

# Strandline Resources (STA)

## SPECULATIVE BUY

(no change)

Current price:	A\$0.275
Target price:	A\$0.359
Previous target:	A\$0.384
Up/downside:	30.7%
Reuters:	STA.AX
Bloomberg:	STA AU
Market cap:	US\$80.65m A\$117.4m
Average daily turnover:	US\$0.06m A\$0.09m
Current shares o/s	426.8m
Free float:	60.0%

## Building momentum to construction

- Strandline Resources (STA) is approaching a final development decision for the world class, long life Coburn Mineral Sands Project in Western Australia.
- We think STA presents a compelling capital growth investment for investors willing to take project development risk.
- We show a project post tax NPV<sub>8</sub> of A\$437m with an IRR of 25%, allowing for a 12-month project ramp up. On a de-risked basis we see a share price of A\$0.59.
- Binding offtake agreements cover 66% of revenue over the first 5-7 years.
- NAIF approval of an A\$130m, 15.5 year facility (subject to customary CPs) builds development momentum.

### Strandline overview

STA has a 100% equity interest in the Coburn Project in Western Australia containing high value zircon and titanium mineral products for export to the global market. With existing zircon and rutile mine supply in decline and forecast demand growth, STA is well positioned to fill the void and generate strong revenues from Coburn Production.

### Valuation case

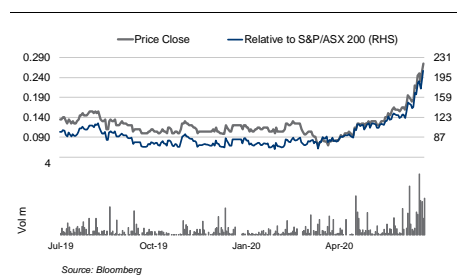
Our base case spot valuation of 36cps is derived from the following: (1) DCF forecast (8% discount) of the Coburn Project post tax and debt, with a risk weighting of 0.6x applied for finance & development uncertainty. Securing full project finance is our first expected catalyst to re-rate; and (2) a A\$43.6m value for exploration upside at Coburn, based on modest Resource to Reserve conversion, and the Fungoni Project in Tanzania.

### Updated Definitive Feasibility Study (DFS)

STA's recently published DFS Information Memorandum confirmed the Coburn Project's economic case under updated mineral pricing (the latest TZMI price deck, adjusted for binding offtakes and product quality) and FX assumptions.

### NAIF approval confirms successful independent review

The announcement that the Northern Australia Infrastructure Fund (NAIF) has approved a A\$130m debt facility for Coburn development (subject to customary Conditions Precedent (CPs)) is a strong endorsement for the project's economics. The long tenor should support a commercial lender providing debt funding to the project development on favourable terms. Importantly, the NAIF approval confirms that the independent technical expert's report was positive, as this will form the basis of any commercial lender's due diligence process.



Price performance	1M	3M	12M
Absolute (%)	83.3	243.8	111.
Relative (%)	81.2	228.3	122.

#### Mat COLLINGS

T (61) 8 6160 8707

E mat.collings@morgans.com.au

#### Chris BROWN

T (61) 7 3334 4885

E chris.brown@morgans.com.au

Analyst(s) own shares in the following stock(s) mentioned in this report:

– Strandline Resources

### Financial Summary

	Jun-20F	Jun-21F	Jun-22F	Jun-23F	Jun-24F
Revenue (A\$m)	0.0	0.0	28.0	162.5	201.8
Operating EBITDA (A\$m)	(6.5)	(4.0)	1.7	66.8	104.1
Net Profit (A\$m)	(6.43)	(4.00)	(6.39)	34.74	65.42
Normalised EPS (A\$)	(0.015)	(0.004)	(0.007)	0.037	0.071
Normalised EPS Growth	(24.7%)	(71.4%)	59.7%	88.3%	
FD Normalised P/E (x)	NA	NA	NA	7.34	3.90
DPS (A\$)	-	-	-	0.024	0.054
Dividend Yield	0.0%	0.0%	0.0%	8.6%	19.8%
EV/EBITDA (x)	NA	NA	151.2	3.5	2.3
P/FCFE (x)	NA	NA	NA	9.80	6.99
Net Gearing	(55.0%)	(4.0%)	(2.9%)	(16.4%)	(11.3%)
P/BV (x)	7.68	2.29	2.43	2.16	1.92
ROE	(45.2%)	(6.3%)	(5.9%)	31.2%	52.2%
% Change In Normalised EPS Estimates	(61%)	(639%)			
Normalised EPS/consensus EPS (x)	1.08	0.23	(0.63)	0.65	

SOURCE: MORGANS, COMPANY REPORTS

**Strandline Resources**

as at June 29, 2020

Market cap (A\$m):	117.4	Rating:	SPECULATIVE BUY
Shares outstanding (m):	426.8	Price (A\$):	0.275
Free float (%):	60.0	Target price (A\$):	0.359
Website:	www.strandline.com.au	Upside/downside to target price (%):	30.7

**Company description**

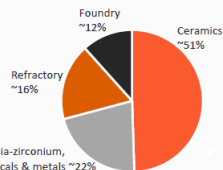
Strandline Resources Limited (STA) is a heavy mineral sands (HMS) explorer and developer, with projects in Australia and Tanzania. Its flagship asset is the Coburn Project (100%) located 250km north of the regional centre of Geraldton, Western Australia. The core asset of the Coburn Project is the Amy Zone deposit, with the Amy South Ore Reserve to JORC Code (2012) standard of 523Mt at 1.1% Heavy Mineral (HM). The HM comprises a high value assemblage of 23% zircon, 48% chloride ilmenite, 7% rutile, and 5% leucoxene.

**Strandline Products and Markets**

**Zircon:**

- STA to produce a premium and mixed zircon concentrate
- Water, chemical, heat and abrasion resistant
- 1mtpa global zircon market
- Ceramics market represents 51% of the zircon market
- China dominates zircon consumption (47%)
- Iluka the most influential in establishing benchmark pricing

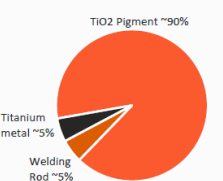
**GLOBAL ZIRCON MARKET**



**Titanium (Ti / TiO2):**

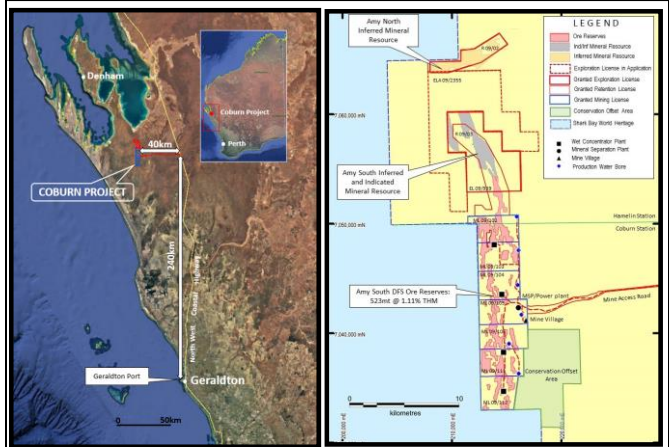
- STA to produce a high Ti rutile & chloride grade ilmenite
- TiO2 a white/opaque pigment, is UV resistant & inert
- 7mtpa global TiO2 market, including ~0.75mtpa chloride ilmenite
- Chloride pigment demand/consumption increasing
- Chinese chloride pigment demand driven by increasing environmental standards

**GLOBAL TiO2 MARKET**



Source: Strandline

**Map of STA Coburn Project**



Source: Strandline

**Revenue to Cost Ratio**

**Mineral sands are notoriously difficult to compare**

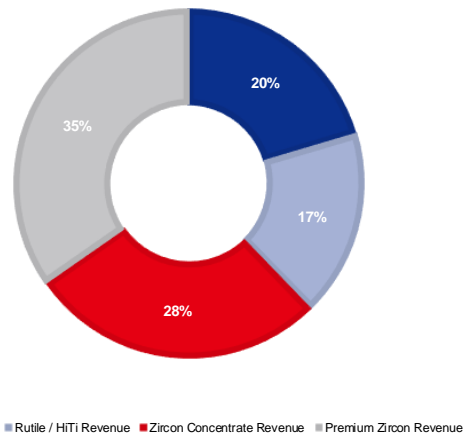
- Head grade and commodity make up of each project vary significantly
- Final product also varies (mixed concentrate, partial segregation or final products)
- Market cap or EV to grade ratios difficult to compare between projects as a result

**Mineral sands producers use Revenue:Cost ratio**

- Revenue:Cost ratio (R:C) provides insight into project strength through market cycles
- Market is routinely surveyed and analysed by specialist industry consultants
- Estimated producer average R:C is 1.8x (range 1-3x)
- Strandline ratio is 2.4x (on Morgans assumptions)
- Coburn is a first quartile project able to ride pricing cycles ahead of its peers

Source: Morgans

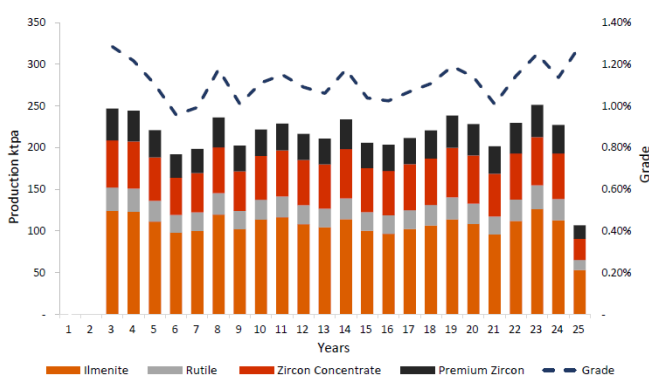
**Coburn Life of Mine Revenue Breakdown**



Source: Morgans

**STA future production**

**PRODUCTION AND GRADE PROFILE**



Source: Strandline

**Key risks & drivers**

**Key Risks**

- Commodity prices - as a large proportion of costs are relatively fixed
- Securing Project funding
- Project Development and ramp up

**Upcoming Catalysts**

- Finalising debt funding package
- Further offtake announcements
- Final investment decision on Coburn Development

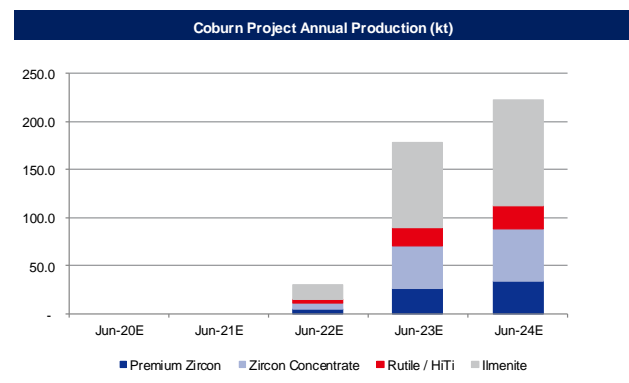
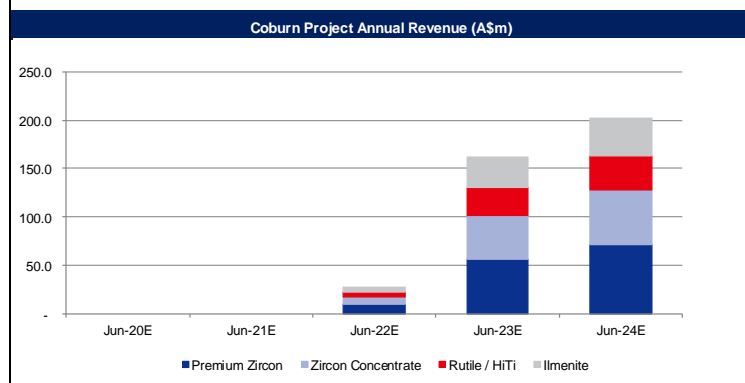
**Industry Divers**

- AUD:USD Exchange Rate
- Product demand is largely consumer/construction driven (pigments and ceramics)

Source: Morgans

Figure 1: Financial summary

STA						Mining and Metals					
<b>Income statement (A\$M)</b>						<b>Revenue by Product (A\$M)</b>					
	Jun-20E	Jun-21E	Jun-22E	Jun-23E	Jun-24E		Jun-20E	Jun-21E	Jun-22E	Jun-23E	Jun-24E
Sales Revenue	-	-	28.0	162.5	201.8	Premium Zircon	-	-	9.6	56.6	71.1
Operating Costs	-	-	(22.3)	(91.8)	(93.7)	Zircon Concentrate	-	-	7.7	45.0	56.4
Other Income/Costs	(6.5)	(4.0)	(4.0)	(4.0)	(4.0)	Rutile / HiTi	-	-	5.2	29.4	35.2
<b>EBITDA</b>	<b>(6.5)</b>	<b>(4.0)</b>	<b>1.7</b>	<b>66.8</b>	<b>104.1</b>	Ilmenite	-	-	5.5	31.5	39.0
Depreciation & Amortisation	(0.0)	-	(5.0)	(20.0)	(20.0)	<b>Sales Revenue</b>	<b>-</b>	<b>-</b>	<b>28.0</b>	<b>162.4</b>	<b>201.7</b>
<b>EBIT</b>	<b>(6.5)</b>	<b>(4.0)</b>	<b>(3.3)</b>	<b>46.7</b>	<b>84.1</b>	<b>Annual Production (kt)</b>					
Other Income & Expenses	0.0	-	(3.0)	(12.0)	(9.5)		Jun-20E	Jun-21E	Jun-22E	Jun-23E	Jun-24E
<b>Profit before Income Tax</b>	<b>(6.4)</b>	<b>(4.0)</b>	<b>(6.4)</b>	<b>34.7</b>	<b>74.5</b>	Premium Zircon	-	-	4.7	27.2	34.0
Income Tax Expense	-	-	-	-	(9.1)	Zircon Concentrate	-	-	7.4	43.2	54.0
<b>NPAT - Reported</b>	<b>(6.4)</b>	<b>(4.0)</b>	<b>(6.4)</b>	<b>34.7</b>	<b>65.4</b>	Rutile / HiTi	-	-	3.3	19.2	24.0
<b>Cashflow Statement (A\$M)</b>						Ilmenite	-	-	15.1	88.0	110.0
	Jun-20E	Jun-21E	Jun-22E	Jun-23E	Jun-24E	<b>Total Production</b>	<b>-</b>	<b>-</b>	<b>30.5</b>	<b>177.6</b>	<b>222.0</b>
Operating EBITDA	(4.2)	(4.0)	1.7	66.8	104.1	<b>Key Metrics</b>					
Net Finance Income	0.0	-	(3.0)	(12.0)	(9.5)		Jun-20E	Jun-21E	Jun-22E	Jun-23E	Jun-24E
Income Tax Paid	-	-	-	-	(9.1)	AUD:US	0.70	0.70	0.72	0.73	0.73
Other	0.3	-	-	0.6	(0.0)	EPS	-0.02	0.00	-0.01	0.04	0.07
<b>Net operating Cashflow</b>	<b>(3.9)</b>	<b>(4.0)</b>	<b>(1.4)</b>	<b>55.4</b>	<b>85.4</b>	DPS	0.00	0.00	0.00	0.02	0.05
Capex (Development, PP&E, other)	0.0	(128.0)	(181.9)	-	-	Yield	0.0%	0.0%	0.0%	9.1%	20.9%
Net Proceeds from Sales/Acquisitions	-	-	-	-	-	EBITDA Margin	0%	0%	6%	41%	52%
Payment for Exploration / Tenements	-	-	-	-	-	P/E	-17.25	-60.24	-37.72	6.94	3.68
Other Investing Cashflows	-	-	-	-	-	EV/EBITDA	-15.83	-59.14	142.89	3.32	2.17
<b>Net Cash from Investing Activities</b>	<b>0.0</b>	<b>(128.0)</b>	<b>(181.9)</b>	<b>-</b>	<b>-</b>	Free Cashflow Yield	-1.8%	-6.8%	-7.9%	22.3%	34.4%
Net Proceeds from Debt	-	28.0	181.9	(17.4)	(39.4)	<b>Valuation</b>					
Dividends Paid	-	-	-	(21.8)	(50.4)		A\$M		A\$/sh		
Proceeds from Issues of Shares	6.2	100.0	-	-	-	Discount Rate (%)	8.0%				
Other Financing Cashflows	-	-	-	-	-	Coburn Equity NPV (risked 0.6x)	\$337		\$0.35		
<b>Net Cash from Financing Activities</b>	<b>6.2</b>	<b>128.0</b>	<b>181.9</b>	<b>(39.2)</b>	<b>(89.8)</b>	Fungoni Project NPV (risked 0.4x)	\$18		\$0.02		
<b>Net Inc/Dec in Cash and Cash Equivalents</b>	<b>2.4</b>	<b>(4.0)</b>	<b>(1.4)</b>	<b>16.2</b>	<b>(4.3)</b>	Corporate Overhead NPV LOM	-\$44		-\$0.05		
<b>Balance Sheet (A\$M)</b>						<b>Total Current NPV (A\$M)</b>	<b>\$310</b>		<b>\$0.32</b>		
	Jun-20E	Jun-21E	Jun-22E	Jun-23E	Jun-24E	Exploration Upside (A\$M)	\$26		\$0.03		
<b>Cash &amp; Cash Equivalents</b>	<b>8.4</b>	<b>4.4</b>	<b>3.0</b>	<b>19.3</b>	<b>15.0</b>	Cash & Cash Equivalents (A\$M)	\$7		\$0.01		
Other Current Assets	0.2	0.2	0.2	0.5	0.5	Listed Investments	\$0		\$0.00		
<b>Total Current Assets</b>	<b>8.6</b>	<b>4.6</b>	<b>3.2</b>	<b>19.8</b>	<b>15.5</b>	<b>Total Valuation (A\$M)</b>	<b>\$34</b>		<b>\$0.04</b>		
Development Assets	-	115.2	274.1	255.1	236.0	Fully Diluted Shares On Issue (million)	956				
Property, Plant & Equipment	0.0	12.8	30.8	29.8	28.8	<b>Target Price (A\$/Share)</b>	<b>\$0.36</b>				
Exploration and Evaluation Expenditure	7.5	7.5	7.5	7.5	7.5	<b>Coburn Project Annual Revenue (A\$m)</b>					
Other Non-Current Assets	0.2	0.2	0.2	0.2	0.2		Jun-20E	Jun-21E	Jun-22E	Jun-23E	Jun-24E
<b>Total Non-Current Assets</b>	<b>7.7</b>	<b>135.7</b>	<b>312.6</b>	<b>292.5</b>	<b>272.5</b>						
<b>Total Assets</b>	<b>16.3</b>	<b>140.3</b>	<b>315.8</b>	<b>312.3</b>	<b>288.0</b>						
Trade & Other Payables	0.9	0.9	0.9	1.8	1.8						
Provisions & Other Current Liabilities	0.1	0.1	0.1	0.1	0.1						
<b>Total Current Liabilities</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>2.0</b>	<b>2.0</b>						
Senior Debt	-	28.0	209.9	192.5	153.1						
Provisions & Other Non-Current Liabilities	-	-	-	-	-						
<b>Total Non-Current Liabilities</b>	<b>-</b>	<b>28.0</b>	<b>209.9</b>	<b>192.5</b>	<b>153.1</b>						
<b>Total Liabilities</b>	<b>1.0</b>	<b>29.0</b>	<b>210.9</b>	<b>194.5</b>	<b>155.1</b>						
<b>Total Equity</b>	<b>15.3</b>	<b>111.3</b>	<b>104.9</b>	<b>117.8</b>	<b>132.9</b>						



SOURCE: MORGANS RESEARCH, COMPANY

## Strandline snapshot

Strandline Resources was founded in 2000 and is listed on the ASX. STA holds a 100% interest in the Coburn Heavy Minerals Sands Project (“Coburn”) in Western Australia, as well as 100% interests in a series of projects along a 350km stretch of the Tanzanian coast including the shovel ready Fungoni Project 25km from the commercial hub and port of Dar es Salaam.

## Summary view: final investment decision imminent

With NAIF funding now secured, permits in place and selection of construction engineers in the late stages, we see an announcement by STA on a final investment decision as imminent. With the supply of Coburn’s key products (zircon and titanium minerals) forecast to decline, while demand for zircon is forecast to grow over the same period, the project is well placed and well timed to enter the market.

## Strandline strengths

- **Strong project margins:** Mineral sands projects are compared on a revenue:cost (R:C) ratio given the range of minerals in the various deposits and the final product pricing differentials. We calculate Coburn’s R:C ratio at 2.36x, compared to an industry weighted average of 1.79x forecast. This would position STA in the first quartile of producers and demonstrates the strong economics of the project despite an apparently low HM head grade.
- **Long life project with upside:** At 22.5 years of production on the current mine plan, STA economics are not heavily impacted by the speed of commissioning and project ramp up. Resource to Reserve conversion could see mine life extended up to 37.5 years. The long project life with a stable production profile is highly attractive to downstream offtakers, who need predictable quantities and quality of product to feed downstream processing.
- **Quality offtakers on take or pay terms:** STA has secured take or pay offtake covering 66% of project revenue over the first 5-7 years, and expects to announce additional offtake contracts in the near term. The three offtake agreements are with major market players from the USA, Europe and China. To assist in project cash flow, STA has contracted to sell a mixed concentrate under one of the offtake agreements while the mineral separation plant is being commissioned, reducing the working capital required during commissioning.
- **Low cost project development funding option:** With an estimated direct project capital bill of A\$260m, STA has been able to secure project finance of A\$130m from NAIF on a 15.5 year term. This funding, in conjunction with the strong offtake partners STA has secured to date, is expected to support commercial debt funding for the project alongside the NAIF facility. We estimate, and have modelled, a maximum A\$100m equity requirement for project construction to cover project construction, corporate costs, financing charges and working capital through commissioning.

## Strandline risks

- **Finalising project funding:** While STA has secured project funding secured from NAIF, additional debt funding is still being sought. We believe the announced NAIF facility will enhance STA’s ability to secure conventional debt funding. Our expectation is that the lender will likely sit ahead of NAIF in terms of the debt repayment schedule. The risk remains that without conventional debt additional equity dilution may be required to develop Coburn.

- **Global economy:** With STA's zircon and titanium products predominantly consumed in ceramics and pigment, product demand is closely tied to global economic growth. Supply and demand forecasts are favourable, and commodity pricing forecasts have been updated post-Covid-19 by STA's consultants. The risk of an extended Covid-19 related downturn could be expected impact demand and pricing. With Coburn not expected to begin production until the back half of CY2022, and a long production life, the impact on overall economics should not be substantial.
- **USD/AUD exchange rate:** STA's products are all traded in USD, so movements in FX rates will impact revenues. Our forecast incorporates consensus exchange forecasts which assume a slowly rising AUD.

### Valuation: Base case \$0.36 per share

Our base case valuation is derived from our project DCF (8% discount rate) to expanded equity forecast, fully diluted assuming an A\$100m (@20cps) development capital raising. This is then adjusted for corporate overheads, exploration upside at Coburn and STA's existing Tanzanian assets. The Coburn Project DCF is risked at 60% of NPV<sup>8</sup> to reflect the project's status as partially financed and undeveloped.

**Figure 2: STA valuation**

Asset / cost	100% valuation (million)	Risk weighting	Applied valuation (million)
Coburn equity NPV <sup>8</sup>	A\$561	60%	A\$337
Corporate charges LOM NPV <sup>8</sup>	A\$(44)	100%	A\$(44)
Fungoni value	A\$44	40%	A\$18
Exploration upside	A\$53	50%	A\$26
Cash on hand (31 March)	A\$7	100%	A\$7
<b>STA valuation</b>			<b>A\$344</b>
<b>Target share price</b> (Fully diluted assuming A\$100m development raise at 20cps)			<b>A\$0.36 ps</b>

SOURCE: MORGANS RESEARCH, COMPANY

### Mineral Sands project comparisons are notoriously difficult

With variables including overall heavy mineral grade, heavy mineral composition, mineral grain size & cleanliness, final product mix (combined concentrates, intermediate or final products) and recoverability, comparing mineral sands projects on a like for like basis using conventional mining ratios is not generally sensible.

To compare economics and relative value, mineral sands projects use a R:C ratio. The market is routinely measured and analysed by specialist industry consultants estimating the operating costs of producing (or proposed) mines and the value of their basket of products. They then generate the equivalent of a project value ranking using the R:C ratio.

While proprietary and not widely published, the market average R:C ratio for producers/developers is 1.8x. We estimate the Coburn Project will have a 2.4x ratio, putting it in the first quartile of producers when the operation comes online in 2022. This gives comfort that Coburn can operate successfully through any commodity price cycles.

Because of the difficulty in sourcing the full detail of these surveys and rankings, we choose to value STA fully on a DCF basis without attempting relative valuations.



### Coburn HMS project background

The Coburn Project is located in Western Australia, 240km north of the regional centre of Geraldton, an existing mineral sands export port. Drilling at Coburn since 2000 has defined a major heavy mineral sand (HMS) deposit the company has named the Amy Zone. The company has defined a 523Mt Ore Reserve @1.11% Total Heavy Mineral (THM) over Amy South, located on Coburn Station. Coburn 100% owns the destocked Coburn Station, and environmental approvals under the federal and state environment protection acts.

#### Project Study and Development Partners



Figure 3: Coburn project tenements

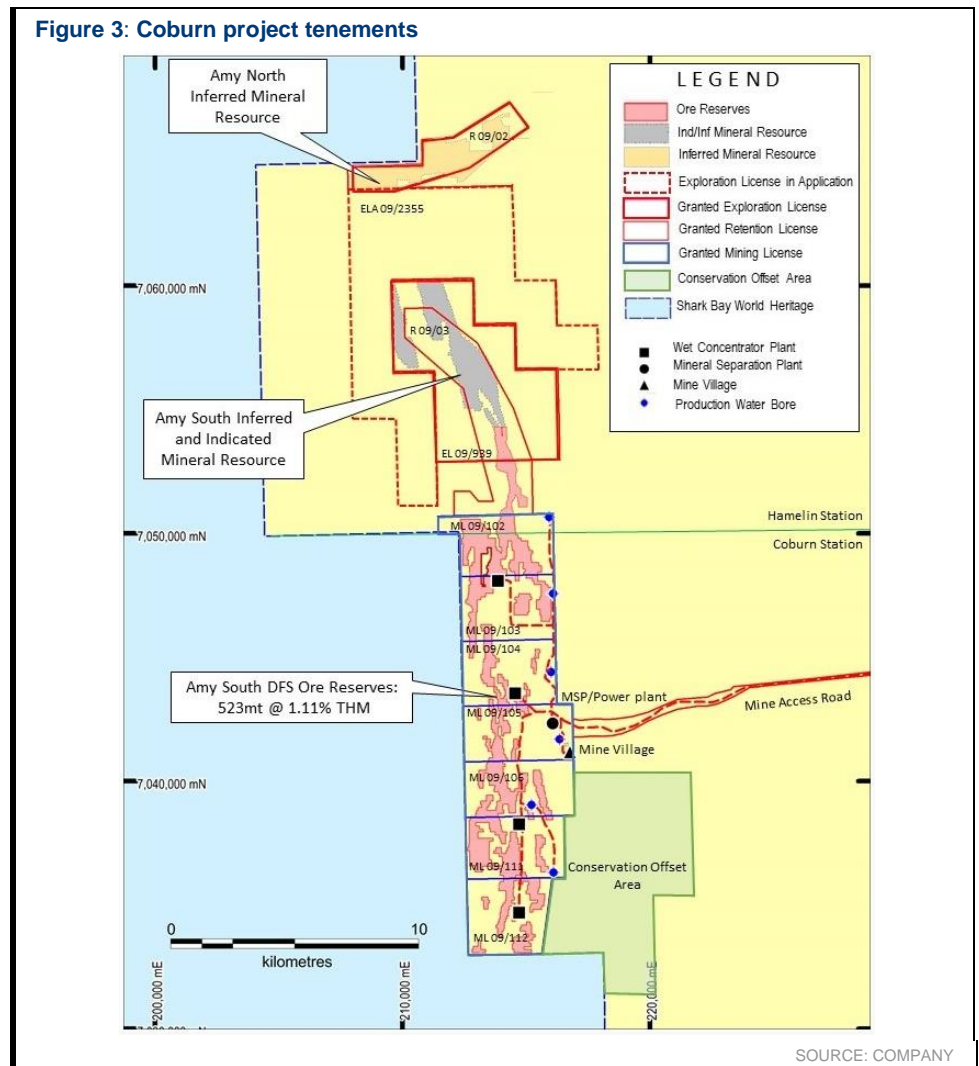


Figure 4: April 2019 Coburn Project Ore Reserve (Amy South)

ORE RESERVES SUMMARY FOR COBURN PROJECT				
Deposit	Reserve Category	Ore (Mt)	Heavy Mineral	
			HM (Mt)	THM (%)
Coburn - Amy South	Proved	106	1.16	1.10
Coburn - Amy South	Probable	417	4.66	1.12
	<b>Total<sup>1</sup></b>	<b>523</b>	<b>5.83</b>	<b>1.11</b>

SOURCE: COMPANY

Figure 5: November 2018 Amy South Mineral Resource Summary

MINERAL RESOURCE SUMMARY FOR THE AMY SOUTH COBURN PROJECT										
Summary of Mineral Resources <sup>(1)</sup>					VHM assemblage <sup>(2)</sup>					
Deposit	Mineral Resource Category	Tonnage	In situ THM	THM	Ilmenite	Rutile	Zircon	Leucoxene	Slimes	Oversize
		(Mt)	(Mt)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
	Measured	119	1.5	1.3	45	5	24	6	3	6
	Indicated	607	7.7	1.3	48	7	22	5	3	3
	Inferred	728	8.8	1.2	49	7	21	4	3	1
	<b>Total</b>	<b>1454</b>	<b>18.0</b>	<b>1.2</b>	<b>48</b>	<b>7</b>	<b>22</b>	<b>5</b>	<b>3</b>	<b>2</b>

(1) Mineral Resources reported at a cut-off grade of 0.8% THM  
(2) Valuable Mineral assemblage is reported as a percentage of in situ THM content  
(3) Appropriate rounding applied

SOURCE: COMPANY

Mining is proposed to be by low cost dozer push, estimated at A\$1.37/t of ore processed. Three separate dozer traps will be employed, with two units in operation while the third is relocated to the new mining front. Mining is proposed to be carried out by an experienced contract miner.

The Amy Zone is very low in slimes and oversize material (3% and 2% respectively) compared to many projects reporting +20% combined slimes and oversize which must be removed before mineral recovery is undertaken. The low slimes content helps drive a capially efficient processing plant. In particular it:

- simplifies the material handling and preparation ahead of feeding ore to the wet concentration plant (WCP);
- improves the performance of the WCP; and
- reduces the cost and complexity of tailings disposal after recovery of the heavy mineral – removing the need for slimes disposal dams and allowing all tailings to be directly backfilled into mine voids

The lack of slimes and consistent mineral grain size results in high recovery of the contained minerals through the WCP to produce a mixed heavy mineral concentrate (HMC). STA's development proposal also includes a Mineral Separation Plant (MSP) to upgrade the HMC into 4 final products, with zircon split between a high purity premium zircon product as well as a mixed zircon concentrate. MSP recovery depends on clean mineral surfaces and minimal grains of "mixed mineral", or otherwise additional capital investment in processing to clean and liberate minerals. Recovery and mass yield test work shows high recovery of mineral from the HMC into final products in their natural state.

### Coburn Offtakers

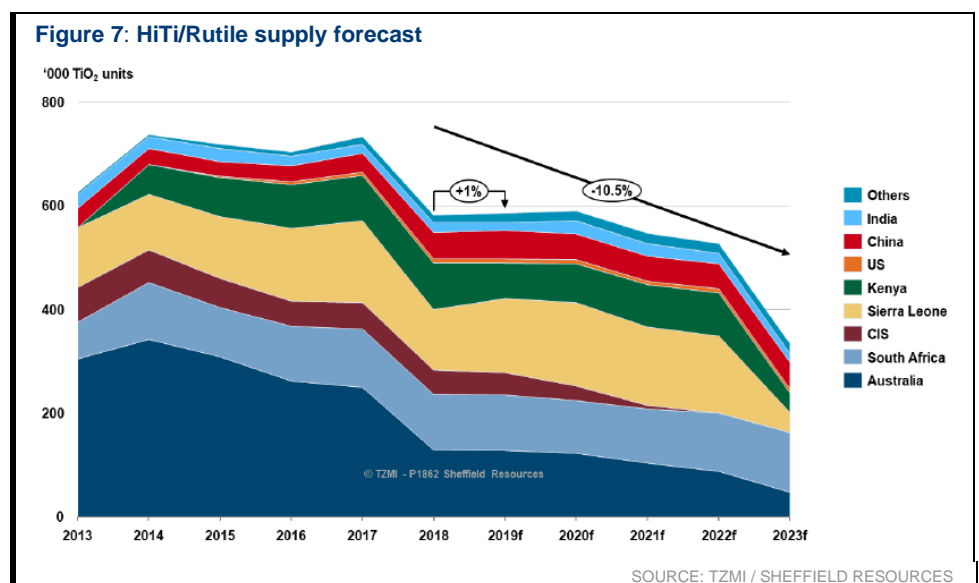
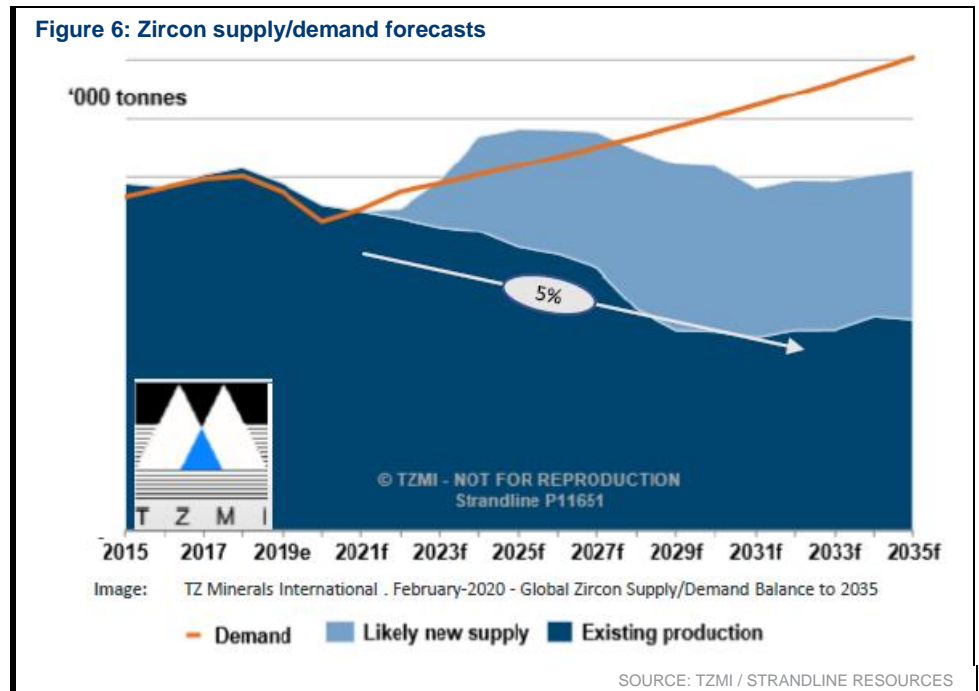
Coburn's long life and quality product streams mean STA has been able to secure binding offtakes covering 66% of project revenues over the first 5-7 years of operation with geographically diversified, major downstream processors.

- Industrie Bitossi (Italy): ~50% of Premium zircon over 5 years.
  - Brazil, Turkey, China and USA. One of the largest suppliers in the world of micronized zirconium silicate (largest ex-China).
- The Chemours Company (USA): 100% of Ilmenite over 5 years.
  - Fortune 500 company and the world's largest TiO<sub>2</sub> producer. Previously part of the DuPont Performance Chemicals. Chemours is the pioneer of chloride based TiO<sub>2</sub> pigment production.
- Sanxiang Advanced Materials Co. (China) / Nanjing Rzisources International Trading (China): 100% of zircon concentrate over 7 years.
  - Sanxiang is a Shanghai Stock Exchange listed leader in fused zirconia, cast modified materials and single crystal fused aluminium with Nanjing being an international trading house of predominately zircon sand, grinding beads, glue, zirconium silicate and rutile.



### Mineral Sands Market

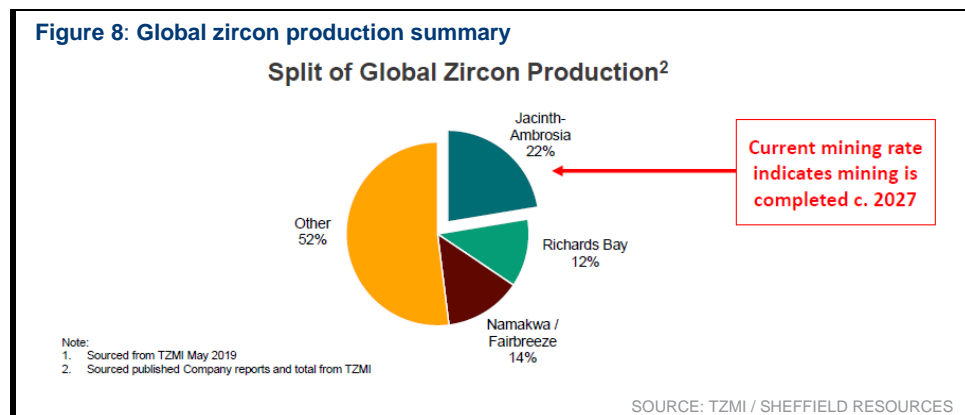
STA's product mix is well positioned as the global supply of zircon, chloride grade Ilmenite and high titanium rutile products are forecast to decline in the coming years as several significant global producers reach the end of their mine life. Demand, in particular for chloride grade Ilmenite (generally considered Ilmenite with a TiO<sub>2</sub> grade of 58%-65%) is also expected to increase as environmental considerations mean new sulphate Ilmenite treatment plants are unlikely to be approved or constructed. Supply and demand forecasts prepared by TZ Minerals International Pty Ltd (TZMI) – the global leader in mineral sands market research – are presented below for zircon and high titanium / rutile products.



As well as the forecast decline of existing mine production, zircon supply is highly concentrated, with almost half coming from three operations (Richards Bay, Jacintha Ambrose, Fairbreeze). Jacintha-Ambrose zircon production is expected to decline sharply as the deposit and operation approach the end of life of the mine, leaving Richards Bay and Fairbreeze in South Africa as the dominant market suppliers.



While Rio Tinto has recently announced a major capital investment to extend the life of Richards Bay, we believe that downstream offtakers will be seeking reliable, long term sources of zircon from geo-politically stable jurisdictions, and that STA is well positioned to feed into this market.



### Fungoni project / Tanzanian assets

STA previously focussed on the development of Fungoni in Tanzania as a “starter project” for the company. With an estimated capital cost of US\$35m (excluding financing), Fungoni has a mine life of 6.2 years on existing high grade reserves.

STA recently secured debt funding of US\$26m for the project, and with key mining and environmental licences in place, the Fungoni Project remains shovel ready subject to a final investment decision and equity allocation. The priority for development of Fungoni, and STA’s Tanzanian portfolio in general, has now been overtaken by the Coburn Project in terms of development priority for the company.

**Figure 9: May 2017 Mineral Resources – Fungoni**

MINERAL RESOURCE SUMMARY FOR FUNGONI PROJECT										
Summary of Mineral Resources <sup>(1)</sup>					THM assemblage <sup>(2)</sup>					
Deposit	Mineral Resource Category	Tonnage	In situ THM	THM	Ilmenite	Rutile	Zircon	Leucoxene	Slimes	Oversize
		(Mt)	(Mt)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
FUNGONI	Measured	8.8	0.4	4.3	43	4	18	1.0	19	7
FUNGONI	Indicated	13.0	0.2	1.8	37	4	15	1.4	24	7
	<b>Total<sup>(3)</sup></b>	<b>21.8</b>	<b>0.6</b>	<b>2.8</b>	<b>41</b>	<b>4</b>	<b>17</b>	<b>1.2</b>	<b>22</b>	<b>7</b>

<sup>(1)</sup> Mineral Resources reported at a cut-off grade of 1.0% THM  
<sup>(2)</sup> Valuable Mineral assemblage is reported as a percentage of in situ THM content  
<sup>(3)</sup> Appropriate rounding applied

SOURCE: COMPANY

**Figure 10: October 2017 Ore Reserves - Fungoni**

ORE RESERVES SUMMARY FOR FUNGONI PROJECT							
Deposit	Mineral Resource Category	Ore		Slimes		Heavy Mineral	
		(Mt)	(t)	(%)	(kt)	(%)	
FUNGONI	Proved	12.3	2.3	19	480	3.9	
FUNGONI	Probable	-	-	-	-	-	
	<b>Total</b>	<b>12.3</b>	<b>2.3</b>	<b>19</b>	<b>480</b>	<b>3.9</b>	

SOURCE: COMPANY

## Board and management

The board and management show a strong pedigree in project construction and the mineral sands market, boding well for the company as it moves towards a development decision. Key positions are presented below.

**Figure 11: Board**

<b>Didier Murcia (AM)</b> Non-exec Chairman	30 years legal and corporate expertise in resources sector. Awarded Order of Australia for services to the international community through support for the provision of medical and educational resources in Tanzania. Honorary Consul for Tanzania in Australia
<b>Luke Graham</b> CEO & MD	An engineering professional with 20+ years' experience and formerly Regional Manager of global minerals engineering and project delivery company Sedgman Pty Ltd. Mr. Graham has a broad range of international leadership, technical and commercial expertise in major engineering projects within the resources and industrial sectors.
<b>Peter Watson</b> Executive Director Strategy & Development	A chemical engineer with more than 35 years' experience in the resources sector across senior technical, project, and management roles as well as experience running ASX-listed companies. Experience includes project development, delivery and mining operations across multiple commodities and global jurisdictions.
<b>Tom Eadie</b> NED	A geologist with over 20 years' experience in the resources industry. Former Executive Chairman of Copper Strike, former founding Chairman of Syrah Resources and previously Executive General Manager - Exploration and Technology at Pasminco.
<b>John Hodder</b> NED	A Geologist by background, Mr. Hodder spent 10 years in the mining, oil and gas industries before completing an M.B.A. at London Business School. He has served as a director of several junior mining companies and has significant experience of operating and investing in Africa, and is a principal and co-founder of Tembo Capital.

SOURCE: MORGANS RESEARCH, COMPANY

**Figure 12: Management**

<b>Brendan Cummins</b> Chief Geologist	20 years' experience in mine and exploration geology within Australia, southern Africa, South America and China. A specialist in identifying exploration assets and developing them from greenfields through to resource definition and feasibility study.
<b>Mike Ferraro</b> Project Director - Development	A resource industry professional with 30+ years' experience including significant roles in mineral sands with Doral (Managing Director) and MZI (Chief Operating Officer) as well as technical and operational management roles with Cristal and Simcoa. Mr. Ferraro has managed operational readiness from greenfield for several mineral sands project, market development activities as well as oversight on several expansion projects.
<b>Flavio Garfalo</b> CFO & Comp. Sec.	A finance and corporate executive with over 20 years' experience in the mining industry. Most recently Commercial Manager at Fortescue Metals Group and has held several other senior executive roles for ASX-listed mining companies. Mr. Garfalo has extensive experience in project financing, capital raisings and investor relations for listed resources companies which have transitioned from exploration and development to production.
<b>James Chialo</b> Director – Tanzanian Subs	Experienced manager of exploration and logistics activities in Tanzania. Focused on developing enduring supplier and stakeholder relations, underpinned by respect, trust and enriching lives through participation.

SOURCE: MORGANS RESEARCH, COMPANY

**Queensland**

Brisbane	+61 7 3334 4888
Stockbroking, Corporate Advice, Wealth Management	
Brisbane: Edward St	+61 7 3121 5677
Brisbane: Tynan	+61 7 3152 0600
Partners	
Brisbane: North Quay	+61 7 3245 5466
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Toowoomba	+61 7 4639 1277
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**New South Wales**

Sydney	+61 2 9043 7900
Stockbroking, Corporate Advice, Wealth Management	
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**Victoria**

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Stockbroking, Corporate Advice, Wealth Management	
Brighton	+61 3 9519 3555
Camberwell	+61 3 9813 2945
Domain	+61 3 9066 3200
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Richmond	+61 3 9916 4000
South Yarra	+61 3 8762 1400
Southbank	+61 3 9037 9444
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Warrnambool	+61 3 5559 1500

**Western Australia**

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Stockbroking, Corporate Advice, Wealth Management	
Perth	+61 8 6462 1999

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Adelaide	+61 8 8464 5000
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