



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Private Bag X447, Pretoria, 0001 • Environment House 473 Steve Biko Road, Pretoria, 0002 • Tel: +27 12 399 9000, Fax: +27 86 625 1042

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Enquiries: Dr Mpho Tshitangoni

Tel: (012) 399-9793 **Fax:** (012) 359 3618 **Email:** MTshitangoni@environment.gov.za
www.environment.gov.za

REMEDIATION ORDER ISSUED TO : ARCELORMITTAL SOUTH AFRICA LIMITED
ADDRESS : P.O. BOX 2, VANDERBIJLPARK, 1911
CONTACT PERSON : JOHAN HATTINGH
CONTACT DETAILS : TEL: (016) 889 3126 FAX: (016) 889 2058

REMEDIATION ORDER FOR ARCELORMITTAL SOUTH AFRICA LIMITED ISSUED IN TERMS OF SECTION 38(2) OF THE NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT, 2008 (ACT NO. 59 OF 2008)

In terms of Section 79(1) of National Environmental Management: Waste Act, 2008, and by virtue of the powers delegated by the Minister, the Deputy Director-General: Chemicals and Waste Management hereby issues ArcelorMittal South Africa Limited a Remediation Order for the remediation of contaminated land at Vanderbijlpark Works, Delfos Boulevard, Vanderbijlpark, within the jurisdiction of the Emfuleni Local Municipality in the Gauteng province.

1. BRIEF DESCRIPTION OF THE REMEDIATION ACTIVITY AND LOCATION

Remediation of contaminated land with Dense Non-Aqueous Phase Liquid (DNAPL), organic and inorganic contaminants at ArcelorMittal South Africa – Vanderbijlpark Works, Delfos Boulevard, in Vanderbijlpark, within the jurisdiction of the Emfuleni Local Municipality, Gauteng province with the coordinates below:

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Latitude	Longitude
26.6475731°S	27.8278953°E

2. REMEDIATION MEASURES

- 2.1 Remediation processes must be undertaken in full compliance with this Remediation Order, the National Norms and Standard for the remediation of contaminated land and soil quality published under Government Notice 331 in *Government Gazette* 37603 of 2 May 2014, ArcelorMittal Vanderbijlpark Works – Contaminated Land Assessment Report dated November 2017 and Site Assessment Report & Remediation Action Plan for ArcelorMittal Vanderbijlpark dated April 2018.
- 2.2 In order to meet the site specific remedial objectives and to reduce human health risks and probable negative impacts, In situ bioremediation, followed by Monitored Natural Attenuation (MNA) must be applied for the site.
- 2.3 The Recovery of the dissolved phase plumes to address the current and potential future risks to groundwater, must be put in place and not be limited to hand bailing; skimmer pumps; Vacuum Enhanced Recovery (VER); Cut-off trench; Biostimulation; Bioaugmentation; Air Sparging; as well as Enhanced Monitored Natural Attenuation (MNA).
- 2.4 The Holder of the Remediation Order must monitor, recover and treat the Dense non-aqueous phase liquid (DNAPL).
- 2.5 Should the suggested remediation methods (above) fail to meet the desired remediation objectives, the Holder of the Remediation Order must recommend to the Department other remedial technologies that will accelerate environmental performance. However, the remedial technologies must follow the waste management hierarchy as stated in the National Waste Management Strategy.
- 2.6 Deep and shallow monitoring wells must be installed down-hydraulic-gradient of the principal contaminant source zone to better delineate any contaminant plume within the groundwater. A minimum of two positions for each depth must be installed.



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- 2.7 The Holder of the Remediation Order must extend the groundwater monitoring network to include the off-site abstraction boreholes.
- 2.8 The Holder of the Remediation Order must implement the Stormwater Management Plan including monitoring of water quality flowing into the dam.
- 2.9 The Holder of the Remediation Order must conduct groundwater quality assessment bi-annually. The results must be submitted to the Department as part of the report in 3.1.
- 2.10 The Holder of the Remediation Order must also conduct static water level monitoring annually. The results must be submitted to the Department as part of the report in 3.1
- 2.11 In the event of site decommissioning, ArcelorMittal South Africa Limited must appoint an environmental specialist to assess the soil and groundwater conditions during and after the construction work on site.
- 2.12 Recovered groundwater material must be treated to a level that will not cause harm to the receptors, and reinstated to the environment or dispose of at an authorised waste disposal facility.
- 2.13 In the event of predictions and measures recommended and considered in Site Assessment Report and Remediation Action Plan failing to work and achieve the remedial objectives, the Holder of the Remediation Order may be required to re-evaluate and enhance the remedial measures.
- 2.14 A copy of this Remediation Order and Remedial Action Plan must always be available on site for reference during the remediation of the site.
- 2.15 The Holder of the Remediation Order must ensure that remediation processes commence within 90 days of the date of receipt of this Remediation Order. Should the Holder of the Remediation Order fail to commence with remediation activities within 90 days, then the Holder must notify the department and provide reasons for the delay.
- 2.16 The Director: Land Remediation must be notified in writing within fourteen (14) days prior to the commencement of remediation activities at the site.



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- 2.17 The Holder of the Remediation Order must appoint a suitably qualified person with remediation expertise to oversee the remediation activities.
- 2.18 The Holder of the Remediation Order must take all reasonable steps to ensure that contaminated soil storage, and stockpile areas have a firm waterproof base and drainage system. It must be so designed and managed to prevent the escape of contaminants into the environment or natural water resource.
- 2.19 Contaminated groundwater must be treated and contained on site. Contaminated groundwater must not be used for irrigation or any other use that may further increase the level of contamination. The contamination status of the land must at all times be verified through screening and/or laboratory analysis of representative samples. The decision of disposal to appropriate disposal destinations must be determined solely on the results of laboratory analysis of representative samples.
- 2.20 The contamination in the soil must be contained and mitigation measures put in place to avoid leaching into groundwater which could possibly migrate by groundwater flow towards the nearby water body.
- 2.21 Contaminated soil must not be stockpiled in areas where surface water may accumulate, in drainage channels or areas susceptible to erosion. All contaminated soil should be kept in a manner that will prevent the possibility of loss of contaminated soil in the event of precipitation.
- 2.22 The Holder of the Remediation Order must ensure that all contaminated material transported off-site for disposal is covered to prevent secondary pollution and copies of safe disposal certificates must be forwarded to the department as an Annexure to the report required in condition 3.
- 2.23 The Holder of the Remediation Order must ensure that treatment of contaminated soil does not impact on any water resource or on any other person's water use, property or land and must not be detrimental to the health and safety of the public in the vicinity of the site.
- 2.24 The Holder of the Remediation Order must ensure that all liquid wastes whose discharge to water or land could exacerbate soil and water pollution, is provided with secondary containment. Treated contaminated water may only be diverted to the sewer upon approval by the relevant authority.



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However, if no sewer system is present, treated contaminated water must be stored in flow bins or tanks for collection by a registered waste disposal contractor.

- 2.25 The Holder of the Remediation Order must ensure that all personnel who work with contaminated material are trained to deal with these potential hazardous situations so as to minimize the risks involved. Records of training and verification of competence must be kept by the Holder of the Remediation Order.
- 2.26 The person responsible for remediation must ensure effective access control of the site to prevent unauthorised entry. Weatherproof, durable and legible signs in at least two official languages applicable in the area must be displayed at the site. The signs must indicate the risks involved in entering the site and must include the name; address and telephone number of the person responsible for the remediation of the Site.
- 2.27 This Remediation Order shall not be construed as exempting the Holder from compliance with the provisions of other National and Provincial Legislation and any relevant Ordinance, Regulations, By-laws and relevant National Norms and Standards.
- 2.28 Any complaint from the public must be attended to by the Holder of the Remediation Order as soon as practicably possible to the satisfaction of the complainant and/or the department. The Holder of the Remediation Order must keep an incident and complaints register on site. The register must contain contact details of the complainant(s) as well as details pertaining to the complaint.
- 2.29 A copy of this Remediation Order may be published by the department, in its discretion, on any website or other media.
- 2.30 The officials from this Department and/or Department of Water and Sanitation reserve the right to enter the site for compliance monitoring purposes, take water samples at any time, analyse the samples, or have them taken and analysed.
- 2.31 Any records or documentation must be made available upon request by any departmental official doing inspections and any other relevant authority inspecting the site.



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3. REPORTING ON REMEDIATION PROGRESS

3.1 The Holder of the Remediation Order must submit progress reports annually from the date of commencement of remediation.

3.2 All reports required in terms of this Remediation Order must be submitted to remediationreports@environment.gov.za.

3.3 The progress report must entail amongst other information the:

3.3.1 progress with regard to level of contaminants in the contaminated land and possible extent of migration into other environmental media;

3.3.2 degree to which other receptors were affected by contaminants; and

3.3.3 Trend report which must contain a graphical presentation of all results obtained previously at any specific point, as well as an interpretation and discussion of the results of each monitoring occasion.

4. TRANSFER OF CONTAMINATED SITE

4.1 The Holder of the Remediation Order must inform the person to whom the land is to be transferred about the status of the site prior to the transfer of the contaminated site.

4.2 The Holder of the Remediation Order must notify the department in writing within thirty (30) days prior to the transfer of the site.



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5. CLOSURE OF THE REMEDIATION ACTIVITY

5.1 The Holder of the Remediation Order must submit a closure report to the department within ninety (90) days of the completion of the remediation activities, for approval.

5.2 The closure report must include the following:

5.1. Evidence to demonstrate that the site does not pose any significant harm to the environment and/or human health either immediate or in future;

5.2. Monitoring objectives are achieved; and

5.3. Any other information relevant to the completion of the remediation work.



MR. MARK GORDON

DEPUTY DIRECTOR-GENERAL: CHEMICALS AND WASTE MANAGEMENT

DATE: 01-11-2018