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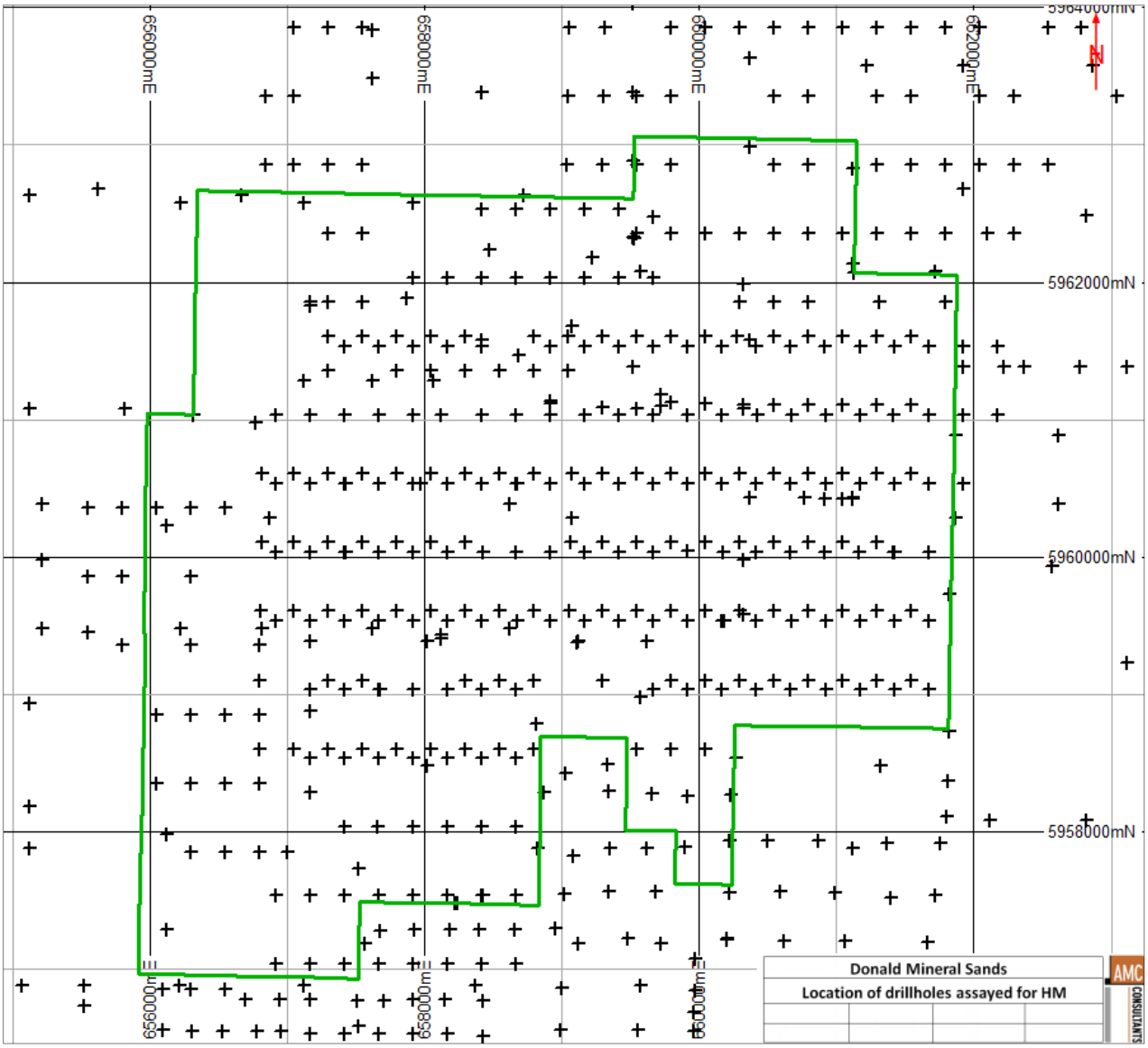
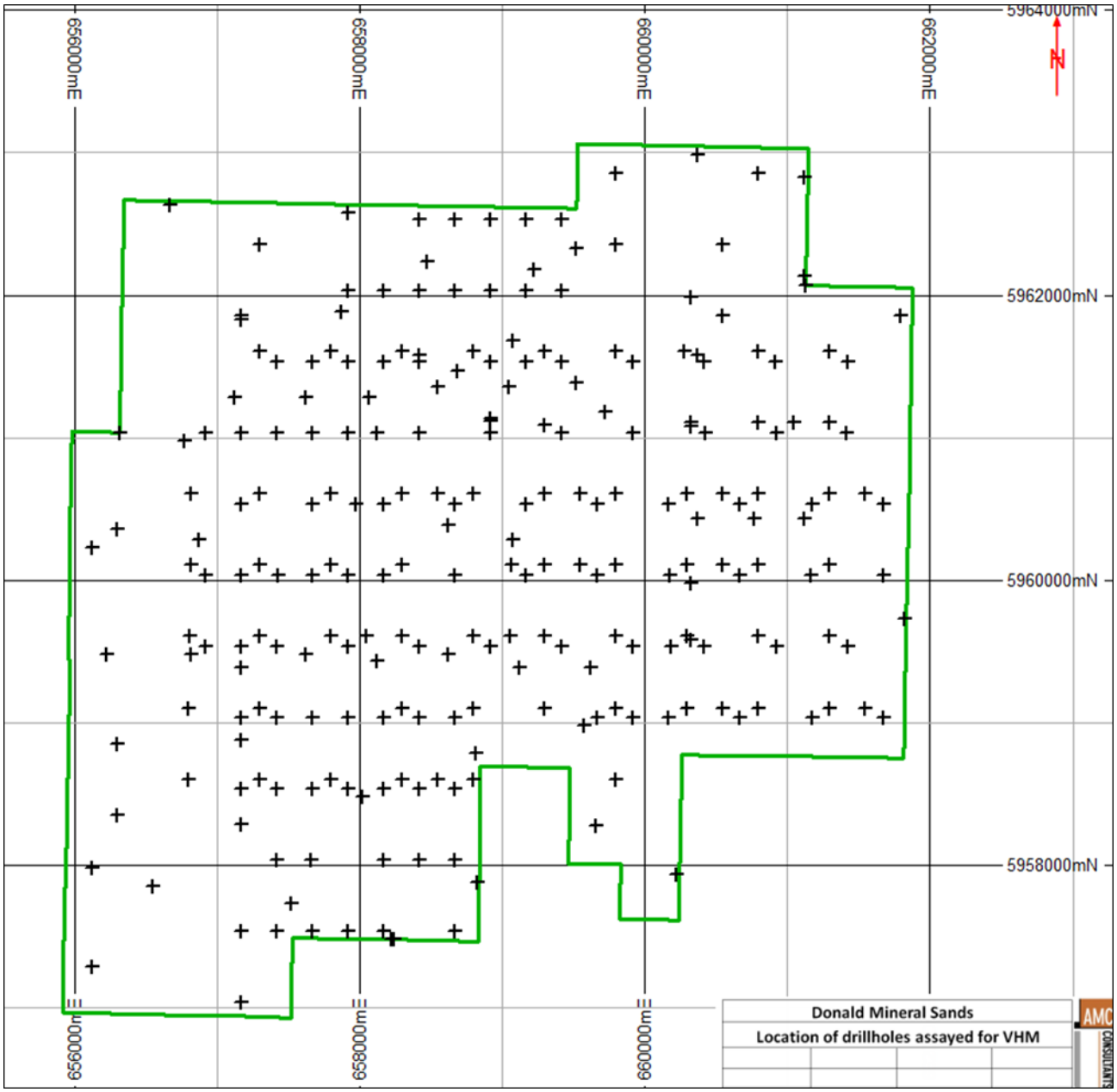
Figure 1: MIN5532 – location of drill holes assayed for HM



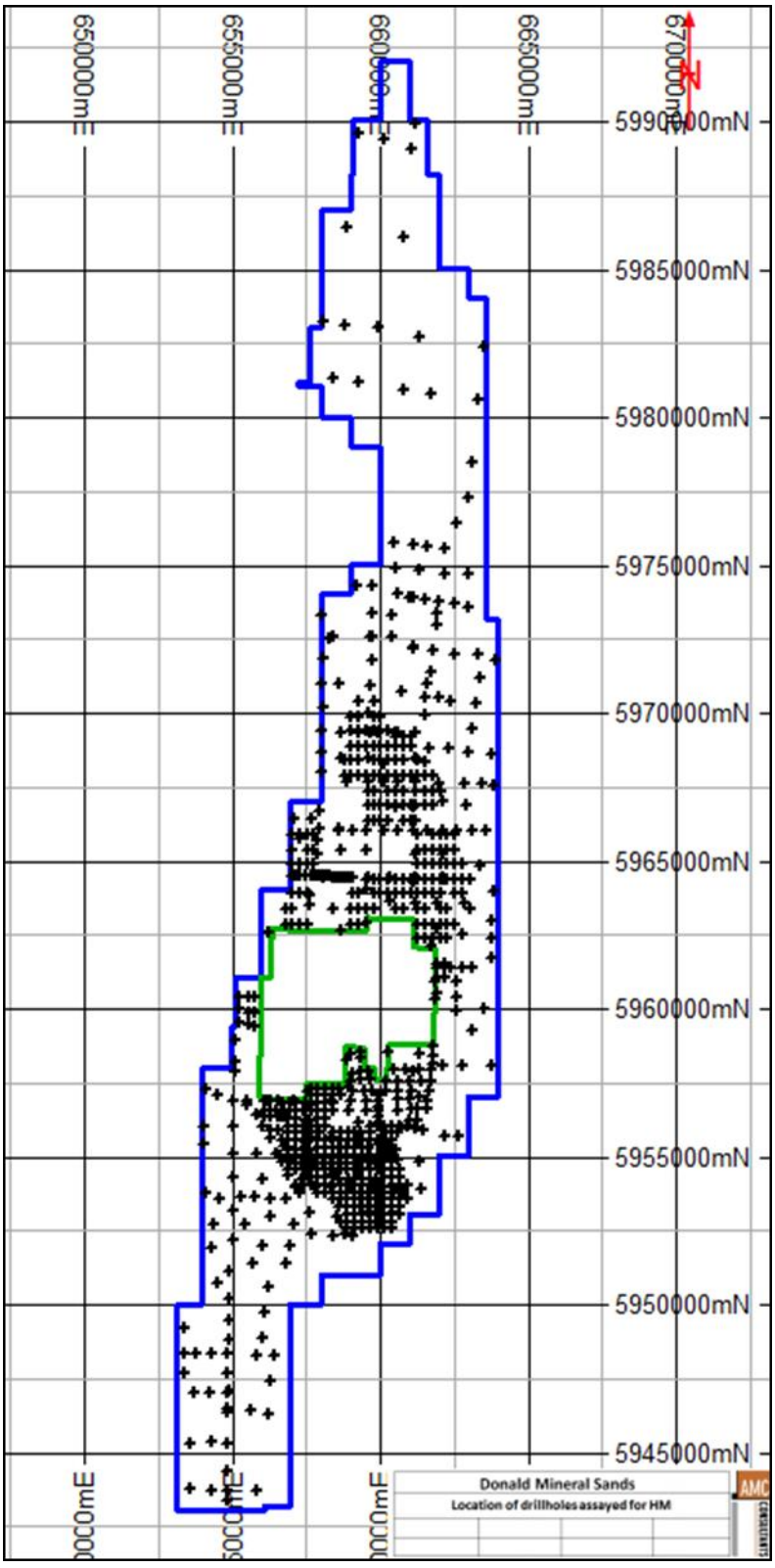
Note: Boundary of MIN5532 is coloured green

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



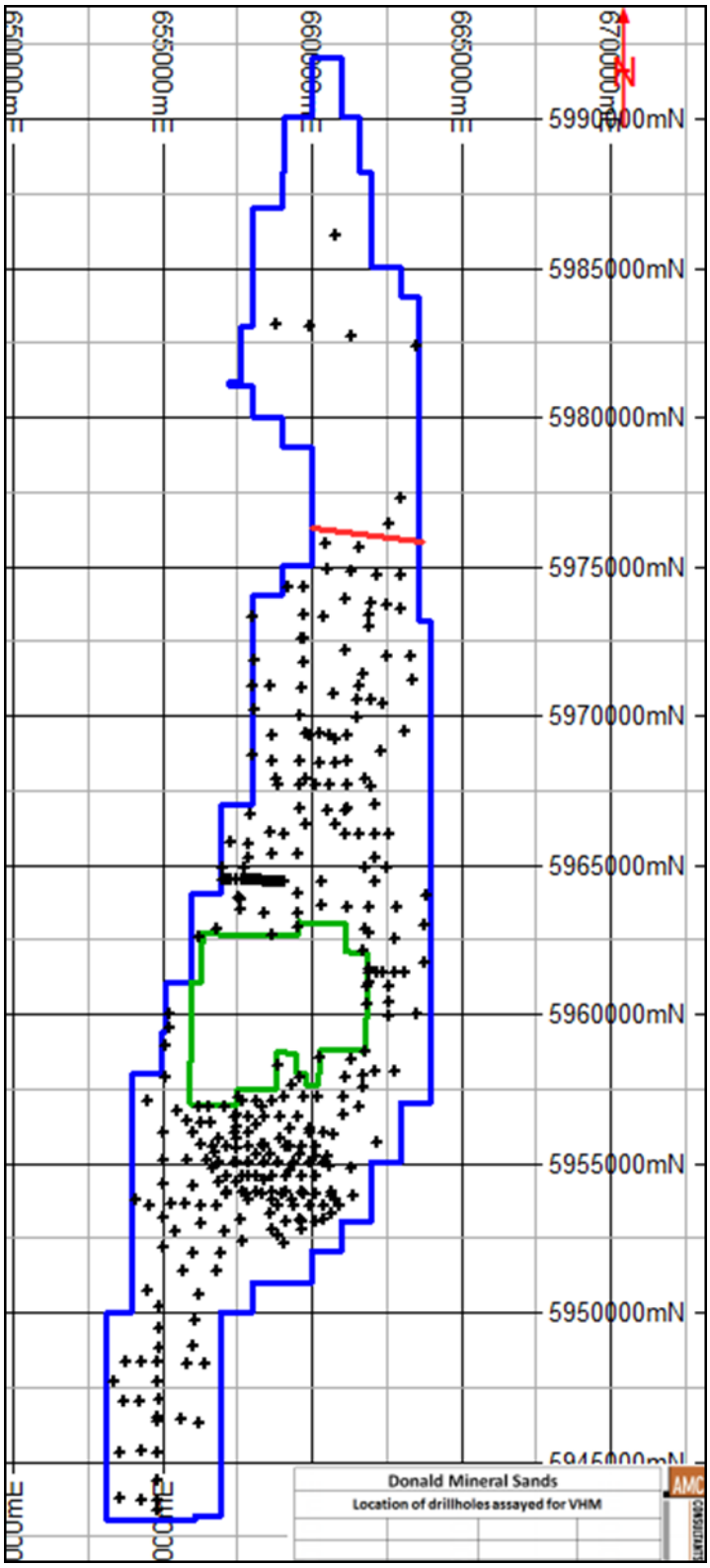
Note: Boundary of MIN5532 is coloured green

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



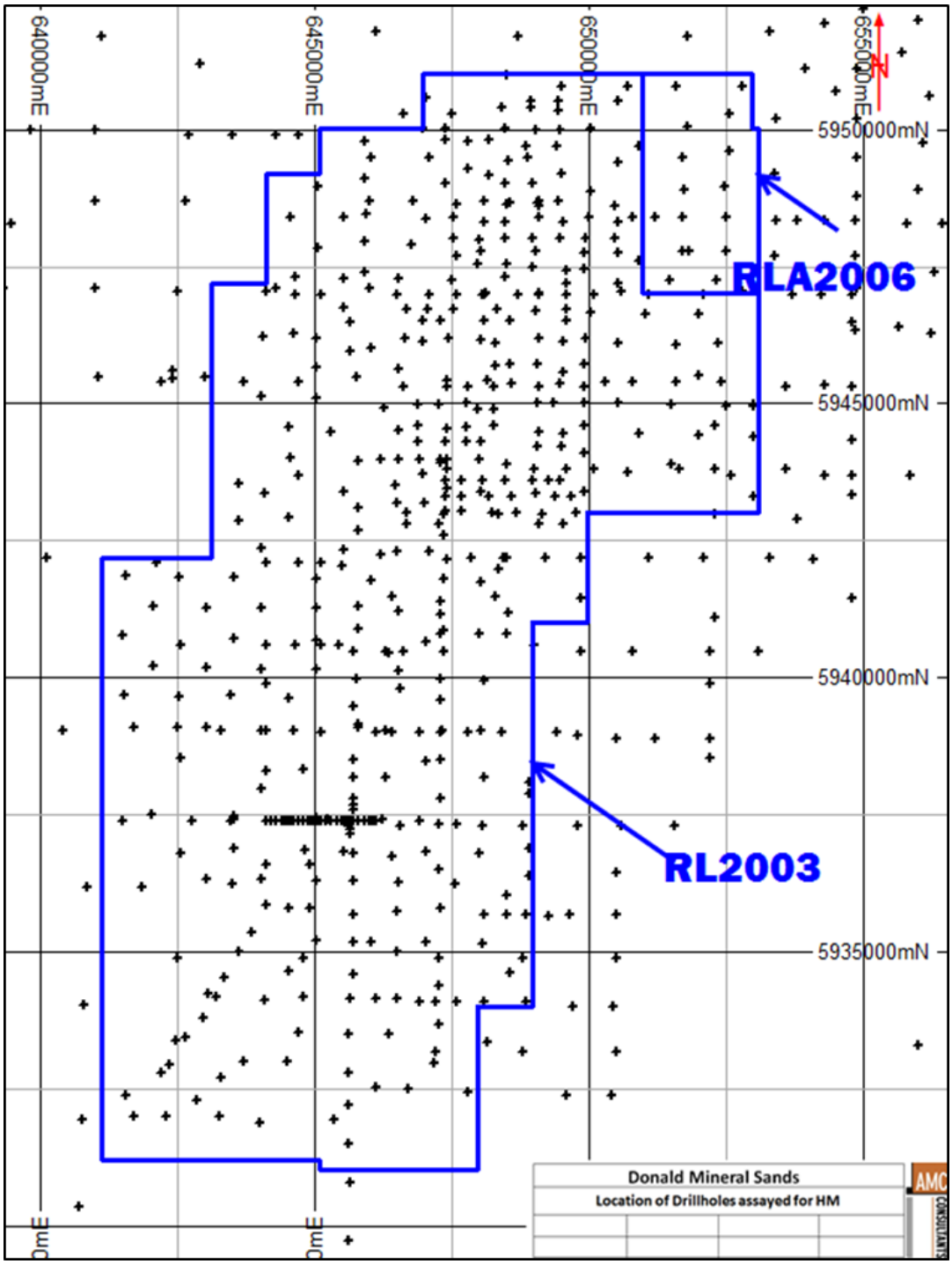
Note: Boundary of EL2002 is coloured blue; boundary of MIN5532 is coloured green

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



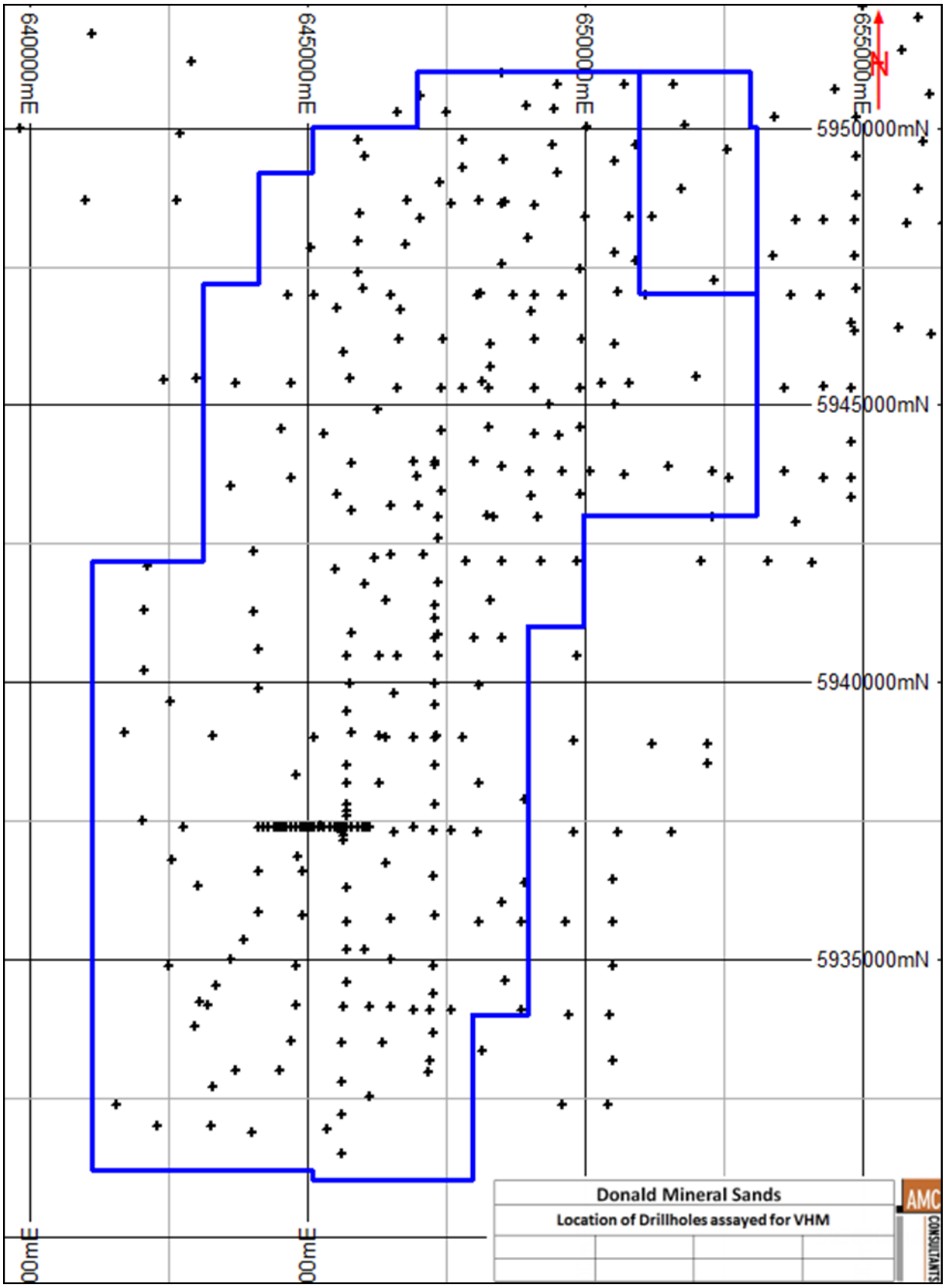
Note: Boundary of EL2002 is coloured blue; boundary of MIN5532 is coloured green

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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralization that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralization types (eg submarine nodules) may warrant disclosure of detailed information.*	• Air core drilling was used to obtain samples taken at 1m intervals. • 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 • 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.*
	• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*
	• *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:
		  ○ Sample recovery was visually checked.
		  ○ Air core drilling was used to maximise recovery.
		• Zirtanium reported their drilling during 2004 had a consistent sample weight recovery of approximately 7.1 kg +/- 0.8 kg.
		• 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.* • *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. • 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.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *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.* • *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. • The sample preparation was appropriate. • Field and laboratory duplicates for HM, slimes and oversize were used as quality control. • 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.* • *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.* • *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 • Stationary XRF instruments were used by industry independent laboratory Bureau Veritas Minerals Pty Ltd • Quality control consisted of duplicate samples prepared by DMS and the laboratory. • No blanks were submitted. • A second laboratory was not used.

Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.*
	• *The use of twinned holes.*
	• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*
	• *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.
		• The data was stored in an Access database and checked against the original sample reports.
		• A series of adjustments to the sample data was made. This included:
		  ◦ For zircon % derived from grain counting the Zircon_Min_pct value was used.
		  ◦ For zircon % derived from XRF results the ZrO2_HfO2_pct value.
		  ◦ For zircon % derived from XRF results use "ZrO2_HfO2_conv" value.
		• 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:
		  ◦ 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.
		  ◦ $rutile + anatase\,\% = 1.015 \times rutile\ \% + 1.89$

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.* • *Specification of the grid system used.* • *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. • The grid used was MGA94 Zone 54 co-ordinate system. • The topographic surface was obtained from LIDAR data.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• The drillhole spacing used in the Mineral Resource classification was: — Generally 150 mE x 500 mN grid as Measured Mineral Resource. — Generally 250 mE by 500 mN as Indicated Mineral Resource. — Wider grid spacing is classified as Inferred Mineral Resource. • 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.* • *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. • 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. • 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.* • *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. • 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. • 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. • 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:*
	  ○ *easting and northing of the drill hole collar*
	  ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  ○ *dip and azimuth of the hole*
	  ○ *down hole length and interception depth*
	  ○ *hole length.*
	• *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.
		• Northing ranged from 5,943,300 m to 5,989,900 m.
		• RL ranged from 75 m to 137 m.
		• All holes were drilled vertically.
		• The holes ranged from 1 m to 30 m in length with an average of 20.8 m.
		• 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.* • *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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• All sampling for HM is done in metre intervals. • Normal weighted average techniques are used for compositing mineralogy samples. • VHM assays are on composited samples of varying intervals. • Metal equivalent figures are not used.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• 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. • Test work was completed in 2010 to compare results from test pit bulk sample taken in 2005. • The entire Parilla sand horizon was sampled resulting in a composited low grade sample of 2%HM head grade. • 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. • 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).* • *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.* • *Data validation procedures used.*	• The FROM and TO values were checked to ensure no overlaps or missing data. • The collar coordinates were checked and converted to the MGA94 zone 54 co-ordinate system. • All collar coordinates were checked to ensure they were located within the MIN5532 and RL2002. • 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.* • *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.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.*	• The drillhole data confirms the geological interpretation. • The HM is contained within the Parilla Sand unit which exists over the entire MIN5532 and RL2002. • No alternative interpretations can be made.

Criteria	JORC Code explanation	Commentary
	• *The use of geology in guiding and controlling Mineral Resource estimation.* • *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. • 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. • 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.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *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). • A low grade HM domain (< 1 % HM) was modelled along the eastern side of MIN5532 and RL2002. • Datamine software was used for the resource estimate. • No domaining was used for slimes and oversize. • The VHM minerals were domained within the area of assaying for VHM. • A previous estimate is available and gives similar results. • No assumptions were made regarding the recovery of bi-products. • No deleterious elements were considered in the estimate. • 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. • No assumptions were made regarding selective mining units. • The correlation between variables was reviewed but not included in the resource estimate. • Top caps were used for zircon and rutile + anatase based on the results of log probability plots. • 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. • 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. • 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.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	• 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. • 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). • No recent bulk density determinations have been carried out.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person's 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. • 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.* • *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.* • *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. • The resource statement is a global estimate based on addition of local estimates. • 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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralization that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralization types (eg submarine nodules) may warrant disclosure of detailed information.*	• Air core drilling was used to obtain samples taken at 1m intervals. • 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. • 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.*
	• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*
	• *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:
		  ○ Sample recovery was visually checked.
		  ○ Air core drilling was used to maximise recovery.
		• Zirtanium reported their drilling during 2004 had a consistent sample weight recovery of approximately 7.1 kg +/- 0.8 kg.
		• 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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• The air core samples were geologically logged to a high level of detail. • Geotechnical logging consisted of recording induration and hardness of the sample. • All samples were logged.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *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. • The sample preparation was appropriate. • Field and laboratory duplicates for HM, slimes and oversize were used as quality control. • 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. • *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.* • *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.* • *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. • Stationary XRF instruments were used by industry independent laboratory Bureau Veritas Minerals Pty Ltd. • Quality control consisted of duplicate samples prepared by DMS and the laboratory. • No blanks were submitted. • A second laboratory was not used.

Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.*
	• *The use of twinned holes.*
	• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*
	• *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.
		• The data was stored in an Access database and checked against the original sample reports.
		• A series of adjustments to the sample data was made. This included:
		  • For zircon % derived from grain counting the Zircon_Min_pct value was used.
		  • For zircon % derived from XRF results the ZrO2_HfO2_pct value.
		  • For zircon % derived from XRF results use "ZrO2_HfO2_conv" value.
		• 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:
		  ○ 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.
		  ○ $rutile + anatase\ \% = 1.015 \times rutile\ \% + 1.89$
		• 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.* • *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. • 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.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• The drillhole spacing used in the Mineral Resource classification was: — Generally 150 mE x 500 mN grid as Measured Mineral Resource. — Generally 400 mE by 400 mN as Indicated Mineral Resource. — Wider grid spacing is classified as Inferred Mineral Resource. • 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.* • *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. • 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. • 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.* • *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. • AMC is not aware of any known impediments to the tenure being in existence. • 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. • 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. • 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:*
	  ○ *easting and northing of the drill hole collar*
	  ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  ○ *dip and azimuth of the hole*
	  ○ *down hole length and interception depth*
	  ○ *hole length.*
	• *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.
		• Northing ranged from 5,941,500 m to 5,951,000 m.
		• RL ranged from 90 m to 151 m.
		• All holes were drilled vertically.
		• The holes ranged from 1 m to 52 m in length with an average of 16 m.
		• 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.* • *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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• All sampling for HM is done in metre intervals. • Normal weighted average techniques are used for compositing mineralogy samples. • VHM assays are on composited samples of varying intervals. • Metal equivalent figures are not used.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• 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. • Test work was completed in 2010 to compare results from test pit bulk sample taken in 2005. • The entire Parilla sand horizon was sampled resulting in

Criteria	JORC Code explanation	Commentary
		a composited low grade sample of 2%HM head grade. • In 2005 a test pit within EL4433, material was processed at Mildura pilot plant and formed the basis of current process flow sheet design. • 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).* • *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.* • *Data validation procedures used.*	• The FROM and TO values were checked to ensure no overlaps or missing data. • The collar coordinates were checked and converted to the MGA94 zone 54 co-ordinate system. • All collar coordinates were checked to ensure they were located within the RL2002 & RL2006. • 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.* • *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.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	• The drillhole data confirms the geological interpretation. • The HM is contained within the Parilla Sand unit which exists over the entire RL2002 & RL2006. • No alternative interpretations can be made. • Geology was used to locate the top and bottom of the Parilla Sand and the mineralized zone. • 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. • 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.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *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). • A low grade HM domain (< 1 % HM) was modelled along the eastern side of the RL2002 & RL2006. • Datamine software was used for the resource estimate. • No domaining was used for slimes and oversize. • The VHM minerals were domained within the area of assaying for VHM. • A previous estimate is available and gives similar results. • No assumptions were made regarding the recovery of bi-products. • No deleterious elements were considered in the estimate. • 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. • No assumptions were made regarding selective mining units. • The correlation between variables was reviewed but not included in the resource estimate. • Top-caps were used for zircon and rutile + anatase based on the results of log probability plots. • 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. • 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. • 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.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	• 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. • 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). • No recent bulk density determinations have been carried out.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person's 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. • The drillhole data is considered to be suitable for the resource classifications used. • 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. • 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.* • *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.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	addition of local estimates. • 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

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

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

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.