GLOSSARY OF TECHNICAL TERMS

Ag chemical symbol for silver **assay** an analysis to determine the presence, absence or concentration of one or more chemical components
assemblage a group of related rock types that together define a specific depositional environment
azurite the mineral Cu3(CO3)2(OH)2
Au chemical symbol for gold
bankable feasibility study an extensive technical and financial study to assess the commercial viability of a project, of sufficient detail and integrity that it can be used to arrange project financing
base metal generally non-ferrous, non-precious metal, including copper, lead and zinc
belt a group of related rocks that define a specific regional domain that is generally continuous over many kilometres
bore hole a hole with a drill, auger, or other tools for exploring strata in search of minerals, for
blasting purposes and for proving the position of old workings and faults
bornite the mineral Cu5FeS4
breccia in the broad sense, refers to a rock containing angular clasts
Bushman lineament the surface expression of the Bushman Shear
carbonates compounds containing the acid radical CO3
calcite the mineral CaCO3
calcareous containing calcium
care and custody hole a drillhole placed for independent verification purposes in which secure handling procedures of rock samples are documented from drill rig to laboratory
chalcocite the mineral Cu2S
chalcocite rims a weathered alteration rim on copper sulphide minerals
chalcopyrite the mineral CuFeS2
chalcopyrite grains individual grains of the mineral
chrysocolla the mineral Cu2H2Si2O5(OH)4
clastic fragments of minerals, rocks, or organic structures that have been moved individually from their places of origin
concentrator collectively an industrial plant designed to mechanically separate minerals and produce a mineral concentrate
copper-carbonates class of minerals that contain copper and carbonate (eg azurite, malachite)
copper-oxides class of mineral compounds that contain copper and elemental oxygen
copper-silicates class of mineral compounds that contain copper and a silicon-oxygen radical
core a rock sample produced by drilling with hollow tubes
core drilling the act of collecting subsurface rock samples by utilizing hollow tube drilling
covellite the mineral CuS
Cu chemical symbol for copper
cuprite the mineral Cu2O
deposit a mineralized body that has been physically delineated by sufficient drilling, trenching and/or underground work, and found to contain a sufficient average grade of metal or metals to warrant further exploration and/or development expenditures; such a

deposit does not quantify as a commercially mineable ore body or as containing mineral reserves, until final legal, technical and economic factors have been resolved
diamond drilling a drilling method whereby rock is drilled with a diamond impregnated, hollow drilling bit which produces a continuous, in-situ record of the rock mass intersected in the form of solid cylinders of rock, which are referred to as core
dissemination a scattered distribution of generally fine-grained minerals within a rock
EIA the Final Draft Environmental Impact Assessment Report prepared by Water Surveys (Botswana) (Pty) Ltd.
electrowinning an electrochemical process in which a metal dissolved within an electrolyte is plated onto an electrode. Used to recover metals such as cobalt, copper, gold and nickel from solution in the leaching of ores, concentrates, precipitates and matte
enriched containing higher than normal amounts
epigenetic processes that act after formation of a rock unit
Fe chemical symbol for iron
feasibility study a comprehensive study of a mineral deposit in which all geological, engineering, legal, operating, economic, social, environmental and other relevant factors are considered in sufficient detail that it could reasonably serve as the basis for a final decision by a financial institution to finance the development of the deposit for mineral production
flotation a process of concentration in which levitation in water of particles heavier than water is obtained with the use of chemical reagents; typically used in processing of coal or sulphide minerals with the aid of a reagent and the desired product becomes attached to air bubbles in a liquid medium and floats as a froth
footwall the underlying side of an orebody or stope
g/t grammes per metric tonne
geochemical prospecting techniques which measure the content of specified metals in soils and rocks for the purpose of defining anomalies for further testing
geophysical prospecting techniques which measure the physical properties (magnetism, conductivity, density, etc.) of rocks and define anomalies for further testing
geotechnical hole a drillhole placed specifically for the gathering of information related to the physical properties of rocks
gneiss a medium to coarse-grained, banded rock formed during high-grade regionalmetamorphism
grade relative quantity or the percentage of mineral or metal content in an orebody
granite a common igneous coarse grained rock composed of various amounts of quartz and feldspar with minor accessory minerals
Halco drilling a percussion drill hole
heap leach process the separation, selective removal or dissolution of constituents from a rock or orebody by the action of percolating water
horizon in sediments, relating to a specific stratagraphic interval
hosted contained within
hyperspectral survey an airborne survey method that measures reflected light in the visible spectrum
hypogene below surficial weathering
IRR internal rate of return
Karroo a succession of sedimentary and volcanic rocks that are widespread throughout Southern Africa
km kilometre

km2 square kilometre
kWh kilowatt hour
kV a unit of electrical power equal to 1000 volt-amperes
lb pound
limestone a sedimentary rock composed of calcium carbonate
m metre
malachite the mineral CuCO3(OH)2
marcasite an iron sulphide mineral (FeS2) found in low-temperature, near-surface deposits in sedimentary rocks
Matsitama Belt an assemblage of metasedimentary rocks that lies on the western margin of the Zimbabwean Craton
Matsitama Group or
Supergroup the name given to the series of rocks that lie within the Matsitama Belt
metallurgical the physical properties of metals as affected by composition, mechanical working, and heat treatment.
metasediment a metamorphosed sedimentary rock
mineralization a process of formation and concentration of elements and their chemical compounds within a mass or body of rock
mineral reserve a mineral reserve is the economically mineable part of a measured or indicated mineral resource demonstrated by at least a preliminary feasibility study. The study must include adequate information on mining, processing, metallurgical, economic and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified. A mineral reserve includes diluting materials and allowances for losses that may occur when the material is mined.
Mineral reserves are sub-divided in order of increasing confidence into probable mineral reserves and proven mineral reserves, which are defined as follows:
probable: the economically mineable part of an indicated, and in some circumstances, a measured mineral resource demonstrated by at least a preliminary feasibility study. The study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified.
proven: the economically mineable part of a measured mineral resource demonstrated by at least a preliminary feasibility study. The study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction is justified.
mineral resource a concentration or occurrence of natural, solid, inorganic or forsilized organic material in or on the Earth's crust in such form and quantity and of such grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a mineral resource are known, estimated or interpreted from specific geological evidence and knowledge.
Mineral resources are sub-divided, in order of increasing geological confidence, into inferred, indicated and measured categories which are defined as follows:
inferred: that part of a mineral resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.

indicated: that part of a mineral resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.
measured: that part of a mineral resource for which quantity, grade or quality, densities, shape, physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.
mineralogical zonation the segregation of rock compositon based on contained minerals
Mosetse Complex an interelated series of granites and metasediments which contains the Matsitama Belt on the western margin of the Zimbabwean Craton, Southern Africa
native copper elemental copper
NPV net present value
open pit a large-scale hard-rock surface mine
orogenic event a period of mountain building usually accompanied by overthrusting of rocks along continental margins
ounce a troy ounce (=31.1035 grams)
outline and infill drilling
program an exploratory drill program
overburden drill hole a drillhole that does not penetrate to bedrock
oxide a mineral that contains oxygen
paleoproterozoic time period between 2.5 billion and 1.6 billion years ago
percussion drilling a form of drilling that produces rock chips using a hammer bit
pitting the act of digging a pit
poly-deformed multiple phases of deformation
ppm parts per million
pre-collar during core drilling, that upper portion of a hole for which no core is recovered
primary sulphide a sulphide mineral that forms first
proterozoic the second oldest geological period after Archaen and the typical age of copper deposits in Southern Africa
quartz a common rock-forming mineral (SiO_2)
quartzite a metamorphic rock consisting mainly of quartz, formed by recrystallization of sandstone by either regional or thermal metamorphism
reverse-circulation ("RC") drilling a type of rotary drilling that uses a double-walled drill pipe. Compressed air, water or other drilling medium is forced down the space between the two pipes to the drill bit and the drilled chips are flushed back up to the surface through the centre tube of the drill pipe
ROM run-of-mine
scissor hole a drillhole placed to drill in a direction opposite to a previously drilled hole

secondary zone evidence of alteration
sedimentary formed by the deposition of solid fragmented material that originates from weathering of rocks and is transported from a source to a site of deposition
shear linear areas of weakness along which a failure occurred whereby the portion of mass on one side of the area slides past the portion on the opposite side and which often form conduits for mineralising fluids
shear zone moderate to large scale, usually elongated zone of rocks that have been crushed during movement of juxtaposed rocks. Shear zones are common hosts for Archaean or Proterozoic copper deposits
strataform conforms to tabular shape
stratigraphic the arrangement of strata, especially as to geographic position and chronologic order of sequence
strike the course or bearing of the outcrop of an inclined bed, vein, or fault plane on a level surface; the direction of a horizontal line perpendicular to the direction of the dip
strike extent the longest horizontal dimension of an orebody or zone of mineralization
sulphide a mineral containing sulphur in its non-oxidised form
sulphide mineralization a concentration of metallic minerals that contain sulphur
supergene a term used to describe near surface processes
supergroup a group of rocks that are related by proximity but span a large time period
SX/EW solvent extraction — electrowinning
t metric tonnes
t/d tonnes per day
t/yr tonnes per year
tenorite the mineral CuO
thrust and nappe surfaces a physical arrangement of rock units that results from structurally emplacing older rock over younger rock usually during orogenic activity
trenching in mineral exploration, a process used to investigate soil or geochemical anomalies by the excavation of narrow trenches across anomalous zones to observe geological structures and to allow sampling
twinned holes drill holes that placed in close proximity to each other with the objective of verifying results
vein a tabular deposit of minerals occupying a fracture, in which particles may grow away from the walls towards the middle
volcanic relating to volcanoes
volcaniclastic a sedimentary rock that is formed as a result of volcanic activity
wagon drilling a small percussion drill mounted on a mobile wagon