

**SCHEDULE A  
SCOPE OF WORK**

**ROAD DUST CONTROL AND ROAD SURFACE  
MAINTENANCE (2018)**

**Rössing Uranium Limited (RUL) – (Company)**



Completed by: Immanuel Haushiku

Date: 31/08/2018

Rio Tinto Company Representative/s: Dave Garrard, Tawona Murasiki

**Scope Title:**

**ROAD DUST CONTROL AND ROAD SURFACE MAINTENANCE**

**Context**

Safe and efficient hauling of run-of-mine material from the Rössing Uranium Limited (the Company) pit requires well-constructed and well maintained haul roads. Haul roads need to be dust and spillage free to ensure visibility and to minimise tyre wear. Road spraying, sweeping and spillage cleaning are some of the activities to ensure haul roads are dust and spillage free.

**Purpose**

This document provides the scope of work for road dust control and road surface maintenance services. It specifies areas to be maintained and outlines some of the activities to be carried out by a Service Provider to provide the Company with a holistic road management service.

**Category of work**

**Category of Contractor (circle):**

1

2

3

**Outcome (complete section A or B, depending on engagement type)**

**Section A - Cat 3 outcome engagement**

**Outcome**

The Service Provider shall deliver smooth, dust free and spillage free haul roads with no potholes, small rocks and undulations. Figure 2 illustrates typical well maintained haul roads.

- The Service Provider must appoint adequate leadership inclusive of a site manager, team leaders, and team members. Each Service Provider may propose its structure, but the final setup will be subject to final discussions with the client
- The Service Provider shall supply transport to and from site for its employees.
- The functions below are part of the day to day activities of the onsite crew/team.
  - 1..1. Dust management works as per costings provided and agreed schedule
  - 1..2. Haul road wearing course maintenance
  - 1..3. Drainage assistance
  - 1..4. Spillage clean up on assigned haul roads and may include in-pit roads
  - 1..5. Pothole repairs
  - 1..6. Wearing course maintenance
- Underfoot conditions will be repaired by the Service provider on all assigned roads and if not

repaired may impact the KPI's of the Service Provider.

- The Service Provider may assist RUL where possible at such additional costs as is applicable, if any for the following:
  - 1..1. Cross-fall (in facilitation capacity and at such additional cost as is agreed between the parties, if any)
  - 1..2. Camber (in facilitation capacity and at such additional cost as is agreed between the parties, if any)
  - 1..3. Super-elevation where required (in facilitation capacity and at such additional cost as is agreed between the parties, if any)
  - 1..4. Small ancillary works identified from time to time
- The Service Provider to also supply a haul road management assessment tool/system. However, RUL has a system of visual measurement that will be applied for performance management and will complement any system the client has.



Figure 1

## Section B - Cat 3 time and materials engagement, or a Cat 1 Engagement

### Task

The following are some of the activities that the Service Provider needs to perform to ensure that roads are smooth, dust and spillage free with no undulations:

- 1.1. Plan and schedule the works so as to meet the required road conditions including:
  - 1.1.1. Grading roads to remove undulations.
  - 1.1.2. Spraying roads with the dust suppressant (Bitumen Base product) daily, depending on traffic, to maintain high quality dust free roads.
  - 1.1.3. Using a high quality binding solution (Bitumen Base Product) to enable roads to withstand the weight of a fully loaded truck with GVM greater than 300 tonnes.

- 1.1.4. Ensuring roads are not slippery.
  - 1.1.5. Fixing potholes before they deteriorate.
  - 1.1.6. Sweeping roads daily to remove fines and small rocks.
  - 1.1.7. Removing spillage from roads with suitable equipment.
  - 1.1.8. Operating within the given budget.
  - 1.1.9. Ensuring continuous improvement by carrying out projects to minimise costs while maintaining high quality roads.
  - 1.1.10. Producing monthly performance and safety reports.
- 1.2. The above-mentioned shall be performed with the highest regards for safety by protecting all persons against death or injuries through the Company policies.

**Quantity**

The total area to be maintained is 436 622 m<sup>2</sup> per month for 2019, 443 450 m<sup>2</sup> per month for 2020 and 387 961 m<sup>2</sup> per month for 2021. The map below outlines areas to be maintained.

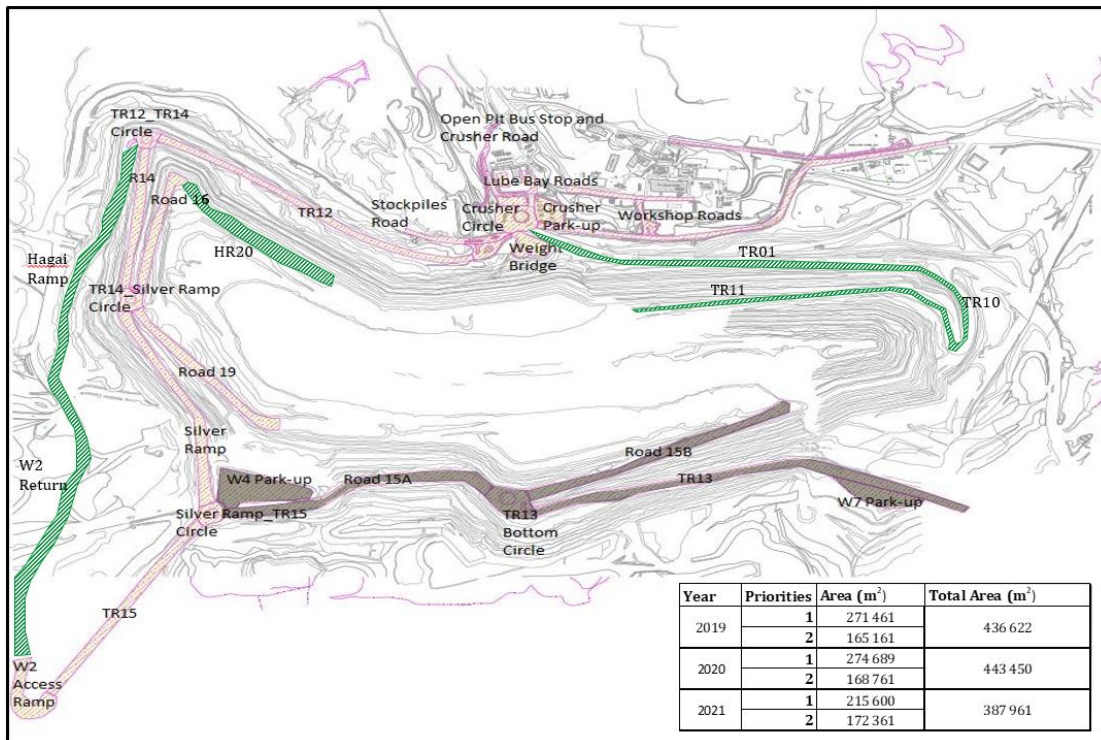


Figure 2 RUL Open Pit Haul Roads Map

The monthly square metres provided in the above table may vary from time to time depending on the mine requirements, changes will be communicated accordingly (Refer to Appendix A below for the breakdown of the total square metres).

<b>2019 Road Specifications</b>			
<b>Area</b>	<b>Priority</b>	<b>Road area description</b>	<b>Area(m<sup>2</sup>)</b>
<b>Lube Bay &amp; Workshops</b>	2	Lube Bay Roads	7 194
	2	Road to HT & Aux Workshop	11 184
	2	Maintenance Road	9 708
	2	Shovel Paddy	44 065
<b>Crusher</b>	1	Crusher Circle	10 875
	1	Circle to PH2 Entrance	4 852
	1	Stockpiles Road	7 115
	1	Crusher Parkup	9 166
<b>Phase II</b>	1	Trolley 12 (TR12)	28 384
	1	TR12_TR14 Circle	3 708
	1	Trolley 14 (TR14)	17 587
	1	TR14_Silver Ramp Circle	5 269
	1	Road 16(TR16)	16 441
	1	Siver Ramp/Trolley 17	28 354
	1	Siver Ramp_TR15 Circle	5 819
	1	Haul Road 19	53 839
<b>Phase III</b>	1	W2 Access ramp	11 000
	1	Trolley 15 (TR15)	27 105
	1	Haul Road 18 (Hagai Ramp)	39 925
<b>Others</b>	2	Open Pit Bus Stop and Crusher road	3 567
	2	Weight Bridge Area	8 581
	2	Haul Road 20	33 907
	2	Hage	8 500
<b>Segregation: LV lanes</b>	2	Trolley 01, 10 & 11	20 246
	2	Trolley 15	6 133
	2	Trolley 17: Sliver Ramp	2 496
	2	Haul Road 19	5 937
	2	Waste 2 Return	3 643
<b>Total</b>			<b>434 600</b>

<b>2020 Road Specifications</b>			
<b>Area</b>	<b>Priority</b>	<b>Road area description</b>	<b>Area(m<sup>2</sup>)</b>
<b>Lube Bay &amp; Workshops</b>	2	Lube Bay Roads	7 194
	2	Road to HT & Aux Workshop	11 184
	2	Maintenance Road	9 708
	2	Shovel Paddy	44 065
<b>Crusher</b>	1	Crusher Circle	10 875
	1	Circle to PH2 Entrance	4 852
	1	Stockpiles Road	7 115
	1	Crusher Parkup	9 166
<b>Phase II</b>	1	Trolley 12 (TR12)	28 384
	1	TR12_TR14 Circle	3 708
	1	Trolley 14 (TR14)	17 587
	1	TR14_Silver Ramp Circle	5 269
	1	Road 16(TR16)	16 441
	1	Siver Ramp/trolley 17	28 354
	1	Siver Ramp_TR15 Circle	5 819
	1	Haul Road 19	59 089
<b>Phase III</b>	1	W2 Access ramp	11 000
	1	Trolley 15 (TR15)	27 105
	1	Haul Road 18 (Hagai Ramp)	39 925
<b>Others</b>	2	Open Pit Bus Stop and Crusher road	3 567
	2	Weight Bridge Area	8 581
	2	Haul Road 20	37 507
	2	Hage	8 500
<b>Segregation: LV lanes</b>	2	Trolley 01, 10 & 11	20 246
	2	Trolley 15	6 133
	2	Trolley 17: Silver Ramp	2 496
	2	Haul Road 19	5 937
	2	Waste 2	3 643
<b>Total</b>			<b>443 450</b>

<b>2021 Road Specifications</b>			
<b>Area</b>	<b>Priority</b>	<b>Road area description</b>	<b>Area(m<sup>2</sup>)</b>
<b>Lube Bay &amp; Workshops</b>	2	Lube Bay Roads	7 194
	2	Road to HT & Aux Workshop	11 184
	2	Maintenance Road	9 708
	2	Shovel Paddy	44 065
<b>Crusher</b>	1	Crusher Circle	10 875
	1	Circle to PH2 Entrance	4 852
	1	Stockpiles Road	7 115
	1	Crusher Parkup	9 166
<b>Phase II</b>	1	Trolley 12 (TR12)	28 384
	1	TR12_TR14 Circle	3 708
	1	Trolley 14 (TR14)	17 587
	1	TR14_Silver Ramp Circle	5 269
	1	Road 16(TR16)	16 441
	1	Siver Ramp/trolley 17	28 354
	1	Siver Ramp_TR15 Circle	5 819
<b>Phase III</b>	1	W2 Access ramp	11 000
	1	Trolley 15 (TR15)	27 105
	1	Haul Road 18 (Hagai Ramp)	39 925
<b>Others</b>	2	Open Pit Bus Stop and Crusher road	3 567
	2	Weight Bridge Area	8 581
	2	Haul Road 20	41 107
	2	Hage	8 500
<b>Segregation: LV lanes</b>	2	Trolley 01, 10 & 11	20 246
	2	Trolley 15	6 133
	2	Trolley 17: Silver Ramp	2 496
	2	Haul Road 19	5 937
	2	Waste 2	3 643
<b>Total</b>			<b>387 961</b>

The client may reduce or increase the area under coverage to support operational activities and such changes will be confirmed with the service provider on a regular basis.

Due to the square meters not being fixed, the Service Provider shall invoice the Company based on line items (litres of product used) and not square meters. For the avoidance of doubt, the square meters indicated shall be for budgeting purposes only and not be fixed.

Survey map of area of responsibility should be added and signed off by all parties when a contractor is engaged.



## **Quality**

### Product

The product to be applied on all Roads will be the Bitumen Base Product at all times, unless agreed in writing by both parties. The Service Provider shall supply a quality control certificate with each delivery. The following quality control verification process shall be followed;

- Mining Superintendent for Pit Operations or their assigned designate shall receive and verify the quality control sheet as part of his/her monthly verification process.
- The Service Provider shall provide a sample of test product with every load for the Company to verify the laboratory results for quality purposes.
- The Service Provider shall retain the quality control samples for (3) months in their storeroom on Rössing Mine site before disposal.
- The square meters shall be measured and signed and agreed upon each time the square meters are amended prior to commencing of work.

## **Resources (contractor)**

The Service Provider to supply all equipment, except for a grader (mine to supply 16M) – Full maintenance lease, dry rate.

The grader, large FEL, track dozer and tyre dozer will be operated under the following conditions;

The Service Provider should;

- Provide a licenced operator to operate the equipment at all times.
- Ensure the equipment is operated in a responsible manner at all times.
- Report all damages to the equipment immediately, following which the Company and the Service provider will jointly investigate and agree on costs of repair.

## **Measurement/Success criteria**

The Company rules, regulations and applicable policies should be adhered to at all times. These project should mainly satisfy three aspects at all-time throughout its duration which are social, environment, and economic.

### **Social**

Safety – the road dust suppressant should not be harmful to the operators/visitors or nearby communities. The road dust suppressant should ultimately create an injury and illness free workplace where everyone goes home safe and healthy each day of their working life.

### **Environment**

The dust suppressant should be of no harm to the people, biodiversity, water, air, plants, and land. Monthly reports must be submitted which clearly show the impact if any these dust suppressants are having and in what amounts.



### **Economic**

The dust suppressant cost throughout the duration of the project should be kept within budgets and the Service Provider should continuously seek and introduce cost saving initiatives were necessary.

**RUL has a system of visual measurement that will be applied for performance management and will complement any system the client has.**

### **Resources (internal)**

1. The company will supply to the service provider the following:

- Onsite office for the Service Provider's employees and it is expected of the Service Provider to adhere to the Companies' housekeeping and safety requirements at all times.
- Adequate and safe storage tanks.
- Water and river sand.
- Diesel for all earthmoving equipment not leaving site at the Service providers cost
- Allow service provider to use current ablution facilities.
- A grader (fitted with a scarifier), large FEL, track dozer and tyre dozer will be provided by the client and the bidder must appoint trained and competent operators to help in meeting the KPIs for assigned works.

### **Time**

#### Working Hours

The contractor shall align to the current Company shift system as follows:

- 1..1. Companies must propose a shift pattern that ensures adequate coverage for Dust Suppression activities every day. Such shift system must comply with Namibian Labour Laws.
- 1..2. The road cleaning work must conform with the mine's roster as follows:
- 1..3. 21 days on, with rotational shifts 8hr per day
  - 1..3.1. Afternoon Shift; 16:00 – 24:00
  - 1..3.2. Day Shift: - 8:00 - 16:00;
  - 1..3.3. Night Shift: - 24:00 – 8:00
  - 1..3.4. 7 days off,
- 1..4. Machines to be provided by the vendor as agreed with client

The abovementioned shift hours includes a one hour lunch (or alternatively rest period where applicable).

**Inclusions / Exclusions**

- The Service Provider to supply all equipment required for road maintenance, except for a Grader – Full maintenance lease, dry rate.

**Permits / Constraints**

RUL shall grant permission to commence works after completion on on-site on-boarding requirements and all other work will be carried by the contractor on an area owner basis

**Technical & IT Specifications**

RUL will provide an office with suitable power supply to support computers and similar office equipment. The onus rests with the contractor to surge protect and or battery backup their equipment and RUL will not entertain claims in this regard.

**Commercial**

Opportunities to reduce the expense for RUL will be explored and implemented as and when they are proposed and agreed. The contractor must therefore have a proactive approach in this regard to continually review and analyse where to reduce or optimise expenditure.