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VARIOUS MINING TERMS

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VARIOUS MINING TERMS

What is an assay map?

It is a map earmarking locations and assay values taken from a property during exploration providing a picture of the property's geological layout for follow up work.

What are assessment costs?

Assessment costs on a mining property are expenses that must be incurred yearly to maintain legal control over the mining claims. Generally, these expenses include costs of prospecting, sampling, drilling, property reports etc. and are registered with the mining recorders office in applicable jurisdictions.

What is bulk sampling?

Bulk sampling is the removing of large mineralized rock typically over fifty tonnes, selected to be representative of the potential orebody, in order to do mineral processing tests.

What is a claim?

A claim is a mining right that grants the holder the exclusive right to search within a given territory for any mineral substance and is generally subject to minimum exploration expenditures and assessment costs to legally retain these rights.

What is a concentrate?

Concentrate is the separation of economically valuable minerals from the gangue.

What is gangue?

Gangue is the rock surrounding a mineral or precious gem in its natural state.

What is a core sample?

It is a cylindrical sample of rock taken from the ground by drilling and is used for assay, research and exploration purposes.

What is a cross-cut?

A cross-cut is a horizontal underground passageway that provides access to mining operations and is usually bored from the mining shaft at near right angles to the strike of a vein or orebody.

What is meant when a mining Company is referred to as being at its development stage?

It is a company at a phase of activity ranging from confirmation of a mineral deposit to the decision to build a mine. Development includes all geological, engineering and economic work necessary to ensure profitable mining and compliance with applicable laws.

What is a diamond drill?

A diamond drill is a mining drill equipped with diamond tips. Diamonds are used with diamond drills because they are the hardest and most resilient of all precious gems and capable of cutting through rock in the drilling process.

What is meant by dip?

Dip is a measurement outlining the angle of incline of a vein measured from a horizontal surface and at right angles to the strike.

What is a drift?

A drift is an a horizontal underground passageway that provides access to mining operations and typically follows along strike of a vein or rock formation.

What is the meaning of drilling?

In general, drilling is the process of boring a hole in a rock for the purpose of taking rock samples in exploration and for the insertion of explosives in rock for blasting in mining.

What is a dyke?

A long and relatively thin mass of eruptive rock that while in its molten state intruded and created cracks in other rock and may contain mineral deposits located between the rocks.

What is meant when a mining company is referred to as being at its exploration stage?

In the broad sense, the whole range of mining activity from searching for and developing mineral deposits to developing the mine. In the strict sense, the search for mineral deposits up to discovery and includes the delineation of the deposit by means of drilling and sampling.

What is a fault?

A break in the earth's crust caused by tectonic (plate) movement that has forced rock to split in different directions.

What is a feasibility study?

A feasibility study is the planning stage of a mine usually prepared for a mining company by a professional mine engineering firm. A mining company will proceed with the cost of a feasibility study generally once it has proved continuity of its ore deposits confirmed by samplings and or drilling on a relatively detailed grid that allows for fairly precise determination of tonnage, density, mineral and metal content and is that part of the orebody that economic viability has been demonstrated.

A feasibility study typically includes opinions on land claims and legal titles, reports on regional geology, the exploration program, mineral reserves, ore treatment, infrastructure, resources, labour-investment-operation costs, marketing, scheduling, service facilities, the environment and finally a financial analysis.

Upon completion and interpretation of the feasibility study a mining company will make a decision to either cancel, postpone or proceed with the funding and development of its mine.

What is geochemistry?

Geochemistry is the study of the chemical components of the earth's crust and mantle. Geochemistry is applied to mining exploration for the discovery of areas with abnormal concentrations of elements and or minerals. In general, depending on circumstances, geochemical exploration involves a prospector taking samples of soils, rock, lake and stream sediments, or something else entirely, and then having the samples analyzed chemically for their elements. The results are then plotted and mapped for follow up work and the information is useful in other methods of exploration.

What is geology?

Geology is science devoted to the study of the structure and evolution of the earth's crust.

What is a grid?

A grid is a set of horizontal and perpendicular lines laid out over a property or area for the purpose of locating and mapping drilling and other work programs carried out on the property during exploration.

What is infrastructure?

Infrastructure refers to the components of mining that must exist in order for a mine to operate efficiently including roads, gas pipes, water lines, sewage and water systems, telephone cables, buildings, reservoirs and may also require the need for railways, airports, bridges, electrical cables and transmission lines and transformers.

What is leaching?

Slow passage of a solvent through a layer of porous or crushed material in order to extract valuable components. For example, gold can be extracted by heap leaching a porous ore or pulverized tailings.

What is a mill?

A mill is a surface plant facilitating ore treatment that allows for the recovery and removal of metals or the concentration of valuable minerals for smelting and refining.

What is a mineral deposit?

A mineral deposit is a mineralized mass that may be economically valuable, but whose characteristics require more detailed information. An ore body being mined may be called a deposit.

What is mineral processing?

The process of extraction and concentration of economic minerals contained in ore. Mineral processing includes various procedures that rely on the mineral's gravimetric and magnetic characteristics, on its color, on reagents to make target particles float to the surface (flotation).

What is a Mineral Resource?

A mineral resource is a concentration or occurrence of natural, solid, inorganic or fossilized organic material in or on the earth's crust in such form and quantity and of such a grade of 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 for specific geological evidence and knowledge. There are three categories of mineral resources that were adopted by CIM (The Canadian Institute of Mining, Metallurgy and Petroleum) and were incorporated into the rules by the CSA (Canadian Securities Association) under National Instrument 43-101 to establish uniformed standards for mineral resources and reserves throughout Canada. The three categories adopted by CIM for application throughout Canada is defined as inferred, indicated and measured reserves.

What is an Inferred Mineral Resource?

An inferred mineral resource is 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 grade and 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.

What is an Indicated Mineral Resource?

An indicated mineral resource is 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.

What is a Measured Mineral Resource?

A measured mineral resource is that part of a mineral resource for which quantity, grade or quality, densities, shape and 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.

What is a 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. This 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. There are two categories of mineral reserves that were adopted by CIM (The Canadian Institute of Mining, Metallurgy and Petroleum) and were incorporated into the rules by the CSA (Canadian Securities Association) under National Instrument 43-101 to establish uniformed standards for mineral resources and reserves throughout Canada. The two categories adopted by CIM for application throughout Canada are defined as a probable mineral reserve and a proven mineral reserve.

What is a Probable Mineral Reserve?

A probable mineral reserve is the economically mineable part of an indicated, and in some circumstances, a measured mineral resource demonstrated by at least a preliminary feasibility study. This 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.

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What is a Proven Mineral Reserve?

A proven mineral reserve is the economically mineable part of a measured mineral resource demonstrated by at least a preliminary feasibility study. This 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

What is ore?

Ore is a natural aggregate of one or more minerals that can be mined and profitably sold under current conditions, or from which one or more minerals can be profitably extracted.

What is an orebody?

An orebody is a mineralized mass whose characteristics have been determined and deemed commercially viable. The term orebody is used once the economic limits of the mineralized mass and its grade have been examined.

What is a polymetallic deposit?

A deposit consisting of many metals. Polymetallic is derived from the Greek words – poly (many) and metallic (metals).

What is prospecting?

Prospecting is typically performed by prospectors at the grass roots stage of exploration and is the search for surface mineralization or showings.

What is refining?

Purifying the matte or impure metal undertaken to obtain a pure metal or mixture with specific properties.

What is sedimentation?

The formation of a sediment. A sediment is a natural deposit created by the action of dynamic external agents such as water, wind, and ice.

What is a showing?

A showing is a surface indication of mineralization in which the extent and economic value are unknown.

What is a smelter?

A smelter is a plant where concentrate is chemically reduced in order to extract the metal or metals it contains.

What is meant by strike length?

Strike length is the length and direction of a vein or rock formation measured on a horizontal surface.

What is tonnage?

Tonnage refers to the quantity of ore contained within an ore body or the rate at which ore is extracted from the earth.

VARIOUS MINING TERMS

What is a vein?

A vein is a fault or crack in a rock filled by minerals that have traveled upwards from deep below the earth's surface.

What is a zone?

A zone is the section of a property or area with distinct mineralization