16 April 2019

STRANDLINE
resources limited

# Ore Reserves increase by 70% at Coburn Mineral Sands Project in WA

***Improved design and higher prices underpin outstanding result, re-affirming Coburn as a world-scale project with an initial 22.5-year mine life***

## HIGHLIGHTS

- **Coburn's JORC-compliant Ore Reserve is 523Mt grading 1.11% total heavy mineral (THM) for ~5.8Mt of contained heavy mineral; This represents a 70% increase from the previous 2008 Reserve**
- **The substantial increase is attributed to a combination of improved processing technology, enhanced mining methodology and higher mineral sands prices**
- **Ore Reserve underpins an initial mine life of 22.5 years at the planned mining rate of 23.4Mtpa**
- **Low operating costs estimated with ore starting from surface in places, low overburden, low slimes and free digging sand suitable for conventional open pit dry mining**
- **Measured and Indicated Mineral Resources used as the basis of the Ore Reserves**
- **Immense potential to further increase project Reserves and mine life, through evaluation and conversion of resources extending north and along strike of the current Ore Reserves**
- **The Reserve estimate confirms Coburn is one of the largest and most advanced undeveloped zircon-titanium-rich mineral sands deposits in the world**
- **Ore Reserve paves the way for release of the Coburn DFS**

Strandline Resources (ASX: STA) is pleased to announce a 70 per cent increase in JORC compliant Ore Reserves at its Coburn Mineral Sands Project in the Mid West of Western Australia.

The outstanding result, which underpins an initial mine life of 22.5 years, shows Coburn is a world-scale asset based on one of the largest zircon-titanium-rich mineral sands deposits in the world.

The updated Reserve is estimated at 523Mt grading 1.11% THM for ~5.8Mt of contained heavy mineral. This is an increase of 215Mt of ore compared with the previous Reserve, which was announced in 2010.

Completion of the Ore Reserve means the Coburn Definitive Feasibility Study can now be finalised in April.

Strandline Managing Director Luke Graham said: "This is a superb result which establishes Coburn as a major mineral sands project with large scale, long mine life and ample scope for further growth.

"The detailed mining study also confirms that Coburn boasts a valuable zircon-titanium mineral sands reserve, conventional open pit dry mining and a cost-efficient and practical operating plan.

"Coburn is located in a Tier-One mining jurisdiction with proximity to key infrastructure, further enhancing the project's status as a world class development asset."

The Ore Reserve has been prepared by AMC Consultants Pty Limited (**AMC**), a highly-experienced mining engineering consultancy with appropriate mineral sands and industry knowledge. The Reserves have been classified in accordance with the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the "JORC Code").

The mining study confirms the mine plan is technically and economically robust under a range of reasonable product pricing scenarios. The Ore Reserve estimate is underpinned by detailed mine design, pit optimisation and strategic scheduling studies.

The JORC compliant Coburn Mineral Resource Estimate of 1.6Bt @ 1.2% THM was announced on 14 November 2018. Only Measured and Indicated Mineral Resources have been converted to Proved and Probable Ore Reserves respectively, subjected to mine designs, modifying factors and economic evaluation. The Ore Reserve estimate for the Coburn Project, as at April 2019, is shown in Table 1 below.

The Coburn Amy South orebody contains a high-unit value assemblage averaging 23% zircon, 11% combined rutile-leucoxene and 47% chloride-grade ilmenite. With multiple stages of beneficiation and separation, the Project produces a highly marketable suite of mineral sand products.

There is significant potential to increase the Coburn Reserves and extend the mine life through continued optimisation of the mine plan as product pricing improves, as well as undertaking economic evaluation of the existing Mineral Resources that lies north along strike of the current Reserves (refer Figure 2 below).

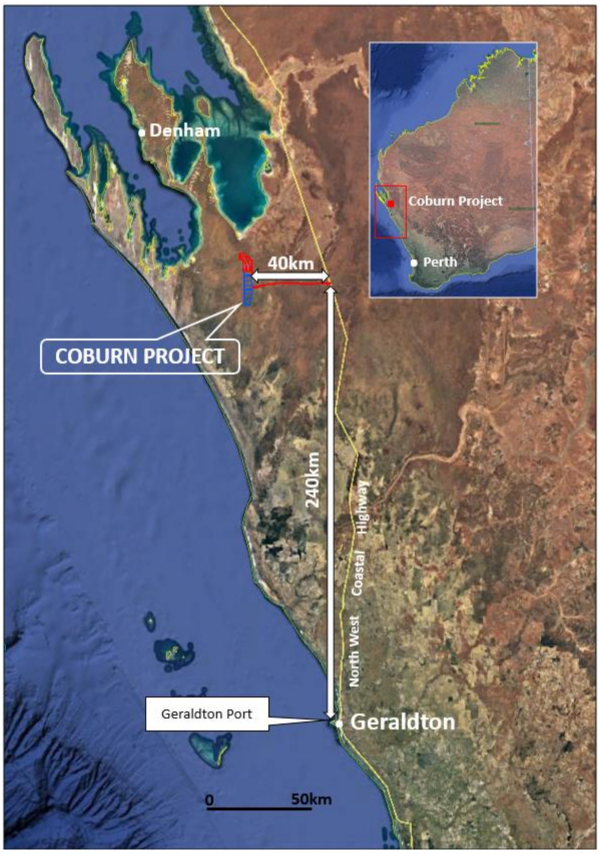



**Figure 1** Coburn Project Location Map

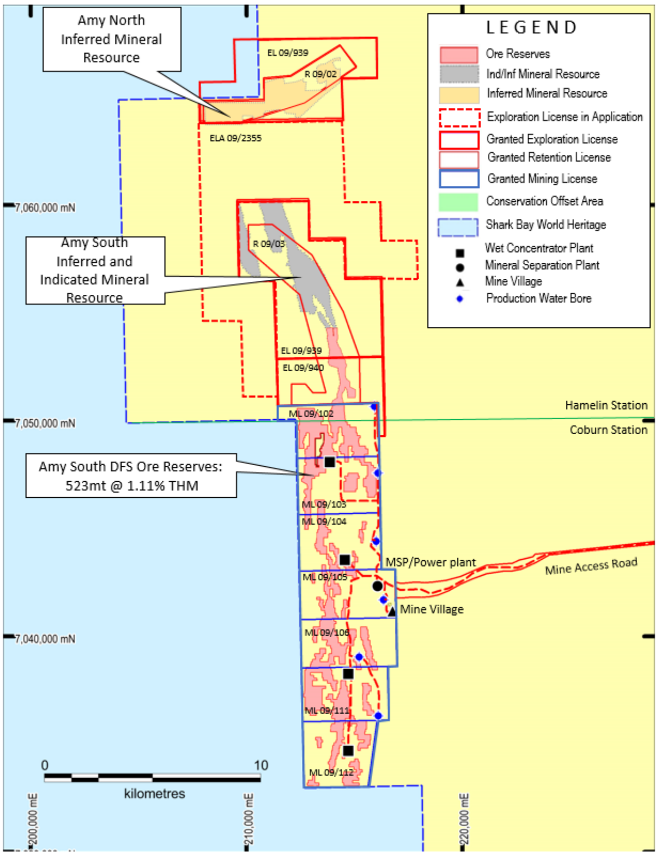



**Figure 2** Coburn Project Mine Pit and Tenement Outline

The Amy South Inferred and Indicated classified mineralisation that lies north of the granted Mining and Retention Licences, is interpreted to represent the strike continuation of the same body of mineralisation as currently defined by the Ore Reserves. The Inferred and Indicated Resource stands at 709 Mt @ 1.2% THM with a mineral assemblage comprising 23% zircon, 12% combined rutile-leucoxene and 49% chloride grade ilmenite. A Scoping Study level assessment has evaluated the likely positive impact of this additional Mineral Resource to substantially increase mine life and enhance the project financial returns. These results will be reported as part of the updated DFS – refer ASX Announcement 16 April 2019.

## Summary of Ore Reserves Statement and Reporting Criteria

**Material Assumptions and Outcomes of the Ore Reserve Declaration**

The Project is based on a mining rate of 23.4Mtpa, processing onsite using modern beneficiation and mineral separation equipment to produce saleable, high-quality industrial mineral products.

A global Mineral Resource Estimate of 1.6Bt @ 1.2% total heavy mineral (**THM**), classified 119Mt (or 7%) Measured, 607Mt (or 38%) Indicated, and 880Mt Inferred (or 55%) provides the global geological foundation for the Project. Only Measured (119Mt or 16%) and Indicated Mineral Resources (607Mt or 84%) within the granted Mining Licences and extending north to the southern Retention licence were considered for the Ore Reserve estimate update.

Mineral Resources were converted to Ore Reserves based on the pit designs, recognising the level of confidence in the Mineral Resource estimation, and reflecting modifying factors.

The product price assumptions used to determine the Ore Reserve estimate were:

- Chloride Ilmenite price — FOB[1] US$269/t average over LOM
- Leucoxene price — FOB US$894/t[2] average over LOM
- Rutile price — FOB US$1,118/t[2] average over LOM
- Zircon price — FOB US$1,469/t average over LOM
- Zircon price — FOB US$1,043/t contained zircon in zircon concentrate product

**Notes:**

[1]FOB means Free On Board.

[2]Coburn's leucoxene and rutile are planned to be combined into a finished HiTi90 product.

Product prices, grades, recoveries, and costs provided in the Mining Study were used to identify economically mineable blocks to be included in the Ore Reserve estimate. The basis of the estimate and related assumptions has been performed to a ±10% level accuracy as appropriate for a DFS:

- Pricing assumptions for ilmenite, rutile and zircon were obtained from TZ Mineral International Pty Ltd's (TZMI) mineral sands marketing report, titled Titanium Feedstock Price Forecast February 2019. TZMI pricing was then adjusted where appropriate to account for quality characteristics of the Coburn product. In the case of concentrate product (zircon concentrate), zircon pricing was adjusted further to consider downstream handling costs.
- Process flowsheet, product grades and recoveries assumptions were obtained from metallurgical testwork and engineering evaluation performed on a bulk representative LOM sample (refer ASX Announcement 01 April 2019).
- Mining, tailings and slimes management cost assumptions were determined from first principles for the mining plan (supported by contractor quotations) based on contract mining using a fleet of heavy mobile equipment (dozers and excavators) removing overburden and feeding the ore into in pit mining units, appropriate to commercialise the reserves.
- Geotechnical analyses form the basis of pit design criteria including diggability, trafficability and pit slope wall angles with a life-of-mine average strip ratio (waste: ore) being 0.72: 1.00.
- Processing cost assumptions were determined by considering the physical flows and unit consumptions determined from the mining study, metallurgical testwork and engineering design.
- Support services costs were developed from first principles and quotations from suppliers as applied to the engineering design.

- Transport and logistics cost assumptions were obtained from contractor quotations as applied to the transporting of the products and material in the planned form.
- Port handling and ship loading cost assumptions were obtained from Mid-West Ports Authority's standard charter of rates, as applied to the transporting of the products and material in the planned bulk form through the Geraldton Port facilities
- General and administration cost assumptions were developed from first principles for manning schedules, labour work rosters, materials, equipment and other administration related costs such as communications, IT, consultants and recruitment.
- Environmental management costs were developed from first principles based on a build-up of labour work, materials, equipment and other administration related costs.

Financial modelling was prepared and tested by varying revenue, cost and macro-economic factors. These factors include commodity price, operating and capital cost, production volume, along with economic discount factors. An AUD/USD exchange rate of 0.72 was assumed for the LOM, based on the last 6-month average price data.

The estimated Ore Reserves underpinning the production target have been prepared by a competent person in accordance with the requirements in Appendix 5A (JORC).

**Criteria used for the Classification of the Ore Reserves**

All the Mineral Resources intersected by the open pit mine designs, classified as Measured were classed as Proved Ore Reserves after consideration of all mining, metallurgical, social, environmental, statutory and financial aspects of the Project.

Similarly, Mineral Resources classified as Indicated and located within the granted Mining Licences and extending onto the southern Retention Licence were classed as Probable Ore Reserves after considerations of all mining, metallurgical, social, environmental, statutory and financial aspects of the Project. The Ore Reserve is part of the Mineral Resource which can be economically mined by open pit mining methods. All of the mineralized horizon was included within the ore zones, therefore no additional dilution of the Mineral Resource model was included.

The Coburn Project Ore Reserve is summarised in Table 1. below.

**Table 1** Coburn Project JORC Compliant Ore Reserve April-2019

| ORE RESERVES SUMMARY FOR COBURN PROJECT | | | | |
|---|---|---|---|---|
| **Deposit** | **Reserve Category** | **Ore** | **Heavy Mineral** | |
| | | **(Mt)** | **HM (Mt)** | **THM (%)** |
| **Coburn - Amy South** | Proved | 106 | 1.16 | 1.10 |
| **Coburn - Amy South** | Probable | 417 | 4.66 | 1.12 |
| | **Total[1]** | **523** | **5.83** | **1.11** |

**Note:**

[1] Total may deviate from the arithmetic sum due to rounding.

The previous Ore Reserves declared for the Coburn Project in January 2010 stood at Proved 53mt @ 1.3% THM and Probable of 255Mt @ 1.2% THM totalling 308mt @ 1.2% THM. The substantial increase in Ore Reserves (in this announcement) is attributed to a combination of improved processing technology, enhanced mining methodology suitable for bulk earthmoving and higher mineral sands pricing.

**Mining method selected and other mining assumptions**

A conventional open pit dry mining operation where free-dig unconsolidated sand is mined using heavy mobile equipment (dozers and excavators) reporting material to two (2) Dozer Mining Units (DMU) and an excavator mining unit (EMU) respectively. The DMU prepares the ore for processing and the ore is pumped in a slurry form to the processing plant facilities. The DMU is frequently moved (average every 6 days) during the LOM as the mine plan advances through the deposit. The EMU alternates between overburden removal and ore processing service during periods of DMU movement.

The mining and related earthmoving activities will be delivered under a contract mining arrangement, where the mining contractor will be responsible for delivering and feeding ore to the EMU and DMU's as per the mine plan and also performing the necessary management of tailing returns and in-pit slimes dams, relocation of slimes from the surface dams, top soil replacement, haul road maintenance, bench and drainage maintenance, in pit dewatering and re-contouring of the completed pit area.

AMC performed the geotechnical investigations and interpretations relating to the mining study to a DFS level. AMC leveraged from previous geotechnical analysis work completed and compiled by Snowden. Ground conditions typically comprise unconsolidated sand, with discontinuous calcrete layers of various thickness. Pit slopes were subsequently designed at a batter face angle of 34° and a berm of 5m utilised for every 20m of batter height.

Grade control of the ore has been defined through the mine optimisation and planning process to achieve the target feed head grade to the plant. Grade control activities proposed for the operation include:

- Pre-mining grade control drilling;
- Geological team working ahead of the mining face with laboratory analysis onsite; and
- Material selection at feed point to the EMU and DMU.

Strandline will be responsible for statutory duties, technical services, geology and mine planning, potable water, power and communication systems.

**Processing method selected and other processing assumptions, including the recovery factors applied and the allowances made for deleterious elements**

Modern process beneficiation and mineral separation is performed on site using proven mineral sands technology to produce a high grade 95% Heavy Mineral Concentrate (**HMC**) product from the Wet Concentrator Plant (WCP) and four saleable final products from the Mineral Separation Plant (MSP). The final product suite includes a primary zircon project (66% $ZrO^2$), zircon concentrate product (28% $ZrO^2$), HiTi90 product (which is a combined rutile-leucoxene product +90% $TiO_2$) and chloride-grade ilmenite product (62% $TiO_2$).

The process and non-process infrastructure related to the Project is based on a fit-for-purpose long-life design in accordance with Australian standards. The process facilities include the WCP and MSP. The WCP infrastructure is relocatable and is planned to be moved as mining advances along the orebody.

The recoveries applied for determining the ore reserve were obtained from metallurgical testwork on a LOM representative bulk sample. Multiple process unit configurations were tested to ensure the optimal equipment selection and robustness of the applied circuit design. The recovery results obtained from the testwork on the LOM sample were directly applied in determining the ore reserve and are presented in Table 2 below.

**Table 2** Coburn Life of Mine Product Recoveries Used in Determining the Reserves

| Product | WCP Recovery (%) | MSP Recovery (%) [2] | MSP Yield to Saleable Products (%)[4] |
|---|---|---|---|
| Ilmenite | 86.8 | 95.4 | 103.9 |
| HiTi [1] | 87.7 | 70.9 | 77.0 |
| Zircon | 98.2 | 98.7 [3] | 98.8 |

**Notes:**

[1] HiTi product contains rutile and leucoxene mineral species.

[2] MSP Recoveries are for actual mineral species.

[3] MSP zircon recovery comprises 54.8% into premium zircon and a further 43.9% into zircon concentrate as contained zircon.

[4] Actual yields into saleable products are higher due to contributions from other minerals. For example, ilmenite product contains a contribution from leucoxene that was not recovered into HiTi90 product.

The titanium and zircon product specifications are highly marketable in the global mineral sands market, with a range of favourable characteristics and capable of securing at least a standard market price (and in some case a premium price) without penalty for any deleterious elements. The product suite does not require any additional processing to remove surface coatings or upgrade titanium content. The product sale prices used for determining the Ore Reserve are from TZMI's published February-2019 long term forecast prices specific for the Coburn products as produced from the LOM testwork. Appropriate quality adjustments were applied to the zircon concentrate and leucoxene mineral.

The non-process infrastructure comprises product storage facilities, water treatment plant, ablution facilities, power plant, water services, security facilities, access road, site roads, laboratory, workshop, buildings, accommodation village and offices. Water for operations will be supplied by a combination of sources including in-pit water if present, recycled sand tailings and slimes return water and raw water top-up from a local bore field.

Power will be supplied on site via an LNG gas storage and re-vaporisation facility feeding gas engine generators. The facilities will be supplied, installed, operated and maintained under a Build Own Operate Maintain contract model, by experienced LNG supply and power generation companies.

Costs associated with operating this infrastructure was based on supplier quotations.

### Basis of the cut-off grade(s) or quality parameters applied

The Ore Reserve estimate as at April 2019, reported in accordance with the JORC Code 2012 Edition[1], is stated in Table 1, and reported to an indicative economic cut-off grade of 1%THM, with all internal waste within the mineralized zone included in the Ore Reserve.

### Mineral Resources (Mineral Resource released 14 November 2018)

The Mineral Resource Estimate was conducted by and under supervision of IHC Robbins' Greg Jones, a specialist consultant in mineral sands resources and metallurgy. Refer to Annexure 1 for JORC Table 1 Sections 1-3.

Table 3 below displays the Global Mineral Resource estimated for the Coburn tenement. The Mineral Resources are classified as Measured, Indicated and Inferred.

**Table 3** JORC 2012 Global Mineral Resource Estimate for the Coburn Project, at November 2018

| MINERAL RESOURCE SUMMARY FOR THE COBURN PROJECT | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Summary of Mineral Resources(1) | | | | | VHM assemblage(2) | | | | | |
| **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 | 880 | 10.4 | 1.2 | 49 | 7 | 21 | 4 | 3 | 1 |
| | **Total** | **1606** | **19.6** | **1.2** | **48** | **7** | **22** | **5** | **3** | **2** |
| (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 | | | | | | | | | | |

[1]Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, The JORC Code 2012 Edition. Effective 20 December 2012 and mandatory from 1 December 2013. Prepared by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australasian Institute of Geoscientists and Minerals Council of Australia (JORC).

The Amy South Mineral resources is presented in Table 4. Ore Reserves have been declared based on the measured and indicated mineral resources estimated at Amy South.

**Table 4** JORC 2012 Mineral Resource Estimate for the Amy South - Coburn Project, at November 2018

| MINERAL RESOURCE SUMMARY FOR THE AMY SOUTH COBURN PROJECT | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Summary of Mineral Resources(1) | | | | | VHM assemblage(2) | | | | | |
| **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 |
| | **Total** | **1454** | **18.0** | **1.2** | **48** | **7** | **22** | **5** | **3** | **2** |
| (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 | | | | | | | | | | |

The Amy North inferred mineral resource is presented in Table 5. No Ore Reserves have been declared over the Amy North mineral resources estimate.

**Table 5** JORC 2012 Mineral Resource Estimate for the Amy North - Coburn Project, at November 2018

| MINERAL RESOURCE SUMMARY FOR THE AMY NORTH COBURN PROJECT | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Summary of Mineral Resources(1) | | | | | VHM assemblage(2) | | | | | |
| **Deposit** | **Mineral Resource Category** | **Tonnage** | **In situ THM** | **THM** | **Ilmenite** | **Rutile** | **Zircon** | **Leucoxene** | **Slimes** | **Oversize** |
| | | (Mt) | (Mt) | (%) | (%) | (%) | (%) | (%) | (%) | (%) |
| | Inferred | 151 | 1.6 | 1.1 | 52 | 5 | 16 | 5 | 6 | 2 |
| | **Total** | **151** | **1.6** | **1.1** | **52** | **5** | **16** | **5** | **6** | **2** |
| (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 | | | | | | | | | | |

## Mineral Resources Estimation Methodology

Geological interpretation, wireframing, 3D block modelling and grade interpolation was carried out using Datamine Studio RM software. Construction of the geological grade model was based on a combination of coding model cells and drill holes below open wireframe surfaces, including topography and basement and inside closed wireframes defined by mineralised domains.

Most modelling convention has the largest parent cell size possible used which is generally based on half the distance between holes of the dominant drill hole spacing in the X and Y dimensions. Cell dimensions are generally used so as to avoid overly small cells that imply a level of refinement in the model that is not justified by the drill hole spacing. With the varied drill spacing across the Coburn project, there was a requirement to have a 'best fit' parent cell size.

Based on this, the parent cell size selected to best fit the drill hole data was 50 x 125 x 1 m in the XYZ directions which covers about 40% of the Amy South modelled area.

The model cell size for Amy North was selected as 500 x 50 x 1 m in the XYZ directions and was based on the dominant drill spacing.

A model was generated for each deposit and interpolated using inverse distance weighting (with a power of 3) and the preliminary estimates were compared with drill hole grades. It was found that this cell size and parameters chosen were resulting in an acceptable interpolation process.

The search ellipse used for the grade interpolation was guided by the dynamic ellipsoid routine employed by Datamine. This allows for variations in mineralisation strike, dip and plunge to be accounted for during the grade interpolation.

The mineral assemblage composite identifiers were interpolated into the block model utilising a nearest neighbour method with the mineralogy results joined in to the model following the primary grade validation.

Variography was carried out prior to interpolation as part of developing search ellipse directions and sizes. Resulting variograms were used to test the drill spacing (and continuity of THM grade) and these supported the final selected JORC Mineral Resource category.

The previous resource estimate carried out by McDonald-Speijers used a fixed value bulk density of 1.65 $gcm^3$. Based on the experience of the Competent Person responsible for the Resource estimation, this was deemed to be appropriate for the material type in question (low THM and slimes grades).

**Ore Reserve Estimation Methodology, including mining recovery factors and mining dilution factors**

The methodology in determining the Reserves was as follows:

- Pit optimization was completed on the mineral resource model to define the economic limits of open pit mining. Once optimised a cross sectional interpretation was undertaken to generate mine design and production schedules and the Ore Reserve.
- The mining method used as the basis for the mine plan is as follows. Seeds will be collected from vegetation on the orebody, prior to the vegetation being removed by dozers and other heavy mobile equipment and stockpiled for use in the rehabilitation phase. Topsoil and Subsoil material will be stripped by dozer or scraper and will be either placed in stockpiles in the vicinity of the pit or placed directly on top of recontoured tails areas. Both topsoil and subsoil will be managed to minimize stockpile duration. Overburden, where present, will be removed by large capacity bulldozers and placed in off pit areas when a pit is initially opened, although the majority of the material will be placed in the pit void immediately behind the mined-out ore. Interburden removal is carried out by an excavator 120t class and the EMU. No drill and blast is required. Ore is pushed by a fleet of D11 dozers to DMUs, oversize is wet screened separated from the slurry undersize which is subsequently pumped to the ore processing facilities. The DMU's will be moved frequently (averaging every 6 days) during the mine life.
- Major assumptions used for pit optimization were pit slopes defined by a geotechnical analysis, processing recoveries defined from metallurgical test work, product prices as described above and operating costs derived from DFS studies. These costs were derived from first principles and/or supplier quotation.
- Mining dilution of 0% was assumed, as all material within the mineralized horizon is treated as ore due to the non-selective nature of a bulk tonnage mining operations.
- Mining recovery of 100% was assumed, as all material within the mineralized mining zone was treated as ore and edge losses are expected to be minimal.
- A minimum mining width of 100m was used to accommodate the DMU and its infrastructure at the base of the pit.
- Inferred Mineral Resources were not assessed in the mine plan and Ore Reserve estimation work.

Refer to Annexure 2 for JORC Table 1 Sections 4 for further details

**Material modifying factors, including the status of environmental approvals, tenements and approvals, other governmental factors and infrastructure requirements for selected mining methods and for transportation to market**

Modifying factors for the Ore Reserve estimate are drawn from contributions provided by various sources. Significant contributors to this report are identified in Table 6, together with their area of contribution.

Each of the individuals named in Table 6 has consented to the application of their study findings for the purpose of estimating an Ore Reserve.

**Table 6:** List of Experts for the Coburn Project Ore Reserve

| Modifying Factor | Responsible Group | Responsible Person/s |
|---|---|---|
| Environmental, land access & community | AECOM | Jamie Shaw |
| Geology & Mineral Resource | IHC Robbins | Greg Jones |
| Hydrology & water management | AECOM | Robert Wallis |
| Tailings management | Knight Piésold | Brett Stevenson |
| Geotechnical | AMC Consultants | Ruth Stephenson |
| Mining & Ore Reserve | AMC Consultants | Adrian Jones |
| Metallurgy | GR Engineering | Bill Gosling |
| Process plant & mine infrastructure | GR Engineering | Bill Gosling |
| Marketing/product sales/financial analysis | Strandline Resources | Flavio Garofalo |
| Product transportation infrastructure | Strandline Resources | Flavio Garofalo |

GR Engineering Services were integral in developing the design and costs associated with the process infrastructure required to produce the saleable final products. The products will be exported in bulk form from the Geraldton port approximately 240km from the Coburn mine site.

The Coburn project is advanced in terms of development readiness with key project approvals and management plans already in place, including environmental, mining licence, native title and heritage agreements.

The project has undergone multiple stages of feasibility assessment since discovery of the Amy zone mineralisation in 2000. Stakeholder engagement and project permitting has progressed in parallel, with positive support from the federal, state and local government authority (LGA). The project is set to form a key part of the growth and diversification aspirations of the Shire of Shark Bay.

The project is a long life, multi decade operation and is predicated to generate a host of socio-economic benefits including capital inflows to regional Australia, significant job creation, indigenous engagement, training and job diversity as well local and community partnership programs.

The Coburn project comprises 205km$^2$ of exploration, mining and miscellaneous tenure which are owned 100% by Strandline Resources Limited. The initial 22.5 years of mining and processing operations will be conducted on granted Mining Licences; M09/102, M09/103, M09/104, M09/105, M09/106, M09/111, M09/112 and Retention Licence R09/03 (subject to mining license conversion). Access to the project from the North West Coastal Highway is via granted miscellaneous licence L09/21. The northern extensions to the mineralisation is covered by granted Exploration Licences E09/939, E09/940 and recently granted Retention Licence R09/02 and R09/03.

The project overlays two pastoral leases, of Coburn and Hamelin Stations. The Coburn Pastoral lease is 100% owned by Strandline, which covers the approved mining licence area and about the first 20 years of Ore Reserves. The Hamelin Pastoral Lease, to the immediate north, is managed by Bush Heritage Australia. The Ore Reserves that extend onto the Hamelin will be predominantly accessed after year 20 and are located partially within a mining licence but mostly within a granted retention licence. The retention licence will need to be converted to a mining licence and the associated agreements in place with the Malgana Native Title Group and Hamelin Station to access these Ore Reserves between years 20 to 22.5. This allows the Company significant lead time to seek all other necessary approvals required for mining to commence. This may include modifications to current environmental management plans, work and mine proposals.

The project is co-located across two native title claims, the Nanda Native Title Claim and the Malgana Native Title Claim. Native Title is the recognition of rights and interests held by Aboriginal people in relation to land, in accordance with the Native Title Act 1993 (Commonwealth).

The Company has entered into formal agreements with the Nanda Native title holders, covering exploration, mining and processing mineral sands operations and associated activities across the Exploration and Mining licences in the Project Area. The Company has a Heritage Agreement with the Malgana Native Title Claimants across its exploration and retention licences. The Company will seek a Mining Agreement with the Malgana

Traditional owners prior to the grant of a Mining License on the most northern ore reserves within the retention license R09/03.

The project is located immediately outside the eastern boundary of the Shark Bay World Heritage Property, and the project achieved environmental approval under the Federal Environment Protection and Biodiversity Conservation Act 1999 and the State Environmental Protection Act 1986. In accordance with the approval, the Company developed an extensive suite of environmental and social management plans (16 in total), covering amongst others management of flora, fauna, vegetation, dust, waste, bush fire, radiation, Aboriginal heritage, rehabilitation, hydrocarbon, groundwater mounding and mine closure.

The Company has undertaken extensive environmental and social impact assessments in accordance with regulatory requirements. This includes significant community consultation and baseline surveys.

The mining method is based on low impact mining of free-flowing sands, progressive back-fill and rehabilitation to the pre-mining state. This method of rehabilitation is well proven in the mineral sands industry.

The saleable products produced over the life of mine, will be exported in bulk cargo form through the port of Geraldton (managed and operated by Mid-West Ports Authority), via a staging facility, to the global mineral sands market. As product is generated, shipments will be arranged at regular intervals for the various products.

**Project History and Key Milestones**

The Coburn deposit was discovered in 2000 and has undergone multiple stages of evaluation and feasibility study assessment since. The list below provides a summary of the key project milestones to date:

- December 2000 - Initial Scoping Study released
- January 2003 – Initial Pre-feasibility Study released
- September 2004 - Mining Agreement secured with Nanda Native Title Applicants
- October 2004 – Mining Licence (ML) 09/102 to 09/106 granted
- December 2004 – Initial Bankable Feasibility Study released
- April 2005 - Company acquisition of Coburn Station Pastoral Lease 3114/441
- July 2005 – Mining Licence (ML) 09/111 & 112 granted
- May 2006 - State Environmental Minister signed Ministerial Statement 723 approving the proposed development of the Coburn Mineral Sands Project
- July 2006 - The Commonwealth Department of Environment and Heritage approved the Coburn Mine Development
- April 2008 - JORC-2004 compliant Ore Reserve of 308Mt @ 1.2% THM released
- January 2010 – Definitive Feasibility Study released
- February 2013 – Optimisation Study released
- May 2014 - Works Approval (W5566/2013/1) for the Construction of Pits A&B, Category 8 Mineral Sands Mining and Processing and Category 84 Electric Power Generation
- May 2014 - Mining Proposal Application 2 approval to commence development and operation of Coburn
- September 2014 - Corporate deal Gunson Resources acquired private Tanzanian minerals sands focussed company Strandline and subsequent Dec 2014 name change to Strandline Resources Limited
- February 2015 – Cost Review Update released
- October 2017 - Heritage Agreement with the Malgana Shark Bay People Claimant Group
- November 2018 – Updated JORC compliant-2012 Mineral Resource estimate of 1.6Bt @ 1.2% THM released

- April 2019 – Updated JORC-2012 compliant Ore Reserves Statement 523Mt @ 1.11% THM released (this announcement)

**Figure 3** The Coburn Project is favourably located close to the mineral sands export port of Geraldton

For further enquiries, please contact:
**Luke Graham**
CEO and Managing Director
Strandline Resources Limited
T: +61 8 9226 3130
E: enquiries@strandline.com.au

For media and broker enquiries:
**Paul Armstrong and Nicholas Read**
Read Corporate
T: +61 8 9388 1474
E: paul@readcorporate.com.au

## ABOUT STRANDLINE

Strandline Resources Limited (**ASX: STA**) is an emerging heavy mineral sands (**HMS**) developer with a growing portfolio of 100%-owned development assets located in Western Australia and within the world's major zircon and titanium producing corridor in South East Africa. Strandline's strategy is to develop and operate quality, high margin, expandable mining assets with market differentiation and global relevance.

Strandline's project portfolio comprises development optionality, geographic diversity and scalability. This includes two zircon-rich, 'development ready' projects, the Fungoni Project in Tanzania and the large Coburn Project in Western Australia, as well as a series of titanium dominated exploration targets spread along 350km of highly prospective Tanzanian coastline, including the advanced Tanga South Project and Bagamoyo Project.

The Company's focus is to continue its aggressive exploration and development strategy and execute its multi-tiered and staged growth plans to maximise shareholder value.

## MINERAL SANDS COMPETENT PERSON'S STATEMENTS

### Exploration Results and Mineral Resource Estimation

The information in this report that relates to Exploration Results is based on, and fairly represents, information and supporting documentation prepared by Mr Brendan Cummins, Chief Geologist and employee of Strandline. Mr Cummins is a member of the Australian Institute of Geoscientists and he has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity which has been undertaken to qualify as Competent Persons as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Cummins consents to the inclusion in this release of the matters based on the information in the form and context in which they appear. Mr Cummins is a shareholder of Strandline Resources.

The information in this report that relates to Mineral Resources is based on, and fairly represents, information and supporting documentation prepared by Mr Greg Jones, (Consultant to Strandline and Geological Services Manager for IHC Robbins) and Mr Brendan Cummins (Chief Geologist and employee of Strandline). Mr Jones is a member of the Australian Institute of Mining and Metallurgy and Mr Cummins is a member of the Australian Institute of Geoscientists and both have sufficient experience of relevance to the styles of mineralisation and types of deposits under consideration, and to the activities undertaken to qualify as Competent Persons as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Specifically, Mr Cummins is the Competent Person for the provision of the drill database, and completed the site inspection. Mr Jones is the Competent Person for the data integration and resource estimation. Mr Jones and Mr Cummins consent to the inclusion in this report of the matters based on their information in the form and context in which they appear.

### Ore Reserves

The information in this report that relates to the Coburn Ore Reserves is based on information compiled under the direction of Mr Adrian Jones. Mr Jones is a Member of the Australasian Institute of Mining and Metallurgy and is employed by AMC. Mr Jones has sufficient experience relevant to the style of mineralization and type of deposit under consideration to qualify as a Competent Person as defined in the JORC Code.

Non-mining modifying factors for the Ore Reserve estimate are drawn from contributions provided by various sources. Significant contributors to this report are identified in Table 6 together with their area of contribution.

## FORWARD LOOKING STATEMENTS

This report contains certain forward looking statements. Forward looking statements are only predictions and are subject to risks, uncertainties and assumptions which are outside of the control of Strandline. These risks, uncertainties and assumptions include commodity prices, currency fluctuations, economic and financial market conditions, environmental risks and legislative, fiscal or regulatory developments, political risks, project delay, approvals and cost estimates. Actual values, results or events may be materially different to those contained in this announcement. Given these uncertainties, readers are cautioned not to place reliance on forward looking statements. Any forward looking statements in this announcement reflect the views of Strandline only at the date of this announcement. Subject to any continuing obligations under applicable laws and ASX Listing Rules, Strandline does not undertake any obligation to update or revise any information or any of the forward looking statements in this announcement to reflect changes in events, conditions or circumstances on which any forward looking statements is based.

# Annexure 1 – JORC Code, 2012 Edition – Table 1 Section 1 - 3

## Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| *Sampling techniques* | • *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.*<br>• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*<br>• *Aspects of the determination of mineralisation that are Material to the Public Report.*<br>• *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.* | • The majority of the drilling at Coburn was was completed 2003 and 2007 with minor programs in 2011 and 2018<br>• Aircore drilling was used to obtain samples at 1.0m intervals between 2003 and 2005 with 2m intervals used in 2005.<br>• Between 2003 and 2007 sample material was collected by a cyclone and passed through a rotary splitter that consisted of a rotating, inclined plate set directly below the cyclone discharge. The rotation speed was approximately 60rpm. The plates were set to discharge between 1 and 2kg from a 1m interval leaving 6 to 8kg of bulk bagged reject that was stacked near the collar.<br>• A similar method was used in 2011<br>• In 2018 the sample was taken from the cyclone and split until a 1kg sample remained.<br>• A sample of sand was scooped from the sample bag for visual THM% estimation and logging. Prior to 2003 only samples with an estimated 0.5% THM were submitted for analysis. The samples lower than 0.5% THM were not assayed<br>• After 2003 all samples drilled were submitted for analysis<br>• A sample ledger was kept at the drill rig for recording sample intervals and water resistant sample books were used with pre-printed sequential sample numbers assigned top each unique sample.<br>• At all times significant effort was made to ensure sample representivity of the mineralization using Industry standard drilling and sample techniques for mineral sands |
| *Drilling techniques* | • *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).* | • Aircore drilling with inner tubes for sample return was used<br>• Aircore is considered a standard industry technique for HMS mineralization. Aircore drilling is a form of reverse circulation drilling where the sample is collected at the face and returned inside the inner tube<br>• From 2003 onwards a Wallis Drilling Pty Ltd Mantis rig was used for the AC drilling<br>• Aircore drill rods used were 3m long<br>• 82mm drill bits were used<br>• A small drill program was completed by Strike Drilling using a T450 mounted on a Mercedes Benz 6x6 Actross truck. The purpose of the drill |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | program was to primarily gather a 30 t metallurgical sample but 6 AC holes were also twinned against the older AC drilling completed by Wallis for comparative purposes. The strike drill rods were 6m long with a diameter of 89mm.<br>• All drill holes were vertical |
| *Drill sample recovery* | • *Method of recording and assessing core and chip sample recoveries and results assessed.*<br>• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*<br>• *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.* | • From 2003 to 2011 drill sample recovery was estimated during the logging and provided as a percentage estimate<br>• The recovery estimation method was subjective but no issues were identified in subsequent analysis of the other quality assurances tests of the data sets such as field and laboratory duplicates and a large number of twin drill holes.<br>• Recoveries in the shallow (<6m) depth was enhanced with the injection of some water to help keep the sand bound and enable it to be blown up the inner tube.<br>• At the end of each drill rod, the drill string is cleaned by blowing down with air to remove any clay and silt potentially built up in the sample pipes<br>• The twin-tube aircore drilling technique is known to provide high quality samples from the face of the drill hole<br>• The cyclone was struck with a rubber mallet during the drilling phase to keep the inside of it free of clay and silt |
| *Logging* | • *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.*<br>• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*<br>• *The total length and percentage of the relevant intersections logged.* | • The 1m aircore samples were each qualitatively logged onto paper field sheets prior to digital entry into Microsoft Excel spreadsheet and then importation into Datashed for validation<br>• The aircore samples were logged for lithology, colour, grainsize, hardness, cementing, wetness and estimated sample recovery. The THM, Slimes and oversize were also visually estimated. Degree of rounding and sorting y relevant comments<br>• Every drill hole was logged in full<br>• Logging is undertaken with reference to a Drilling Guideline with codes prescribed and guidance on description to ensure consistent and systematic data collection |
| *Sub-sampling techniques and sample preparation* | • *If core, whether cut or sawn and whether quarter, half or all core taken.*<br>• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*<br>• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* | • The 1m drill sample collected at the source was split using a rotary splitter from the cyclone. This was around 10 to 20% of the sand drilled yielding a sample between 1 and 2kg<br>• Prior to 2003 the samples were split in the field to between 60 and 100g using a small laboratory riffle splitter but this method was discarded in later years<br>• Post 2003 as a check for field bias field |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*<br>• *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.*<br>• *Whether sample sizes are appropriate to the grain size of the material being sampled.* | duplicates of the rotary split samples were completed at a frequency of 1 per 100 primary samples with the results showing no significant bias from the HM and Oversize but some a small bias in in the slimes but the error was considered not material with no impact on data quality<br>• Almost all of the samples were predominantly dry and comprised sand, silty sand, sandy silt and this sample preparation method is considered appropriate<br>• The sample sizes were deemed suitable to reliably capture THM, slime, and oversize characteristics, based on industry experience of the geologists involved and consultation with laboratory staff |
| *Quality of assay data and laboratory tests* | • *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*<br>• *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.*<br>• *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.* | • The wet panning at the drill site provides an estimate of the THM% which is sufficient for the purpose of determining approximate concentrations of THM in the first instance<br>2003:<br>• There was limited QC work during the pre 2003 drill programs that were seen as mostly reconnaissance style programs<br>• A small amount of field duplicates were analysed and no significant biases in slimes or THM observed but the data set was deemed as too small to be conclusive<br>• Primary (Dunelabs) Vs Secondary Laboratory (Iluka) field checks were also completed but the number of samples were deemed to be too small to be statistically meaningful<br>• As a further test over 100 samples originally assayed at Dunelabs were submitted to Western Geolabs (WGL that showed a good correlation of THM between the laboratories but a small bias with WGL results showing higher slimes values (13% relative difference) which was attributed to more vigorous desliming used by WGL<br>Post 2003<br>• More systematic quality controls were adopted post 2003 involving field duplicates, check assaying between WGL and Dunelabs and another independent laboratory Cable Sands Limited (CSL)<br>• In summary the Duplicates collected at a rate of 1/100 by riffling the total rotary splitter reject and these were submitted in the same batch as the primary sample<br>• No significant bias was detected in the HM results from the duplicates with the mean relative difference being only 1% confirming |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | the field duplicates were free from bias. The overall precision was reasonable averaging +/- 13% at the 90% confidence limits<br>• The slimes and oversize results showed a small bias. The mean relative differences were low with the slimes content being low to begin with the overall magnitude of the bias would have little to no impact. Both the slimes and oversize both had poor precision which is largely consistent with observations from other similar datasets and was accepted<br>• In summary Check assays were collected in the field at a rate of 1/50 by bagging the reject half from the final riffling step and were submitted to CSL for analysis and compared to the results from Dunelabs and WGL from the post 2003 to 2007 programs.<br>• The HM checks compared well to both primary laboratories with a mean relative difference of 1% and the HM assay is regarded as being accurate. It was noted in later years of 2005 and 2007 the WGL assay did not show any bias but slightly inferior precision<br>• The slimes and oversize results showed a large bias with significant variation for both slimes and oversize between the labs. The differences were attributed to methods used to scrub the slime with WGL typically reporting higher slimes due to more rigorous desliming methods. The mean relative differences were high with WGL most likely generating too much slime. However with the overall low content of slimes and oversize relative to the sand in absolute terms the differences were considered minor<br>• the slimes content being low to begin with the overall magnitude of the bias would have little to no impact. Both the slimes and oversize both had poor precision which is largely consistent with observations from other similar datasets and was accepted<br>• Overall there was nothing identified to indicate a significant risk to the accuracy and precision of the data used in the resource estimate<br><br>Summary Analysis Method<br><br>• The individual aircore samples (1 to 2kg) were assayed predominately by Western Geolabs and Dunelabs when WGL was at capacity. Both Laboratories were based in Perth, Western Australia and they are both considered primary laboratories.<br>• The aircore samples were first screened for removal and determination of Slimes (-45µm) and Oversize (710µm), then the sample was |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | analysed for total heavy mineral (-1mm to +45µm) content by heavy liquid separation<br>• WGL used TBE as the heavy liquid medium – with density range between 2.92 and 2.96 g/ml<br>• Dunelabs used bromoform on the pre 2003 holes but swapped to TBE as the heavy liquid medium – with density range between 2.92 and 2.96 g/ml<br>• Check laboratory CSL used LST as the heavy liquid medium – with density range between 2.85 and 2.87 g/ml<br>• This is an industry standard technique for the analysis of HM, slimes and oversize |
| *Verification of sampling and assaying* | • *The verification of significant intersections by either independent or alternative company personnel.*<br>• *The use of twinned holes.*<br>• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*<br>• *Discuss any adjustment to assay data.* | • Data was originally verified in the geological team between 2003 to 2011. In 2008 with the significant resource estimation completed by well-regarded independent industry specialist Deidrick Speijers an extensive review of the data was completed – no issues were identified<br>• 6 Twin holes across the Amy South resources were drilled in 2018 as part of the metallurgical program. The overall results showed a positive correlation to the older drill data. As expected on a paired basis the HM results do not correlate strongly but overall the mean of the results support the HM grade<br>• The field and laboratory data were updated into spreadsheet and some initial checks completed. The spreadsheets were uploaded into a Datashed database were automatic validation enabled the data to be imported.<br>• The 2008 database was considered of high integrity with no material errors or omissions identified by Speijers<br>• All recent drilling from 2011 and 2018 have been incorporated into the drill database established by IHC-Robbins for the 2018 MRE update<br>• No adjustments are made to the primary assay data |
| *Location of data points* | • *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*<br>• *Specification of the grid system used.*<br>• *Quality and adequacy of topographic control.* | • Down hole surveys for shallow vertical aircore holes are not required<br>• 98% of the drill collars have ben surveyed using a DGPS.<br>• The DGPS has an accuracy of +/- 10mm<br>• The original survey work used AMG co-ordinates (AGD84) zone 50S. These have been converted to GDA94 datum<br>• A local grid was established by deducting 7,000,000 from the northings and 200,000 from the eastings<br>• In 2008 Speijers re-worked all of the previous topographic information using accurately surveyed drill collars for control. The resultant |

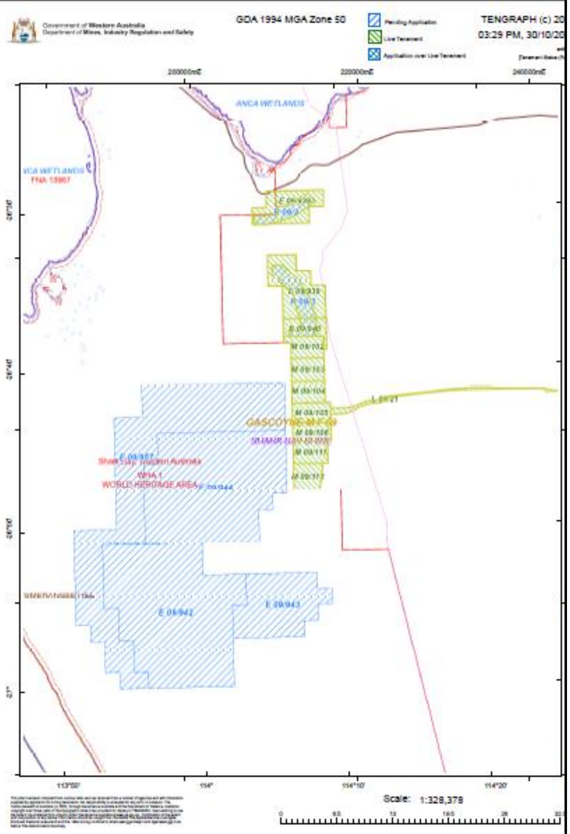
| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | digital terrain model was then used to estimate drill collar elevation adjustments for un-surveyed or inaccurately surveyed collars.<br>• In 2018 IHC Robbins incorporated a number of models and generated a new DTM with significantly more detail and accuracy then previously generated.<br>• The DTM is considered of high quality and accurate and can be used for MRE and mine planning.<br>• The accuracy of the locations and topographic control is appropriate for this stage of mineral resource development |
| *Data spacing and distribution* | • *Data spacing for reporting of Exploration Results.*<br>• *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.*<br>• *Whether sample compositing has been applied.* | • Exploration results are not being reported<br>• Various grid line spacing have been used to drill the Amy South and North resource areas. The drill lines range from 125, 250 m 500 and 1000m apart across the resource areas.<br>• Drilling along the lines range from 50 to 100 to 200m<br>• The deposit is considered a large bulk tonnage style of HM mineralization with reasonable to good geological continuity that provides a high degree of confidence in the geological models and grade continuity within the holes<br>• Closer spaced drilling (125m and 50m spaced holes) provide a high degree of confidence in geological models and grade continuity between the holes and have been generally been classified as Measured. 1000 x 200m spaced drill holes have a lower degree of confidence in the geological models and grade continuity and resources estimated from these wide spaced holes have been classified as Inferred.<br>• Each aircore drill sample is a single 1m or 2m sample of sand intersected down the hole<br>• No compositing has been applied to models for values of THM, slime and oversize<br>• Compositing of samples was been undertaken on HM concentrates for mineral assemblage determination. |
| *Orientation of data in relation to geological structure* | • *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*<br>• *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.* | • The aircore drilling was oriented perpendicular to the strike of mineralization defined by reconnaissance data interpretation and also alignment of the sand dunes<br>• The northerly strike of the Amy South mineralized zones are sub-parallel and are known to be relatively well controlled by the density of drilling<br>• Amy North strikes to the ENE and the drill lines were established in a north south orientation<br>• Drill holes were vertical and the nature of the mineralisation is relatively horizontal |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | • The orientation of the drilling is considered appropriate for testing the lateral and vertical extent of mineralization without any bias |
| *Sample security* | • *The measures taken to ensure sample security.* | • There is no documentation regarding the sample security and chain of custody of the samples drilled at Coburn then transported and analysed in Perth.<br>• The drilling and sampling was completed over several years and there is no evidence from the field checks and data verification that the samples have been subjected to tampering over such a period. |
| *Audits or reviews* | • *The results of any audits or reviews of sampling techniques and data.* | • External data reviews have been undertaken in 2004, 2008 and 2018 prior to resource estimations |

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| *Mineral tenement and land tenure status* | • *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*<br>• *The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.* | • The exploration work was completed on tenements that are 100% owned by Strandline in Australia<br>• The drill samples have been taken from mostly granted mining license (M09/102, 103, 104, 105, 106, 111 & 112) and granted exploration licenses (E09/939 & 940). More recently two retention licenses were also granted (R09/02 & 03)<br>• The licenses are of varying age and are in good standing with compliance in technical and environmental reporting and payments of rents and rates. License details<br>• Native Title agreements have been signed with the Nanda and Malgana claimant groups<br>• The western boundary of the licenses is bound by the Shark Bay World Heritage Park where no development is permitted<br>• On the 22nd May 2006 under Ministerial Statement 723 approval for the project was granted subject to the implementation of a number of Management Plans.<br>• The mineral resources are located on pastoral lease stations of Coburn that is owned 100% by Strandline Resources and Hamelin Station that is owned by Bush Heritage Australia. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | |  |
| *Exploration done by other parties* | • *Acknowledgment and appraisal of exploration by other parties.* | • There has been limited historic exploration work completed over the project area with the majority of the work and drilling completed by Strandline Resources (formerly Gunson Resources). In 1999 Stuart Petroleum completed the first reconnaissance drilling and was then acquired by Gunson as part of the IPO.<br>• The exploration history is dominated by campaign drilling with the initial reconnaissance drilling in 1999 followed up by more drilling in 2002, 2003, 2004, 2005, 2006, 2007, 2011 and 2018. The majority of the drilling was completed in the earl<br>• Resources estimations were completed in 2004 and 2008 under JORC 2004.<br>• A scoping study was completed in completed in 2000 and a Pre-Feasibility study in 2002 that was advanced to a Bankable Feasibility study in 2003 that was concluded and release to the market in 2004.<br>• An updated BFS was released in 2008 and optimized in 2010 and refreshed in 2015. |
| *Geology* | • *Deposit type, geological setting and style of mineralisation.* | The Amy Zone body of mineralisation consists of an accumulation of mainly aeolian sands deposited over a Cretaceous basement of clays, clayey sands and limestone. In the southern part of the Amy Zone, the basement units are often capped by a |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | silcrete layer, which is thought to represent a palaeo weathering surface or duricrust.<br><br>Three phases of sand dune formation have been identified. The earliest phase occurred as a sheet like deposit over the basement and may have been associated with marine sedimentation from a transgression to the west. Within the southern end of the Amy Zone there is evidence of a buried palaeosurface marked by elevated slimes levels, which is interpreted as the top of a second phase of dunal deposition formed over the sheet dunes. The palaeosurface is best developed between 7,038,500 m N and 7,042,000 m N and has been completely eroded north of section 7,043,500 m N. Within this second phase dune system there is a prominent north-north east striking ridge, which is occasionally reflected in the sheet dunes and has been built upon by subsequent deposits. The third dune phase continues this ridge to the north where it has eroded the second phase dunes. However the ridge bifurcates south of 7,041,000 m N into a south westerly trending fore dune built over the ridge of the second phase dunes and a south easterly trending back dune. The surface of the third phase of dune formation consists of hummocky parabolic dunes. The relationship of these episodes of deposition and their HM grade distribution are shown in cross-section on<br><br>Mineralisation is associated with all of the dune formations, the lower dunes containing higher grade sheet like concentrations that are moderately continuous between sections and strike north-north-easterly. Above these, the second dune formation is more sporadically mineralised and generally lower grade and may merge with the third dune mineralisation. The third dune contains a continuous body of mineralisation associated with the back slope of the ridge in the north and migrating to its fore slope in the south. Where the dune bifurcates, it spreads across the entire section and is better developed in the front slope, although still present on the back slope. Sporadic pockets of mineralisation are also associated with the parabolic dunes of this formation, but these are less well defined due to their limited areal extents.<br><br>The typical stratigraphy intersected in drilling consists of an upper layer of red brown sands between 1 and 6 m thick, passing downward into orange and then yellow sands, with the occasional zone of white, well sorted, possibly marine sands lying on top of a basement silcrete layer. The base of the red brown sands is often defined by a discontinuous calcrete horizon, which varies from 1 to 6 m thick and varies from gravelly nodules |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | formed within the red brown sands through to solid layers. Evidence from drill cores and the test pit shows that the calcrete is formed in situ, cementing the red sand and is likely to be the result of redox conditions associated with variations in ground water levels |
| *Drill hole Information* | • *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*<br>o *easting and northing of the drill hole collar*<br>o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*<br>o *dip and azimuth of the hole*<br>o *down hole length and interception depth*<br>o *hole length.*<br>• *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.* | • The drill hole data for this Mineral Resources Estimate comprises 4,204 holes for 109,404m of drilling and is too large to report in full.<br>• The data has been verified and by two Independent Consulting firms prior to significant resource updates in 2008 and 2018 and has been found to be reliable and suitable for this Mineral Resource Estimate. |
| *Data aggregation methods* | • *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.*<br>• *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.*<br>• *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | • No exploration results are being reported.<br>• The Mineral Resource estimation has been reported at a 0.8% lower cut off grade and no upper cuts have been applied. |
| *Relationship between mineralisation widths and intercept lengths* | • *These relationships are particularly important in the reporting of Exploration Results.*<br>• *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*<br>• *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').* | • The nature of the mineralisation is broadly horizontal, thus vertical aircore holes are thought to represent close to true thicknesses of the mineralisation.<br>• No exploration results are being reported. |
| *Diagrams* | • *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.* | • Figures and plans are displayed in the main text of the Release. |
| *Balanced reporting* | • *Where comprehensive reporting of all Exploration Results is not practicable,* | • No exploration results are being reported as part of this Mineral Resource estimation |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.* | update. |
| *Other substantive exploration data* | • *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.* | • A bulk sample of 30 tonnes was taken by drilling multiple AC holes at approximately 30 sites across locations within the previously defined 2010 Reserves in July 2018. This sample has been submitted to AML for additional metallurgical test work for LOM confirmatory design and variability studies. The results have been included in the updated DFS. |
| *Further work* | • *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*<br>• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* | • No additional exploration work is planned at this stage for Coburn. |

## Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| *Database integrity* | • *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.*<br>• *Data validation procedures used.* | • Original laboratory files used to populate exploration database assay tables via an automatic software assay importer where available.<br>• Checks of data by visually inspecting on screen (to identify translation of samples), duplicate and twin drilling was visually examined to check the reproducibility of assays.<br>• Database assay values have been subjected to random reconciliation with laboratory certified value is to ensure agreement.<br>• Visual and statistical comparison was undertaken to check the validity of results<br>• Some rounding errors related to 8 out of 159 mineral assemblage composites exceeding 100% by a up to 0.28% were identified but not considered material.<br>• 3 mineral assemblage composites where incorrectly labelled and had to be re-imported into the updated MRE supplied to AMC consultants in March 2019. The error only affected 4000 records of the 1.8million database and was not considered material |
| *Site visits* | • *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*<br>• *If no site visits have been undertaken indicate why this is the case.* | • A site trip was undertaken by John McDonald of McDonald-Speijers in May 2003 to observe general drilling operations and sample procedures. No other site visits by staff from McDonald-Speijers are reported leading up the |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | last MRE in 2008.<br>• Brendan Cummins has made repeated site trips to Coburn in 2016 – 2018 but none whilst drilling activities were taking place. The AC drill program in July 2018 were supervised by staff geologist from Strandline Resources. The 6 twin holes were completed under Strandlines supervision as was the sample splitting and sample dispatch to Western Geolabs facility in Perth.<br>• IHC Robbins has not undertaken a site visit but this would be recommended if Resource drilling activities re-commenced. |
| *Geological interpretation* | • *Confidence in (or conversely, the uncertainty of ) the geological interpretation of the mineral deposit.*<br>• *Nature of the data used and of any assumptions made.*<br>• *The effect, if any, of alternative interpretations on Mineral Resource estimation.*<br>• *The use of geology in guiding and controlling Mineral Resource estimation.*<br>• *The factors affecting continuity both of grade and geology.* | • The geological interpretation for Amy North was undertaken by IHC Robbins in collaboration with the company's Exploration Manager and then validated using all logging and sampling data and observations.<br>• Current data spacing and quality is sufficient to indicate grade continuity.<br>• Interpretation of modelling domains was restricted to the main mineralised envelopes utilising THM sinks, oversize material, slimes, and geology logging.<br>• A further interpretation of an upper THM domain (Zone 3) was added to the Amy South deposit to constrain high grade influence during the interpolation process, primarily in the inferred area where drill spacing is greater.<br>• The Mineral Resource estimate was controlled to an extent by the geological envelope and basement surfaces. |
| *Dimensions* | • *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.* | • The Mineral Resource for Amy South is approximately 27 km long in a N-S direction and 3.5 km wide on average. The deposit ranges in thickness from approximately 2 to 60 m due to the undulating dunal morphology of the area.<br>• The Mineral Resource for Amy North is approximately 6.5km long in a E-W direction and 1.5 km wide with thickness ranging from 2.5 to 40m. |
| *Estimation and modelling techniques* | • *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.*<br>• *The availability of check estimates, previous estimates and/or mine production records and* | • The mineral resource estimate was conducted using CAE mining software (also known as Datamine Studio). Inverse distance weighting techniques were used to interpolate assay grades from drill hole samples into the block model and nearest neighbour techniques were used to interpolate index values and non-numeric sample identification into the block model. The mostly regular dimensions of the drill grid and the anisotropy of the drilling and sampling grid allowed for the use of inverse |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *whether the Mineral Resource estimate takes appropriate account of such data.*<br>• *The assumptions made regarding recovery of by-products.*<br>• *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).*<br>• *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.*<br>• *Any assumptions behind modelling of selective mining units.*<br>• *Any assumptions about correlation between variables.*<br>• *Description of how the geological interpretation was used to control the resource estimates.*<br>• *Discussion of basis for using or not using grade cutting or capping.*<br>• *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.* | distance methodologies as no de-clustering of samples was required. Appropriate and industry standard search ellipses were used to search for data for the interpolation and suitable limitations on the number of samples and the impact of those samples was maintained. An inverse distance weighting of three was used so as not to over smooth the grade interpolations. Hard domain boundaries were used and these were defined by the geological wireframes that were interpreted.<br>• This is the maiden Mineral Resource estimate for the Amy North deposit. The Amy South deposit was previously reported by McDonald-Speijers for the 2008 Mineral Resource estimate.<br>• No assumptions were made during the resource estimation as to the recovery of byproducts.<br>• Slimes and oversize contents are estimated at the same time as estimating the THM grade. Further detailed geochemistry is required to ascertain deleterious elements that may affect the marketability of the heavy mineral products.<br>• The average parent cell size used for the interpolation was approximately half the standard drill hole width and a half the standard drill hole section line spacing.<br>• Given that the average drill hole spacing for Amy South was 100 m east-west and 250 m north south and with 1 m samples the parent cell size was 50 x 125 x 1 m (where the Z or vertical direction of the cell was nominated as the same distance as the sample length).<br>• The average drill hole spacing for Amy North was 1000 m east-west and 100 m north south and with 1 m samples and so the parent cell size was 500 x 50 x 1 m (where the Z or vertical direction of the cell was nominated as the same distance as the sample length).<br>• No assumptions were made regarding the modelling of selective mining units however it is assumed that a form of dry mining will be undertaken and the cell size and the sub cell splitting will allow for an appropriate dry mining preliminary reserve to be prepared. Any other mining methodology will be more than adequately catered for with the parent cell size that was selected for the modelling exercise.<br>• No assumptions were made about correlation between variables.<br>• The Mineral Resource estimates were controlled to an extent by the geological / |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | mineralisation and basement surfaces.<br>• Grade cutting or capping was not used during the interpolation because of the regular nature of sample spacing.<br>• Samples there are widely spaced for the inferred northern area of the Amy South deposit where elevated samples could have an impact on the resource estimation were constrained using enclosed wireframes to minimize their influence during grade interpolation. In particular Zone 3.<br>• Sample distributions were reviewed and no extreme outliers were identified either high or low that necessitated any grade cutting or capping.<br>• The sample length of 1 m does result in a degree of grade smoothing also negating the requirement for grade cutting or capping.<br>• Validation of grade interpolations were done visually In CAE Studio (Datamine) software by loading model and drill hole files and annotating and colouring and using filtering to check for the appropriateness of interpolations.<br>• Statistical distributions were prepared for model zones from drill hole and model files to compare the effectiveness of the interpolation. Along strike distributions of section line averages (swath plots) for drill holes and models were also prepared for comparison purposes |
| *Moisture* | • *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.* | • Tonnages were estimated an assumed dry basis. A bulk density algorithm was selected that is the same as previously used for reporting (a fixed bulk density of 1.65 $gcm^{-3}$). Based on the experience of the Competent Person it is believed that the bulk density conversion factor is appropriate and fit for purpose for this style of dunal style mineralisation. |
| *Cut-off parameters* | • *The basis of the adopted cut-off grade(s) or quality parameters applied.* | • Cut-off grades for HM were used to prepare the reported resource estimates. These cut-off grades were defined by IHC Robbins as being based on experience, the percentage of VHM and the grade tonnage curves taken in consideration with the grade distribution along the length of the deposits.<br>• Previous reporting of Mineral Resource estimates has been undertaken at a 0.8% THM cut-off grade. |
| *Mining factors or assumptions* | • *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the* | • Traditional sand mining methods are such as dry mining scrapers and excavators into trucks or dozer trap style methods. No minimum thickness was assumed for the reporting of the |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.* | mineral resource and it is most likely that any mining method will not allow for selectivity of specific units, but rather a broad scale approach to maximise economy of scale. |
| *Metallurgical factors or assumptions* | • *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.* | • Metallurgical test work has been positive from previous study undertaken on bulk samples from Coburn<br>• Metallurgical assumptions were used based on mineral assemblage composites which at this stage only allow for preliminary commentary<br>• The mineral products have been provided to customers who have undertaken their own test work to ascertain the suitability of the product for a range or purposes. |
| *Environmental factors or assumptions* | • *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.* | • The Coburn project has been through the PER process and gained ministerial consent (723) for its development. It has also received a number of other approvals or has them in hand.<br>• No assumptions have been made regarding possible waste and process residue however disposal of byproducts such as SLIMES, sand and oversize are normally part of capture and disposal back into the mining void for eventual rehabilitation. This also applies to mineral products recovered and waste products recovered from metallurgical processing of heavy mineral. |
| *Bulk density* | • *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.*<br>• *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.*<br>• *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.* | • Tonnages were estimated an assumed dry basis. A bulk density algorithm was selected that is the same as previously used for reporting (a fixed bulk density of 1.65 $gcm^{-3}$). Based on the experience of the Competent Person it is believed that the bulk density conversion factor is appropriate and fit for purpose for this style of dunal style mineralisation.<br>• The bulk density is calculated as an in situ dry bulk density and once material has been dug up invariably this bulk density cannot be used. The bulk density is however used on wet poured HMC (heavy mineral concentrate) from mining and concentrating and is successful at estimating density and therefore tonnages for stockpiles. |
| *Classification* | • *The basis for the classification of the Mineral* | • The resource classification for the Amy South |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *Resources into varying confidence categories.*<br>• *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).*<br>• *Whether the result appropriately reflects the Competent Person's view of the deposit.* | and Amy North deposits was based on the following criteria: drill hole spacing and the distribution of bulk samples.<br>• The classification of the Measured, Indicated, and Inferred Resources was supported by all of the criteria as noted above.<br>• As a Competent Person, IHC Robbins Geological Services Manager Greg Jones considers that the result appropriately reflects a reasonable view of the deposit categorisation. |
| *Audits or reviews* | • *The results of any audits or reviews of Mineral Resource estimates.* | • No audits or reviews of the mineral resource estimate has been undertaken at this point in time. |
| *Discussion of relative accuracy/ confidence* | • *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.*<br>• *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.*<br>• *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.* | • There was no geostatistical process undertaken (such as kriging or conditional simulation) during the resource estimation of the Amy South and Amy North deposits. However variography was undertaken on the THM to determine optimal drill hole and sample spacing to assist in the JORC classification process.<br>• Qualitative assessment of the mineral resource estimate along with comparison with previous resource estimates (within a tolerance of +/- 5 per cent) points to the robustness of this particular resource estimation exercise.<br>• Validation of the model vs drill hole grades by observation, swathe plot and population distribution analysis was favourable.<br>• The statement refers to global estimates for the entire known extent of the Amy South and Amy North deposits.<br>• No production data is available for comparison with the Amy South and Amy North deposits. |

## Annexure 2 – JORC Code, 2012 Edition – Table 1 Section 4 (AMC)

**AMC Consultants Pty Ltd**
ABN 58 008 129 164

Level 1, 1100 Hay Street
West Perth WA 6005
Australia

T +61 8 6330 1100
E perth@amcconsultants.com
W amcconsultants.com

# Report

## Coburn Ore Reserve Statement

Strandline Resources Limited

AMC Project 218068_2
8 April 2019

Unearth a smarter way

## Quality control

The signing of this statement confirms this report has been prepared and checked in accordance with the AMC Peer Review Process.

**Author**


Adrian Jones

8 April 2019
Date

**Peer Reviewer**


Koray Gundem

**8 April 2019**
Date

## Important information about this report

**Confidentiality**

This document and its contents are confidential and may not be disclosed, copied, quoted or published unless AMC Consultants Pty Ltd (AMC) has given its prior written consent.

**No liability**

AMC accepts no liability for any loss or damage arising as a result of any person other than the named client acting in reliance on any information, opinion or advice contained in this document.

**Reliance**

This document may not be relied upon by any person other than the client, its officers and employees.

**Information**

AMC accepts no liability and gives no warranty as to the accuracy or completeness of information provided to it by or on behalf of the client or its representatives and takes no account of matters that existed when the document was transmitted to the client but which were not known to AMC until subsequently.

**Precedence**

This document supersedes any prior documents (whether interim or otherwise) dealing with any matter that is the subject of this document.

**Recommendations**

AMC accepts no liability for any matters arising if any recommendations contained in this document are not carried out, or are partially carried out, without further advice being obtained from AMC.

**Outstanding fees**

No person (including the client) is entitled to use or rely on this document and its contents at any time if any fees (or reimbursement of expenses) due to AMC by its client are outstanding. In those circumstances, AMC may require the return of all copies of this document.

**Public reporting requirements**

If a Client wishes to publish a Mineral Resource or Ore / Mineral Reserve estimate prepared by AMC, it must first obtain the Competent / Qualified Person's written consent, not only to the estimate being published but also to the form and context of the published statement. The published statement must include a statement that the Competent / Qualified Person's written consent has been obtained.

# Distribution list

1 e-copy to Mike Ferraro, Project Director, Strandline Resources Ltd
1 e-copy to AMC Perth office

| |
|---|
| **OFFICE USE ONLY** |
| Version control |
| 12 April 2019 1110 |

# 1 Ore Reserve statement

Mineral Resources were converted to Ore Reserves as at April 2019, based on the pit designs, recognizing the level of confidence in the Mineral Resource estimation, and reflecting modifying factors.

The financial assumptions used to determine the 2019 Strandline Ore Reserve estimate were:

- Ilmenite price US$269/t in product.
- Leucoxene price US$894/t* in product.
- Rutile price US$1,118/t* in product.
- Premium Zircon price US$1,469$/t in product.
- Zircon price US$1,043$/t contained zircon in concentrate.

* *Leucoxene and rutile are planned to be combined into a finished HiTi90 product.*

Product prices, grades, recoveries, and costs provided in the Estimation Report were used to identify economically mineable blocks to be included in the Ore Reserve estimate.

An exchange rate of 0.72 was employed to convert the United States dollar (USD) product pricing to the equivalent Australian dollars (AUD) for utilization in the Australian cost centred economic feasibility assessment.

The Ore Reserve estimate as of 8 April 2019, reported in accordance with the JORC Code 2012 Edition[1], is stated in Table 1.1, and reported to a nominal cut-off grade of 1.0%THM, although all internal waste within the mineralized zone was included in the Ore Reserve.

Table 1.1 Ore Reserve estimate from pit designs estimated as of 8 April 2019

| Reserve Category | Material Mined | | | | |
|---|---|---|---|---|---|
| | Ore (Mt) | Waste (Mt) | Waste:Ore (ratio) | Heavy Mineral (Mt) | Heavy Mineral (%) |
| Proved | 105.64 | 79.26 | 0.75 : 1 | 1.16 | 1.10 |
| Probable | 417.50 | 295.50 | 0.71 : 1 | 4.66 | 1.12 |
| Total | 523.14 | 374.75 | 0.72 : 1 | 5.83 | 1.11 |

*Note totals may deviate from the arithmetic sum due to rounding

The Ore Reserve is the part of the Mineral Resource which can be economically mined by open cut mining methods. All the mineralized horizon was included within the ore horizon; therefore, no additional dilution of the Mineral Resource model was included, and no ore loss was assumed. All the Mineral Resources intersected by the open pit mine designs, classified as Measured were classed as Proved Ore Reserves after consideration of all mining, metallurgical, social, environmental, statutory and financial aspects of the Project. All the Mineral Resources intersected by the open pit mine designs, classified as Indicated were classed as Probable Ore Reserves after consideration of all mining, metallurgical, social, environmental, statutory and financial aspects of the Project.

The sections in this report that relate to the Strandline Ore Reserves are based on information compiled under the direction of Mr Adrian Jones. Mr Jones is a Member of the Australasian Institute of Mining and Metallurgy and is employed by AMC. Mr Jones has sufficient experience

[1] Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, The JORC Code 2012 Edition. Effective 20 December 2012 and mandatory from 1 December 2013. Prepared by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australasian Institute of Geoscientists and Minerals Council of Australia (JORC).

relevant to the style of mineralization and type of deposit under consideration to qualify as a Competent Person as defined in the JORC Code.

Non-mining modifying factors for the Ore Reserve estimate are drawn from contributions provided by various sources. Significant contributors to this report are identified in Table 1.2, together with their area of contribution.

Table 1.2 List of experts for the Strandline Resources Limited Ore Reserve estimate

| Modifying Factor | Responsible Group | Responsible Person/s |
|---|---|---|
| Environmental, land access & community | AECOM | Jamie Shaw |
| Geology & Mineral Resource | IHC Robbins | Greg Jones |
| Hydrology & water management | AECOM | Robert Wallis |
| Tailings management | Knight Piésold | Brett Stevenson |
| Geotechnical | AMC Consultants | Ruth Stephenson |
| Mining & Ore Reserve | AMC Consultants | Adrian Jones |
| Metallurgy | GR Engineering | Bill Gosling |
| Process plant & mine infrastructure | GR Engineering | Bill Gosling |
| Marketing /product sales /financial analysis and product transportation infrastructure | Strandline Resources | Flavio Garofalo |

Each of the individuals named in Table 1.2 has consented to the application of their study findings for the purpose of estimating an Ore Reserve.

Ore Reserve certificates are attached in Appendix A.

# 2 JORC Code, 2012 Edition – Table 1 (Section 4)

## 2.1 Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| *Mineral Resource estimate for conversion to Ore Reserves* | • *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.*<br>• *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.* | • The Mineral Resources used as a basis for the conversion to Ore Reserves are located primarily on the Coburn Pastoral Lease, near the coastal town of Denham and 240 km by sealed road to the regional port city of Geraldton, that will be servicing the project.<br>• The Mineral Resource for Coburn was estimated and reported by Greg Jones of IHC Robbins (IHCR) in November 2018 and reported by Strandline Resources Limited (Strandline) to the Australian Stock Exchange on 14/02/2019.<br>(https://www.asx.com.au/asxpdf/20181114/pdf/44087hz8ff7zs3.pdf)<br>• The mineral resource model is a 3-dimensional block model reported at a cut-off grade of 0.8% total heavy minerals (THM).<br>• The majority of the Coburn Amy South and North Coburn mineral resource is situated along a series of NNW trending dunes extending over 28 km of which 18 km has been evaluated as part of this Ore Reserve. The mineralization has been drilled to a depth of 50 m with most of it occurring between 20 m and 30 m depth.<br>• The high value mineral assemblage is dominated by ilmenite, zircon, leucoxene and rutile.<br>• Mineral Resources are reported inclusive of Ore Reserves. |
| *Site visits* | • *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*<br>• *If no site visits have been undertaken indicate why this is the case.* | • The Competent Person is Mr Adrian Jones, Principal Mining Engineer from AMC Consultants Pty Ltd (AMC), who visited the site on 20 November 2018 for familiarization with the deposit, site topography, environmental conditions, local infrastructure and for discussions with project personnel.<br>• No major impediments to the development of the deposit were recognized during the site visit. |
| *Study status* | • *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.*<br>• *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.* | • The Coburn Project (Project) has been the subject of a pre-feasibility study (PFS), definitive feasibility study (DFS) since 2004 and a number of subsequent updates have been undertaken since the inception of the Project in 2000. The Project is approved for development with key licences and environmental approvals in place. An update to the original DFS is currently in progress in order to expand the detailed understanding of the technical, commercial and other parameters relevant to the commissioning of the Project. These updated DFS input parameters have been used as the basis of the Ore Reserve estimate. AMC completed an |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | update to the mining study in April 2019 to a ±10% level of accuracy to identify production requirements and mining costs.<br>• The Competent Person is satisfied that the level of study is appropriate to support the quoted Ore Reserves. |
| *Cut-off parameters* | • *The basis of the cut-off grade(s) or quality parameters applied.* | • The Ore Reserve estimate as at 8 April 2019, reported in accordance with the JORC Code 2012 Edition 2, is stated in Table 1.1<br>• The initial optimization studies were unconstrained applying relevant and appropriate industry standard pricing for mining/processing and forecast mineral pricing to derive operating costs and expected revenues. These were applied to the block model to create a number of potential pit shells.<br>• The optimal pit shell was selected, and subsequently modified to consider the non-selective bulk mining method that also includes zones of low-grade ore.<br>• The resulting mine design and schedules have been used for this Ore Reserve.<br>• A nominal indicative economic cut-off grade of 1.0%THM was adopted. |
| *Mining factors or assumptions* | • *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).*<br>• *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.*<br>• *The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc), grade control and pre-production drilling.*<br>• *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).*<br>• *The mining dilution factors used.*<br>• *The mining recovery factors used.*<br>• *Any minimum mining widths used.*<br>• *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.*<br>• *The infrastructure requirements of the selected mining methods.* | • Pit optimization was completed on the mineral resource model to define the economic limits of open pit mining. A revenue factor 1 pit shell was used as the basis for pit design. A series of sectional interpretations were then developed to isolate marginal economic grade material at the periphery of the optimized pit shell.<br>• Ore is proposed to be excavated from open pits with an average depth from surface of 23 m and a maximum depth of 62 m using a mining contractor to operate a Dozer Mining Unit (DMU) push-to-feeder mining method or Excavator Mining Unit (EMU) where the unit is mounted on tracks and moves in parallel with the excavator traversing the mine face. Overburden horizons present in varying depths and will be spot campaigned, by dozer pushing waste into adjoining areas in order to ensure availability of sufficient ore floor stock to maintain continuity of ore supply to the processing plant. No drill and blast is required. Ore is transported to the ore processing facilities via mobile DMU or EMU fitted with pump stations which slurry the ore via moveable pipeline to the plant.<br>• Geotechnical assessment was completed by AMC Consultants, with the calculation of batter face angle for varying depths of excavation being incorporated into the pit design to align with appropriate provision for factors of safety.<br>• Grade control is not possible by visual identification of ore and waste. Grade control will be reliant upon in-pit sampling and survey control.<br>• Major assumptions used for pit optimization were pit slopes defined by geotechnical analysis, processing recoveries defined from metallurgical |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | test work and product prices supplied by Strandline using TZMI industry accepted reference prices.<br>• Mining dilution of 0% was assumed, as all material within the mineralized horizon is treated as ore and the bulk nature of the selected mining operations approximating to dilution through the mining of both ore and waste blocks throughout the elected mining horizon.<br>• Mining recovery of 100% was assumed, as all material within the mineralized mining zone was treated as ore and edge losses are expected to be minimal.<br>• Inferred Mineral Resources were treated as waste in all mine planning and ore reserve estimation work.<br>• Mineral processing infrastructure required for the project will include DMUs and EMU to take feed from the pit and transfer sized feed to the wet concentration plant (WCP), before final separation into component product streams in the mineral separation plant (MSP).<br>• Mining infrastructure will include office accommodation, mobile plant workshops and warehouse. This infrastructure will be supplied by the mining contractor.<br>• Support services infrastructure will include office accommodation, fixed plant workshop, warehouse, mine industrial area, power generation and distribution infrastructure, and water bores, dams and related water supply infrastructure. This infrastructure is owned by Strandline. |
| *Metallurgical factors or assumptions* | • *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.*<br>• *Whether the metallurgical process is well-tested technology or novel in nature.*<br>• *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.*<br>• *Any assumptions or allowances made for deleterious elements.*<br>• *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.*<br>• *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?* | • The metallurgical processes for the project were developed by GR Engineering Services (GRES) following metallurgical test work and analysis. The plant was designed to be able to process at the rate of 23.4 Mt/yr run-of-mine ore.<br>• A bulk sample was obtained by a controlled drilling program executed across the Coburn Project area. A total of 23.4 t of bulk sample was collated to ensure that a near expected reserve grade of 1.1% to 1.2% was obtained. The actual result returned for the bulk sample was 1.19% HM grade, confirming its suitability as a representative sample for the testwork.<br>• The source of product recoveries was obtained directly from the metallurgical testwork program. WCP recoveries were assumed at 83.5% for heavy minerals, 86.8% for ilmenite, 87.7% for leucoxene, 87.7% for rutile (the test program combined leucoxene and rutile to make the saleable product HiTi90), 98.2% for zircon and 55% for light heavies. MSP recoveries into saleable product including contributions from all mineral streams into those saleable products were assumed at 103.9% for ilmenite, 55% for premium zircon, a further 43.9% of the contained zircon into concentrate, 77.6% of the leucoxene to HiTi90 product and 76.6% of the rutile to HiTi90 product. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | • The technology proposed is industry standard and comprises two Dozer Mining Units (DMUs) that are fed by dozers pushing within a 100 m x 100 m mining block. A third unit is track mounted and fed by excavator (Excavator Mining Unit or EMU). It also doubles as an overburden mining unit when it is not being utilized for mining. Two of the three units are operating in the mining mode at any time in order to maintain the design throughput. The units are fitted with a screen to remove coarse oversize.<br>• Slimes content at Coburn was deemed to be sufficiently low to allow it to travel with the feed through the concentrator. Its characteristics has it reporting to the tails and is separated at the tails stackers and returned to the thickener for coagulating with flocculent prior to co-disposal with the tails.<br>• The concentrator comprises of conventional multi-stage spirals, screens and other conventional wet gravity separators.<br>• The MSP also comprises of conventional electrostatic, magnetic and gravity separators.<br>• The final products produced were targeted products based on market requirements (previous contracts, recent discussion with potential customers). They are main stream in potential application and align in specifications with the mineralogy evaluation of the resource. The combination of the leucoxene with the rutile into HiTi90 is a relatively common combination aligning itself to a market segment requiring this grade. |
| *Environmental* | • *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.* | • The Coburn Project was subject to a Public Environment Review (PER) that commenced in 2004 with approval to implement the Proposal received in May 2006 (Ministerial Statement No 723), subject to fulfilling a number of Conditions.<br>• In compliance with the Conditions, the Company developed a suite of management plans (16 in total), covering amongst others flora, fauna, vegetation, dust, waste, bush fire, radiation, Aboriginal heritage, rehabilitation, hydrocarbon, groundwater mounding and mine closure.<br>• A number of the management plans have been implemented and are required for baseline data studies and also prior to or during construction and mining activities commencing. Post mining commencement, the Management Plans are all required to be implemented and reported back to the relevant authorities at quarterly, half yearly or on a yearly basis.<br>• The project is located in an environmentally sensitive area lying immediately outside the eastern boundary of the Shark Bay World Heritage Property, and the project has achieved environmental approval under the Federal Environment Protection and Biodiversity Conservation Act 1999 and the State Environmental Protection Act 1986. |

| Criteria | JORC Code explanation | Commentary |
| --- | --- | --- |
| | | • There are no additional Environmental Approvals required or that cannot be reasonably amended or sought within the proposed mine schedule timeframe that will prevent the development of the declared Ore Reserves of the Coburn Project.<br>• The waste from the wet concentrating process is considered non-acid forming (NAF), inert and non-deleterious to store. It consists primarily of quartz sand and a small portion of clay. Approximately 1% of the mass has been removed during the mineral separation process with the remainder comprising quartz and clay.<br>• The waste will be pumped back into the voids created by mining the ore body, contoured, covered by stockpiled sub-soil and top soil and re-seeded. This rehabilitation has been approved under the PER. |
| *Infrastructure* | • *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided or accessed.* | • The majority of the project occurs on land owned by the Company, with the balance of the land holding subject to access finalization. The land is a pastoral lease and there is little infrastructure on site.<br>• The project is situated approximately 240 km by main road (heavy haulage highway class) from the major port city of Geraldton. There is a 45 km access road to the main site, which will be upgraded as part of the project.<br>• As part of the project, the Company is upgrading the North West Coastal Highway intersection and the main site access road. A 200-person village will be constructed as part of the project.<br>• The majority of equipment utilised in the project is sourced from reputable suppliers within Australia.<br>• Power will be supplied by liquified natural gas (LNG) fired generators. The LNG will be trucked in from the nearby Dampier to Bunbury pipeline.<br>• The Midwest region has a long history of mineral sands mining and skilled labour from the local region is anticipated as the main source for labour and construction workers. |
| *Costs* | • *The derivation of, or assumptions made, regarding projected capital costs in the study.*<br>• *The methodology used to estimate operating costs.*<br>• *Allowances made for the content of deleterious elements.*<br>• *The source of exchange rates used in the study.*<br>• *Derivation of transportation charges.*<br>• *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.*<br>• *The allowances made for royalties payable, both Government and private.* | • The Capital Costs utilized in the study are supplied from the near completed DFS study being prepared by the Company's engineering contractor, GR Engineering Services, and have been sourced from a combination of first principles, databases and supplier quotes to an accuracy of ±10%.<br>• Mining, tailings and slimes management cost assumptions were determined from first principles for the mining plan (supported by contractor quotations) based on contract mining using a dry mining methodology appropriate for the deposit.<br>• Processing cost assumptions were determined by considering the physical flows and unit consumptions determined from the mining study, metallurgical test work and engineering design. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | • Support services costs were developed from first principles and quotations from suppliers as applied to the engineering design.<br>• Transport and logistics cost assumptions were obtained from contractor quotations as applied to the transporting of the products and material in the planned form.<br>• Port handling and ship loading cost assumptions were obtained from the standard charter of rates obtained from the Mid-West Ports Authority, as applied to the transporting of the products and material in the planned bulk form through the Geraldton Port facilities.<br>• General and administration cost assumptions were developed from first principles for manning schedules, labour work rosters, materials, equipment and other administration related costs such as communications, IT, consultants and recruitment.<br>• Environmental management, costs were developed from first principles based on a build-up of labour work, materials, equipment and other administration related costs.<br>• Government royalties are currently set at 5% of product revenue in line with current WA legislation.<br>• The ore reserve is situated in the great majority on the Coburn pastoral lease which is wholly owned by Strandline. As such no private compensation for the product is payable to a third party.<br>• An AUD/USD exchange rate of $A0.72 was assumed for the LOM based on the last 6 months average price data. |
| *Revenue factors* | • *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.*<br>• *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.* | • Ilmenite, leucoxene, and rutile will be sold as final products, with the remainder of the concentrated minerals sold as a high-grade zircon concentrate.<br>• Product prices were assumed from reputable mineral sands market consultant TZMI pricing forecasts for comparable minerals and in-house market intelligence obtained from discussions with prospective customers.<br>• Product prices were assumed to be:<br>- Ilmenite price US$269/t in product average over LOM.<br>- Leucoxene price US$894/t* in product average over LOM.<br>- Rutile price US$1,118/t* in product average over LOM.<br>- Zircon price US$1,469/t in product average over LOM.<br>- Zircon price US$1043/t contained zircon in zircon concentrate product, average over LOM.<br>*Leucoxene and rutile are planned to be combined into a finished HiTi90 product. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| *Market assessment* | • *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.*<br>• *A customer and competitor analysis along with the identification of likely market windows for the product.*<br>• *Price and volume forecasts and the basis for these forecasts.*<br>• *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.* | • The supply demand analysis was obtained from the latest TZMI February 2019 quarterly report that discusses the current trend. TZMI report that the market is coming into a shortfall in supply for mineral sands products in general.<br>• Consumption of the key products is expected to generally grow in accordance with world GDP over time. Many existing competitors' operations are in a very mature phase with some approaching mine completion. This supports the forecasting of at least a short-term supply deficit for the Coburn products. Pricing for the titanium (ilmenite and HiTi90) and zircon products has been sourced from TZMI's pricing forecast in the same report.<br>• The mineral products and analysis generated from several generations of metallurgical testwork from the Coburn deposit including the most recent program have been provided and subjected to Customer review and analysis for suitability across a number of relevant applications. The products will conform to Customer specification with some offtake agreements previously agreed (now expired) with potential customers.<br>• A number of Offtake discussions for Coburn product are progressing and confirm that the products are in demand. |
| *Economic* | • *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.*<br>• *NPV ranges and sensitivity to variations in the significant assumptions and inputs.* | • Discounted cash flow modelling and sensitivity analysis has been completed to evaluate the economic performance of the Ore Reserve.<br>• Discount rate of 8% applied, on real, ungeared forecast cashflows.<br>• The Ore Reserve estimate is based on work completed to at least a DFS level of accuracy with inputs for mining, processing, general and administration, sustaining capital and contingencies scheduled and costed to generate the initial Ore Reserve cost model.<br>• The Project cost model based on the Ore Reserve returns a positive NPV based on assumed commodity prices and the Competent Person is satisfied that the project economics that support the statement of the Ore Reserves retains a profit margin against reasonable future commodity price movements. |
| *Social* | • *The status of agreements with key stakeholders and matters leading to social licence to operate.* | • The first 20 years of the Ore Reserves mine life is located on Coburn Station which is 100% owned by the Company. From year 20 to year 22.5 the Ore Reserves are in Hamelin Pastoral Lease. An agreement will need to be in place with the owners of Hamelin prior to any mining activities. The proposed mining schedule of the ore reserves located on Hamelin will allow reasonable lead time to seek a mutually acceptable arrangement.<br>• The Company has agreed to de-stock Coburn Station for no less than year to allow vegetation to recover.<br>• A Native title mining agreement has been completed with the recognized native title claimant Nanda Native Title group that relates to the project area. The Company has committed to working with the Claimant group |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | upon commencement of mining activities in relation to providing employment and other opportunities. A Native title mining agreement will need to be completed with the Malgana Claimants to access ore reserves beyond the current granted Mining Licences. The proposed mining schedule of the ore reserves will allow reasonable lead time to execute a Mining Agreement with the Malgana Traditional Owners.<br>• The Company has committed to contributing funds and support scientific research into the ecology of the Shark Bay World Heritage Property within three years of ground disturbing activities.<br>• The Company has also committed to improving fencing between the World Heritage property boundary and Coburn Station.<br>• The Company has also committed to contributing funds to the Shark Bay Interpretive centre located in Denham within one year of construction commencing.<br>• The Company has defined a conservation offset in which it has relinquished the mineral and pastoral rights for an area of approximately 4,200 ha of remnant vegetation that is contiguous to the Zuytorp Nature Reserve so it can be managed for conservation purposes.<br>• The Company has also committed to contributing funds to the Carnarvon Artesian Basin Rehabilitation project during the life of the project. |
| *Other* | • *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:*<br>• *Any identified material naturally occurring risks.*<br>• *The status of material legal agreements and marketing arrangements.*<br>• *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.* | • A comprehensive Risk Assessment has been carried out. No material naturally occurring risks have been identified that would affect the long-term quantum of the Ore Reserves. Short term natural risks including rain events are not expected to impact the estimation or classification of the Ore Reserves.<br>• The Ore Reserves for the first 20 years of production have been estimated over granted Mining Licenses that are issued for an initial period of 21 years. ML 09/102 to 106 expire on the 24/10/2025 while ML 09/111 and ML/112 expire on the 18/07/2026. These Mining Licenses can be renewed for an additional 21 years upon expiry provided rent is paid before or with the renewal application form.<br>• Ore Reserves have also been estimated over granted Retention Licence R09/03. There is a reasonable expectation that the ore reserves scheduled to be mined in years 20 to 22.5 located on the R09/03 will be converted to Mining Licences within the timeframe for development.<br>• Any additional approvals required for the project as at this stage are considered due process with clear pathways to gain approval. These include modifications to the Works Approval submitted to DWERS and an updated Mine Proposal to be submitted to DMIRS. A water license application to abstract 18 Gigalitres per annum has previously been approved by DWER. Once Financial Investment Decision is declared a new application to abstract 18 Gigalitres per annum will be submitted to DWER. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | Discussions and correspondence from DWER have indicated that the approvals can be re-gained once the application is assessed and baseline water level monitoring has been submitted.<br>• Years 20 to 22.5 mine production is located on the Hamelin Pastoral Lease. The relationship with the Hamelin owner is considered amicable, with an existing Land Access Agreement on foot for exploration activities covering the Exploration Licences. With the completion of the first 20 years mine production from Coburn Station this will allow reasonable time to seek an agreement with Australian Bush Heritage, the current owners of Hamelin on access, mining and rehabilitation plans upon completion of mining activities. Similar to Coburn, Hamelin Pastoral Lease has been de-stocked and is no longer considered an active pastoral lease. |
| *Classification* | • *The basis for the classification of the Ore Reserves into varying confidence categories.*<br>• *Whether the result appropriately reflects the Competent Person's view of the deposit.*<br>• *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).* | • Ore Reserves classified as Proved were derived from Measured Mineral Resources and those classified as Probable were derived from Indicated Mineral Resources.<br>• The classification reflects the Competent Persons view of the deposit.<br>• No Probable Ore Reserves were derived from Measured Mineral Resources. |
| *Audits or reviews* | • *The results of any audits or reviews of Ore Reserve estimates.* | • There have been no reviews of the Ore Reserve. |
| *Discussion of relative accuracy/ confidence* | • *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.*<br>• *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.*<br>• *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.*<br>• *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.* | • The Competent Person considers that the classification of the Ore Reserves fairly reflects the underlying confidence in the Modifying Factors used to estimate the Ore Reserve.<br>• While the project is sensitive to product prices, it is relatively insensitive to changes in operating costs, confirming the Competent Persons opinion in the robustness of the Ore Reserve.<br>• Drill spacing, and the nature of the estimation process indicates that estimates are a global estimate.<br>• There have been no production results from the project to compare against forecast production and cost estimates. |