

Contract Mining Services for the Rössing Life of Mine Extension (LoME) Project.

Scope of Work;

Rössing Uranium Limited (RUL) is engaged in a Feasibility Study (FS) to extend the Life of Mine from 2026 by another 10 years, in line with its recently approved Mine Licence (ML28) extension to 2036. The FS will be completed by mid-2022 to inform an investment decision by the end of 2022 to prepare for a 2025 start date.

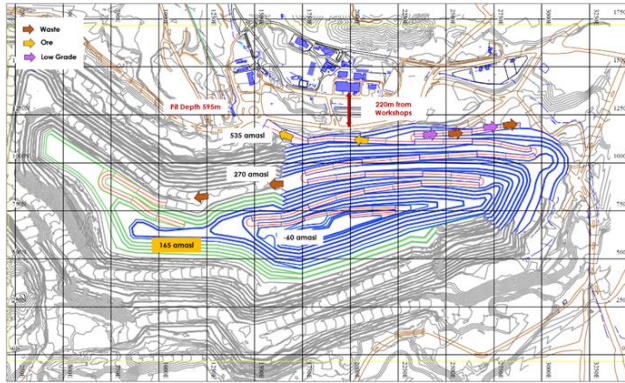
The LoME Project is underpinned by the Phase 4 mining pushback which is the lowest cost extension option available to RUL. The majority of the current HME fleet reaches the end of its life by 2026 and will need replacing.

RUL makes use of conventional open pit mining methods, with ore and waste mining blocks being drilled (311mm holes) and blasted in 15m benches, followed by loading (PC5500 face shovels) and hauling (180t payload trucks). Ore, low-grade and waste material is hauled to the primary crusher, ROM stockpiles, low-grade stockpiles, or waste rock dumps respectively. The mine operates 365 days per annum on a 24-hour basis with a 4-panel shift roster (3 x 8-hour shifts – backward rotating). Local site conditions are outlined in the table below:

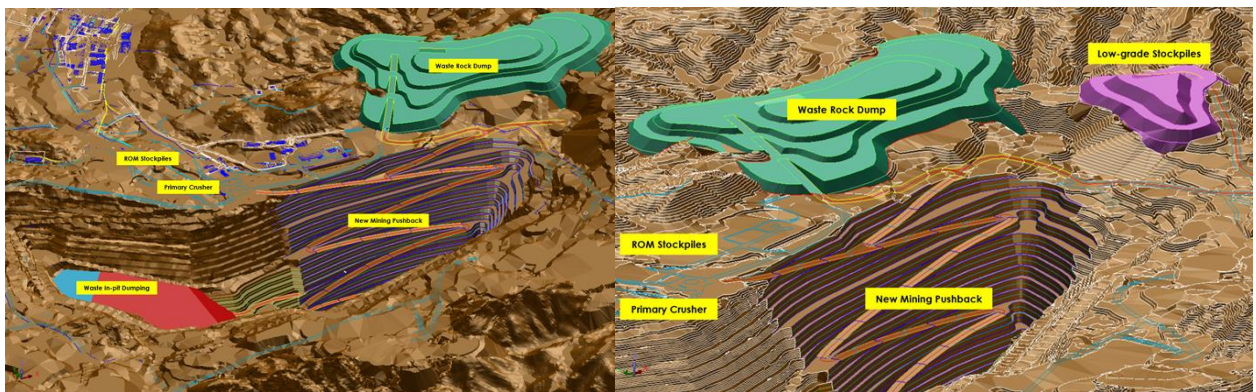
Parameter	Unit	Value
Height above sea level	m	± 515
Max. temperature	°C	45
Min. temperature	°C	5
Density of ore material to dig (in-situ)	t/m ³	2.70
Density of ore material to dig (loose)	t/m ³	1.77
Bench height	m	15m
Commodity		Uranium
Material to dig		Ore, low grade &
Diggability		Average
Abrasiveness		Average to High
Fragmentation		Average

This Scope of Work is based on a pit designed for 100 tonne payload haul-trucks as deemed more suitable for such a narrow pushback, the parameters of which are shown below.

All suppliers are requested to submit responses for 100 tonne trucks as a minimum (for ease of comparison) but alternative size equipment can be submitted as a complete and separate response if a supplier feels there is a significant benefit to considering this.



Parameter	Unit	Value
Minimum mining width (20m + Single Ramp Width)	(m)	30.0
Minimum pushback width	(m)	55.0
Dual ramp width	(m)	26.0
Single ramp width	(m)	19.0
Minimum turning circle	(m)	10.0
Ramp Gradient	(1:#)	10.0



Note: From bench 16 (270m amsl), Phase 4 will connect with existing haul-roads to the west and all waste material will be dumped in the NW corner of the Pit to reduce cycle times.

A formal Tender Process is being followed to secure a suitable Mining Contractor to supply a full mining service that includes:

- In-pit drilling, blasting loading and hauling of a total 178Mt over 12 years (2025 to 2036 inclusive).
- One year of pre-stripping the top 60m (7Mt of material) which overlaps with the final year of RUL Mining at the bottom of the pit (2025).
- Eleven (11) years of production totalling 171Mt, averaging 15.5Mtpa Mined (ore and waste) but peaking up to 24Mtpa.
- RoM stockpile re-handle of 72Mt combined with 29Mt of direct feed ex-pit ore to supply the Primary Crusher at a consistent rate of 9.2Mtpa or 101Mt over 11 years.

- Re-handle of other materials as required to support in-pit activities (0.5Mt of aggregate and 2.5Mt of sand over the 11 years post pre-stripping).
- Total tonnes moved over the 12-year period of 253Mt (average 21Mtpa but peaking up to 31Mtpa).

Limitations and constraints to be considered and catered for:

- Proposed shift system to meet a 24/7 Continuous-Ops operation, 365 days a year with the exception of aggregate and sand supply which could be a week-day operation during daylight hours.
- Boulders larger than 1.0m must be secondary blasted / broken before tipping into the primary crusher.
- Minimum pushback width is 55m.
- Current Bench height for drilling and blasting is 15m which could be reduced to 10m for smaller equipment or loaded in two lifts of 7.5m each.
- Minimum bench sink rate of 60m per year.

The envisaged timeline for these services is as follows:

- 2023 - Contract Award for the full term.
- 2025 - Site establishment and Pre-Stripping of the top 60 metres.
- 2026 to 2036 - Production including in-pit mining and ex-pit re-handle.

Safe supply of Mined and Moved tonnes in the required volumes and of the correct size specifications delivered to the point of use to achieve the following benefits:

- Mined tonnes as per monthly Pit sequence and schedule to deliver ex-pit ore volumes.
- Moved tonnes as required to meet the Daily Ore Plan (DOP) from a combination of direct feed (ex-pit) and re-handle (ex-RoM stockpiles);
- Delivery of the DOP to Primary Crushers in the correct blend (Grade and Calc-Index) to achieve annual plant feed of 9.2Mtpa.
- Feed to the Primary Crushers to be <1.0m in diameter to prevent bridging.
- Supply of Aggregate and Sand from on-site sources, of the required specifications in the required quantities.

- Supply of Dust-suppression agents to site for mixing with on-site water supply for application to permanent roads.
- Road building and maintenance of permanent roads using aggregate, river sand and dust suppression agents.
- Dressing of temporary roads and loading areas with tailings sand to minimise cycle times and tyre damage.
- Dressing of radiometric scanner positions with river sand to reduce background readings within limits.

The scope can be split into two parts:

- A: In-pit mining which entails drilling; blasting; loading and hauling.
- B: Ex-pit re-handle which entails only loading and hauling.

Summary physicals for the 12y contract term are shown below:

Scope A – Mined Tonnes

Period	Ore Material	Low Grade Material	Waste Material	Total Mined
	Mt	Mt	Mt	Mt
2025	0.00	0.00	6.84	6.84
2026	1.86	0.06	14.94	16.85
2027	3.71	0.09	16.72	20.52
2028	5.15	0.17	18.28	23.60
2029	9.44	0.79	12.85	23.07
2030	8.85	1.60	9.76	20.21
2031	9.07	1.63	4.34	15.04
2032	8.63	1.00	2.09	11.73
2033	8.46	1.07	2.53	12.07
2034	8.20	0.60	1.77	10.57
2035	6.90	0.21	2.89	10.00
2036	4.23	0.17	2.99	7.39
Total	74.51	7.37	95.99	177.87

Scope B – Re-handle Tonnes

Period	ROM Re-handle	Stemming Aggregate	Road Aggregate	River Sand	Tailings Sand
	Mt	Mt	Mt	Mt	Mt
2025	Pre-stripping only				
2026	8.46	0.00	0.00	0.00	0.00
2027	7.72	0.01	0.06	0.02	0.35
2028	7.14	0.01	0.05	0.02	0.28
2029	5.65	0.01	0.04	0.01	0.26
2030	5.70	0.01	0.04	0.01	0.24
2031	5.72	0.01	0.04	0.01	0.23
2032	5.75	0.01	0.04	0.01	0.23
2033	5.82	0.01	0.04	0.01	0.22
2034	5.92	0.01	0.03	0.01	0.21
2035	6.44	0.01	0.03	0.01	0.18
2036	7.51	0.01	0.03	0.01	0.18
Total	71.80	0.10	0.40	0.13	2.38

Details of the full scope including the bill of quantities by material type per area will be provided in a Schedule of Rates for the RFP and RFQ stages of the Tender.

- **Aggregate** - Screened to 15-to-30-millimetre size (all dimensions) with minimal fines.
- **River sand** – as generated but with oversize material (>300mm) removed at source.
- **Tailing’s sand** – as generated from source

Material properties

Material	In-situ Density (t/m ³)	Loose Density (t/m ³)	Moisture Content (%)	Average Bond Work Index (kWh/t)	Bond Work Index (kWh/t) Range
Ore and Waste	2.70	1.77	0.00	13.70	10.00 -
Aggregate	-	2.00	2.00	-	-
Tailings Sand	-	1.90	0.50	-	-
River Sand	-	1.95	0.50	-	-

- **Dust Control** - the Contractor shall ensure that dust suppression in all working areas, including access ramps, haul roads, stockpile areas, access roads and mobile crushing plant areas is adequate at all times for safe and efficient conduct of the Scope of Work. If in the opinion of the Client, the dust levels are too high for safe operation, the Client may direct that the Contractor modifies or stops its operations to improve dust suppression or reduce dust generation.
- **Lighting** - as the mining operation will be a 24-hour shift operation, mobile lightning facilities need to be placed by the Contractor around the loading areas. The Client will maintain fixed lighting points at the ROM stockpiles; Lube Bay; Explosives Storage areas and the Primary Crusher.
- **Communications** - the Contractor shall provide the 2-way radio sets (fixed or mobile) for equipment and vehicles and at the Contractor's Site Office.

The Contractor will supply of all materials, equipment, facilities and services, supervision, and labour necessary to carry out mining operations in accordance with this scope.

In-pit mining involves the drilling, blasting, loading and haulage of ore and waste material from the Phase 4 pushback to four (4) locations:

- Primary Crusher.
- RoM Stockpiles.
- Low Grade (LG) Stockpiles.
- Waste Dumps.

Ex-pit re-handle involves the load and haul of material from the ROM stockpiles to the Primary Crusher as well as the supply of aggregate and sand for road maintenance and blast-hole stemming

Specifically, the contractor is required to perform the following activities:

- Construction of new roads and maintenance of existing roads including dust suppression.
- Construction and maintenance of all necessary bunds drains and ore stockpile pads.
- Drilling and blasting of all material – assume no free digging material.
- Loading and hauling of overburden & waste material to the Phase 4 waste dump and later (below 270m amsl) in-pit waste dump.
- Loading and hauling of ore to the Primary Crusher (direct feed) or RoM stockpile (for later re-handle) as directed by the Client.

- Maintenance of the RoM ore stockpile to cater for blending requirements as per the client's design at the designated area.
- Maintenance of the Low Grade and Waste dumps as per the client's design at the designated areas.
- Sorting and secondary breakage of oversized ore material (>1.0m) in the pit and at the RoM stockpile before loading for crusher feed. A 5% oversize portion is assumed.
- Minor dewatering works including the excavation of sumps, pumping and provision of drains in and around the pit.
- In pit water handling as necessary.
- Maintenance of own equipment.
- Data collection as required by the Client for production reporting and contract management.
- Aggregate (15 to 30mm) for road building and blast-hole stemming:
 - Supply of screened aggregate to the Pit from either an off-site source or an on-site crushing plant (located near a waste rock dump);
 - Delivery of aggregate to place of use and stockpiled or directly applied (e.g., onto roads or into charged blast-holes);
- Sand for road building and dressing:
 - Recovery of sand from on-site sources within 5km of where it will be used.
 - Delivery of tailings sand (95%) and screened river sand (5%) to place of use, either stockpiles or direct application.

The contractor will determine the equipment to be used and maintained by them. The proposed equipment list should cover the following:

- Production drills (minimum of 2) capable of drilling 165mm holes or larger. These should also be able to drill a double/ triple bench pre-split of 30m depth at angles up to -80 degrees.
- Bulk explosive Mobile Manufacturing Units (minimum of 2) for charging of the blast-holes with an emulsion/prill based explosive of varying ratios (to cater for wet holes where required);
- Explosive vehicle(s) with a secure load box for transporting primary and secondary explosives to the drill patterns for priming the blast-holes.
- Track mounted face shovel (minimum of 2) that can safely load trucks from a 7.5m to 15m face in the pit.
- Tyre based FEL (minimum of 2) for re-handling that can safely load a 7.5m to 15m face at the RoM stockpiles and also be used for the supply of aggregate and sand.

- Haul trucks of 100 tonne payload or similar (matched to the loading tools).
- Track dozers for maintaining loading faces; stockpiles and dumps.
- Tyre dozers and graders for maintaining haul routes.
- Water carts (minimum of 2) for dust suppression, fitted with sprayers for wetting un-sealed roads and cannons for spraying the loading faces.
- Track mounted excavators (minimum of 2), one fitted with a long reach boom for scaling the high-walls and the other fitted with a rock-breaker for oversize material.
- Mobile aggregate crushing and screening plant (if generating aggregate on-site).
- Equipment for loading stemming aggregate into blast-holes.
- Road building & maintenance fleet for the application of a dust suppression product on permanent ramps. This should include product bowser(s) and road sweeper(s) in addition to the grader(s) mentioned above.
- Service and lube vehicles.
- Supervisory vehicles for management and technical services.
- Busses for transport of contractor staff to site and to the place of work on-site.

Ultimately, success will be measured by the safe delivery of tonnes in the required quantities and at the specified quality.

Contractor KPIs will be determined for Stage 3 of the Tender Process and provided together with draft Contract Terms and Conditions as part of the RFQ detail sent to the shortlisted companies.

RUL will supply the following:

- Technical Services – Survey; Geology; Geotech and Mine Planning.
- Pit and surface infrastructure – power; water and communications.
- Dispatch System (Modular Mining) for equipment and materials.
- Waste rock for aggregate crusher feed (not screened).
- River sand mining location (with some oversize to be moved about)
- Tailings sand mining location.
- Onsite office change house and workshop space.

- 12-year contract from January 2025 to December 2036.
- Continuous-Ops 7 days a week, 365 days a year.

- To fit RUL Shift Pattern (4 panel, backward rotating, 8hour shifts) or suitable alternative as agreed between RUL and the contractor;

RUL will provide the following **Facilities**:

- Non-potable water filling point as required for dust suppression (no charge).
- Potable water to the Contractor Yard facilities (no charge).
- Electric power to the Contractor Yard facilities (no charge).
- Diesel from site storage and filling facilities (Lube Bay). This will only be available for equipment based permanently on-site to ensure consumption for RUL activities is accurately monitored. The Contractor mining rates must be inclusive of diesel (wet rates) and the cost of RUL supplied diesel will be deducted monthly from the Contractor's invoice.
- Waste rock for aggregate crusher feed (not screened).
- River sand mining location (unscreened)
- Tailings sand mining location.
- Primary Crushing operating and maintenance.
- Dispatching of trucks to the Primary Crusher for blending purposes.
- Demarcated stockpile and waste storage areas.
- Security and Access Control (the Contractor will be responsible for the security of his equipment and personnel on-site);
- Emergency response in terms fire and paramedics on site.

RUL will provide the following **Services**:

- Updated Resource and Reserve Models.
- Approved mine design including the pit, rock dumps, roads, ramps, and stockpiles.
- Annual, Monthly, and weekly mine production schedules.
- Survey control including drone capability.
- Geotechnical control and monitoring.
- Grade control demarcation of ore and waste blocks from blast-hole sampling/assaying.
- Radiometric scanners for Cut-Off-Grade determination of truck destination.
- Exploration drilling, sampling, and analysis.
- Hazardous waste collection and disposal facilities (The Contractor must adhere to RUL standards and procedures for safe and responsible disposal).

All services shall be supplied in accordance with all legislative requirements of the Republic of Namibia, according to the Minerals (Prospecting and Mining) Act of 1992, the Minerals Policy, Mine Health and Safety Regulations (10th Draft) issued by the Ministry of Mines and Energy under section 138A of the Minerals (Prospecting and Mining) Act 33 of 1992 as amended, the Environmental Management Act 7 of 2007 and the Labour Act (Act 11 of 2007). Mining operations will be carried out in accordance with all relevant acts and regulations, in particular the following:

- Minerals (Prospecting and Mining) Act 33 of 1992 (MINING AND MINERALS)
- Labour Act 2007
- National Heritage Act, 2004
- Nature Conservation Ordinance, 1975
- Atmospheric Pollution Prevention Ordinance, 1976
- Petroleum Products and Energy Act, 1990,
- Water Act, 1956
- Soil Conservation and Wildlife Conservation Act 2001
- Forest Act, 2001
- Hazardous Substances Ordinance, 1974

The following on-site permit requirements need to be adhered to before Contractor personnel or equipment is allowed on site:

- Medical fitness certificates.
- HSE Induction.
- Light vehicle (“LV”) and equipment authorisation to enter site and perform work.
- Suitable personal protective equipment (“PPE”).

RUL will provide an office with suitable power supply for office equipment. The onus rests with the contractor to protect their equipment. No specific technical or IT specs are required other than for basic administration and record keeping.

This document outlines a formal Tender process which will be undertaken in 4 Stages:

- **Stage 1** - Expression of Interest (EOI) open to all companies who will need to provide proof of capability for a contract of this scope and scale.
- **Stage 2** – Request for Proposal (RFP) to selected companies based on the responses received in Stage 1. Cost detail will be required based on a detailed production schedule that will be made available.

- **Stage 3** – Request for Quotation (RFQ) to shortlisted companies based on the responses received in Stage 2. Additional cost detail will be required based on draft contract terms and conditions that will be made available.
- **Stage 4** – Contract negotiations prior to final award post project approval (end 2022).

Sufficient time is available for procurement of a new fleet as expected for a contract of this length.

The response required from Stage 1 is an **Expression of Interest** from companies who wish to take part in the Tender.

Interested companies should provide details of the following aspects to be considered for Stage 2:

- **SHEQ** – accreditations and performance references of at least two sites.
- **Ownership** - type of business, main centre location and shareholding & BEE status.
- **Capability** – track record of experience with projects of a similar scope and scale and a list of names and references of your top five clients and your top five suppliers.
- **Governance** – details of membership/registration with internationally recognised bodies, details of your bankers or financial institutions and auditors. Copy of your “Code of Ethics”.
- A brief description on why you believe your business will be a valued business partner to Rössing. What differentiates your company or business from other competitors?
- All information submitted will be treated in strictest confidence and will not be made available to any third parties.
- Rössing is not obliged to engage with Companies, Businesses, or individuals on the results of the pre-qualification assessment. If you haven’t received a formal response within 14 (fourteen) days from the closing date of the “Expression of Interest” submission, it is most likely that you have not met some of the pre-qualification criteria.

Responses to be received by RUL no later than 16:00 on Friday 3rd September 2021.

Responses to be provided by email to manie.vanzyl@rossing.com.na OR via hard copy to RUL Corporate Offices in Swakopmund (corner of Hidipo Hamutyenya and McHugh Street).

The following people can be contacted to provide more information:

Section	Name	Contact Details
Mining Operations	Dave Garrard	+264 0811494908

Procurement	Hermanus Van Zyl	+264 0812695576
RUL is not responsible for any costs incurred in responding to this tender.		