



**ASTRON CORPORATION LIMITED**

ARBN 154 924 553

Incorporated in Hong Kong, company number 1687414

**Notice to the Australian Securities Exchange**

**1 November 2021**

## **Production and Exploration Report**

**Quarter Ended 30 September 2021**

### **DONALD MINERAL SANDS AND RARE EARTH PROJECT**

#### **Overview**

Astron Corporation Limited's (Astron) Donald Mineral Sands and Rare Earth Project is located in regional Victoria, near the township of Minyip and approximately 300 kilometres from Melbourne. The project entails the planned development of a large, long-life mineral sands resource over two main stages, with the principal product streams of zircon and a blended titania (titanium dioxide) product, as well as a mixed rare earth element concentrate.

The licence area of the Donald Mineral Sands Project is 506 square kilometres (sq kms), which contains the Donald deposit (within RL 2002, and including EL 5186, MIN 5532) and the Jackson deposit (within RL 2003, including EL 5186). The location of the Donald Minerals Sands Project and Astron's tenements holdings are shown in Schedule 1.

Donald Mineral Sands Project Ore Reserves and Mineral Resources Statements, along with the Competent Persons Statement, are contained in Schedule 2.

The in situ Measured, Indicated and Inferred Mineral Resources within the Donald Mineral Sands Project area, for which the valuable heavy mineral (VHM) assemblage has been determined, comprise 2.4 billion tonnes (Bt) at 4.8% heavy mineral (HM) grade, containing approximately 22.1 million tonnes (Mt) of zircon, 67.6 Mt of titanium minerals and 2.3 Mt of monazite.

Proved and Probable Ore Reserves within the Donald deposit are estimated to be 602 Mt at 4.8% HM, as detailed in Schedule 2, containing approximately 5.4 Mt of zircon; 9.2 Mt of ilmenite; 8 Mt of the higher titanium content minerals (rutile and leucosene); and a rare earth element component of 491 thousand tonnes (kt).

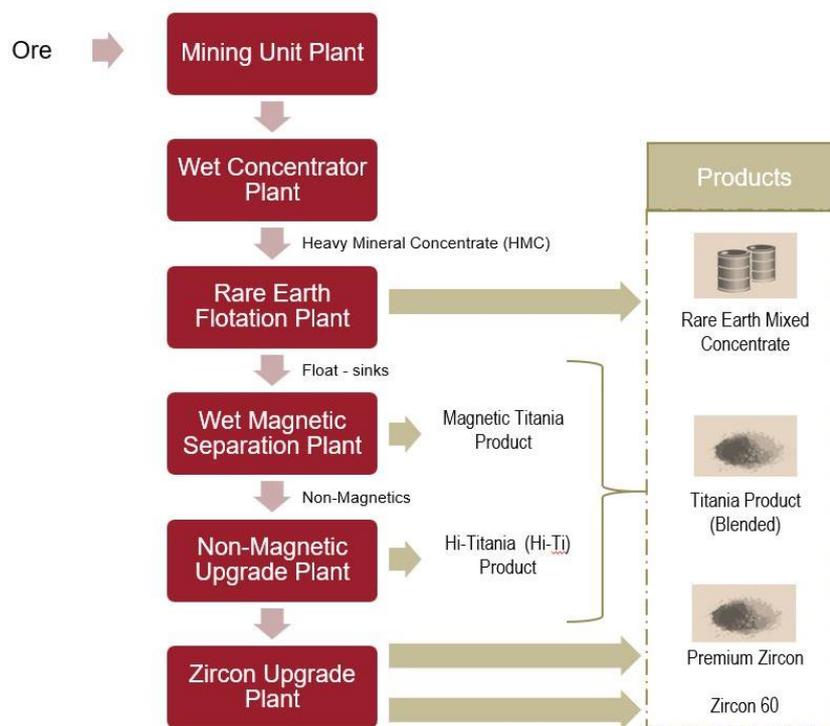
#### **Development Concept**

Astron's development concept and operating model for the Donald project (refer Figure 1) entails conducting all aspects of the mineral sands operation at site, from mining to concentrating, flotation recovery of a rare earth mixed concentrate, and mineral separation of a heavy mineral concentrate to final mineral sands

products. Products will then be transported by site to end-customers, internationally and domestically. The operating model is expected to:

- ensure a high degree of control and certainty over final outcomes (product recoveries and specifications) and, as such, facilitate market placement of on-specification products;
- enable Astron to adapt its production settings to market conditions and customer requirements; and
- de-risk key elements of the operating model.

Figure 1 Simplified Process Flow Diagram



Astron’s planning involves a staged and scalable development approach for the project. In this manner, capital expenditure can be phased, providing flexibility in determining production settings to take account of market supply and demand conditions. The staged approach will also facilitate the progressive securing of regulatory approvals for the project.

Subject to the outcome of detailed engineering, the development concept will comprise two stages of mining, concentrating and processing of HMC to produce final products of zircon, a blended titanium dioxide (titania) product, and a mixed rare earth concentrate. Progressive rehabilitation of areas disturbed by mining will be carried out as mining proceeds.

Stage 1 operations will commence in MIN 5532 within the Donald deposit and are planned to access proved and probable Ore Reserves of 194 Mt at 5.3% HM, containing approximately 10.2 Mt of HM, including 1.9 Mt of zircon (refer Schedule 2, Table 1.1). While production settings are subject to finalisation, indicative Stage

1 production is expected to be approximately 120 thousand tonnes per annum (ktpa) of zircon, of which 80% or 95 ktpa will be a 66% ZrO<sub>2</sub> premium grade product; 200 ktpa of a blended titania product (~60% TiO<sub>2</sub>); and 16 ktpa of mixed rare earth concentrate. Ore Reserves within ML 5532 are sufficient to sustain operations for approximately 16 years.

The currently planning is that Stage 2 operation would be a duplication of Stage 1 mining, concentrating and processing activities and encompass the remaining area of the Donald deposit which is wholly contained within RL 2002. The timing for the commitment to Stage 2 will be subject to market conditions, as well as securing the necessary regulatory approvals and land access arrangements.

In total, Stage 1 and Stage 2 would encompass accessing Ore Reserves of 602 Mt at 4.8% HM. This equates to an approximate, in-situ ore body of 28.9 mt of heavy minerals, comprised: 5.4 mt of zircon; 9.2 mt of ilmenite; 8 mt of higher titanium content products of rutile and leucoxene (Hi-Ti), as well as a rare earth element component of 491 thousand tonnes (kt).<sup>1</sup>

The Jackson deposit in the southern area of the resource, contained within RL 2003, is available for subsequent development. It has JORC compliant in situ indicated and inferred Mineral Resources of 823 Mt of ore where VHM data is available with an average HM grade of 4.8% (see Schedule 2), containing approximate in situ resource of 7.5 Mt of zircon, 12.6 Mt of ilmenite, 6.7 Mt of leucoxene, 3.6 Mt of Hi-Ti (including rutile) minerals and 0.8 Mt of rare earth elements.<sup>2</sup>

Astron has received the main regulatory approvals for Stage 1, including an Environmental Effects Statement (EES). An application for a Work Plan is being progressed for submission to the Victorian regulators. The EES allows production for a period of approximately 8 years, based on the current mine plan. Regulatory consultation is in train in relation to the production of the mixed rare earth concentrate stream from the project.

The company has secured water rights sufficient to meet the needs of the project.

### **Main Work Streams**

The technical and market evaluation programmes for the Donald project were progressed during the September quarter. These form integral components for detailed engineering, the finalisation of a detailed feasibility study (DFS) – expected in the second quarter of calendar 2022, and with this the formulation of the investment case for project funding and development approval by Astron’s Board.

The main work streams included the following:

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## ***Geology, including Ore Reserves and Mineral Resources***

An Ore Reserve Statement was issued on 18 February 2021. This statement was an update of the 2012 Ore Reserve statement (refer ASX Release 18 June 2012) and the 2016 Mineral Resource Statement (refer ASX Release 7 April 2016). The revised Ore Reserves was prepared by independent mining consultant AMC Consultants (AMC) and incorporates and updates mine planning studies previously completed by AMC. The details of these are set out in Schedule 2.

A number of work streams are in progress in relation to refining and updating geological and metallurgical information for incorporation into the development concept for the DFS. During the quarter, Astron undertook geo-technical drilling on planned site location, and is planning to conduct geological drilling in the subsequent quarter, which will be subject to subsequent disclosure once the drilling commences and results are available.

## ***Project Management Resourcing***

Projectworx Pty Ltd, a project management and engineering consultancy skilled in mineral sands project development and operations, is providing project management and planning services to the Donald project management team. This encompasses all aspects of the work stream leading to detailed engineering, the finalisation of a definitive feasibility study, project economics and project scheduling.

MT Technologies (MT), a global leader in mineral sands processing technologies, continues to provide metallurgical test work services related to mineral recovery testing and structural design work related to the wet concentrating, processing, dry plant and wet high intensity magnetic separation (WHIMS) components of the project.

As previously advised, Astron has identified critical project resources for the next stage of the evaluation of the Donald project. This included determination of the necessary management and technical resources to lead the project through the engineering, tendering, execution and operation phases. As such, Astron is currently in an organisational strengthening phase to move to DFS and detailed engineering, as well as obtain the final regulatory approvals and ensure appropriate engagement with all key stakeholders. Apart from retention of key external consultants, several internal appointments are in train, with the appointment of a Chief Geologist, as well as an Environment and Approvals Manager subsequent to quarter end.

## ***Project Development Activities***

A detailed project schedule has been developed with key milestones, including:

- Engineering peer review and coordination of DFS engineering design;
- overall DFS development and project cost outcomes;
- a process for collaboration across internal teams and external consultants for the purpose of progressing necessary approvals related to: environmental approvals, tailing and slimes management, infrastructure and metallurgy test results and pilot study outcomes;
- development of detailed packaged scope documentation for power, roads, communications, water

- pipeline design consultants; and
- front end engineering (FEED) requirements leading to the ultimate construction and project management tendering arrangements.

As part of this work, MT has continued to develop DFS engineering packages for the following project components:

- Mining Unit Plant (MUP);
- Wet Concentrator Plant (WCP);
- Concentrate Upgrade Plant (CUP);
- Wet High Intensity Magnetic Separation (WHIMS); and
- metallurgical flow sheet and floatation piloting (monazite and xenotime recovery).

### ***Metallurgical Test Work***

Mineral Technologies (MT) was commissioned to undertake the design, construction and operation of a pilot wet concentration plant to treat approximately 1,000 tonnes of Donald ore, recovered from a test pit on RL 2003, and produce a HMC. MT also carried out further processing of the HMC to produce final products. The results of this work were released to the ASX on 30 March 2021.<sup>3</sup>

During the September quarter bulk mineral separation pilot plant trials were conducted, which were predominantly completed at the end of September. The results of this trial work are expected to be available during the December quarter and represent the final stage of ore concentration, rare earth flotation and final product separation test work. Indications from the pilot separation test work are favourable, with over 9 tonnes of HMC processed. This testwork will result in more material levels of product enabling Astron to provide larger samples to processors (in the case of the mixed rare earth concentrate) and customers (in the case of zircon and titania) or product testing purposes.

MT is currently progressing the structural design work for the wet concentrator plant and concentrate upgrade plant and wet high intensity magnetic separation facilities. Three 3D modelling of plant configuration and site placement, including infrastructure, has been undertaken. In addition, design packages are progressing for site infrastructure, including power and a water pipeline. Telecommunications arrangements are also being progressed.

The test work to date has provided confidence in the commercial scale recovery of fine minerals to both HMC and final product, and that product attributes are suitable, subject to ongoing customer sample testing, to find ready market acceptance.

### ***Regulatory Approvals and Engagement***

Regulatory approvals for the first stage of the planned development of the Donald Mineral Sands Project on

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<sup>3</sup> See ASX Announcement, 30 March 2021, "Donald Mineral Separation Metallurgical Testwork Update"

ML 5532 are well advanced. The key outstanding regulatory approval is the Work Plan and a body of work is progressing, including a noise model, to facilitate the preparation of a Work Plan approval document for Victorian regulators.

AECOM Consultants is developing a regulator engagement process to support the Project in relation to the modification of the original design concept to incorporate the on-site processing of HMC to final products into the work plan. Astron's recently appointed Environment and Approvals Manager will commence in the December quarter and take carriage of this and other regulatory engagement work.

### ***Test Pit Rehabilitation and Monitoring – RL 2003***

Monitoring continued of the test pit, excavated during 2018 and subsequently rehabilitated back to the original land form and carried grain crops satisfactorily. This work has included soil testing and crop yield data analysis by an agronomist.

### ***Market Studies***

Reviews of market demand and forecast pricing continued, integral to project financial modelling. Relevant industry engagement (customers, technical consultants and others) has also continued.

### ***Product Testing and Customer Offtake Arrangements***

As indicated above, the production of more significant quantities of final mineral sands product from pilot test work will be beneficial in allowing customers to test samples of both the zircon and titania product stream, as well as the mixed rare earth concentrate. The provision of product samples will continue during the forthcoming quarter.

During the quarter, Astron replicated its zircon whiteness testing (the results of which were initially disclosed to the ASX on 3 April 2021). The whiteness testing occurred at an external testing laboratory in China and compared the Donald premium zircon with other premium zircon samples. The results of this work confirmed the prior test results, in terms of the superior whiteness and brightness characteristics of the Donald premium zircon.

In addition, a major China-based ceramic institute undertook an analysis of the Donald premium zircon. The results of this analysis confirmed the competitive positioning in terms of key specifications and characteristics of the Donald premium zircon for a potential range of ceramic end use applications. These results, in combination, reinforce management's confidence of the competitive market positioning and likely high market acceptance of the Donald premium zircon stream

## ***Stakeholder Engagement***

A Community Reference Group (CRG) terms of reference has been developed and group membership determined. Due to continuing COVID-19 restrictions in Victoria, the CRG has not met as yet, but its activities are expected to commence during the December quarter. It is expected that the CRG will transition into the Environmental Review Committee (ERC) as the project progresses.

## ***Funding***

Astron has continued to consider and evaluate the most appropriate funding options for the Donald Mineral Sands Project. The progression to the detailed engineering and DFS stage is allowing project economics to be refined with a higher level of certainty (although still with a significant contingency factor until cost estimates and tenders are received). This work forms a key component in determining the nature and timing of approach to potential debt and equity funding sources. The company expects to provide more details of its funding strategy during the December quarter.

## ***Project Advancement – Key Work Streams***

A range of key work streams are or will be in progress over the course of the coming 12 months, with the aim that the detailed feasibility study, including a detailed economic assessment of the project, will be completed during the second quarter of calendar year 2022.

As indicated a pilot plant processing trial is currently underway and will be completed in the December quarter. The results from this trial will enable an engineering design study to be carried out leading to the preparation of updated economic analyses of the project. Results from the pilot plant processing will also be used to support the engineering design study which will include preparation of the process model and flow sheet. The definitive feasibility study for the Donald project is scheduled for completion in the second quarter of calendar year 2022.

The current indicative timetable for the Donald project is based on the expectation of securing of Victorian Government regulatory approval of the Work Plan, in accordance with the requirements of the EES, the completion of project engineering and obtaining project funding, by mid 2023. Subject to Board approval and funding, this would be followed by the start of construction with anticipated first production, after 18-21 months, with a period for commissioning and ramp up of production in the first quarter of 2025. The indicative schedule will be refined, along with project economics, as the main work streams progress. The company will provide updates, through ASX releases, of any modifications to its planned schedule.

Astron's 2021 Annual Report provides further information on the key work streams for the Donald Mineral Sands Project.

## Corporate matters

During the quarter, an extraordinary general meeting was held to consider the demerger of Astron China's downstream processing business, which was to be satisfied by way of an in specie dividend distributing all of the shares to be held by the Company in the capital of Astron Titanium (Yingkou) Hong Kong Holdings Limited (**Titanium Hong Kong**), an unlisted public company in Hong Kong.

Under the demerger, all eligible shareholders in the Company would have received shares in Titanium Hong Kong on a one-to-one basis.

As announced by the Company on 10 September 2021, an interim injunction was granted in the High Court of Hong Kong Special Administrative Region preventing the Company carrying out or implementing the demerger, pending a hearing in relation to an application for a permanent injunction.

As was announced by the Company on 21 October 2021, the full hearing is not scheduled until 21 December 2021, and no ruling could be realistically expected until sometime during the first half of 2022. The likely lengthy delays in any decision on the injunction is causing material uncertainty around implementation of the Demerger.

On this basis, the Company has decided not to proceed with the demerger, and will be seeking securityholders approval at its forthcoming AGM in relation to rescinding the demerger resolutions.

## PRODUCTION

As the project is at an advanced evaluation stage, no commercial production activities were conducted during the quarter.

### ***Payments to associates and their related parties***

During the quarter, payments totalling approximately \$147,500 were made to directors (and where relevant their associated contracting entities), being payments in relation to executive and non-executive directors fees for the quarter.

## EXPENDITURE SUMMARY

### ***Total expenses incurred were:***

Production Activities	June Qtr 2021	YTD 2022 FY
		Nil
Development Activities	June Qtr 2021	YTD 2022 FY
	\$999,987	\$ 999,987

## **NIAFARANG MINERAL SANDS PROJECT, SENEGAL**

### **Overview**

The Niafarang Project is located within an exploration licence zone covering an area of 397 sq kms along a 75 kms stretch of the Casamance coast of Senegal, West Africa. Astron owns a licence issued under Order Number 09042/MIM/TMG via its subsidiary Senegal Mineral Resources (SMR). Environmental and Mining licences were awarded in 2017. A small mining licence (SML) was initially awarded to Astron and transferred to its Senegalese based subsidiary.

The project plans to access a high-grade coastal mineral sands deposit using conventional dredge mining and concentrating methodologies. The ore is high-grade, coarse-grained and capable of producing high quality ilmenite and zircon. Mining operations will involve surface mining with little or no overburden, utilising conventional mining and concentrating equipment to produce a heavy mineral concentrate. Astron has acquired all of the necessary mining equipment for the first stage of the project. Extensive community and stakeholder engagement has occurred.

### **Development**

Given the priorities associated with the Donald Mineral Sands Project, minimal activity occurred during the September quarter in relation to the Niafarang project. Arrangements are required to be finalised for the temporary resettlement of a small localised population to allow mining activities to commence. Subject to completion of outstanding negotiations with the Government of the Republic of Senegal, production should be able commence quickly, with minimal additional capital expenditure.

### **Production**

Given the stage of the project, there was no production activity during the quarter.

### **EXPENDITURE SUMMARY**

#### ***Total expenses incurred:***

Production Activities	June Qtr 2021	YTD 2022 FY
	Nil	Nil
Development Activities	June Qtr 2021	YTD 2022 FY
	\$79,562	\$79,562

Note: the development activities expenditure includes procurement, design and consulting.

## **ASTRON CHINA**

Astron Corporation, through its subsidiary Astron Titanium (Yingkou) Ltd, owns and operates a mineral sands processing plant in Yingkou, Liaoning, China.

## **Mineral Separation Plant**

Astron's mineral separation plant produced 973 tonnes of rutile in the September 2021 quarter compared to 1,781 tonnes of rutile in the June 2021 quarter.

The electricity shortages in North-East China has had a material impact on the Company's operations, and the this impact is expected to continue through the December quarter. Impacts may include increase electricity costs (and potential periods of difficulty in obtaining electricity supply), leading to lower plant availabilities. This has compounded the material situation of the Chinese company – with the two combined resulting in the decreased plant production volumes

Astron remains in discussions with a number of different suppliers for the sourcing of replacement feedstock for the mineral separation plant, previously obtained from the company's Savannah, Georgia operation which has ceased production.

During the September 2021 quarter, Astron sold 1,853 tonnes of rutile into the Chinese market (an increase of 10% over the June Quarter 2021. (June 2021: 1,682 tonnes) It is a reflection of the continued positive supply / demand dynamics in the rutile market, expected to continue in the December quarter.

## **1 November 2021**

This announcement is authorised for release to ASX by the Board of Directors of Astron

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### **About Astron**

Astron Corporation Limited (ATR: ASX) is an ASX listed company, with extensive (35 years+) experience in mineral sands processing, technology and downstream product development, as well the marketing and sale of zircon and titania (titanium dioxide) products, most notably in China. The company's prime focus is upon the development of the large, long-life and attractive zircon assemblage Donald mineral sands deposit in the Murray Basin, Victoria. Donald has the ability to represent a new major source of global supply in mineral sands. Astron is also the owner of the Niafarang mineral sands project in Senegal, West Africa. Niafarang is a high-grade coastal mineral sands deposit, planned to be developed

using simple dredge mining and processing methodology.

### **COMPETENT PERSONS STATEMENT**

The information in this report that relates to Exploration Results and Mineral Resources for the Donald Project is based on information first reported in previous ASX announcements by the Company, as listed in this announcement. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the estimates in the original announcements continuing to apply and have not materially changed. The information in this document that relates to the estimation of the 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 Astron. 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'. The Company confirms that the form and context in which the Competent Persons' findings are presented have not prematurely modified from the relevant original market announcement.

The information in this document that relates to the estimation of the Ore Reserves is based on information compiled by Mr Pier Federici, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Federici is a full-time employee of AMC Consultants Pty Ltd and is independent of Astron. Mr Federici 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'. The Company confirms that the form and context in which the Competent Persons' findings are presented have not prematurely modified from the relevant original market announcement.

### **CAUTIONARY STATEMENT**

Certain sections of this document contain forward looking statements that are subject to risk factors associated with, among others, the economic and business circumstances occurring from time to time in the countries and sectors in which the Astron group operates. It is believed that the expectations reflected in these statements are reasonable, but they may be affected by a wide range of variables which could cause results to differ materially from those currently projected.

The information contained in this document is not investment or financial product advice and is not intended to be used as the basis for making an investment decision. Please note that, in providing this document, Astron has not considered the objectives, financial position or needs of any particular recipient. Astron strongly suggests that investors consult a financial advisor prior to making an investment decision.

This document may include "forward looking statements" within the meaning of securities laws of applicable jurisdictions. Forward looking statements can generally be identified by the use of the words "anticipate", "believe", "expect", "project", "forecast", "estimate", "likely", "intend", "should", "could", "may", "target", "plan", "guidance" and other similar expressions. Indications of, and guidance on, future earning or dividends and financial position and performance are also forward-looking statements. Such forward-looking statements are not guarantees of future performance and involve known and

unknown risks, uncertainties and other factors, many of which are beyond the control of Astron and its related bodies corporate, together with their respective directors, officers, employees, agents or advisers, that may cause actual results to differ materially from those expressed or implied in such statement. Actual results, performance or achievements may vary materially from any forward looking statements and the assumptions on which those statements are based. Readers are cautioned not to place undue reliance on forward looking statements and Astron assumes no obligation to update such information. Specific regard should be given to the risk factors outlined in this document (amongst other things).

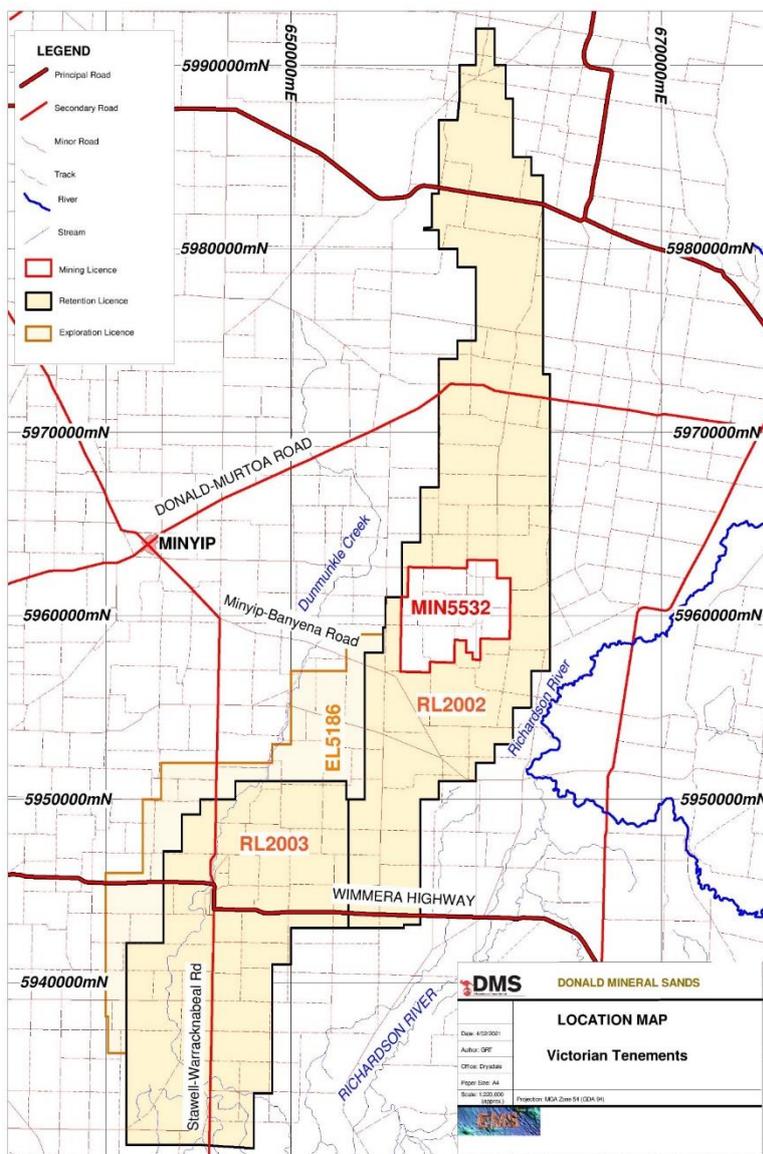
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Certain financial data included in this document is not recognised under the Australian Accounting Standards and is classified as 'non-IFRS financial information' under ASIC Regulatory Guide 230 'Disclosing non-IFRS financial information' (RG 230). This non-IFRS financial information provides information to users in measuring financial performance and condition. The non-IFRS financial information does not have standardised meanings under the Australian Accounting Standards and therefore may not be comparable to similarly titled measures presented by other entities, nor should they be interpreted as an alternative to other financial measures determined in accordance with the Australian Accounting Standards. No reliance should therefore be placed on any financial information, including non-IFRS financial information and ratios, included in this document. All financial amounts contained in this document are expressed in Australian dollars and may be rounded unless otherwise stated. Any discrepancies between totals and sums of components in tables contained in this document may be due to rounding.

**Schedule 1: Donald Mineral Sands Project interests in tenements**

Location	Tenement	Percentage held	Holder
Victoria Australia	RL 2002	100	Donald Mineral Sands Pty Ltd
Victoria Australia	RL 2003	100	Donald Mineral Sands Pty Ltd
Victoria Australia	MIN5532	100	Donald Mineral Sands Pty Ltd
Victoria Australia	EL5186	100	Donald Mineral Sands Pty Ltd

Figure 2: Tenements map



## Schedule 2

### APPENDIX A: DONALD DEPOSIT UPDATED ORE RESERVE & MINERAL RESOURCE STATEMENTS

#### Ore Reserves <sup>1</sup>

Based on the supporting mine planning completed, pit inventories to support an Ore Reserve Estimate, in accordance with JORC 2012 are shown in Table 1.1. Ore has been classified as Proven Ore Reserve, based on Measured Mineral Resource and Probable Ore Reserve, based on Indicated Mineral Resource. The results of the Ore Reserve estimate reflect the Competent Person's view of the deposit.

Note that the Mineral Resources are reported inclusive of the Ore Reserve.

**Table 1.1 Donald Mineral Sands Ore Reserve for RL 2002 at February 2021**

Classification	Tonnes (mt)	Slimes (%)	Oversize (%)	HM (%)	Ilmenite (%HM)	Leucoxene (%HM)	Rutile (%HM)	Zircon (%HM)	Monazite (%HM)
<b>Within MIN5532</b>									
Proved	170	14	12	5.3	31	22	7.1	19	1.9
Probable	24	13	12	4.9	33	21	6.7	20	2.0
Total	194	14	12	5.3	32	22.0	7.0	19.0	1.9
<b>Within RL2002 Outside of MIN5532</b>									
Proved	140	19	7	5.6	31	18	9.6	21	1.8
Probable	268	16	14	4.0	32	19	7.5	17	1.6
Total	408	17	12	4.5	32	19.0	8.4	19	1.8
<b>Total within Donald Deposit (RL2002)</b>									
Proved	310	16	108	5.4	31	20	8.2	20	1.8
Probable	292	16	14	4.1	32	20	7.4	17	1.6
Total	602	16	12	4.8	32	20	7.9	19	1.7

#### Note

1. The ore tonnes have been rounded to the nearest 1mt and grades have been rounded to two significant figure.
2. The Ore Reserve is based on indicated and Measured Mineral Resource contained with mine designs above an economic cut-off. The economic cut-off is defined as the value of the products less the cost of processing
3. Mining recovery and dilution have been applied to the figures above.

The JORC Code 2012 Table 1, Section 4 to support the Ore Reserve Estimate is included in Appendix B of the Donald Project Ore Reserve Statement released 18 February 2021. The Ore Reserve estimates have been compiled in accordance with the guidelines defined in the 2012 JORC Code.

#### Mineral Resources<sup>4</sup>

Astron Corporation last reported the Mineral Resource on 7<sup>th</sup> April 2016 in accordance with JORC 2012. Below is an exact of the AMC report (AMC 115075) prepared to support the Mineral Resource. The Mineral

<sup>1</sup> Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2012 Edition, sets out minimum standards, recommendations and guidelines for public reporting in Australasia of Exploration Results, Mineral Resources and Ore Reserves authored by the Joint Ore Reserves Committee of The Australian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia. The Ore Reserve and Mineral Resource estimates were prepared by AMC Consultants Pty Ltd. For further details see Astron's ASX announcement 18 Feb 2021, "Donald Project Ore Reserve Update".

<sup>4</sup> Refer ASX Release 7 April 2016

Resource estimate was reported in accordance with the JORC Code for the heavy minerals (HM) and valuable heavy minerals (VHM) Content for MIN5532 and RL 2002 of the Donald Heavy Mineral Sands Deposit and for RL2003, RLA2006 (since been amalgamated into RL2003) of the Jackson Heavy Mineral Sands Deposit.

The Mineral Resource estimate was reported in accordance with the JORC Code for the heavy minerals (HM) and valuable heavy minerals (VHM) content has been used for the preparation of the Ore Reserve. Only the resource containing valuable heavy minerals (VHM) content has been used for the preparation of the Ore Reserve.

**Table 1.2 Mineral Resource at a 1% Cut-off**

<b>Classification</b>	<b>Tonnes (mt)</b>	<b>HM (%)</b>	<b>Slimes (%)</b>	<b>Oversize (%)</b>
<b>Within ML5532</b>				
Measured	372	4.5	14.4	12.8
Indicated	75	4.0	13.8	13.1
Inferred	7	3.5	13.5	10.6
<b>Subtotal</b>	<b>454</b>	<b>4.4</b>	<b>14.2</b>	<b>12.8</b>
<b>With RL2002 Outside of ML5532</b>				
Measured	343	3.9	19.8	8.1
Indicated	833	3.3	16.2	13.5
Inferred	1,595	3.3	15.7	6.0
<b>Subtotal</b>	<b>2,771</b>	<b>3.4</b>	<b>16.4</b>	<b>8.5</b>
<b>Total within Donald Deposit (RL2002)</b>				
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
<b>Subtotal</b>	<b>3,225</b>	<b>3.6</b>	<b>16.1</b>	<b>9.1</b>
<b>Total within Jackson Deposit (RL2003)</b>				
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
<b>Subtotal</b>	<b>2,497</b>	<b>2.9</b>	<b>18.5</b>	<b>5.2</b>
<b>Total Donald Project</b>				
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
<b>Total</b>	<b>5,712</b>	<b>3.2</b>	<b>16.9</b>	<b>7.3</b>

**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.
4. For further details including JORC Code, 2012 Edition – Table 1 and cross sectional data, see previous announcements dated 7 April 2016, available at ASX's website at:  
[www.asx.com.au/asxpdf/20160407/pdf/436cjqcg3cf47.pdf](http://www.asx.com.au/asxpdf/20160407/pdf/436cjqcg3cf47.pdf)

**Table 1.3 Mineral Resource where VHM Data is Available at a Cut-off of 1% HM**

<b>Classification</b>	<b>Tonnes (mt)</b>	<b>Slimes (%)</b>	<b>Oversize (%)</b>	<b>HM (%)</b>	<b>Ilmenite (%HM)</b>	<b>Leucoxene (%HM)</b>	<b>Rutile (%HM)</b>	<b>Zircon (%HM)</b>	<b>Monazite (%HM)</b>
<b>Within ML5532</b>									
Measured	264	14.2	12.2	5.4	31	22	7	19	2
Indicated	49	13.6	12.1	4.9	33	22	7	20	2
Inferred	5	13.5	10.2	4.2	36	20	7	22	3
<b>Total</b>	<b>317</b>	<b>14.1</b>	<b>12.1</b>	<b>5.3</b>	<b>32</b>	<b>22</b>	<b>7</b>	<b>19</b>	<b>2</b>
<b>Within RL2002 Outside of ML5532</b>									
Measured	185	19.1	7.3	5.5	31	19	9	21	2
Indicated	454	15.9	13.2	4.2	33	19	7	17	2
Inferred	647	15.2	5.8	4.9	33	17	9	18	2
<b>Total</b>	<b>1,286</b>	<b>16.0</b>	<b>8.6</b>	<b>4.8</b>	<b>33</b>	<b>18</b>	<b>8</b>	<b>18</b>	<b>2</b>
<b>Total within Donald Deposit (RL2002)</b>									
Measured	448	16.2	10.2	5.4	31	21	8	20	2
Indicated	503	15.7	13.1	4.3	33	20	7	18	2
Inferred	652	15.2	5.8	4.9	33	17	8	18	2
<b>Total</b>	<b>1,604</b>	<b>15.6</b>	<b>9.3</b>	<b>4.9</b>	<b>32</b>	<b>19</b>	<b>8</b>	<b>18</b>	<b>2</b>
<b>Total within Jackson Deposit (RL2003)</b>									
Measured									
Indicated	668	18.1	5.4	4.9	32	17	9	18	2
Inferred	155	15.1	3.1	4.0	32	15	9	21	2
<b>Total</b>	<b>823</b>	<b>17.6</b>	<b>5.0</b>	<b>4.8</b>	<b>32</b>	<b>17</b>	<b>9</b>	<b>19</b>	<b>2</b>
<b>Total Donald Project</b>									
Measured	448	16.2	10.2	5.4	31	21	8	20	2
Indicated	1,171	17.1	8.7	4.6	32	18	8	18	2
Inferred	807	15.2	5.3	4.7	33	17	9	19	2
<b>Total</b>	<b>2,427</b>	<b>16.3</b>	<b>7.0</b>	<b>4.8</b>	<b>32</b>	<b>18</b>	<b>8</b>	<b>19</b>	<b>2</b>

**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: 1mt 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.
6. For further details including JORC Code, 2012 Edition – Table 1 and cross sectional data, see previous announcements dated 7 April 2016, available at ASX's website at [www.asx.com.au/asxpdf/20160407/pdf/436cjqc3cf47.pdf](http://www.asx.com.au/asxpdf/20160407/pdf/436cjqc3cf47.pdf)