Savannah Resources Plc / Index: AIM / Epic: SAV / Sector: Mining

SAVANNAH RESOURCES PLC

AIM: SAV

RNS – 30 May 2017

PROJECT PORTFOLIO

MINERAL SANDS
MOZAMBIQUE
(CONSORTIUM AGREEMENT WITH RIO TINTO)

COPPER/GOLD
OMAN

LITHIUM
PORTUGAL AND FINLAND

Savannah Resources Plc
Completion of Mutamba Mineral Sands Project Scoping Study

Savannah Resources plc (AIM: SAV) ('Savannah' or 'the Company'), is pleased to announce completion of the Mutamba Scoping Study*, which concludes that there is potential for a financially robust, long life mineral sands project that is anticipated to provide excellent life of mine financial returns with relatively modest capital requirements **(Figure 1).** The Mutamba Mineral Sands Project ('Mutamba' or 'the Project') is being developed by Savannah and Rio Tinto as part of a consortium agreement between the two parties (the 'Consortium'). Savannah has the right to earn up to a 51% interest in the Project, subject to key milestones being met, and by delivering the scoping study Savannah now holds a 20% interest.

KEY SCOPING STUDY HIGHLIGHTS:

- Initial mine life ('LOM') of 30 years based on a resource of 451Mt at 6.0% total heavy minerals ('THM') (based on a conceptual mine plan utilising 33% indicated resource and 67% inferred resource);
- Targeting first production in 2020 with average annual production of 456,000t of ilmenite and 118,000t of non-magnetic concentrate;
- US$4.23 billion LOM revenue forecast based on Management Case Two (base case revenue of US$3.53 billion forecast);
- Pre-production capital expenditure of US$152 million plus US$74 million of contingency, EPCM (Engineering, Procurement, Construction Management) and spares, with identified opportunities that may reduce capital expenditure (based on conceptual estimate +/- 35%);
- Modelled production of 15Mtpa will be mined at LOM strip ratio (waste/ore) of essentially zero (2:451);
- Considerable upside potential remains through refining costings and further resource drilling; and
- Delivery of Scoping Study increases Savannah's interest in the Mutamba Consortium to 20%.

*The Scoping Study referred to in this report is based on low-level technical and economic assessments, and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Scoping Study will be realised.

- Financial outcomes modelled on three key scenarios:

	Mutamba TZMI Base Case Prices (US$/t)	Management Case One +10% Product Price (US$/t)	Management Case Two +20% Product Price (US$/t)
Ilmenite Price (FOB)	**185**	**204**	**222**
Nonmagnetic Concentrate (FOB)	**250**	**275**	**300**
Pre-Tax Free Cashflow (LOM)	**US$1,007M**	**US$1,347M**	**US$1,686M**
Pre-Tax Average Annual Free Cashflow	**US$41M**	**US$52M**	**US$62M**
Pre-Tax NPV (10% discount)	**US$154M**	**US$245M**	**US$335M**
IRR (pre-tax)	**19%**	**23%**	**27%**
Payback Period (pre-tax)	**5yrs**	**4yrs**	**3yrs**

Note: FOB = Free on board (shipping), LOM = Life of Mine (30 years)

Savannah's CEO, David Archer said: "The results of the Scoping Study outline the potential for a long life, robust project at a time of increasing demand for titanium feedstocks and strong price growth. Mutamba is a tier one deposit that is well placed to provide a long-term, reliable supply of ilmenite, zircon and rutile. With high-grades at surface, the Project shows potential strong returns over a 30-year mine life. Our Management Case One shows that the Project has a Pre-tax NPV_{10} of US$244m and a four year pay-back.

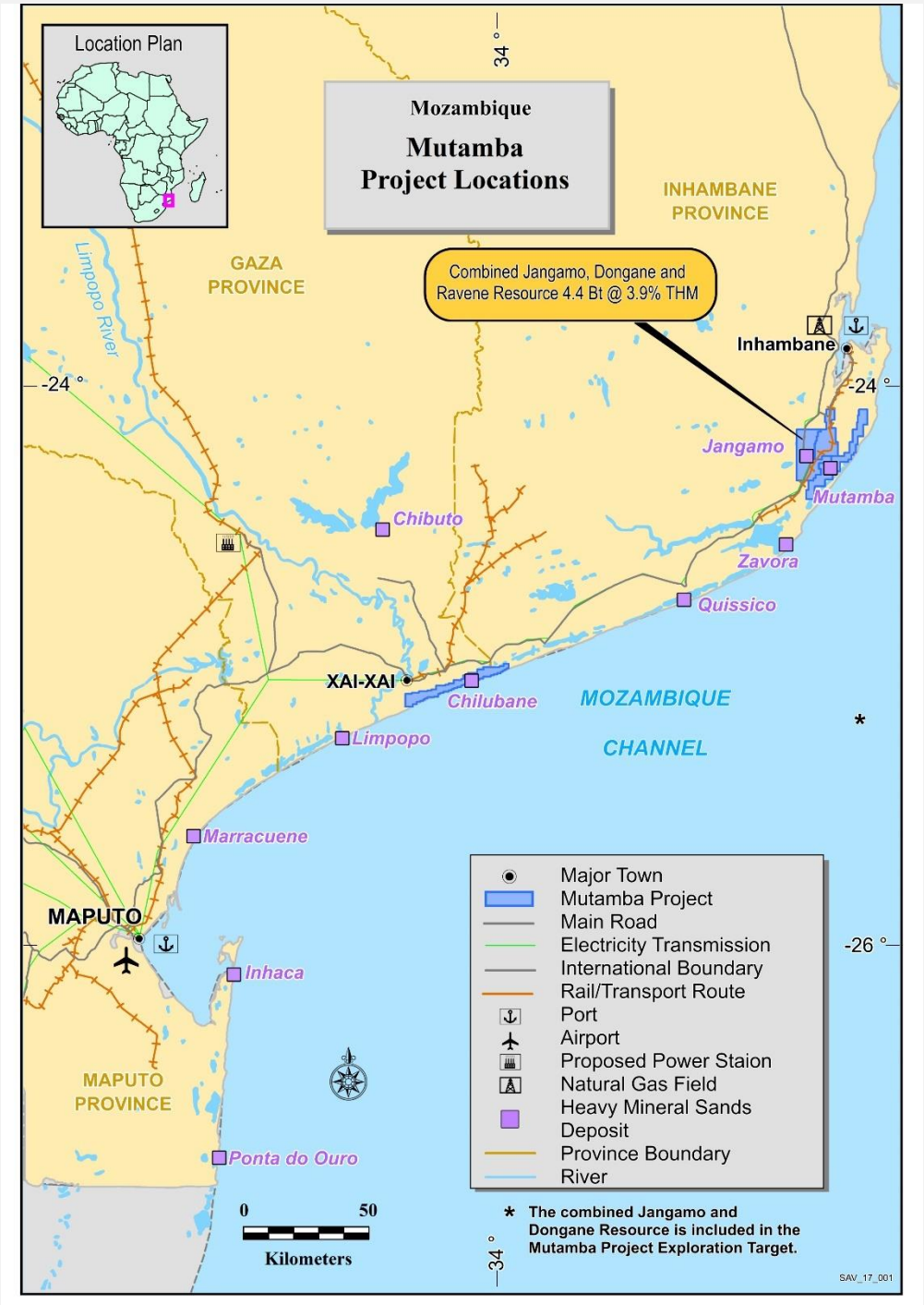
"Our conceptual mine plan is based on well known, long established mining and processing techniques and is enhanced by the very complementary infrastructure setting, comprising local roads, power, telecommunications, an international airport and the nearby port of Inhambane.

"Importantly, the Project could provide major benefits to the people of Inhambane Province and to Mozambique as a whole. Mutamba could be a major industrial development for the region, and with an anticipated final labour complement of 332 people and over 1,000 indirect jobs expected to be created, we are targeting 95% local participation once the operations become established. The key social benefits of the Project would be job creation and job diversity which is complemented by the Consortium's current skills development programme with the local community. The involvement of local business and contractors in the Project would be supported through a procurement and logistics policy. Furthermore, the Project could provide strong capital flows into Mozambique and will be an additional element in the country's growing levels of foreign direct investment.

''With the delivery of the Scoping Study, Savannah's interest in the Mutamba Consortium has increased to 20%. Savannah's interest can be further increased to 35% upon the delivery of a Pre-Feasibility Study. We are now looking to commission a group to undertake this study once a tender process is complete."

FURTHER INFORMATION

Figure 1. Project Location Map



KEY OUTCOMES OF THE SCOPING STUDY

Savannah engaged TZMI to undertake a Scoping Study on the development of Mutamba. The purpose of this study was to utilise the existing, very extensive data set for the Project, together with TZMI's knowledge of the heavy mineral sands industry, to arrive at an overall picture of the technical and economic feasibility of the Project and identify key areas, which should be focussed on in subsequent studies.

The Mutamba Project is located in the Inhambane province of Mozambique about 35km south east of the city of Inhambane and 300km north east of the Mozambique capital city of Maputo. The Scoping Study outcome is characterised by:

- large scale operation;
- thick, sheet-like ore body geometry;
- stripping ratio close to zero;
- conventional heavy minerals processing flowsheet;
- modest pre-production capital requirement; and
- favourable infrastructure setting and logistics

The mining inventory that forms the basis of the Scoping Study was derived from an optimised pit shell giving a **30 year mine life** and comprises **451 million tonnes averaging 6% THM** (Indicated and Inferred Resources).

Average annual production following ramp-up to a 15 Mtpa mining rate is estimated to be **456,000t of roasted ilmenite** and **118,000t of non-magnetic concentrate (rutile and zircon)** over an initial mine life of 30 years, which will position the Mutamba project as a globally significant Ilmenite producer.

Mutamba Base Case Financial Model

The Mutamba Base Case has been developed by TZ Minerals International ("TZMI") based on the technical information provided below.

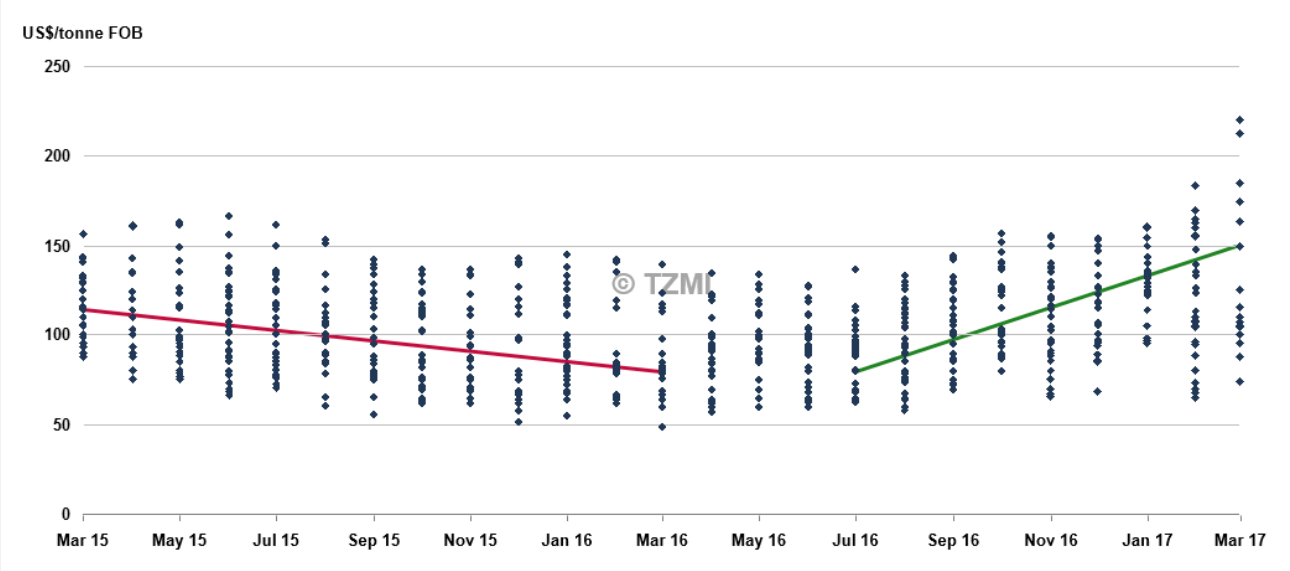
At the assumed base case pricing of US$185/t for ilmenite **(Figure 2)** and US$250 for non-magnetic concentrate (rutile and zircon) over the project life, the Project is anticipated to generate average pre-tax cash flows of US$40 million per annum. The life of mine revenue is forecast to be US$3.53 billion and cash operating costs over life of mine are US$2.16 billion.

The estimated project costs (+/-35%) pre-production capital expenditure of US$152 million plus US$74 million of contingency, EPCM and spares, with identified opportunities that may reduce capital expenditure with a payback of five years.

Management Case One +10% in Product Price

Management Case One uses the same parameters as the base case scenario but with an increased product price of 10%. This elevated price is in line with recent market evidence suggesting ilmenite prices in China were around US$230 to US$240t in western China where it is produced and around US$270 to US$280t when delivered to eastern China. Information obtained from Ferroy Alloy.com who track world ilmenite prices, further supports this view.

Figure 2. Sulfate ilmenite cross-border trade prices: March 2015 to March 2017 (according to TZMI)



These price projections are considered by the Savannah Board to be a reasonable forward estimate to use at the time of writing as a basis for the Management Case One Model.

At the assumed pricing of US$204/t for ilmenite and US$275 for non-magnetic concentrate (rutile and zircon) over the life, the Project is anticipated to generate average pre-tax cash flows of US$52M per annum. The life of mine revenue is forecast to be US$3.88 billion and cash operating costs over life of mine are US$2.17 billion.

The estimated project costs (+/-35%) pre-production capital expenditure of US$152 million plus US$74 million of contingency, EPCM and Spares, with identified opportunities that may reduce capital expenditure with a payback of 4 years.

Management Case Two +20% in Product Price

Management Case Two is the same as the Mutamba Base Case, but with an assumed 20% increase in product price.

At the assumed pricing of US$222/t for ilmenite and US$300 for non-magnetic concentrate (rutile and zircon) over the life, the Project is anticipated to generate average pre-tax cash flows of US$62 million per annum. The life of mine revenue is forecast to be US$4.23 billion and cash operating costs over life of mine are $2.18 billion.

The estimated project costs (+/-35%) pre-production capital expenditure of US$152 million plus US$74 million of contingency, EPCM and spares, with identified opportunities that may reduce capital expenditure with a payback of three years.

FURTHER TECHNICAL INFORMATION

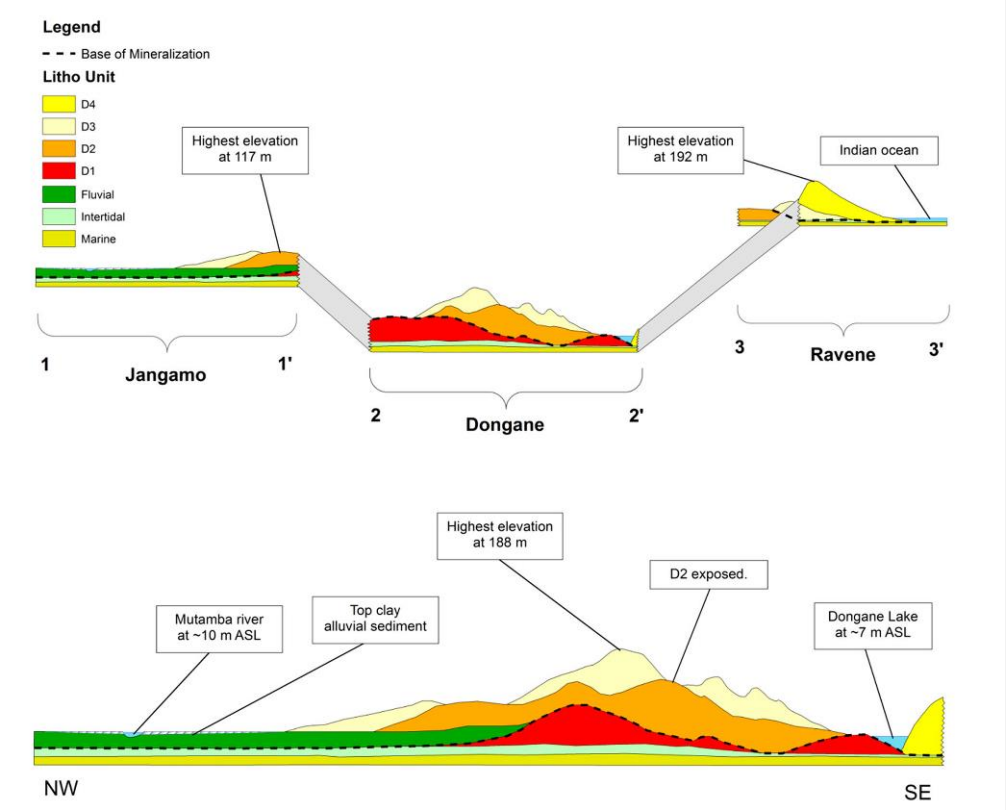
The following sections outline the technical information, assumptions and key criteria used for the Mutamba Scoping Study.

Geology

Mutamba includes three separate mineral sand deposits; Jangamo, Dongane and Ravene. The Dongane and Ravene deposits are dominated by the high dune topography. However, at Jangamo, high dunes only occur to the south where it approaches Dongane. Most of Jangamo is relatively flat where the Mutamba River and its tributaries drain north into Inhambane Bay.

Six major geological units have been defined in the Mutamba project area. They comprise a mixture of marine, fluvial and aeolian sedimentary deposits. A diagrammatic representation of the geology is shown below **(Figure 3)**.

Figure 3. Mutamba project composite cross-section



Source: Dumouchel, Hees and Alvin (2016)

Most of the heavy mineral (HM) mineralisation is hosted in the D2, D3 and Fluvial units. The D4 unit does host moderate grade HM mineralisation but it is not a major component of the sequence at either Jangamo or Dongane.

JORC 2012 reportable Mineral Resources have been defined at Jangamo, Dongane and Ravene, and are stated below **(Figure 4)**.

Figure 4: Mutamba Resources

Resources	***Category***	***Sand*** *(Mt)*	***HM*** *(%)*	***Ilmenite*** *(% in HM)*	***Ilmenite*** *(% in sand)*	***Rutile*** *(% in sand)*	***Zircon*** *(% in sand)*

Jangamo 1336L	Indicated	1,780	3.8	62	2.4	0.06	0.11
Jangamo 1336L	Inferred	200	3.5	63	2.2	0.03	0.11
Jangamo 3617L	Inferred	65	4.2	60	2.5	0.08	0.15
Dongane	Inferred	1,400	3.8	61	2.3	0.07	0.10
Ravene	Inferred	900	4.1	56	2.3	-	0.10
Total		**4,400**	**3.9**	**60**	**2.3**	**0.05**	**0.11**

Note: The Mineral Resource information above is extracted from the RNS entitled "900Mt Resource Defined at Ravene, Mutamba Project, Mozambique" released on 27/03/2017, and is available to view on the Company's website. The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, that all material assumptions and technical parameters underpinning the Mineral Resource estimates in the relevant market announcement continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

Mining

Several mining methods were reviewed for applicability to the Mutamba Project. These included the dredge wet mining method as well as the front-end loader ('FEL')/truck and dozer trap dry mining methods. Of the dry mining options considered, dozer trap mining is preferred over the FEL/ truck mining method **(Figure 5).**

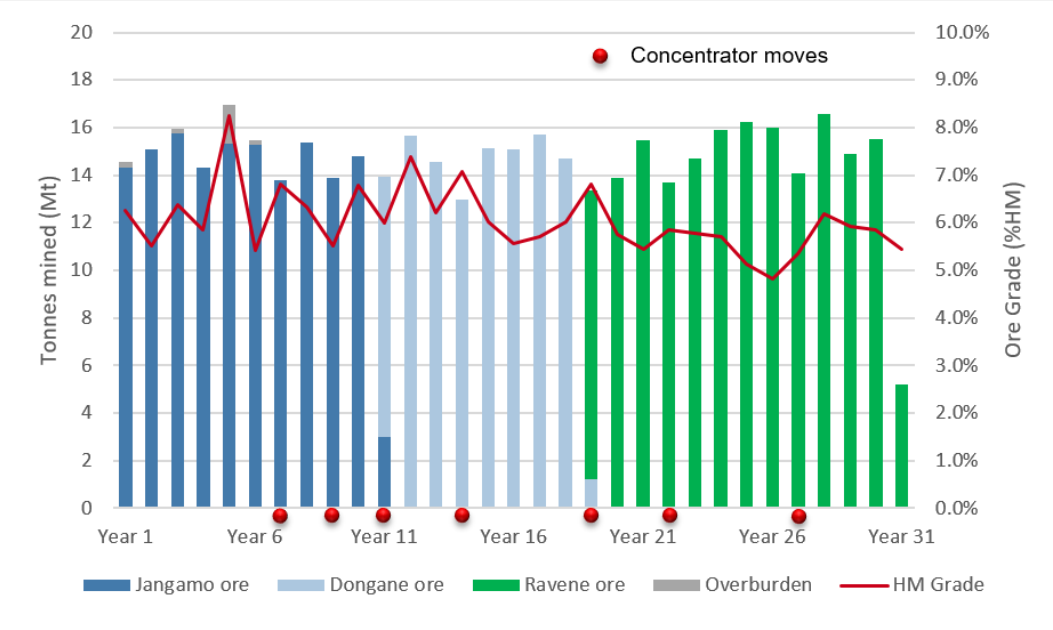
Figure 5: Example of dry mining using dozer trap

Source: Piacentini & Sons

To assist with developing the mine plan, the Mutamba deposits were optimised using Minemax Planner software. Various pit shells were reviewed and modelled and specific pit shells were chosen at each deposit that provided the balance between tonnage, grade, and continuity.

The mine schedule developed results in 451Mt of mineral sands being mined at a grade of 6.0% THM **(Figure 6)**. The mine plan is comprised of approximately 33% Indicated Resource (Jangamo in the first ten years) and 67% Inferred Resources (Dongane and Ravene after year ten). The total mine life is over 30 years with a LOM strip ratio of 2 tonnes of waste mined for every 451 tonnes of ore.

Figure 6: Scoping Study Mining Schedule



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Processing

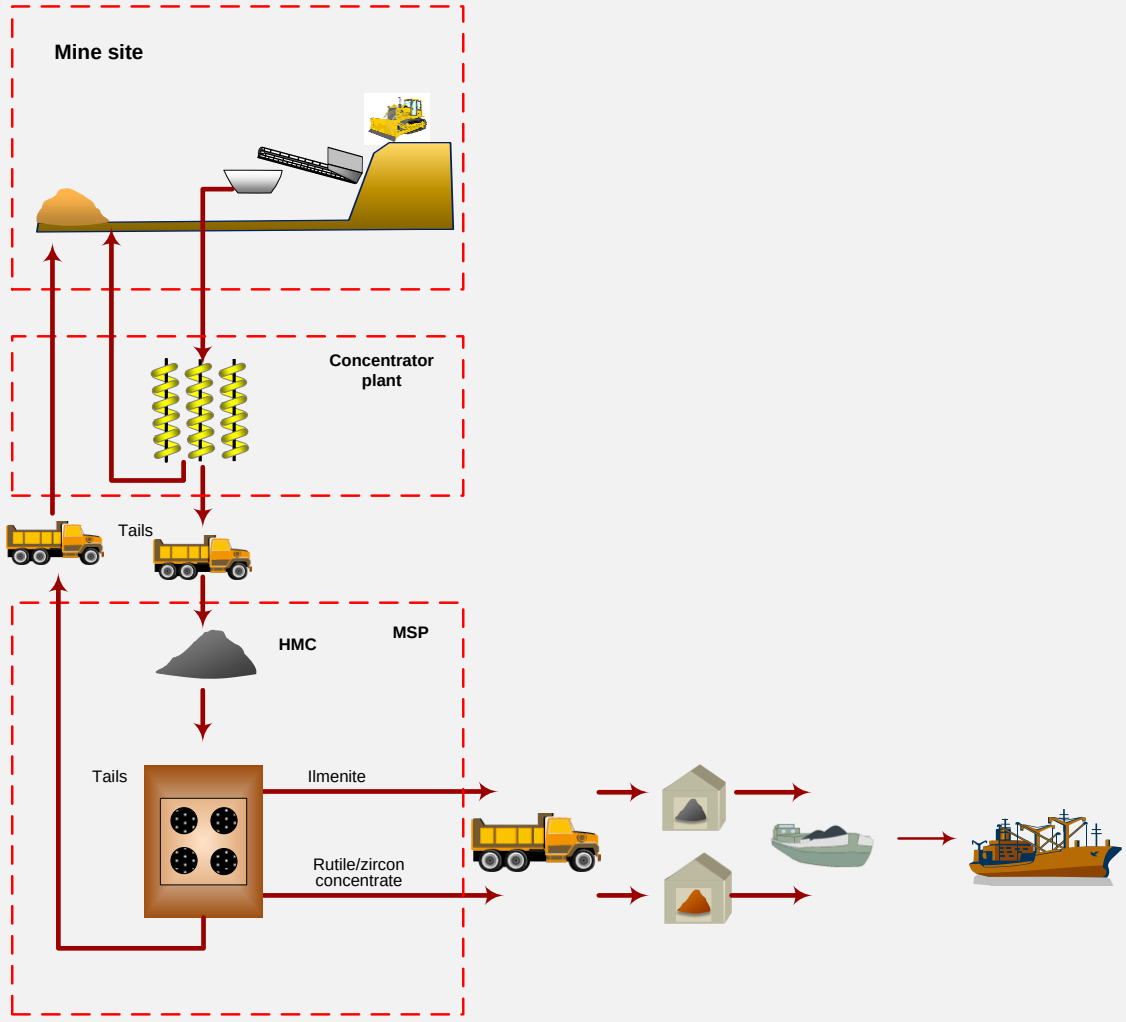
The proposed process includes the following stages:

- Mined ore is slurried and pumped to the nearby primary concentrator plant (PCP)
- Processing in the PCP consists of desliming to remove fines and gravity separation using spiral circuits;
- the PCP has been sized for a nominal feed rate of 2,000tph in order to produce approximately 800,000tpa of heavy mineral concentrate ('HMC') with a heavy mineral grade in the order of >90%;
- An HMC containing more than 90% HM is separated from the light sands, slimes and tailings;
- The PCP tailings are pumped directly back into the mine void;
- The HMC produced will trucked to the MSP;
- The concentrate will be fed into the mineral separation circuit where it will be processed to produce a magnetic roasted ilmenite product and a zircon rich non-magnetic concentrate;

- For the base case the MSP has been sized to process HMC at a rate of 105tph to produce approximately 70 tph of roasted ilmenite and 15tph of non-magnetic concentrate;
- The products will be trucked to the export facility;
- The ilmenite and non-magnetic concentrate products will be stored in a shed adjacent the barge loading facility prior to being exported.

A high-level flow diagram of the proposed process flowsheet for producing ilmenite and zircon concentrate shown in **Figure 7**.

Figure 7: Conceptual process flowsheet for the base case.



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Infrastructure

Power installed at the mine site area, including the borefield, mining units and PCP is estimated at 6MW. Given the close proximity of the project to the Lindela substation it has been assumed that power for the Project will be sourced off the local grid.

The Project concept seeks to take advantage of as much of the local infrastructure as possible to minimise capital investment.

Key logistical infrastructure components are highlighted in the following **Figure 8**.

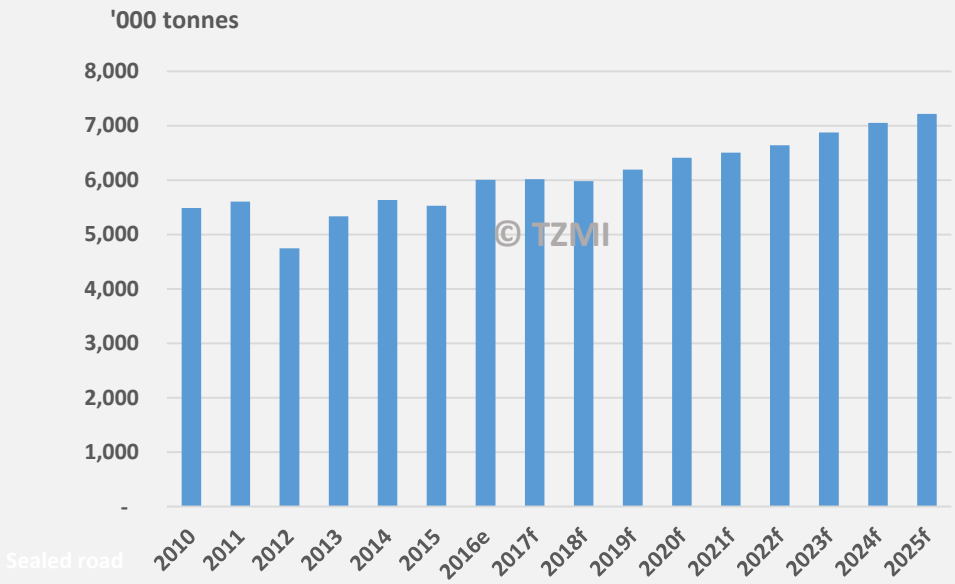
Figure 8: Project area key infrastructure components

For the Scoping Study, it has been assumed that both products will be transported approximately 45km by road to the sheltered bay of Inhambane where they will be stored in product sheds before being loaded onto barges for trans-shipment into handy size vessels moored at the entrance to the Inhambane bay.

Market review

Global demand for TiO_2 pigment tends to trend with global GDP growth **(Figure 9)**, driven particularly by growth in construction, durables (specifically white goods) and manufacturing.

Figure 9: Global demand for TiO_2 pigment 2010 – 2025 expected to continue to rise



Source: © TZMI

TZMI's long-term price forecast for TiO_2 feedstocks and zircon was used as a basis to estimate the likely pricing to be achieved for the Mutamba products based on the likely quality of the products and target markets. TZMI's base case pricing considered the available information used for the Q1 2017 price forecast. TZMI relies predominantly on inducement analysis of the new project pipeline to determine long-term pricing for the period post 2021. The long-term price is influenced by the nature, and therefore economics, of new feedstock projects that are likely to enter the market. The new project pipeline continues to change, and the long-term price projection will be revised as more data and information becomes available.

Economic evaluation

They key input assumptions or modifying factors applied to the mineral resources for the economic analysis are shown below.

Key assumptions

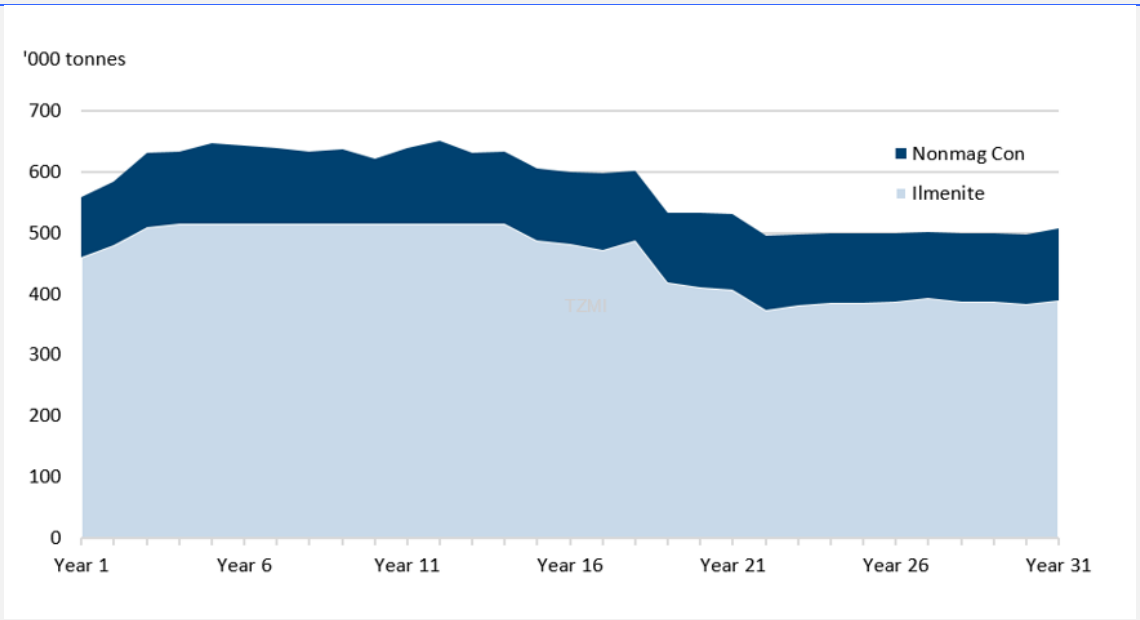
Assumption description	*Units*	*Assumption value*
Mining		
Ore mined	Mt	451
Overburden mined	Mt	2
HM grade	% HM	6.0
Slimes grade	%	7.4
Ilmenite grade	% of HM	62

Assumption description	*Units*	*Assumption value*
Rutile grade[1]	% of HM	1.6
Zircon grade	% of HM	2.7
Processing		
Ilmenite recovery to roaster product	%	80
Rutile recovery to nonmagnetic concentrate	%	72
Zircon recovery to nonmagnetic concentrate	%	89
Revenue		
Ilmenite price (long term)	US$/t FOB	185
Nonmagnetic concentrate price (long term)	US$/t FOB	250
Capital costs		
Start-up	US$M	226
Sustaining (LOM)	US$M	105
Closure	US$M	10
Operating costs		
Mining and concentrating	US$/t product	58.90
Processing	US$/t product	25.30
Product transport	US$/t product	5.00
Product storage and ship loading	US$/t product	17.00
Administration and marketing	US$/t product	9.20
Royalties	US$/t product	6.00
Tax		
Tax depreciation rate	%	15
Corporate tax rate	%	32
Economic		
Discount rate	***% real***	***10***

The annual production profile derived for the Scoping Study is based on the mine plan and the physical assumptions as outlined in the table above. The resulting production for ilmenite and non-magnetic concentrate is shown below. Total production over the life of the mine **(Figure 10)** is

forecast to be 14.1 million tonnes of ilmenite and 3.6 million tonnes of nonmagnetic concentrate. The average annual production is 456,000 tonnes of ilmenite and 118,000 tonnes of nonmagnetic concentrate.

Figure 10: Production profile



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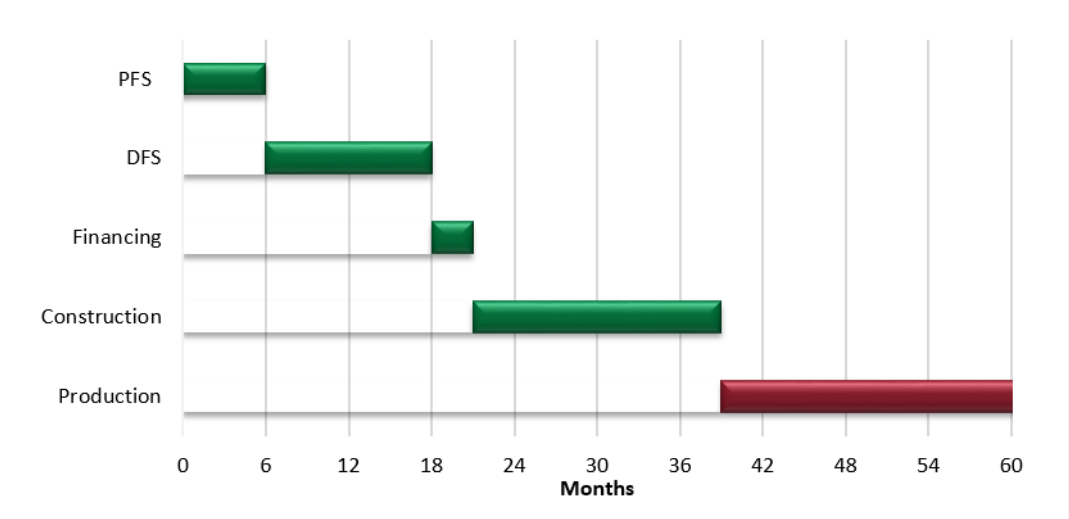
Development Schedule

TZMI has developed a forward work schedule **(Figure 11)** to take the Mutamba project into production, assuming all studies have positive outcomes. There are two key phases required prior to development:

- Pre-feasibility study (PFS) – A typical PFS is recommended where several options are tested and the preferred option is put forward to carry on into the DFS.
- Definitive feasibility study (DFS) – The DFS will explore in detail the carry forward option with the aim to remove all significant uncertainties.

It is expected to take approximately 18 months to reach the end of the DFS stage from the start of the PFS phase. Following this there is typically a period of time required to raise the appropriate funding for the project. This is followed by project construction, commissioning and operation. Approval of the PFS, DFS and commencement of construction will require the unanimous approval of both Savannah and Rio Tinto.

Figure 11: Indicative project schedule



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FORWARD LOOKING AND CAUTIONARY STATEMENTS

Some statements in this report regarding estimates or future events are forward-looking statements. They include indications of, and guidance on, future earnings, cash flow, costs and financial performance. Forward-looking statements include, but are not limited to, statements preceded by words such as “planned”, “expected”, “projected” “estimated” “may”, “scheduled”, “intends”, “potential”, “could” “nominal” “conceptual” and similar expressions. Forward looking statements, opinions and estimates included in this announcement are based on assumptions and contingencies which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions. Forward looking statements are provided as a general guide only and should not be relied on as a guarantee of future performance. Forward looking statements may be affected by a range of variables that could cause actual results to differ from estimated results.

The Company believes it has a reasonable basis for making the forward looking statements in this announcement, including with respect to any production targets, based on the information contained in this announcement and in particular to the previously released Mineral Resource for Mutamba, independently compiled by Colin Rothnie, together with independent metallurgical, processing design, engineering, mining and marketing studies, product quality assessment, external commodity price and exchange rate forecasts and global operating cost data determined by TZMI. In this report, the term “mining inventory” is used to report that part of the Mineral Resource that has been considered in the Scoping Study. The mining inventory does not meet the requirements of an Ore Reserve as defined under the 2012 edition of the JORC Code and should not be considered an Ore Reserve. There is no certainty that all or any part of the mining inventory will be converted into Ore Reserves.

SCOPING STUDY PARAMETERS – CAUTIONARY STATEMENT

The Scoping Study referred to in this report is based on low-level technical and economic assessments, and is insufficient to support estimation of Ore Reserves or to provide assurance of an

economic development case at this stage, or to provide certainty that the conclusions of the Scoping Study will be realised.

Unless otherwise stated all cash flows are in US dollars, are undiscounted and are not subject to inflation/escalation factors and all years are calendar years. The Scoping Study financial analysis excludes the cost of pre-feasibility and bankable feasibility studies, estimated to be $2M and $5M, respectively.

The Company has concluded it has a reasonable basis for providing the forward looking statements included in this announcement. The detailed reasons for that conclusion are outlined throughout this announcement and in particular in the disclaimer entitled "Forward Looking and Cautionary Statements".

Competent Person and Regulatory Information

The information in this document that relates to exploration results is based upon information compiled by Mr Dale Ferguson, Technical Director of Savannah Resources Limited. Mr Ferguson is a Member of the Australian Institute of Mining and Metallurgy (AusIMM) and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the December 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (JORC Code). Mr Ferguson consents to the inclusion in the report of the matters based upon the information in the form and context in which it appears.

The information in this document that relates to the resource estimation is based upon information compiled by Mr Colin Rothnie, an independent consultant. Mr Rothnie is a Member of the Australian Institute of Mining and Metallurgy (AusIMM) and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the December 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (JORC Code). Mr Rothnie consents to the inclusion in the report of the matters based upon the information in the form and context in which it appears.

This announcement contains inside information for the purposes of Article 7 of Regulation (EU) 596/2014.

****ENDS****

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Notes

Savannah Resources Plc (AIM: SAV) is a growth oriented, multi-commodity, mineral development company.

Mozambique

Savannah operates the Mutamba heavy mineral sands project in Mozambique in collaboration with Rio Tinto, and can earn a 51% interest in the related Consortium, which has an established initial Indicated and Inferred Mineral Resource Estimate of 4.4 billion tonnes at 3.9% THM over the Jangamo, Dongane and Ravene deposits. Under the terms of the Consortium Agreement with Rio Tinto, upon delivery by Savannah of the following will earn the corresponding interest in the Mutamba Project (which currently is 20% following delivery of scoping study in May 2017): pre-feasibility study - 35%; feasibility study – 51%. Additionally, the Consortium Agreement includes an offtake agreement on commercial terms for the sale of 100% of heavy mineral concentrate production to Rio Tinto (or an affiliate).

Oman

Savannah has interests in two copper blocks in the highly prospective Semail Ophiolite Belt in Oman. The projects, which have an Indicated and Inferred Mineral Resource of 1.7Mt @ 2.2% copper and high-grade intercepts of up to 56.35m at 6.21% Cu, with gold credits, provide Savannah with an excellent opportunity to potentially evolve into a mid-tier copper and gold producer in a relatively short time frame. Together with its Omani partners, Savannah aims to outline further mineral resources to provide the critical mass for a central operating plant to develop the deposits and in December 2015 outlined exploration targets of between 10,700,000 and 29,250,000 tonnes grading between 1.4% and 2.4% copper.

Portugal

Savannah holds a 75% interest one mining licence and nine prospective applications for the exploration and development of lithium, covering an area in excess of 1,018km2 in northern Portugal. This includes the highly strategic Mina do Barroso prospect, which with an approved Mining Plan ('MP'), Environmental Impact Assessment ('EIA') and a 30-year mining concession/Mining Licence ('ML'), means that with a defined JORC resource a development decision could be made as early as Q4 2018.

Finland

Savannah has Reservation Permits over two new lithium projects, Somero and Erajarvi, covering an area of 159km² in Finland. Savannah holds a 100% interest in these projects through its Finnish subsidiary Finkallio Oy. Geological mapping has highlighted the presence of seven pegmatites across the licence areas - two on Somero and five on Erajarvi – with key lithium minerals petalite, spodumene and lepidolite all identified in hand specimens. Follow up work to further expand and define the pegmatites in readiness for drilling is being planned for the second quarter of 2017 (after winter).