



Standard 5

5 NON-PROCESS WASTE MANAGEMENT STANDARD

5.1 STANDARD

The purpose of this Standard is to define the requirements for the management of hazardous wastes, non-hazardous wastes and wastewater generated at sites to ensure that human health and the environment are protected.

This Standard covers the generation, segregation, collection, storage, transportation, disposal and/or recycling of hazardous wastes and non-hazardous wastes.

A waste is considered hazardous if it is ignitable, corrosive, reactive, toxic, radioactive and/or is listed in-country as a hazardous waste.

B2Gold requirements associated with process wastes (tailings and waste rock) are defined in B2Gold Environmental and Biodiversity Performance Standard 3 – Tailings Management and Standard 4 – Waste Rock Management.

5.2 CRITERIA AND REQUIREMENTS

5.2.1 Regulatory Compliance

All hazardous waste and non-hazardous waste shall be generated, segregated, collected, stored, transported, disposed and/or recycled in compliance with all relevant regulatory requirements, licence conditions and any other applicable requirements.

5.2.2 Waste Management Plan

Sites shall develop, implement, communicate, adhere to and maintain a Waste Management Plan which defines all on-site and relevant off-site strategies, operational controls and management practices relating to the management of site wastes.

The Waste Management Plan shall be reviewed periodically and/or whenever relevant changes are made to site operating practices. The Waste Management Plan shall define the objectives that address key waste management risks and the operational controls implemented by the site to protect both human health and the environment.

Potential waste streams and their sources shall also be identified, classified and managed during operations and incorporated into the Waste Management Plan and the design of on-site waste disposal facilities.

Sites shall maintain formal processes to identify new waste streams and evaluate existing waste streams whenever new facilities are constructed or significant changes to existing facilities or operational practices occur.



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5.2.3 On-site Storage and Disposal of Hazardous Waste

If suitable off-site disposal facilities for hazardous wastes are not available or are not protective of human health and the environment, on-site disposal options shall be considered where these are legally authorised.

On-site engineered hazardous waste disposal facilities shall be supported by scientifically defensible studies that can demonstrate compliance with all relevant laws and permits and can prove that no measurable adverse impacts on human health and the receiving environment will occur during or after the cessation of operations.

Secondary containment shall be designed and constructed from materials compatible with the wastes to be stored and shall be capable of containing all liquid hazardous wastes stored in a facility.

Sites shall establish and implement processes to prevent the incorrect disposal of hazardous wastes. Hazard waste includes sewage slurry, grey water, sewage screenings and sludge, medical waste, waste hydrocarbon products, hydrocarbon or chemical contaminated soil and dead animals.

Burial of hazardous wastes in dedicated locations is authorised only if no other viable alternative such as treatment/disposal, recycling, reprocessing or composting exists. Burial of these wastes shall comply with all relevant regulatory requirements and shall not adversely impact human health or the environment.

5.2.4 Landfill Management

All on-site landfills shall be designed, constructed and operated to:

- ensure geotechnical stability of trenches, disposal pits and slopes;
- prevent any adverse impacts to the environment/wildlife; and
- prevent adverse impacts to ground and surface water quality.

Discharges from landfills shall meet any applicable standards. The potential for contaminated leachate generation and any adverse impacts shall be evaluated and appropriately managed.

Landfill facilities shall be suitably fenced or bermed and display suitable signage at the entrance defining contact information, wastes authorised to be received and wastes banned.

Hazardous wastes shall not be disposed in an on-site landfill unless approved in writing from regulatory agencies and the repository has been designed to be protective of human health and the environment for such waste.

Dust and/or significant odours from the landfill area shall be controlled to eliminate complaints.

Wastes disposed of within on-site landfills shall be routinely covered to prevent wind-blown litter, odours, and to limit access by native fauna and pest species.

The burning of waste at on-site landfills (to reduce bulk) may only be undertaken where permitted by the relevant regulatory agency, potentially via an operational licence/permit. Only non-hazardous wastes are authorised to be burnt (i.e. no hazardous waste). When burning is permitted, site personnel shall monitor any authorised burning practices.

Medical wastes shall not be disposed of on-site and shall be disposed of off-site within approved facilities or burned in a high temperature incinerator.



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5.2.5 On-site Segregation and Storage of Wastes

Sites shall establish suitable processes and facilities for the segregation of non-hazardous and hazardous wastes. These waste streams shall not be blended.

Designated facilities shall be utilised for the collection of and temporary on-site storage of hazardous wastes. Where applicable, these facilities shall include suitable fencing, signage, roofing, lighting, a means of communication in case of emergency, lightning protection and secondary containment for all liquid products.

Awareness training shall be provided to all site personnel to facilitate correct waste segregation practices.

5.2.6 Inspections of Off-site Treatment and Disposal Facilities

Off-site treatment and disposal facilities shall be inspected prior to their selection and use to verify that the facilities are engineered and responsibly operated by the service provider(s) to be protective of human health and the environment. Periodic follow-up inspections of these treatment and disposal facilities are required.

5.2.7 Records Management

Sites shall retain records for the storage, transportation and disposal (off-site or on-site) of all waste streams. Records are to include the locations of hazardous waste and non-hazardous waste, the types and quantities of hazardous wastes, audit and inspection records and any hazardous waste tracking certificates.

5.2.8 Monitoring, Inspections and Audits

Periodic on-site waste facility inspections are required to verify that wastes are being correctly segregated, stored and disposed of, and compliance with regulatory requirements can be demonstrated.

Sites shall conduct periodic environmental audits of all hazardous waste and non-hazardous waste storage and disposal practices. Actions shall be tracked utilising a formal action tracking system.

5.3 TERMS AND DEFINITIONS

Relevant key terms and definitions that relate to B2Gold's Non-Process Waste Management Standard are provided below:

Berm: Containment structure that could be made out of earth, concrete, plastic, or other material. Also known as "bund".

Hazardous Waste: Any waste containing significant quantities of a substance that may present danger to human health and the environment when released into the environment or is improperly managed. Possesses at least one of five characteristics (ignitable, corrosive, reactive, toxic, radioactive), or is listed in-country as a hazardous waste.

Leachate: Water that has percolated through a solid material (e.g., tailings, ore, waste rock) and leached out some of the constituents of that solid material.

Monitoring: The gathering, analysis (especially for trends) and interpretation of information for the assessment of performance.



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Examples of monitoring subjects are: occupational health and safety, air, soil and water quality, flora and fauna, reclamation, social aspects including complaints, operational dust, noise, vibration, property damage, community health, community investment, historical and cultural sites.

Monitoring may be continuous, short-term or long term and may be undertaken manually or automated.

Non-Hazardous Waste: Wastes that do not have any of the following characteristics: ignitability, corrosivity, reactivity, or toxicity, and are not listed in-country on hazardous waste lists.

Reclamation: The return of disturbed land to a physically and chemically stable, self-sustaining condition compatible with future land use objectives.

5.4 REFERENCE MATERIAL

Nil

5.5 DOCUMENT CONTROL

Revision	Approved	Date	Description
Final	Ken Jones	17 th August 2014	Original 2014 issue of the B2Gold Environmental and Biodiversity Performance Standards
Final	Ken Jones	24 th May 2018	2018 revision, update and issue of the original 2014 B2Gold Environmental and Biodiversity Performance Standards