



DRAFT TANZANIA STANDARD

TBS/MMDC 9 (336) P3 Mineral Processing Terminology - Part 4: Metallurgical Accounting

PUBLIC COMMENTS

TANZANIA BUREAU OF STANDARDS

0 Foreword

This draft Tanzania Standard is being prepared by the Mineral Processing and Equipment Technical Committee (MMDC 9), under the supervision of the Mining and Minerals Standards Divisional Committee (MMDC).

This document has been prepared in order to standardize and co-ordinate technical terms in current use in the mining industry and ensure expertise of other type of mining activities.

The need for this document arose from the widely varying interpretation of terms used within the industry and the prevalent use of more than one synonym.

In preparation of this draft Tanzania Standard assistance was derived from <https://www.911metallurgist.com/blog/crushing-industry-vocabulary> and Dictionary of Mining, Mineral, and Related Terms in Mineral Processing (Hacettepe University Department of Mining Engineering)

This draft Tanzania Standard is the part of the general title of Mineral Processing Terminology which consist of the following parts, -

Part 1: Comminution

Part 2: Concentration

Part 3: Metal recovery processes

Part 4: Metallurgical accounting

Part 5: Mine effluent detoxifications

1 Scope

this document specifies the commonly used terms in mineral processing, only terms which have a specific meaning in this field have been included in Metallurgical accounting

2 Normative references

this document does not contain normative references

3 Terms and definitions

3.1 Allocated accounts

generally, report holdings as specific quantities of defined physical products (e.g., 25 one-ounce Silver Canadian Maple Leaf Coins).

3.2 Allocated precious metal

refers to the company's accounting assignment of specific quantities of particular physical products to its individual investors' accounts. These products may be held either on or off the holding company's balance sheet.

3.3 Calculated Head assay

assay head over the month.

3.4 Concentrate

product with the highest proportion of values of the desired mineral.

3.5 Concentrate grade

Concentrate grade- concentration of the valuable metal in the concentrate product.

3.6 Contained metal

an estimate of the total metal content of a metal bearing material.

3.7 Contained metal in feed

the final metal content, contained within the ore processed during a particular reporting period.

3.8 Contained metal work-in-process (WIP) inventory

the estimated measure of the total metal content contained within a particular processing facility at a particular point in time (usually month end) beyond the point of being considered as raw material, and up to (but not including) being considered as total finished metal product.

3.9 Contained raw material metal inventory

the total amount of metal contained within ores, at a particular point in time, that have been mined, but not processed, but are expected to be processed in the future.

3.10 Closing Stock + Output

Opening Stock +Intake.

3.11 Finished metal inventory

the amount of unsold recoverable or payable metal that is processed to saleable form, which is typically bullion, filtered concentrate (that is destined for shipment off-site) or base metal cathode plate that has been removed from the Electrowinning cell.

3.12 Gravity recoverable gold (GRG)

the amount of gold from gold bearing material that is amenable to gravity recovery techniques.

3.13 Gold produced

fine gold poured as bullion + Inventory change (close-open).

3.14 Gold –in-circuit (GIC)

gold in –gold shipped.

3.15 Metal accounting

provides valuable information about plant operations, recovery rates, plant mass balance and potential areas of material losses.

3.16 Metallurgical data reconciliation

process of verification of metallurgical data during data movement.

3.17 Metal grade /plant head / feed grade

the reconciled and final grade of the ore processed during that month, and must be mathematically consistent with, and equal to contained metal in feed divided by ore processed.

3.18 Metal input to plant

the sum of metal recovered and metal in the tailings.

3.19 Metal loss in solution

the amount of metal of interest that is successfully dissolved into solution during leaching process and is lost to the tailings in its solution form.

3.20 Metal loss in solid

the amount of metal of interest that is not successfully dissolved into solution during leaching process and lost to tailings in its solid form.

3.21 Metal purity

refers to the metal content in 1,000 parts of a bar.

3.22 Metal produced

a) this represents the sum of the content of total finished metal product, any mint corrections, and the change in recoverable metal (work in progress) inventory.

b) represents the sum of metal produced and sold and metal in safe awaiting next shipment.

3.23 Metal recovered

the sum of metal produced and metal in the inventory.

3.24 Metal shipped

the measured mass of metal during a reporting period that has been officially handed or signed over for shipment off- site, to the off-site shipping/transportation company.

3.25 Metal sold

the amount of metal from a processing facility; that is considered by the investor/owner group, as being sold to a third party.

3.26 Metal recovery/yield

the ratio of the mass of metal produced to contained metal, during the reporting period (expressed as a percentage).

3.27 Mint return correction

the total post-month correction for any estimates made on metal content within shipped metal from the previous month, based upon final metal returned figures from the off-site refiner or smelter.

3.28 Moisture content

consists of two portions, namely, the free or surface moisture which can be removed by exposure to air, and the inherent moisture which is entrapped in the fuel, and is removed by heating at 200 degrees F (93.3 degrees C).

3.29 Ore processed/plant throughput

the final dry mass of valuable metal bearing ore, fed to a single metallurgical processing facility during the particular associated reporting period (typically a single calendar month).

3.30 Recoverable metal

the component of the contained metal, within any metal bearing material that is reasonably measured and estimated to be recoverable by subsequent metallurgical processes, that is planned to be undertaken on those materials.

3.31 Recoverable metal work-in-process (WIP) inventory

the estimated component of the contained metal WIP inventory that is considered recoverable metal.

3.32 Recoverable raw material metal inventory

the estimated component of contained raw material metal inventory that is considered recoverable metal.

3.33 Tailings

the residue containing most of the unwanted material- discarded.

3.34 Tailings grade

concentration of the valuable metal in the tailings stream.

3.35 Tails metal

the final estimate of the metal content of the plant residue discharged to the site's tailings storage facility.

3.36 Total finished metal product

the total measured mass of recoverable or payable metal during a reporting period that has been converted within the facility, to a final product state, being (for example) bullion, filtered concentrate (that is destined for shipment off-site) or base metal cathode plate that has been physically removed from the Electrowinning cell.

3.37 Unallocated Accounts

report balances denominated as ounces of a given metal type (e.g., 50-ounce platinum).

3.38 Unaccounted metal gain

an unknown metal gain which occurs when the quantity of the final physical metal product from the plant exceeds the reported metal recovery. This is caused by unknown losses \pm system bias, random and other errors.

3.39 Unaccounted metal loss

unknown metal loss which occurs when the quantity of the final physical metal product from the plant is less than the reported metal recovery. This is caused by unknown losses \pm system bias, random and other errors.