



THUNDERBIRD MINERAL SANDS PROJECT

SCOPE OF WORK

Sheffield Resources is developing the Thunderbird Mineral Sands Project located on the Dampier Peninsula about 65 km west of Derby, and 25 km north of the sealed Great Northern Highway, approximately half way between Derby and Broome, Western Australia. The Project consists of a large-scale zircon and ilmenite open cut mine and mineral separation plant including a low temperature roast process to the ilmenite product to enable removal of iron impurities and obtain a higher quality final ilmenite product. It is a long life mining project with a two-phase implementation commencing at a wet concentrator plant feed rate of 7 million tonnes per annum ramping up to 14 million tonnes per annum with a predicted mine life of 40 years. The Project has a reserve of 680 million tonnes grading at 11% heavy mineral.

GR Engineering has entered into an EPC Contract for the design and construction of the mineral separation plant. The commencement of work under the Contract remains subject to GR Engineering Services being issued with a full notice to proceed, which is dependent on Sheffield satisfying remaining financing conditions ahead of a final investment decision being made to pursue the development of the Project. The Project delivery method for the plant

will be a performance based, fixed price, turnkey EPC Contract with committed delivery dates for Contract deliverables.

The GR Engineering scope of work for the Project will include the design, engineering, procurement, construction and commissioning of the mineral separation plant and associated facilities. The mineral separation plant will use a wet gravity separation process to produce a heavy mineral concentrate, followed by a magnetic separation process to separate the magnetic ilmenite and non-magnetic zircon minerals. The magnetic and non-magnetic concentrate is further processed using electrostatic separation techniques to produce five key products; LTR Ilmenite, Hi-Ti88, Premium Zircon, Zircon concentrate and Titano-magnetite. The final ilmenite bulk product will be loaded directly into trucks for bulk shipment. The other products will be bagged into two tonne bulk bags for global export.

Site work is scheduled to commence shortly after the wet season in 2019 and continue through to 2021 when commissioning of the mineral separation plant will be completed.

Commodity: Mineral Sands
Region: Australia
Client: Sheffield Resources (ASX:SFX)
Location: Dampier Peninsula,
Western Australia

Award date: November 2018
Project type: Greenfields, lump sum contract, design and construct
Project manager: Geoff Tanner
Process manager: Richard Fagan