 907 | 3.4 | 16.0 | 13.4 |
| | *Inferred* | 1,603 | 3.4 | 15.7 | 6.0 |
| | Total | 3,225 | 3.6 | 16.1 | 9.1 |
| **TOTAL** Donald Project | *Measured* | 715 | 4.3 | 18.1 | 11.1 |
| | *Indicated* | 2,811 | 3.0 | 17.9 | 8.2 |
| | *Inferred* | 2,187 | 3.3 | 16.4 | 5.5 |
| | Total | 5,712 | 3.2 | 16.9 | 7.3 |

Note:
1. The total tonnes may not equal the sum of the individual resources due to rounding.
2. The cut-off grade is 1% HM.
3. The figures are rounded to the nearest: 10M for tonnes, one decimal for HM, Slimes and Oversize.

Table 2: HM Assemblage and Mineral Resource Estimate for available VHM data

| Area | Classification | Tonnes (Mt) | HM (%) | Slimes (%) | Oversize (%) | Zircon (% HM) | Rutile+anatase (% HM) | Ilmenite (% HM) | Leucoxene (% HM) | Monazite (% HM) |
|---|---|---|---|---|---|---|---|---|---|---|
| RL2006 | *Measured* | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0 | 0 |
| | *Indicated* | 18 | 2.1 | 14.2 | 5.7 | 17 | 8 | 29 | 31 | 2 |
| | *Inferred* | 8 | 2.5 | 14.1 | 4.5 | 16 | 8 | 30 | 32 | 2 |
| | Subtotal | 26 | 2.2 | 14.2 | 5.3 | 17 | 8 | 29 | 31 | 2 |
| RL2003 | *Measured* | | | | | | | | | |
| | *Indicated* | 650 | 5.0 | 18.2 | 5.4 | 18 | 9 | 32 | 17 | 2 |
| | *Inferred* | 146 | 4.1 | 15.2 | 3.1 | 22 | 10 | 32 | 14 | 2 |
| | Subtotal | 797 | 4.8 | 17.7 | 5.0 | 19 | 9 | 32 | 17 | 2 |
| Total Jackson Deposit (RL2003 & RL2006) | *Measured* | | | | | | | | | |
| | *Indicated* | 668 | 4.9 | 18.1 | 5.4 | 18 | 9 | 32 | 17 | 2 |
| | *Inferred* | 155 | 4.0 | 15.1 | 3.1 | 21 | 9 | 32 | 15 | 2 |
| | Total | 823 | 4.8 | 17.6 | 5.0 | 19 | 9 | 32 | 17 | 2 |
| RL2002 | *Measured* | 185 | 5.5 | 19.1 | 7.3 | 21 | 9 | 31 | 19 | 2 |
| | *Indicated* | 454 | 4.2 | 15.9 | 13.2 | 17 | 7 | 33 | 19 | 2 |
| | *Inferred* | 647 | 4.9 | 15.2 | 5.8 | 18 | 9 | 33 | 17 | 2 |
| | Subtotal | 1,286 | 4.8 | 16.0 | 8.6 | 18 | 8 | 33 | 18 | 2 |
| MIN5532 | *Measured* | 264 | 5.4 | 14.2 | 12.2 | 19 | 7 | 31 | 22 | 2 |
| | *Indicated* | 49 | 4.9 | 13.6 | 12.1 | 20 | 7 | 33 | 22 | 2 |
| | *Inferred* | 5 | 4.2 | 13.5 | 10.5 | 22 | 7 | 36 | 20 | 3 |
| | Subtotal | 317 | 5.3 | 14.1 | 12.1 | 19 | 7 | 32 | 22 | 2 |
| Total Donald Deposit (RL2002 & MIN5532) | *Measured* | 448 | 5.4 | 16.2 | 10.2 | 20 | 8 | 31 | 21 | 2 |
| | *Indicated* | 503 | 4.3 | 15.7 | 13.1 | 18 | 7 | 33 | 20 | 2 |
| | *Inferred* | 652 | 4.9 | 15.2 | 5.8 | 18 | 8 | 33 | 17 | 2 |
| | Total | 1,604 | 4.9 | 15.6 | 9.3 | 18 | 8 | 32 | 19 | 2 |
| **TOTAL** Donald Project | *Measured* | 448 | 5.4 | 16.2 | 10.2 | 20 | 8 | 31 | 21 | 2 |
| | *Indicated* | 1,171 | 4.6 | 17.1 | 8.7 | 18 | 8 | 32 | 18 | 2 |
| | *Inferred* | 807 | 4.7 | 15.2 | 5.3 | 19 | 9 | 33 | 17 | 2 |
| | Total | 2,427 | 4.8 | 16.3 | 7.9 | 19 | 8 | 32 | 18 | 2 |

Note:
1. The total tonnes may not equal the sum of the individual resources due to rounding.
2. The cut-off grade is 1% HM.
3. The figures are rounded to the nearest: 10M for tonnes, one decimal for HM, Slimes and Oversize and whole numbers for zircon, ilmenite, rutile + anatase, leucoxene and monazite.
4. Zircon, ilmenite, rutile + anatase, leucoxene and monazite percentages are report as a percentage of the HM.
5. Rutile + anatase, leucoxene and monazite resource has been estimated using fewer samples than the other valuable heavy minerals. The accuracy and confidence in their estimate is therefore lower.

# APPENDIX 1

# JORC Code, 2012 Edition – Table 1

## "Donald Deposit" (MIN5532 & RL2002)

**Section 1 Sampling Techniques and Data**

(Criteria in this section apply to all succeeding sections.)

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Sampling techniques*** | • *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.*<br>• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*<br>• *Aspects of the determination of mineralization that are Material to the Public Report.*<br>• *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralization types (eg submarine nodules) may warrant disclosure of detailed information.* | • Air core drilling was used to obtain samples taken at 1m intervals.<br>• Samples collected were approximately 7 kg in weight which were riffle split to 2 kg for analysis for sample prior to 2013. After 2013 samples were rotary split. After the removal of slimes and oversize the HM content was determined using heavy liquid separation<br>• The content of HM was assayed using grain counts with checks on the zircon, titanium and monazite content using XRF methods. |
| ***Drilling techniques*** | • *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).* | • All holes drilled by DMS were aircore with a nominal diameter of 67 mm. |
| ***Drill sample recovery*** | • *Method of recording and assessing core and chip sample recoveries and results assessed.*<br>• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*<br>• *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.* | • For holes drilled by DMS:<br>  ○ Sample recovery was visually checked.<br>  ○ Air core drilling was used to maximise recovery.<br>• Zirtanium reported their drilling during 2004 had a consistent sample weight recovery of approximately 7.1 kg +/- 0.8 kg.<br>• No relationship between recovery and grade were found. |
| ***Logging*** | • *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.*<br>• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* | • The air core samples were geologically logged to a high level of detail.<br>• Geotechnical logging consisted of recording induration and hardness of the sample. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | • *The total length and percentage of the relevant intersections logged.* | • All samples were logged. |
| ***Sub-sampling techniques and sample preparation*** | • *If core, whether cut or sawn and whether quarter, half or all core taken.*<br>• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*<br>• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*<br>• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*<br>• *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.*<br>• *Whether sample sizes are appropriate to the grain size of the material being sampled.* | • Riffle splits of dry samples were used for sub-sampling prior to 2013. Samples after 2013 were rotary split.<br>• The sample preparation was appropriate.<br>• Field and laboratory duplicates for HM, slimes and oversize were used as quality control.<br>• Sample sizes were appropriate for the grain size of the material being tested. |
| ***Quality of assay data and laboratory tests*** | • *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*<br>• *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.*<br>• *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.* | • After the removal of slimes and oversize the content of HM was determined using heavy liquid separation. The HM content was assayed using grain counts with checks on the zircon, monazite and titanium content using XRF<br>• Stationary XRF instruments were used by industry independent laboratory Bureau Veritas Minerals Pty Ltd<br>• Quality control consisted of duplicate samples prepared by DMS and the laboratory.<br>• No blanks were submitted.<br>• A second laboratory was not used. |
| ***Verification of sampling and assaying*** | • *The verification of significant intersections by either independent or alternative company personnel.*<br>• *The use of twinned holes.*<br>• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*<br>• *Discuss any adjustment to assay data.* | • Twin holes were used to check the results of earlier drilling which showed consistency between the different drilling programs.<br>• The data was stored in an Access database and checked against the original sample reports.<br>• A series of adjustments to the sample data was made. This included:<br>  ◦ For zircon % derived from grain counting the Zircon_Min_pct value was used.<br>  ◦ For zircon % derived from XRF results the ZrO2_HfO2_pct value.<br>  ◦ For zircon % derived from XRF results use "ZrO2_HfO2_conv" value.<br>• Limited assay values for rutile + anatase % are available. The percentage of rutile is generally contained in the database. For resource estimation the following sample adjustments were made:<br>  ◦ Where rutile + anatase % only data was not available, rutile + anatase was calculated from the rutile % data using the following formula which was derived from a correlation plot where both sets of data are available.<br>  ◦ $rutile + anatase\,\% = 1.015 \times rutile\ \% + 1.89$ |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | • The ilmenite % values obtained from the DMS drilling contained magnetite. Based on a comparison with the CRA drilling the DMS ilmenite grades were decreased by 1.6 % to remove the magnetite from the assay. |
| ***Location of data points*** | • *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.*<br>• *Specification of the grid system used.*<br>• *Quality and adequacy of topographic control.* | • The collar positions were located using survey equipment for the early drilling and differential GPS for the later drilling.<br>• The grid used was MGA94 Zone 54 co-ordinate system.<br>• The topographic surface was obtained from LIDAR data. |
| ***Data spacing and distribution*** | • *Data spacing for reporting of Exploration Results.*<br>• *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.*<br>• *Whether sample compositing has been applied.* | • The drillhole spacing used in the Mineral Resource classification was:<br>— Generally 150 mE x 500 mN grid as Measured Mineral Resource.<br>— Generally 250 mE by 500 mN as Indicated Mineral Resource.<br>— Wider grid spacing is classified as Inferred Mineral Resource.<br>• The HM, slimes and oversize samples were sampled at 1m intervals with no compositing. The VHM samples were taken at varied lengths which were composited to 1m for resource estimation. |
| ***Orientation of data in relation to geological structure*** | • *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*<br>• *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.* | • The mineralization is generally flat lying enabling vertical drilling to be appropriate.<br>• No bias was introduced by the drilling orientation. |
| ***Sample security*** | • *The measures taken to ensure sample security.* | • Samples were stored in sealed bags on private land.<br>• Sample were securely packed and sent to laboratory by courier. |
| ***Audits or reviews*** | • *The results of any audits or reviews of sampling techniques and data.* | • Only internal reviews were carried out. |

**Section 2 Reporting of Exploration Results**

(Criteria listed in the preceding section also apply to this section.)

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Mineral tenement and land tenure status*** | • *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.*<br>• *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.* | • This report covers the area of MIN5532 and RL2002 owned by Donald Mineral Sands. AMC has been informed that no third parties or other interests impact on the exploration licence.<br>• AMC is not aware of any known impediments to the tenure being in existence. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | • Land use is broad acre cropping |
| ***Exploration done by other parties*** | • *Acknowledgment and appraisal of exploration by other parties.* | • Drilling by CRA Exploration Pty Ltd in 1980's.<br>• Drilling by Zirtanium Ltd in 2004. |
| ***Geology*** | • *Deposit type, geological setting and style of mineralisation.* | • WIM-style mineralisation, fine grained heavy mineral deposit within the Parilla Sand.<br>• The deposit can be described as a Tertiary succession of freshwater, marine, coastal and continental sediments deposited heavy minerals in the area. The deposit consist of a solitary or composite broad, lobate sheet-like body of considerable aerial extent, highly sorted and associated with fine micaceous sand. These deposits are thought to represent accumulations formed below the active wave base in a near shore environment, possibly representing the submarine equivalent of the strand style deposits. |
| ***Drill hole Information*** | • *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:*<br>  ○ *easting and northing of the drill hole collar*<br>  ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*<br>  ○ *dip and azimuth of the hole*<br>  ○ *down hole length and interception depth*<br>  ○ *hole length.*<br>• *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.* | • Easting ranged from 653,400 m to 664,000 m.<br>• Northing ranged from 5,943,300 m to 5,989,900 m.<br>• RL ranged from 75 m to 137 m.<br>• All holes were drilled vertically.<br>• The holes ranged from 1 m to 30 m in length with an average of 20.8 m.<br>• HM was first intersected at between 1 m and 40 m depth. |
| ***Data aggregation methods*** | • *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.*<br>• *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.*<br>• *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | • All sampling for HM is done in metre intervals.<br>• Normal weighted average techniques are used for compositing mineralogy samples.<br>• VHM assays are on composited samples of varying intervals.<br>• Metal equivalent figures are not used. |
| ***Relationship between mineralisation widths and intercept lengths*** | • *These relationships are particularly important in the reporting of Exploration Results.*<br>• *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*<br>• *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').* | • The mineralization is generally horizontal and the drilling was vertical. The drillholes intersected the mineralization generally at a 90 degree angle enabling true widths to be estimated and used in Mineral Resource Estimation. |
| ***Diagrams*** | • *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional* | • Refer to Figures 1, 2, 3 and 4. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *views.* | |
| ***Balanced reporting*** | • *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.* | • Not applicable as Exploration Results are not reported. |
| ***Other substantive exploration data*** | • *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.* | • In 2010 bulk sample within MIN5532 were taken using various composited drill holes around hole D10_044.<br>• Test work was completed in 2010 to compare results from test pit bulk sample taken in 2005.<br>• The entire Parilla sand horizon was sampled resulting in a composited low grade sample of 2%HM head grade.<br>• In 2005 a test pit within former EL4433/current EL2002, material was processed at Mildura pilot plant and formed the basis of current process flow sheet design.<br>• In 2000 a Cadwell hole within MIN5532 was drilled. Test work was carried out in 2001 and 2004 to develop process flow sheet design. |
| ***Further work*** | • *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*<br>• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* | • Grade control drilling is planned prior any potential mining. |

**Section 3 Estimation and Reporting of Mineral Resources**

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Database integrity*** | • *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.*<br>• *Data validation procedures used.* | • The FROM and TO values were checked to ensure no overlaps or missing data.<br>• The collar coordinates were checked and converted to the MGA94 zone 54 co-ordinate system.<br>• All collar coordinates were checked to ensure they were located within the MIN5532 and RL2002.<br>• The assay results were reviewed for spurious values in excess of logical results. |
| ***Site visits*** | • *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*<br>• *If no site visits have been undertaken indicate why this is the case.* | • The Competent Person visited the site on several occasions viewing drilling, sampling methods, bulk sample site and area of the deposit and held discussions with site technical personnel. |
| ***Geological interpretation*** | • *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*<br>• *Nature of the data used and of any assumptions made.*<br>• *The effect, if any, of alternative interpretations on Mineral Resource estimation.* | • The drillhole data confirms the geological interpretation.<br>• The HM is contained within the Parilla Sand unit which exists over the entire MIN5532 and RL2002.<br>• No alternative interpretations can be made. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | • *The use of geology in guiding and controlling Mineral Resource estimation.*<br>• *The factors affecting continuity both of grade and geology.* | • Geology was used to locate the top and bottom of the Parilla Sand and the mineralized zone.<br>• Mineralization continues across the MIN5532 and RL2002 with higher grade zones modelled separately. |
| ***Dimensions*** | • *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.* | • The whole MIN5532 and RL2002 contain mineralization.<br>• The mineralization ranges in depth from 1 m to 41 m. |
| ***Estimation and modelling techniques*** | • *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.*<br>• *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.*<br>• *The assumptions made regarding recovery of by-products.*<br>• *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).*<br>• *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.*<br>• *Any assumptions behind modelling of selective mining units.*<br>• *Any assumptions about correlation between variables.*<br>• *Description of how the geological interpretation was used to control the resource estimates.*<br>• *Discussion of basis for using or not using grade cutting or capping.*<br>• *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.* | • The estimation method was Ordinary Kriging with an octant and ellipsoidal search. The mineralised zone was domained into three zones – low grade medium (>3<5 % HM) and high grade (above 5 % HM).<br>• A low grade HM domain (< 1 % HM) was modelled along the eastern side of MIN5532 and RL2002.<br>• Datamine software was used for the resource estimate.<br>• No domaining was used for slimes and oversize.<br>• The VHM minerals were domained within the area of assaying for VHM.<br>• A previous estimate is available and gives similar results.<br>• No assumptions were made regarding the recovery of bi-products.<br>• No deleterious elements were considered in the estimate.<br>• Blocks sizes of 100 mE x 200 mN x 1 mRl were used. This is approximately half the drillhole spacing, in the better drilled areas.<br>• No assumptions were made regarding selective mining units.<br>• The correlation between variables was reviewed but not included in the resource estimate.<br>• Top caps were used for zircon and rutile + anatase based on the results of log probability plots.<br>• The model was visually checked against the drillholes and SWATH plots were used to check the average grade and trends in grades between the model and drillhole a data. |
| ***Moisture*** | • *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.* | • The assay results were based on dry samples therefore the moisture content was not considered. |
| ***Cut-off parameters*** | • *The basis of the adopted cut-off grade(s) or quality parameters applied.* | • A 1% HM grade was used for reporting the Mineral Resources. Mining optimisation studies have shown the economic cut-off is approximately 2 % HM, based on dry mining methods. Wet mining methods that take all the minerals may lower the economic cut-off grade to approximately 1 % HM |
| ***Mining factors or*** | • *Assumptions made regarding possible mining methods, minimum mining dimensions* | • It is assumed the dry mining methods will be employed |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***assumptions*** | *and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.* | with the option of using wet mining methods. |
| ***Metallurgical factors or assumptions*** | • *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.* | • Test show all minerals reported can be processed.<br>• Metallurgical testing has shown the deposit can be processed. The samples above a 38 µm size were used for assaying and resource estimation. Additional material may be obtained between 38 µm and 20 µm that could add to the value of the project. |
| ***Environmental factors or assumptions*** | • *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.* | • For DMS mining license MIN5532 conditional approval has been obtained from the Victorian Government for mining of the deposit and placement of all waste material back into the mined.<br>• The current understanding is that there are no social or environmental issues which will impact on processing or mining of the deposit. |
| ***Bulk density*** | • *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.*<br>• *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.*<br>• *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.* | • The prefeasibility report (Zirtanium, 2005) stated the bulk density measurements were obtained from the nearby WIM 150 deposit and applied to the MIN5532 deposit. Initial determinations were derived from weighing a known volume of competent drill core, providing a range from 1.8 t/m$^3$ to 2.2 t/m$^3$, with a mean of 2.0 t/m$^3$. Bulk sampling costeans were subsequently excavated, permitting sand replacement densities to be collected. An average dry bulk density of 1.65 t/m$^3$ was determined, with all results lying within a narrow range.<br>• A plot of bulk density versus % HM showed a very good correlation therefore the block bulk density was estimated as Bulk density = 1.65 +(0.01*HM).<br>• No recent bulk density determinations have been carried out. |
| ***Classification*** | • *The basis for the classification of the Mineral Resources into varying confidence categories.*<br>• *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).*<br>• *Whether the result appropriately reflects the Competent Person's view of the deposit.* | • The Mineral Resource classification was mainly based on the drillhole spacing. The mineralization and geology is consistent and continuous and the deposit reasonable well understood. Generally 100 mE x 500 mN grid is a Measured Mineral Resource, 250 mE by 500 mN is an Indicated Mineral Resource and wider grid spacing is classified as an Inferred Mineral Resource.<br>• The drillhole data is considered to be suitable for the resource classifications used. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | • The classification reflects the Competent Persons view of the deposit. |
| ***Audits or reviews*** | • *The results of any audits or reviews of Mineral Resource estimates.* | • Previous Mineral Resource estimates using the same methodology have been audited by a third party independent consultancy. |
| ***Discussion of relative accuracy/ confidence*** | • *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.*<br>• *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.*<br>• *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.* | • No statistical or geostatistical review of the accuracy of the resource estimate was undertaken.<br>• The resource statement is a global estimate based on addition of local estimates.<br>• There has been no production to date. |

# "Jackson Deposit" (RL2003 & RL2006)

**Section 1 Sampling Techniques and Data**

(Criteria in this section apply to all succeeding sections.)

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Sampling techniques*** | • *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.*<br>• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*<br>• *Aspects of the determination of mineralization that are Material to the Public Report.*<br>• *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralization types (eg submarine nodules) may warrant disclosure of detailed information.* | • Air core drilling was used to obtain samples taken at 1m intervals.<br>• Samples collected were approximately 7 kg in weight which were riffle split to 2 kg for analysis for sample prior to 2013. After 2013 samples were rotary split. After the removal of slimes and oversize the HM content was determined using heavy liquid separation.<br>• The content of HM was assayed using grain counts with checks on the zircon, monazite and titanium content using XRF methods. |
| ***Drilling techniques*** | • *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).* | • All holes drilled by DMS were aircore with a nominal diameter of 67 mm. |
| ***Drill sample recovery*** | • *Method of recording and assessing core and chip sample recoveries and results assessed.*<br>• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*<br>• *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.* | • For holes drilled by DMS:<br>  ○ Sample recovery was visually checked.<br>  ○ Air core drilling was used to maximise recovery.<br>• Zirtanium reported their drilling during 2004 had a consistent sample weight recovery of approximately 7.1 kg +/- 0.8 kg.<br>• No relationship between recovery and grade were found. |
| ***Logging*** | • *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.*<br>• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*<br>• *The total length and percentage of the relevant intersections logged.* | • The air core samples were geologically logged to a high level of detail.<br>• Geotechnical logging consisted of recording induration and hardness of the sample.<br>• All samples were logged. |
| ***Sub-sampling techniques and sample preparation*** | • *If core, whether cut or sawn and whether quarter, half or all core taken.*<br>• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*<br>• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*<br>• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*<br>• *Measures taken to ensure that the sampling is representative of the in situ material* | • Riffle splits of dry samples were used for sub-sampling prior to 2013. Samples after 2013 were rotary split.<br>• The sample preparation was appropriate.<br>• Field and laboratory duplicates for HM, slimes and oversize were used as quality control.<br>• Sample sizes were appropriate for the grain size of the material being tested. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *collected, including for instance results for field duplicate/second-half sampling.*<br>• *Whether sample sizes are appropriate to the grain size of the material being sampled.* | |
| ***Quality of assay data and laboratory tests*** | • *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*<br>• *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.*<br>• *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.* | • After the removal of slimes and oversize the content of HM was determined using heavy liquid separation. The HM content was assayed using grain counts with checks on the zircon, monazite and titanium content using XRF.<br>• Stationary XRF instruments were used by industry independent laboratory Bureau Veritas Minerals Pty Ltd.<br>• Quality control consisted of duplicate samples prepared by DMS and the laboratory.<br>• No blanks were submitted.<br>• A second laboratory was not used. |
| ***Verification of sampling and assaying*** | • *The verification of significant intersections by either independent or alternative company personnel.*<br>• *The use of twinned holes.*<br>• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*<br>• *Discuss any adjustment to assay data.* | • Twin holes were used to check the results of earlier drilling which showed consistency between the different drilling programs.<br>• The data was stored in an Access database and checked against the original sample reports.<br>• A series of adjustments to the sample data was made. This included:<br>  • For zircon % derived from grain counting the Zircon_Min_pct value was used.<br>  • For zircon % derived from XRF results the ZrO2_HfO2_pct value.<br>  • For zircon % derived from XRF results use "ZrO2_HfO2_conv" value.<br>• Limited assay values for rutile + anatase % are available. The percentage of rutile is generally contained in the database. For resource estimation the following sample adjustments were made:<br>  ○ Where rutile + anatase % only data was not available, rutile + anatase was calculated from the rutile % data using the following formula which was derived from a correlation plot where both sets of data are available.<br>  ○ $rutile + anatase\ \% = 1.015 \times rutile\ \% + 1.89$<br>• The ilmenite % values obtained from the DMS drilling contained magnetite. Based on a comparison with the CRA drilling the DMS ilmenite grades were decreased by 1.6 % to remove the magnetite from the assay. |
| ***Location of data points*** | • *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.*<br>• *Specification of the grid system used.* | • The collar positions were located using survey equipment for the early drilling and differential GPS for the later drilling.<br>• The grid used was MGA94 Zone 54 co-ordinate system. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | • *Quality and adequacy of topographic control.* | • The topographic surface was obtained from LIDAR data. |
| ***Data spacing and distribution*** | • *Data spacing for reporting of Exploration Results.*<br>• *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.*<br>• *Whether sample compositing has been applied.* | • The drillhole spacing used in the Mineral Resource classification was:<br>— Generally 150 mE x 500 mN grid as Measured Mineral Resource.<br>— Generally 400 mE by 400 mN as Indicated Mineral Resource.<br>— Wider grid spacing is classified as Inferred Mineral Resource.<br>• The HM, slimes and oversize samples were sampled at 1m intervals with no compositing. The VHM samples were taken at varied lengths which were composited to 1m for resource estimation. |
| ***Orientation of data in relation to geological structure*** | • *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*<br>• *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.* | • The mineralization is generally flat lying enabling vertical drilling to be appropriate.<br>• No bias was introduced by the drilling orientation. |
| ***Sample security*** | • *The measures taken to ensure sample security.* | • Samples were stored in sealed bags on private land.<br>• Sample were securely packed and sent to laboratory by courier. |
| ***Audits or reviews*** | • *The results of any audits or reviews of sampling techniques and data.* | • Only internal reviews were carried out. |

**Section 2 Reporting of Exploration Results**

(Criteria listed in the preceding section also apply to this section.)

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Mineral tenement and land tenure status*** | • *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.*<br>• *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.* | • This report covers the area of RL2003 and RL2006 owned by Donald Mineral Sands. AMC has been informed that no third parties or other interests impact on the exploration licence.<br>• AMC is not aware of any known impediments to the tenure being in existence.<br>• Land use is broad acre cropping |
| ***Exploration done by other parties*** | • *Acknowledgment and appraisal of exploration by other parties.* | • Drilling by CRA Exploration Pty Ltd in 1980's.<br>• Drilling by Zirtanium Ltd in 2004. |
| ***Geology*** | • *Deposit type, geological setting and style of mineralisation.* | • WIM-style mineralisation, fine grained heavy mineral deposit within the Parilla Sand.<br>• The deposit can be described as a Tertiary succession of freshwater, marine, coastal and continental sediments deposited heavy minerals in the area. The deposit |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | consist of a solitary or composite broad, lobate sheet-like body of considerable aerial extent, highly sorted and associated with fine micaceous sand. These deposits are thought to represent accumulations formed below the active wave base in a near shore environment, possibly representing the submarine equivalent of the strand style deposits. |
| ***Drill hole Information*** | • *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:*<br>  ○ *easting and northing of the drill hole collar*<br>  ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*<br>  ○ *dip and azimuth of the hole*<br>  ○ *down hole length and interception depth*<br>  ○ *hole length.*<br>• *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.* | • Easting ranged from 641,500 m to 653,000 m.<br>• Northing ranged from 5,941,500 m to 5,951,000 m.<br>• RL ranged from 90 m to 151 m.<br>• All holes were drilled vertically.<br>• The holes ranged from 1 m to 52 m in length with an average of 16 m.<br>• HM was first intersected at between 3 m and 7 m depth. |
| ***Data aggregation methods*** | • *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.*<br>• *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.*<br>• *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | • All sampling for HM is done in metre intervals.<br>• Normal weighted average techniques are used for compositing mineralogy samples.<br>• VHM assays are on composited samples of varying intervals.<br>• Metal equivalent figures are not used. |
| ***Relationship between mineralisation widths and intercept lengths*** | • *These relationships are particularly important in the reporting of Exploration Results.*<br>• *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*<br>• *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').* | • The mineralization is generally horizontal and the drilling was vertical. The drillholes intersected the mineralization generally at a 90 degree angle enabling true widths to be estimated and used in Mineral Resource Estimation. |
| ***Diagrams*** | • *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.* | • Refer to Figures 5 and 6. |
| ***Balanced reporting*** | • *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.* | • Not applicable as Exploration Results are not reported. |
| ***Other substantive exploration data*** | • *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.* | • In 2010 bulk sample within MIN5532 were taken using various composited drill holes around hole D10_044.<br>• Test work was completed in 2010 to compare results from test pit bulk sample taken in 2005.<br>• The entire Parilla sand horizon was sampled resulting in |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | a composited low grade sample of 2%HM head grade.<br>• In 2005 a test pit within EL4433, material was processed at Mildura pilot plant and formed the basis of current process flow sheet design.<br>• In 2000 a Cadwell hole within MIN5532 was drilled. Test work was carried out in 2001 and 2004 to develop process flow sheet design. |
| ***Further work*** | • *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*<br>• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* | • Grade control drilling is planned prior any potential mining. |

**Section 3 Estimation and Reporting of Mineral Resources**

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Database integrity*** | • *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.*<br>• *Data validation procedures used.* | • The FROM and TO values were checked to ensure no overlaps or missing data.<br>• The collar coordinates were checked and converted to the MGA94 zone 54 co-ordinate system.<br>• All collar coordinates were checked to ensure they were located within the RL2002 & RL2006.<br>• The assay results were reviewed for spurious values in excess of logical results. |
| ***Site visits*** | • *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*<br>• *If no site visits have been undertaken indicate why this is the case.* | • The Competent Person visited the site on several occasions viewing drilling, sampling methods, bulk sample site and area of the deposit and held discussions with site technical personnel. |
| ***Geological interpretation*** | • *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*<br>• *Nature of the data used and of any assumptions made.*<br>• *The effect, if any, of alternative interpretations on Mineral Resource estimation.*<br>• *The use of geology in guiding and controlling Mineral Resource estimation.*<br>• *The factors affecting continuity both of grade and geology.* | • The drillhole data confirms the geological interpretation.<br>• The HM is contained within the Parilla Sand unit which exists over the entire RL2002 & RL2006.<br>• No alternative interpretations can be made.<br>• Geology was used to locate the top and bottom of the Parilla Sand and the mineralized zone.<br>• Mineralization continues across the EL with higher grade zones modelled separately. |
| ***Dimensions*** | • *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.* | • The whole RL2003 and RL2006 contains mineralization.<br>• The mineralization ranges in depth from 3 m to 37 m. |
| ***Estimation and*** | • *The nature and appropriateness of the estimation technique(s) applied and key* | • The estimation method was Ordinary Kriging with an |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***modelling techniques*** | *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.*<br>• *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.*<br>• *The assumptions made regarding recovery of by-products.*<br>• *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).*<br>• *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.*<br>• *Any assumptions behind modelling of selective mining units.*<br>• *Any assumptions about correlation between variables.*<br>• *Description of how the geological interpretation was used to control the resource estimates.*<br>• *Discussion of basis for using or not using grade cutting or capping.*<br>• *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.* | octant and ellipsoidal search. The mineralised zone was domained into three zones – low grade medium (>3<5 % HM) and high grade (above 5 % HM).<br>• A low grade HM domain (< 1 % HM) was modelled along the eastern side of the RL2002 & RL2006.<br>• Datamine software was used for the resource estimate.<br>• No domaining was used for slimes and oversize.<br>• The VHM minerals were domained within the area of assaying for VHM.<br>• A previous estimate is available and gives similar results.<br>• No assumptions were made regarding the recovery of bi-products.<br>• No deleterious elements were considered in the estimate.<br>• Blocks sizes of 100 mE x 200 mN x 1 mRl were used. This is approximately half the drillhole spacing, in the better drilled areas.<br>• No assumptions were made regarding selective mining units.<br>• The correlation between variables was reviewed but not included in the resource estimate.<br>• Top-caps were used for zircon and rutile + anatase based on the results of log probability plots.<br>• The model was visually checked against the drillholes and SWATH plots were used to check the average grade and trends in grades between the model and drillhole a data. |
| ***Moisture*** | • *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.* | • The assay results were based on dry samples therefore the moisture content was not considered. |
| ***Cut-off parameters*** | • *The basis of the adopted cut-off grade(s) or quality parameters applied.* | • A 1% HM grade was used for reporting the Mineral Resources. Mining optimisation studies have shown the economic cut-off is approximately 2 % HM, based on dry mining methods. Wet mining methods that take all the minerals may lower the economic cut-off grade to approximately 1 % HM |
| ***Mining factors or assumptions*** | • *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.* | • It is assumed the dry mining methods will be employed with the option of using wet mining methods. |
| ***Metallurgical factors or*** | • *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the* | • Test show all minerals reported can be processed.<br>• Metallurgical testing has shown the deposit can be processed. The samples above a 38 µm size were used |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***assumptions*** | *assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.* | for assaying and resource estimation. Additional material may be obtained between 38 µm and 20 µm that could add to the value of the project. |
| ***Environmental factors or assumptions*** | • *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.* | • For DMS mining license MIN5532 conditional approval has been obtained from the Victorian Government for mining of the deposit and placement of all waste material back into the mined.<br>• The current understanding is that there are no social or environmental issues which will impact on processing or mining of the deposit. |
| ***Bulk density*** | • *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.*<br>• *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.*<br>• *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.* | • The prefeasibility report (Zirtanium, 2005) stated the bulk density measurements were obtained from the nearby WIM 150 deposit and applied to the RL2003 and RL2006 deposit. Initial determinations were derived from weighing a known volume of competent drill core, providing a range from 1.8 t/$m^3$ to 2.2 t/$m^3$, with a mean of 2.0 t/$m^3$. Bulk sampling costeans were subsequently excavated, permitting sand replacement densities to be collected. An average dry bulk density of 1.65 t/$m^3$ was determined, with all results lying within a narrow range.<br>• A plot of bulk density versus % HM showed a very good correlation therefore the block bulk density was estimated as Bulk density = 1.65 +(0.01*HM).<br>• No recent bulk density determinations have been carried out. |
| ***Classification*** | • *The basis for the classification of the Mineral Resources into varying confidence categories.*<br>• *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).*<br>• *Whether the result appropriately reflects the Competent Person's view of the deposit.* | • The Mineral Resource classification was mainly based on the drillhole spacing. The mineralization and geology is consistent and continuous and the deposit reasonable well understood. Generally 100 mE x 500 mN grid is a Measured Mineral Resource, 250 mE by 500 mN is an Indicated Mineral Resource and wider grid spacing is classified as an Inferred Mineral Resource.<br>• The drillhole data is considered to be suitable for the resource classifications used.<br>• The classification reflects the Competent Persons view of the deposit. |
| ***Audits or reviews*** | • *The results of any audits or reviews of Mineral Resource estimates.* | • Previous Mineral Resource estimates using the same methodology have been audited by a third party independent consultancy. |
| ***Discussion of relative accuracy/*** | • *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* | • No statistical or geostatistical review of the accuracy of the resource estimate was undertaken.<br>• The resource statement is a global estimate based on |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***confidence*** | *procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.*<br>• *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.*<br>• *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.* | addition of local estimates.<br>• There has been no production to date. |

# APPENDIX 2

## Information on the in-fill drilling at MIN5532, RL2002 and RL2003 in 2015

| DH number | Easting, m | Northing, m | Collar RL, m | DH length, m | Down hole mineralisation intercept | |
|---|---|---|---|---|---|---|
| | | | | | from, m | to, m |
| B001 | 659033 | 5958423 | 126.48 | 24 | 3 | 22 |
| B002 | 659331 | 5958486 | 127.45 | 24 | 6 | 22 |
| B003 | 659349 | 5958293 | 128.53 | 24 | 7 | 23 |
| B004 | 659660 | 5958272 | 128.16 | 24 | 6 | 24 |
| B005 | 659920 | 5958255 | 129.13 | 24 | 6 | 24 |
| B006 | 660238 | 5958267 | 130.21 | 27 | 8 | 25 |
| B007 | 661811 | 5958364 | 130.79 | 24 | 4 | 24 |
| B008 | 661801 | 5958108 | 131.15 | 25 | 4 | 25 |
| B009 | 661758 | 5957909 | 131.12 | 29 | 5 | 27 |
| B010 | 661372 | 5957916 | 131.07 | 26 | 9 | 25 |
| B011 | 660875 | 5957927 | 131.82 | 27 | 12 | 26 |
| B012 | 660500 | 5957929 | 130.88 | 27 | 9 | 26 |
| B013 | 659896 | 5957881 | 130.17 | 25 | 9 | 25 |
| B014 | 659350 | 5957875 | 130.87 | 27 | 11 | 26 |
| B015 | 659086 | 5957820 | 128.38 | 26 | 9 | 24 |
| B016 | 659019 | 5957537 | 129.98 | 27 | 10 | 26 |
| B017 | 659348 | 5957564 | 130.24 | 27 | 11 | 26 |
| B018 | 659688 | 5957558 | 132.54 | 30 | 12 | 28 |
| B019 | 660227 | 5957552 | 130.66 | 27 | 9 | 26 |
| B020 | 660591 | 5957557 | 131.04 | 27 | 9 | 26 |
| B021 | 660994 | 5957555 | 130.93 | 29 | 9 | 27 |
| B022 | 661396 | 5957515 | 130.9 | 27 | 12 | 25 |
| B023 | 661666 | 5957190 | 130.37 | 23 | 5 | 23 |
| B024 | 661062 | 5957203 | 130.87 | 27 | 8 | 26 |
| B025 | 660623 | 5957202 | 130.84 | 27 | 9 | 25 |
| B026 | 659480 | 5957214 | 130.42 | 27 | 11 | 26 |
| B027 | 658959 | 5957293 | 130.13 | 26 | 12 | 25 |
| B028 | 658658 | 5957283 | 130.15 | 26 | 6 | 25 |
| B029 | 658406 | 5957281 | 130.4 | 26 | 12 | 25 |
| B030 | 658186 | 5957281 | 130.37 | 26 | 8 | 25 |
| B031 | 657925 | 5957282 | 130.66 | 27 | 11 | 26 |
| B032 | 657681 | 5957272 | 130.55 | 27 | 14 | 26 |
| B033 | 656701 | 5956773 | 132.33 | 30 | 10 | 27 |
| B034 | 656949 | 5956770 | 132.01 | 28 | 10 | 27 |
| B035 | 657169 | 5956769 | 132.08 | 26 | 8 | 25 |
| B036 | 657516 | 5956768 | 131.57 | 27 | 7 | 26 |
| B037 | 657707 | 5956761 | 130.62 | 27 | 10 | 25 |
| B038 | 657923 | 5956773 | 130.76 | 26 | 7 | 25 |
| B039 | 658151 | 5956770 | 131.61 | 27 | 13 | 26 |
| B040 | 658433 | 5956768 | 130.76 | 26 | 9 | 25 |
| B041 | 659004 | 5956859 | 130.47 | 26 | 12 | 25 |
| B042 | 659574 | 5956871 | 130.63 | 25 | 3 | 25 |
| B043 | 659975 | 5957070 | 133.04 | 27 | 12 | 27 |
| B044 | 659970 | 5956841 | 131.1 | 25 | 9 | 25 |
| B045 | 660604 | 5956906 | 131.06 | 28 | 10 | 27 |
| B046 | 660999 | 5956943 | 131.2 | 32 | 11 | 31 |

| | | | | | | |
|---|---|---|---|---|---|---|
| B047 | 661347 | 5957002 | 131.28 | 27 | 13 | 26 |
| B048 | 661577 | 5956591 | 131.42 | 22 | 7 | 22 |
| B049 | 661284 | 5956587 | 131.47 | 32 | 6 | 31 |
| B050 | 661061 | 5956568 | 131.02 | 26 | 10 | 25 |
| B051 | 660598 | 5956556 | 130.98 | 27 | 9 | 26 |
| B052 | 659964 | 5956539 | 130.63 | 25 | 9 | 25 |
| B053 | 659560 | 5956549 | 130.73 | 24 | 10 | 24 |
| B054 | 658990 | 5956555 | 131.75 | 28 | 14 | 27 |
| B055 | 658426 | 5956510 | 130.73 | 26 | 9 | 25 |
| B056 | 656954 | 5956543 | 132.72 | 28 | 13 | 27 |
| B057 | 656780 | 5956538 | 132.85 | 29 | 13 | 28 |
| B058 | 656534 | 5956545 | 133.42 | 30 | 9 | 28 |
| B059 | 656314 | 5956539 | 133.7 | 30 | 9 | 29 |
| B060 | 656094 | 5956551 | 133.82 | 30 | 14 | 27 |
| B061 | 656911 | 5956252 | 133.18 | 28 | 7 | 27 |
| B062 | 657187 | 5956248 | 132.22 | 28 | 5 | 26 |
| B063 | 657655 | 5956219 | 130.65 | 25 | 12 | 24 |
| B064 | 657901 | 5956237 | 131.19 | 26 | 6 | 25 |
| B065 | 658176 | 5956242 | 130.63 | 25 | 12 | 24 |
| B066 | 659960 | 5956300 | 130.86 | 25 | 8 | 25 |
| B067 | 660982 | 5956219 | 131.29 | 27 | 9 | 26 |
| B068 | 661301 | 5956194 | 132.03 | 28 | 13 | 27 |
| B069 | 661180 | 5955913 | 132.37 | 27 | 6 | 27 |
| B070 | 660638 | 5955789 | 131.73 | 28 | 13 | 27 |
| B071 | 660222 | 5955813 | 131.27 | 26 | 9 | 26 |
| B073 | 659675 | 5955788 | 131.74 | 27 | 9 | 26 |
| B074 | 659387 | 5955789 | 131.7 | 27 | 10 | 26 |
| B075 | 659154 | 5955773 | 131.79 | 26 | 10 | 25 |
| B076 | 658947 | 5955777 | 131.9 | 27 | 11 | 26 |
| B077 | 658724 | 5955782 | 131.94 | 27 | 12 | 26 |
| B078 | 658427 | 5955788 | 132.71 | 27 | 10 | 27 |
| B079 | 657990 | 5955803 | 131.24 | 26 | 8 | 25 |
| B080 | 657654 | 5955805 | 131.44 | 26 | 8 | 25 |
| B081 | 657189 | 5955819 | 132.29 | 27 | 6 | 26 |
| B082 | 656904 | 5955820 | 133.05 | 28 | 7 | 28 |
| B083 | 658694 | 5955508 | 132.62 | 28 | 12 | 27 |
| B084 | 658927 | 5955510 | 132.26 | 27 | 10 | 26 |
| B085 | 660545 | 5955225 | 131.88 | 28 | 13 | 27 |
| B086 | 660292 | 5955246 | 132.08 | 27 | 10 | 26 |
| B087 | 659921 | 5955378 | 131.17 | 27 | 11 | 26 |
| B088 | 659620 | 5955248 | 131.53 | 26 | 11 | 25 |
| B089 | 659428 | 5955258 | 131.51 | 26 | 9 | 24 |
| B090 | 659168 | 5955246 | 131.77 | 27 | 9 | 26 |
| B091 | 658917 | 5955241 | 132.36 | 28 | 12 | 27 |
| B092 | 658653 | 5955250 | 132.79 | 29 | 12 | 28 |
| B093 | 658401 | 5955241 | 133.42 | 30 | 14 | 29 |
| B094 | 658135 | 5955249 | 131.85 | 30 | 7 | 29 |
| B095 | 657905 | 5955248 | 131.34 | 27 | 7 | 26 |
| B096 | 657666 | 5955239 | 132.47 | 26 | 7 | 25 |
| B097 | 657416 | 5955241 | 132.22 | 26 | 7 | 25 |
| B098 | 657142 | 5955239 | 132.12 | 26 | 4 | 25 |
| B099 | 656930 | 5955240 | 131.96 | 25 | 4 | 24 |
| B100 | 656947 | 5954822 | 132.28 | 26 | 5 | 25 |
| B101 | 657204 | 5954753 | 132.49 | 25 | 6 | 25 |
| B102 | 657390 | 5954759 | 131.79 | 25 | 12 | 24 |
| B103 | 657587 | 5954749 | 133.47 | 28 | 8 | 27 |
| B104 | 657821 | 5954763 | 131.11 | 25 | 12 | 24 |
| B105 | 658122 | 5954753 | 130.95 | 32 | 9 | 31 |

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|---|---|---|---|---|---|---|
| B106 | 658367 | 5954759 | 133.44 | 33 | 13 | 32 |
| B107 | 658652 | 5954741 | 132.22 | 30 | 10 | 29 |
| B108 | 658908 | 5954753 | 132.27 | 27 | 11 | 26 |
| B109 | 659131 | 5954750 | 131.85 | 27 | 10 | 26 |
| B110 | 659649 | 5954797 | 131.26 | 27 | 8 | 27 |
| B111 | 659896 | 5954743 | 131.36 | 26 | 12 | 25 |
| B112 | 660157 | 5954791 | 131.94 | 27 | 11 | 27 |
| B113 | 660410 | 5954783 | 131.83 | 29 | 12 | 27 |
| B114 | 660706 | 5954533 | 133.26 | 33 | 8 | 31 |
| B115 | 660649 | 5954258 | 133.07 | 24 | 5 | 24 |
| B116 | 660396 | 5954255 | 132.08 | 31 | 12 | 30 |
| B117 | 660136 | 5954247 | 131.87 | 31 | 7 | 30 |
| B118 | 659886 | 5954246 | 131.89 | 32 | 6 | 31 |
| B119 | 659669 | 5954243 | 132.02 | 32 | 9 | 31 |
| B120 | 659413 | 5954241 | 131.63 | 31 | 9 | 30 |
| B121 | 659155 | 5954240 | 131.44 | 31 | 8 | 30 |
| B122 | 658930 | 5954235 | 131.38 | 31 | 10 | 30 |
| B123 | 658643 | 5954237 | 132.14 | 33 | 13 | 32 |
| B124 | 658411 | 5954255 | 131.61 | 33 | 11 | 33 |
| B125 | 658160 | 5954257 | 132.13 | 35 | 9 | 35 |
| B126 | 657891 | 5954259 | 132.76 | 34 | 10 | 33 |
| B127 | 657660 | 5954261 | 132.89 | 27 | 12 | 26 |
| B128 | 657343 | 5954246 | 132.36 | 26 | 6 | 25 |
| B129 | 657326 | 5953753 | 132.8 | 24 | 8 | 24 |
| B130 | 657922 | 5953757 | 131.89 | 26 | 10 | 26 |
| B131 | 658182 | 5953761 | 131.89 | 26 | 12 | 26 |
| B132 | 658401 | 5953759 | 133.18 | 39 | | |
| B133 | 658663 | 5953757 | 131.3 | 26 | 11 | 26 |
| B134 | 658899 | 5953750 | 131.25 | 31 | 10 | 22 |
| B135 | 659156 | 5953745 | 131.69 | 32 | 11 | 26 |
| B136 | 659358 | 5953754 | 131.73 | 31 | 12 | 25 |
| B137 | 659651 | 5953745 | 132.75 | 26 | 13 | 26 |
| B138 | 659903 | 5953750 | 131.51 | 31 | 9 | 25 |
| B139 | 660183 | 5953742 | 131.61 | 34 | 11 | 25 |
| B140 | 660452 | 5953754 | 132.54 | 31 | 10 | 30 |
| B141 | 660841 | 5953767 | 131.59 | 24 | 6 | 24 |
| B142 | 660673 | 5953300 | 130.82 | 21 | 9 | 21 |
| B143 | 660448 | 5953296 | 130.95 | 35 | 10 | 23 |
| B144 | 660095 | 5953290 | 131.08 | 24 | 11 | 24 |
| B145 | 659896 | 5953284 | 131.46 | 24 | 9 | 24 |
| B146 | 659649 | 5953288 | 131.88 | 24 | 12 | 24 |
| B147 | 659372 | 5953293 | 131.63 | 24 | 12 | 24 |
| B148 | 659180 | 5953296 | 131.31 | 24 | 11 | 24 |
| B149 | 658923 | 5953285 | 131.58 | 24 | 11 | 24 |
| B150 | 658652 | 5953276 | 131.32 | 27 | 10 | 27 |
| B152 | 658706 | 5952776 | 131.54 | 25 | 12 | 24 |
| B153 | 658915 | 5952780 | 131.72 | 24 | 9 | 24 |
| B154 | 659170 | 5952783 | 131.24 | 24 | 11 | 24 |
| B155 | 659427 | 5952779 | 131.16 | 23 | 9 | 20 |
| B156 | 659909 | 5952774 | 131.52 | 26 | 17 | 25 |
| B157 | 660165 | 5952772 | 131.36 | 34 | | |
| B158 | 660438 | 5952781 | 131.09 | 41 | | |
| B160 | 658799 | 5952364 | 131.04 | 23 | 14 | 23 |
| R001 | 649482 | 5949986 | 139.68 | 27 | 11 | 26 |
| R002 | 648485 | 5949995 | 132.96 | 23 | 13 | 22 |
| R003 | 647409 | 5949989 | 133.11 | 23 | 11 | 22 |
| R004 | 647405 | 5949790 | 133.32 | 24 | 11 | 21 |
| R005 | 648186 | 5949789 | 133.4 | 23 | 13 | 21 |

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|---|---|---|---|---|---|---|
| R006 | 648885 | 5949689 | 136.23 | 24 | 8 | 24 |
| R007 | 648917 | 5949487 | 136.89 | 25 | | |
| R008 | 648186 | 5949158 | 133.92 | 17 | 14 | 16.8 |
| R009 | 647403 | 5949007 | 133.92 | 23 | 10 | 21 |
| R010 | 648498 | 5949003 | 136.84 | 24 | 9 | 22 |
| R011 | 648998 | 5948993 | 137.01 | 25 | 6 | 16 |
| R012 | 649460 | 5948691 | 139.7 | 26 | 8 | 23 |
| R013 | 650497 | 5948592 | 144.9 | 29 | 9 | 28 |
| R014 | 649099 | 5948397 | 139.12 | 26 | 6 | 25 |
| R015 | 648493 | 5948291 | 137.35 | 25 | 10 | 24 |
| R016 | 648102 | 5948283 | 134.29 | 9 | 7 | 9 |
| R017 | 647564 | 5948388 | 134.76 | 23 | 10 | 22 |
| R018 | 647557 | 5947995 | 134.95 | 24 | 7 | 22 |
| R019 | 648008 | 5947986 | 135.24 | 23 | 15 | 22 |
| R020 | 648488 | 5947987 | 138.09 | 26 | 14 | 25 |
| R021 | 649001 | 5948006 | 138.62 | 26 | 9 | 25 |
| R022 | 649492 | 5948000 | 139.62 | 24 | 12 | 22 |
| R023 | 649971 | 5947991 | 141.78 | 26 | 11 | 24 |
| R024 | 650485 | 5947989 | 144.37 | 27 | 9 | 26 |
| R025 | 649599 | 5947398 | 139.62 | 24 | 13 | 23 |
| R026 | 648996 | 5947480 | 136.68 | 22 | 5 | 21 |
| R027 | 647996 | 5947522 | 135.63 | 12 | 10 | 22 |
| R028 | 648501 | 5947308 | 137.02 | 24 | 11 | 23 |
| R029 | 649601 | 5947182 | 138.84 | 23 | 12 | 22 |
| R030 | 649600 | 5946697 | 139.59 | 24 | 13 | 22 |
| R031 | 648331 | 5946700 | 141.42 | 27 | 10 | 26 |
| R032 | 647087 | 5946695 | 136.44 | 22 | 16 | 21 |
| R033 | 646688 | 5946693 | 136.58 | 21 | 11 | 20 |
| R034 | 646999 | 5946490 | 136.78 | 22 | 14 | 21 |
| R035 | 647302 | 5946495 | 137.4 | 26 | 21 | 25 |
| R036 | 648111 | 5946491 | 139.78 | 26 | 13 | 25 |
| R037 | 648592 | 5946492 | 141.41 | 25 | 12 | 24 |
| R038 | 649597 | 5946489 | 139.63 | 23 | 11 | 22 |
| R039 | 649939 | 5945690 | 140.8 | 22 | 9 | 21 |
| R040 | 649092 | 5945692 | 141.93 | 24 | 14 | 23 |
| R041 | 648578 | 5945692 | 143.77 | 27 | 12 | 26 |
| R043 | 648601 | 5945365 | 143.48 | 26 | 14 | 25 |
| R044 | 649500 | 5945351 | 140.96 | 22 | 11 | 21 |
| R045 | 649940 | 5944986 | 141.62 | 21 | 11 | 20 |
| R046 | 649377 | 5944993 | 142.21 | 22 | 12 | 21 |
| R047 | 649082 | 5944997 | 144.24 | 25 | 5 | 24 |
| R048 | 648289 | 5944892 | 144.05 | 26 | 11 | 24 |
| R049 | 648000 | 5944888 | 142.44 | 25 | 13 | 24 |
| R050 | 647799 | 5944996 | 141.64 | 24 | 13 | 23 |
| R051 | 647299 | 5944982 | 139.05 | 23 | 13 | 22 |
| R052 | 646895 | 5944971 | 138.04 | 30 | 18 | 21 |
| R053 | 646912 | 5944588 | 138.68 | 24 | 12 | 22 |
| R054 | 647796 | 5944567 | 141.43 | 23 | 11 | 21 |
| R055 | 646907 | 5944281 | 139.26 | 24 | 10 | 21 |
| R056 | 647401 | 5944278 | 140.5 | 24 | 12 | 21 |
| R057 | 647794 | 5944304 | 142.72 | 23 | 13 | 22 |
| R058 | 648057 | 5944288 | 145.11 | 26 | 15 | 24 |
| R059 | 649068 | 5944198 | 146.44 | 26 | 15 | 25 |
| R060 | 649508 | 5944191 | 146.21 | 26 | 11 | 24 |
| R061 | 649924 | 5944089 | 146.41 | 27 | 9 | 24 |
| R064 | 649505 | 5943590 | 147.17 | 26 | 14 | 25 |
| R065 | 649294 | 5943595 | 146.35 | 27 | 9 | 27 |
| R066 | 649003 | 5943582 | 146.04 | 25 | 14 | 25 |

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|---|---|---|---|---|---|---|
| R067 | 648501 | 5943591 | 144.97 | 24 | 14 | 23 |
| R068 | 648090 | 5943598 | 144.07 | 6 | 13 | 22 |
| R069 | 647696 | 5943571 | 143.17 | 24 | 12 | 22 |
| R070 | 647399 | 5943586 | 142.02 | 24 | 12 | 21 |
| R071 | 647001 | 5943689 | 139.99 | 21 | 11 | 20 |
| R072 | 646498 | 5943487 | 139.47 | 22 | | |
| R073 | 647393 | 5943293 | 143.38 | 21 | 10 | 20 |
| R074 | 647698 | 5943299 | 143.43 | 23 | 11 | 22 |
| R075 | 648203 | 5943291 | 145.76 | 25 | 14 | 22 |
| R076 | 648597 | 5943284 | 146.58 | 24 | 14 | 23 |
| R078 | 649409 | 5943292 | 147.31 | 25 | 13 | 24 |
| R079 | 649709 | 5943289 | 147.95 | 23 | 8 | 23 |
| R080 | 649794 | 5942995 | 148.7 | 23 | 14 | 23 |
| R081 | 648701 | 5943003 | 147.61 | 24 | 15 | 24 |
| R082 | 647698 | 5943021 | 144.29 | 23 | 11 | 21 |
| R083 | 646701 | 5942986 | 141.94 | 21 | 10 | 19 |
| R084 | 646700 | 5942792 | 142.27 | 21 | 12 | 20 |
| R085 | 647290 | 5942776 | 143.22 | 22 | 12 | 21 |
| R086 | 649107 | 5942776 | 148.76 | 26 | 14 | 25 |

Note: the mineralization is generally horizontal and the drilling was vertical. The drill holes intersected the mineralization generally at a 90 degree angle enabling true widths to be estimated and used in Mineral Resource Estimation.