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Strandline Resources

COMPANY SNAPSHOT

Reuters/Bloomberg:	STA.AX / STA.AU
Market cap:	US$21.8m
	A$30.1m
Current price:	A$0.09
Average daily turnover:	US$0.01m
	A$0.02m
Current shares o/s	320.7m
Free float:	61%

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A growth path

- Strandline (STA) has two key, wholly-owned mineral sands projects in Tanzania within a string of tenements extending north from near Dar es Salaam to the Kenyan border. STA has a mineral sands JV with Rio Tinto (ASX:RIO) along the southern coast. STA has a 100% interest in the world-class Coburn mineral sands project.
- Fungoni (STA 100%), 25km south of Dar es Salaam, is a fully permitted, relatively small scale but high grade project, with a US$32m capital cost to production. Successful development of Fungoni would enable STA to display the technical, operational and commercial skills to develop the larger Tajiri resource, comparable with Base Resources' (ASX:BSE) Kwale project, on the other side of the Tanzania-Kenya border.
- The Coburn project, WA, is based on a world class 1.6 billion tonne resource at 1.22% Heavy Mineral (HM). A definitive feasibility study completed in 2013 evaluated a 23Mtpy dry-mining operation to produce 49,500tpy of zircon, 109,000tpy of chloride-grade (62% TiO_2) ilmenite, and 23,500tpy of HiTi (90% TiO_2). Coburn was considered robust at a capital cost of A$173m (in 2013).
- Because of its scale and grade, development of Fungoni provides a relatively low risk, low cost avenue to establish and confirm STA's ability to operate in mineral sands in Tanzania, and to de-risk funding of the larger Tajiri project, which has a capital cost likely comparable with Base's Kwale project to the north, in Kenya.
- STA has a pathway to development in Tanzania, with a world-class resource at Coburn, WA, a desirable jurisdiction for a long life project. STA has executed a non-binding US$26m facility with Nedbank Ltd for the US$32m Fungoni project with the EPC contract and offtake agreements in place. Conventional due diligence by Nedbank is in progress, with the project fundamentals below. STA reported net cash of A$4.2m at 31 December 2018.

Figure 1: Fungoni DFS Metrics – immediate newsflow

Description	Updated DFS Result (Oct-18)	Comment
NPV (10% WACC, Real, Pre Tax, no debt)	US$48.7m	Up US$5.8m or 14%
IRR	61.1%	Up 4,900bps
NPV (10% WACC, Real, Post Tax, no debt)	US$30.8m	See commentary regarding taxes below
IRR	42.1%	Original DFS IRR was pre-tax
NPV (8% WACC, Real, Post Tax, no debt)	US$34.8m	See commentary regarding taxes below
Operational Cashflow Payback Period of Initial Capital	2.67 years	From commencement of project execution
LOM Revenue	US$184.2m	Up US$16.1m or 10%
LOM EBITDA	US$114.8m	Up US$17.0m or 17%
LOM OPEX C1 Costs inc transport	US$66.1m	Up US$3.0m or 5%
LOM All-in Sustaining Costs (AISC)	US$74.9m	Up US$3.7m or 5%
Revenue to C1 Cost Ratio	2.8	First quartile RC ratio
Annual Average Operating Margin	US$391/t	Up US$43/t or 12%
LOM Project Cash Flow	US$81.7m	Up $10.2m or 14%
Description	**Updated DFS Result (Oct-18)**	**Comment**
Annual Production Rate (Steady State)	2.0Mt	No change
LOM Production	12.3Mt	Re-optimisation based on increased commodity
Mine Life (Initial)	6.2 Years	prices may increase reserves and mine life
Exchange Rate (A$/US$)	0.75	No change
Capital Expenditure (Pre-production)	US$32.1m	Pre-production Capex excluding tax & levies
Product Price Zircon (FOB) Avg. LOM	US$1,229/t	Premium grade zircon in concentrate form
Product Price Rutile (FOB) Avg. LOM	US$1,129/t	Final product welding rod grade
Product Price Ilmenite (FOB) Avg. LOM	US$266/t	Chloride grade ilmenite
Product Price Monazite (FOB) Avg. LOM	US$1,804/t	In concentrate form

SOURCES: COMPANY REPORTS

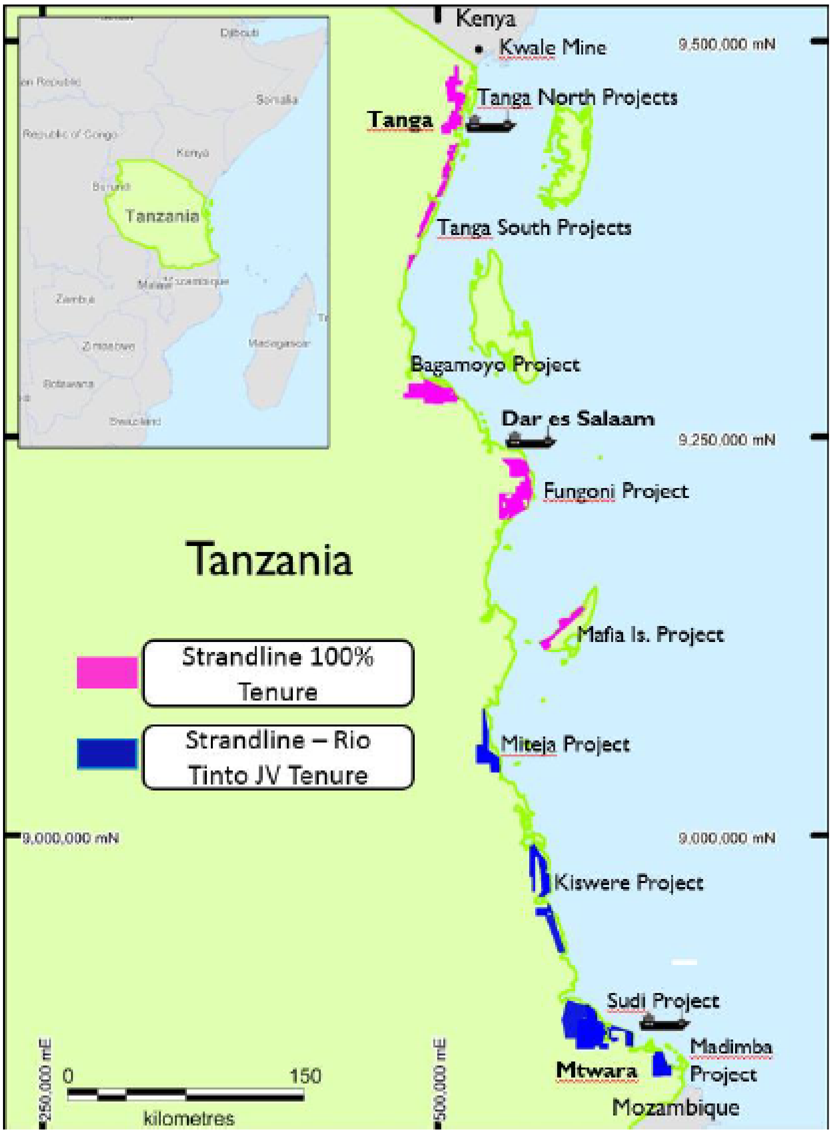
Tanzania

Income tax is 30%. VAT is imposed at 18% on imported goods and locally supplied services. Dividends paid to non-controlling non-resident shareholders are subject to a 10% withholding tax. Under changes announced in 2017, the royalty on diamonds, gemstones and base and precious metals increased to 6%, and a 1% "inspection levy", effectively a 1% royalty, was also imposed. It is not fully resolved if this effective 7% regime applies to mineral sands products, however we have modelled it in our analysis. Tanzania ranked 79 out of 91 jurisdictions in the Fraser Institute survey for 2017. We believe the drop in ranking (from 64 in 2016) was at least in part due to the concern over the dispute with Acacia Mining. In the Transparency International survey for 2016, Tanzania ranked an equal 116 with Mali and Pakistan, with a score of 32, marginally weaker than the 35 recorded for 2012. Australia doesn't have a Tax Treaty with Tanzania.

STA's most advanced project is Fungoni, 25km south of Dar es Sallam, where a Definitive Feasibility Study (DFS) has been completed confirming a robust project. It offers a low risk option to achieve production.

The Tajiri project, Tanga South, has a reported a resource of 147Mt at 3.1% Total Heavy Mineral (THM) with an ilmenite-dominated suite of minerals. An additional exploration target of 73-133Mt at 2.8-4.4% THM was announced.

Figure 2: Strandline tenements, Tanzania



SOURCE: Strandline Resources – 2018 Annual Report, September 2018

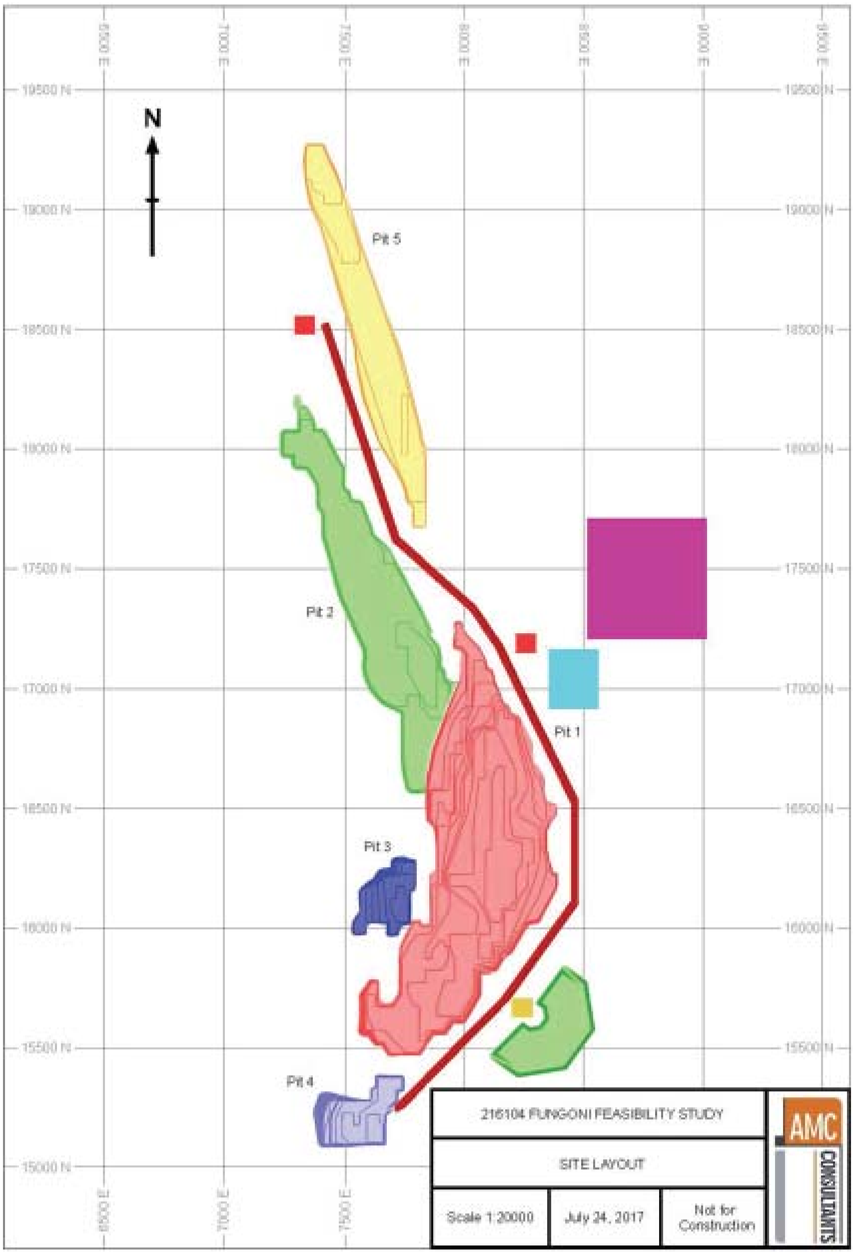
Exploration and auger drilling at Bagamayo, 40km north of Dar es Salaam, has shown the presence of a high unit value mineral sands assemblage, with an exploration target in the range of 78-156Mt at 30-4.5% THM reported by STA.

In June 2017 STA finalised an exploration JV with Rio Tinto for heavy minerals on STA's southern Tanzanian tenements, with a two-stage earn-in plus cash payments, totalling up to US$10.75m with RIO moving to a 51% interest.

Fungoni – the most advanced

The metrics from the Fungoni DFS are shown in Figure 1 above. The Fungoni HMS deposits are located 25km south of Dar es Salaam in central eastern Tanzania. The Measured and Indicated mineral resource (to JORC Code 2012 standards) is 21.7 mt @ 2.8% total heavy mineral (THM) using a cut-off grade of 1.0% THM, with 22% slimes and 7% oversize. The deposits, defined in 5 pits, are flat dipping, with an average depth of 12m. STA has executed a US$26m facility with Nedbank for the development of the US$32m project.

Figure 3: Fungoni Mine Site layout



SOURCE: Strandline Minerals – ASX release October 2017

It is proposed that the five Fungoni pits will be mined sequentially by excavator and truck fleet over approximately six years, with in-pit wet plant tailings deposition to minimise the project footprint. Testwork shows that gravity separation in a wet concentrator plant (WCP) should produce a high grade heavy mineral concentrate (HMC) containing >95% of the zircon and >80% of the titanium minerals.

Initial evaluation of the mineral separation plant (MSP) options considered producing an ilmenite product and a rutile+zircon product. Subsequent work evaluated four separate product streams – ilmenite, rutile, zircon and monazite. There is strong demand from some Chinese offtakers for a high grade zircon+monazite product (with the associated rare earths). Such a product would simplify the operation of the MSP, which would retain the flexibility to meet the demands of offtakers.

Tajiri - a Kwale-sized project

The Tajiri project, Tanga South, has a reported a resource of 147Mt at 3.1% Total Heavy Mineral (THM) with an ilmenite-dominated suite of minerals in six deposits. The largest, Tajiri North, holds 61Mt at 2.8% THM, with the Tajiri deposit 36Mt at 3.7% YHM.

The current Mineral Resource defined at Tajiri is a rutile enriched, ilmenite dominant mineral assemblage with zones of elevated zircon and garnet mineralisation within some of the mineralogical domains. The mineralisation also shows strong geological and grade continuity along and across strike. Titanium-rich mineral assemblages with elevated zircon grades are generally observed in the upper part of the drill holes, gradually diluted by garnet at depth. The titanium-rich domain extends to a depth of 30m from surface.

An additional exploration target of 73-133Mt at 2.8-4.4% THM was announced. This expanded resource would rank with Base Resources' (ASX:BSE) Kwale project, to the north in Kenya, with a reported resource in 2015 of 146Mt at 4.89% THM.

Western Australia

Australian corporate income tax is currently charged at 30.0%, with a 1.5% levy to be paid above that. A Goods and Services Tax (GST) is imposed at 10% on goods and locally supplied services. An *ad valorem* royalty of 7.5% applies to bulk material, with 5.0% applied to concentrate. We model a 5.0% royalty. In the Fraser Institute survey for 2017, WA ranked 5 out of 91 jurisdictions, and has been in the top 5 for the past 5 years. Australia ranks 13, with a score of 79 on the Transparency International rankings for 2016, with the score having fallen from 85 in 2012.

STA has released an updated mineral resource (to JORC Code 2012 standards) for the Coburn, WA, mineral sands project of 1.6 billion tonnes at 1.2% THM, with 45% (726Mt) in the Measured or Indicated categories. The resource estimate was completed for the Definitive Feasibility Study (DFS) scheduled for release in the current March quarter, 2019. The valuable heavy mineral assemblage is 22% zircon (4.3Mt contained), 7% rutile (1.4Mt contained) and 5% leucoxene (1.0Mt contained), with ilmenite (9.4Mt contained) and forming 48% of the VHM. The projected mine life is currently 19 years.

In 2011 STA (previously ASX-listed Gunson Resources) released the results of a feasibility study into development of Coburn. In November 2012 the study was upgraded and subsequently an announcement concerning a JV with the major South Korean company POSCO was made. The major components were a A$28m payment by POSCO and its Korean co-investor KORES for a 40% contributing equity interest in Coburn, and the arrangement of debt funding for the project with a capital cost estimate below A$200m at that time. The agreement was not finalised with a major fall in mineral sands prices limiting the scope for offtake agreements.

All approvals for development were received and the access road to site was developed.

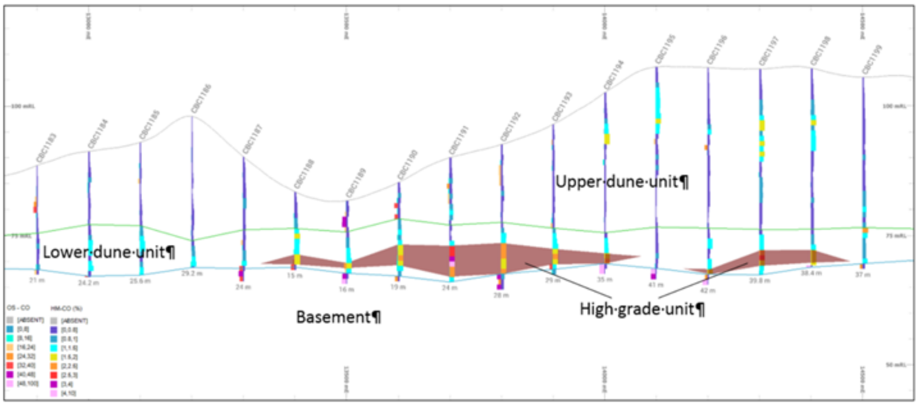
Figure 4: Coburn Mineral Sands project, WA

SOURCE: Strandline Resources– ASX Release October 2018

As part of the current DFS process, STA has completed further metallurgical testwork on bulk samples to confirm the zircon rich tenor of the deposit, and the high quality of the product characteristics, with the ilmenite +60% TiO_2 and suitable for Chloride route processing. Coburn has a low strip ratio, and a low level of slimes. Dry mining is expected to use the *dozer trap* technique, with tailings pumped back into the void. The WCP and the MSP will use conventional technologies.

Key project approvals in place include mining and environmental approvals, and native title and heritage agreements. The construction licence to "take water" from Department of Water and Environmental Regulation (DWER), and is actively monitoring flora, fauna and water under the approval from the Environmental Protection Authority.

Figure 5: Cross section of Amy South



SOURCE: Strandline Resources– ASX Release November 2018

Key risks

STA is an exploration, evaluation and development company with no income. It ended the December 2018 quarter with A$4.2m in reported cash, and quarterly expenditure of A$1.5m. STA has a management team with extensive and successful project development and construction expertise, and a shareholder base which speaks for approximately 40% of issued capital.

The Nedbank project finance facility should provide US$26m of the proposed US$32.1m pre-production development cost. STA will likely need to finance other costs, associated with advancing its other projects and working capital and cost over-run issues, should they arise.

We see the major risks for STA as the cost of meeting these requirements, through issuing equity, mezzanine finance, offtake agreement financing or ceding a direct equity interest in one or all of its projects, or a combination of these.

Project development is subject to the usual risks, although limited by the terms of the Engineering, Procurement and Construction (EPC) contract with the well-regarded GR Engineering (GRES). Risk also comes with commissioning and ramp-up.

The Managing Director and other members of the Board have extensive experience at senior levels with engineering firms responsible for EPC and EPCM contracts for project development, including construction, commissioning and production ramp-up. The MD was previously involved with Coburn when the engineering firm Sedgemans reviewed the DFS in 2013.

As with all minerals operations, profitability is subject to the various relevant commodity price and exchange rate movements, and to changes in the fiscal regimes in Tanzania and WA.

The level of support for the junior resources sector is also critical for the market's perception of value.

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