



Certificate Of Registration

IN TERMS OF THE NATIONAL NUCLEAR REGULATOR ACT, 1999 (ACT NO. 47
OF 1999)

CERTIFICATE OF REGISTRATION NO. COR-106

Certificate of Registration No. COR-106 is hereby granted by the National Nuclear Regulator (hereinafter referred to as the NNR) in terms of section 22 of the above Act

to

MINERAL SANDS RESOURCES (PTY) LIMITED

Registration number:	2001/016755/07
Registered address:	15 N Heritage in Hillcrest 9 Old Main Road Hillcrest Durban 3650

(hereinafter referred to as the holder)

subject to the terms and conditions set out herein.

B M Mkhize
CHIEF EXECUTIVE OFFICER

AUTHORISATION CONDITIONS PART 1: GENERAL CONDITIONS

1.1 SCOPE

- 1.1.1 The holder is authorised to carry out activities associated with radioactive material as set out, and on the site as identified, in section 2.1 of this Authorisation.

1.2 HAZARD ASSESSMENT

- 1.2.1 Assessments, approved by the NNR, shall be conducted by the holder in respect of all operations and activities involving radioactive material set out in section 2.1 of this Authorisation which could give rise to a risk of nuclear damage. The assessments must identify and quantify all potential radiation hazards:

1.2.1.1 to persons employed at or visiting the site

and

1.2.1.2 to members of the public.

- 1.2.2 Details of any proposed modification to existing facilities or amendment of any procedure or construction of any facility, which may have an effect on the risk of nuclear damage and which has not been addressed by the hazard assessments identified in section 2.2 of this Authorisation, together with a quantitative assessment of its impact on the risk of nuclear damage, shall be submitted to the NNR by the holder. Such proposals shall be approved by the NNR before being implemented.

1.3 OPERATIONAL LIMITATIONS

- 1.3.1 The limitations pertaining to normal operations and listed in section 2.3 of this Authorisation shall be adhered to.
- 1.3.2 No activities involving the demolition or disposal of any plant used for the processing of radioactive material shall be undertaken prior to approval by the NNR of the radiation hazard assessment and the radiation protection programme for such activities.

1.4 OPERATIONAL RADIATION PROTECTION

1.4.1 WORKFORCE

- 1.4.1.1 Based on the results of the assessments referred to in clause 1.2.1, programmes embodying all aspects as required by NNR documents RD-006: "Requirements for the Control of Radiation Hazards: Mining and Minerals

Processing", and RD-011: "Requirements for Medical Surveillance and Control of Persons Occupationally Exposed to Radiation: Mining and Minerals Processing", in the revisions specified in section 2.4.1, must be established and be submitted to the NNR for approval. These programmes must ensure and demonstrate that radiation doses to persons employed at the site and to visitors to the site are in compliance with the radiation dose limitation system set down in the NNR document RD-010: "Requirements for Radiation Dose Limitation: Mining and Minerals Processing", in the revision specified in section 2.4.1 of this Authorisation. The programmes, as approved by the NNR, shall be implemented by the holder.

- 1.4.1.2 The provisions contained in the revision of documents listed in section 2.4.1 of this Authorisation and submitted in terms of condition 1.4.1.1 of this Authorisation, shall be adhered to.

1.4.2 PUBLIC

- 1.4.2.1 Based on the results of the assessments referred to in clause 1.2.1, programmes embodying all aspects as required by NNR document RD-007: "Requirements for Control over Radioactive Effluent Discharges and Environmental Surveillance: Mining and Minerals Processing", in the revision specified in section 2.4.2 of this Authorisation, must be established and be submitted to the NNR for approval. These must ensure and demonstrate that radiation doses to members of the public are in compliance with the radiation dose limitation system set down in the NNR document RD-010: "Requirements for Radiation Dose Limitation: Mining and Minerals Processing", in the revision specified in section 2.4.1 of this Authorisation. The programmes, as approved by the NNR, shall be implemented by the holder.

- 1.4.2.2 The provisions contained in the revision of documents listed in section 2.4.2 of this Authorisation and submitted in terms of condition 1.4.2.1 of this Authorisation, shall be adhered to.

1.5 RADIOACTIVE WASTE

- 1.5.1 A radioactive waste management programme embodying all the requirements contained in the NNR document RD-004: "Requirements for Radioactive Waste Management: Mining and Minerals Processing", in the revision specified in section 2.5 of this Authorisation, shall be established and submitted to the NNR for approval.

- 1.5.2 The provisions contained in the revision of documents listed in section 2.5 of this Authorisation and submitted in terms of condition 1.5.1 of this Authorisation, shall be adhered to.

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1.6 TRANSPORTATION

- 1.6.1 Transportation of radioactive material or of any equipment or objects contaminated with radioactive material off the site or on roads which are accessible to the public must be carried out in terms of the provisions of the Regulations for the Safe Transport of Radioactive Material of the International Atomic Energy Agency in the revision specified in section 2.6 of this Authorisation.
- 1.6.2 An annual report shall be submitted to the NNR detailing the number of consignments made during the preceding year, the radioactive content per consignment, the nature of the packaging and the names of the consignees.
- 1.6.3 The provisions contained in the revision of documents listed in section 2.6 of this Authorisation and submitted with regard to condition 1.6.1 of this Authorisation, shall be adhered to.

1.7 PHYSICAL SECURITY

- 1.7.1 A physical security system, approved by the NNR, which will prevent unauthorized access to areas containing radioactive material and which will prevent the unauthorized removal of such material, shall be in place.
- 1.7.2 The provisions contained in the revision of documents listed in section 2.7 of this Authorisation and submitted in terms of condition 1.7.1 of this Authorisation, shall be adhered to.

1.8 OCCURRENCES

- 1.8.1 An occurrence reporting mechanism, approved by the NNR, shall be established which will ensure that occurrences, including incidents and accidents as defined in the National Nuclear Regulator Act (Act No 47 of 1999), and as identified in the NNR document RD-012: "Notification Requirements for Occurrences: Mining and Minerals Processing", in the revision specified in section 2.8 of this Authorisation, are reported to the NNR by the holder in accordance with the provisions of that document and as specified by NNR document RD-009: "Verbal Emergency Communication with the National Nuclear Regulator: Mining and Minerals Processing", in the revision specified in section 2.8 of this Authorisation.
- 1.8.2 An emergency plan, approved by the NNR, shall be established to make provision for any occurrence involving radioactive material which gives rise to, or has the potential to give rise to, an unplanned exposure to radiation in excess of the respective annual effective dose limits for persons employed on the site, visitors to the site, and members of the public. This plan shall comply with the requirements contained in NNR document RD-008: "Requirements for Emergency Preparedness: Mining and Minerals Processing", in the revision specified in section 2.8 of this Authorisation.

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1.8.3 The provisions contained in the revision of documents listed in section 2.8 of this Authorisation and submitted in terms of condition 1.8.1 and 1.8.2, shall be adhered to.

1.9 QUALITY MANAGEMENT

1.9.1 All activities carried out within the scope of this Authorisation shall be subject to the requirements contained in the NNR document RD-005: "Quality Management Requirements for Activities Involving Radioactive Material: Mining and Minerals Processing", in the revision specified in section 2.9 of this Authorisation.

1.9.2 The provisions contained in the revision of documents listed in section 2.9 of this Authorisation and submitted in terms of condition 1.9.1 of this Authorisation, shall be adhered to.

1.10 SCHEDULE

1.10.1 The programme, scheduling the achievement of compliance with the conditions of this Authorisation, as set out in section 2.10 shall be adhered to.

This Certificate of Registration is effective from the date of issue.

Issued at Centurion on the 10th day of NOVEMBER 2011.



B M Mkhize
CHIEF EXECUTIVE OFFICER

**AUTHORISATION CONDITIONS
PART 2: SPECIFIC CONDITIONS**

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DOCUMENT CONTROL TABLE

18 OCTOBER 2011

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SECTION	PAGE	0	1	2	3	4	5	6	7	8	9	10	11	12
2.1	3	X												
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2.6	9	X												
2.7	10	X												
2.8	11	X												
2.9	12	X												
2.10	13	X												

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SECTION 2.1: SCOPE

2.1.1 The authorised site is:

The beach section below the high water mark opposite the farm Geelwal Karoo 262 and the area within the farm as per the appendix map plans label "Annexure D2" Plan No 2010 of the lease area, as well as the corresponding GPS coordinates.

2.1.2 The holder is authorised to, mine heavy mineral sand and production concentrate from the ore body.

2.1.3 The holder may, subject to the conditions in part 1 of this authorisation, use, possess, produce, store, and process radioactive material at and convey, cause to be conveyed and dispose of radioactive material from the site.

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SECTION 2.2: HAZARD ASSESSMENT

2.2.1 WSA-MRS-03/11

(Rev 0)

Mineral Sands Resources (Pty) Ltd
Prospective Worker Safety Assessment.

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SECTION 2.3: OPERATIONAL LIMITATIONS

- 2.3.1 Radioactive waste with a specific alpha (U-238, U-234, Th-230, Ra-226, Po-210, Th-232 and Th-228) activity exceeding 1000 Bq/g shall be stored in a facility approved by the NNR.

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SECTION 2.4.1: RADIATION PROTECTION PROGRAMME - WORKFORCE

2.4.1.1	RD-006	(Rev 1)	Requirements for the Control of Radiation Hazards: Mining and Minerals Processing.
2.4.1.2	RD-010	(Rev 0)	Requirements for Radiation Dose Limitation Mining and Minerals Processing.
2.4.1.3	RD-011	(Rev 0)	Requirements for Medical Surveillance and Control of Persons Occupationally Exposed to Radiation: Mining and Minerals Processing.
2.4.1.4	WRPP-MSR-03/11	(Rev 0)	Worker Radiation Protection Programme for Mineral Sands Resources (Pty) Ltd
2.4.1.5	RPF-MSR-03/11	(Rev 0)	RP Function for Mineral Sands Resources (Pty) Ltd
2.4.1.6	MEDICAL-MSR-03/11	(Rev 0)	Medical Surveillance Programme for Mineral Sands Resources (Pty) Ltd

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SECTION 2.4.2: RADIATION PROTECTION PROGRAMME - PUBLIC

2.4.2.1 RD-007

(Rev 0)

Requirements for the Control over
Radioactive Effluent Discharges and
Environmental Surveillance: Mining and
Minerals Processing.

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SECTION 2.5: RADIOACTIVE WASTE

- 2.5.1 RD-004 (Rev 0) Requirements for Radioactive Waste Management: Mining and Minerals Processing.
- 2.5.2 IWMP-MSR-03/11 (Rev 0) Integrated Radioactive Waste Management Programme for Mineral Sands Resources (Pty) Ltd

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SECTION 2.6: TRANSPORTATION

2.6.1 TS-R-1 (ST-1, Revised)

Regulations for the Safe Transport of
Radioactive Material 2009.

2.6.2 TRANSPORT-MSR-03/11 (Rev 0)

Procedure for the Safe Transport of
Radioactive Material for Mineral Sands
Resources (Pty) Ltd

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SECTION 2.7: PHYSICAL SECURITY

2.7.1 SECURITY-MSR-03/11 (Rev 0)

Physical Security Procedure for Mineral
Sands Resources (Pty) Ltd

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SECTION 2.8: OCCURRENCES

- 2.8.1 RD-012 (Rev 0) Notification Requirements for Occurrences: Mining and Minerals Processing.
- 2.8.2 RD-009 (Rev 0) Verbal Emergency Communication with the National Nuclear Regulator: Mining and Minerals Processing.
- 2.8.3 RD-008 (Rev 0) Requirements for Emergency Preparedness: Mining and Minerals Processing.
- 2.8.4 OCCURRENCE-MSR-03/11 (Rev 1) Occurrence Reporting Mechanism for Mineral Sands Resources (Pty) Ltd.
- 2.8.5 EMERGENCY-MSR-03/11 (Rev 0) Radiation Emergency Preparedness Programme for Mineral Sands Resources (Pty) Ltd.



SECTION 2.9: QUALITY MANAGEMENT

- | | | | |
|-------|-------------------|---------|--|
| 2.9.1 | RD-005 | (Rev 0) | Quality Management Requirements for Activities Involving Radioactive Material: Mining and Minerals Processing. |
| 2.9.2 | SIP-MSR-03/11 | (Rev 0) | Self Inspection Programme for Mineral Sands Resources (Pty) Ltd |
| 2.9.3 | QUALITY-MSR-03/11 | (Rev 0) | Quality Management Procedure for Mineral Sands Resources (Pty) Ltd |

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SECTION 2.10: SCHEDULE

2.10.1 Schedule-MSR-03/11, Rev 0 Schedule for Mineral Sands Resources (Pty) Ltd

RADIATION PROTECTION PROGRAMME**Workforce**

Issue	Action	Completion
6 Monthly dose reports for surface operations	Submission	End of July End of January (include summary for year)

RADIOLOGICAL SAFETY ASSESSMENT REPORT FOR THE PUBLIC

Issue	Action	Completion
Public safety Assessment Report	Submission	May 2012

RADIATION PROTECTION PROGRAMME FOR THE PUBLIC

Issue	Action	Completion
Public Radiation Protection Report	Submission	May 2012

INTEGRATED RADIOACTIVE WASTE MANAGEMENT PROGRAMME

Issue	Action	Completion
Quarterly waste reports	Submission	End of April End of July End of October End of January (include summary for year)

OCCURRENCES

Issue	Action	Completion
Occurrence Report	Submission	As appropriate

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