



GLOSSARY OF TERMS

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Acid Generating Potential (AGP). A material's potential to generate acid and produce acid drainage. Analytical tests used to assess acid generating potential are either static or kinetic.

Acidity. The state, quality, or degree of being acid.

Acid Neutralizing Potential (ANP). The measure of neutralizing material theoretically available to neutralize potential acid generated by ore or waste rock.

Acid Rock Drainage (ARD). Water from pits, underground workings, waste rock, and tailings containing free sulfuric acid. The formation of acid drainage is primarily due to the weathering of iron pyrite and other sulfur-containing minerals. Acid drainage can mobilize and transport heavy metals which are often characteristic of metal deposits.

Alluvium, alluvial. Unconsolidated fine to coarse material deposited by flowing water.

Angle of Repose. The angle at which a loose pile of earth or rock will stand when left to itself, usually between 30' and 39'.

Aquifer. A stratum of permeable rock, sand, etc., which contains water. Water source for a well.

Associated Facility: A facility that is not financed by IFC, but is essential to the construction or operation of an IFC financed project. IFC policy on involuntary resettlement may apply to resettlement induced by such facilities.

Attenuate, Attenuation. To lessen, decrease, reduce in concentration.

Bedrock. The solid rock that underlies, gravel, soil, or other superficial material.

Beneficial Use. Use of water, including but not limited to agricultural, domestic, fish and wildlife, industrial, irrigation, mining, municipal, power, water leasing, and recreation.

Berm. A horizontal, earthen structure, often constructed on exposed slopes, which increases slope stability, redirects the flow of water or other materials, or provides a place for sloughing material to collect.

Bore Hole. A circular small-diameter hole made by a drill to a desired depth.

Borrow Area. An area which provides a source of earthen construction material such as sand, gravel or topsoil for use in construction or reclamation.

Cation Exchange Capacity (CEC). The amount of positively charged ions a soil can hold expressed in milliequivalents per 100 grams (meq/100g) of soil.

Chemical Weathering. Process by which chemical reactions transform rocks or minerals into new chemical combinations stable at the earth's surface.

Colloidal. Pertaining to fine particles suspended in a liquid or gas.

Column Leach Test. A procedure for measuring concentrations of constituents that can be rinsed from a material. The materials are placed in a cylindrical shaped apparatus (i.e. column) and fluid, usually distilled water is passed through the materials. The effluent is collected and analyzed for concentration of constituents.

Community: A group of individuals broader than the Household, who identify themselves as a common unit due to recognized social, religious, economic and traditional government ties or shared locality.

Compaction. An increase in the density of something; the act of crushing together.

Company: Newmont Golden Ridge Limited (NGRL), a wholly owned Ghanaian subsidiary of Newmont Mining Corporation.

Compensation: Payment in cash or in kind for an asset or resource acquired or affected by a project at the time the asset needs to be replaced.

Cone of Depression. The geometry or shape of an inverted cone on the water table or artesian pressure surface caused by the pumping of a well. The cone of depression will disappear over time when well pumping ceases.

Conglomerate. A rock consisting of rounded pebbles and gravel embedded in a finer-grained matrix.

Corrosion. A state of deterioration in metals caused by oxidation or chemical action.

Cross Section. A drawing showing a vertical section through a feature.

Cultural Resources. Remains of human activity, occupation, or endeavor as reflected in sites, buildings, artifacts, or ruins.

Cumulative Effect. The impact on the environment which results from the incremental impact of the proposed Project when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such actions.

Cut-off Date. Date of completion of the census and assets inventory of persons affected by the project. Persons occupying the Project area after the cut-off date are not eligible for compensation and/or resettlement assistance. Similarly, fixed assets (e.g., built structures, crops, fruit trees, and wood-lots) established after the date of completion of the assets inventory, or an alternative mutually agreed on date, will not be compensated.

Design Features. Measures or procedures incorporated into the proposed Project or an alternative, including measures or procedures which could reduce or avoid adverse impacts. Because these features are built into the proposed action or an alternative, design features are not considered mitigation.

Dewatering. The act of removing water.

Direct Effect. Those effects which are caused by the action and occur at the same time and place.

Downgradient. At a lower point of elevation in relation to any fixed point with regard to the direction of drainage or flow.

Drawdown. Vertical distance that a water elevation is lowered or the pressure head is reduced due to the removal of water from the same system.

Economic Displacement: A loss of productive assets or usage rights or livelihood capacities because such assets / rights / capacities are located in the Project Area.

Effect. Impact to the human environment brought about by an agent of change, or action. Effects analysis predicts the degree to which the environment will be affected by an action. As a noun, other synonyms include consequence, result and outcome. Effects can be both beneficial and detrimental, and may be direct, indirect, or cumulative.

Effluent. Something that flows out (e.g., water seeping from a pit or treated water discharge from a water treatment plant).

Entitlement: The compensation offered by a Resettlement Action Plan, including: financial compensation; the right to participate in livelihood enhancement programs; housing, house sites and infrastructure; transport and temporary housing allowances; and, other short term provisions required to move from one site to another.

Entitlement Cut-Off Date: Date agreed by the Resettlement Negotiation Committee that established a deadline for entitlement to compensation in a Mine Area. Up to and including that date, structures and crops in a Mine Area are eligible for resettlement assistance and compensation. Structures and crops established in a Mine Area after the cut-off date are not eligible for resettlement assistance and compensation.

Environment. The physical, biological, and social conditions that exist within an area, including land, air, water, minerals, flora, fauna, social and economic values, and objects of historical, aesthetic, or cultural significance. The sum of all external conditions that affect an organism or community and ultimately determine its form and survival.

Ephemeral (streams). Flowing in response only to direct precipitation or snow melt.

Erosion. Processes whereby earth or rock material is loosened and / or dissolved and moved from the materials original location.

Ethnographic. Pertaining to the branch of anthropology that deals with the scientific description of specific human cultures.

Evaporate/Evaporation. To change into vapor.

Evapotranspiration. Loss of water by evaporation from the soil and transpiration from plants.

External Affairs Team: The team within the Company responsible for the administration, design and implementation of the Resettlement Action Plan.

Fault. A fracture or fracture zone along which there has been displacement of the sides relative to one another parallel to the fracture.

Floodplain (100-year). That portion of a river valley, adjacent to the river channel, built of sediments and inundated with water at least once every 100 years.

Flow Path. The route by which groundwater moves.

Fluvial. Of or relating to a stream or river.

Free Draining. Allowing water to flow off a surface.

Fugitive Emissions. Those air emissions, such as road dust, which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.

Gallons per Minute (gpm). A measurement of flow per minute. Volumes are sometimes annualized to show what the steady flow in gpm would be if spread out over the entire year.

Geochemistry, Geochemical. The study of the chemical composition of, and actual or possible chemical changes in, the crust of the earth.

Geology. The science that relates to the earth, the rocks of which it is composed, and the changes that the earth has undergone or is undergoing.

Geosynthetic. Polymeric products or other material designed to function as a liner or barrier to contain material or prevent erosion.

Geotechnical. Pertaining to the application of scientific methods and engineering principles to the acquisition, interpretation, and use of knowledge of materials of the earth's crust for the solution of engineering problems. It includes application of the science of soil mechanics and rock mechanics, and many of the engineering aspects of geology, geophysics, hydrology, and related sciences.

Groundwater. Water found beneath the land surface in the zone of saturation below the water table.

Habitat. A specific set of physical conditions that surround a single species, a group of species, or a large community. In wildlife management, the major components of habitat are considered to be food, water, cover, and living space.

Haul Road. A road used by large trucks to haul ore and overburden from an open pit to other locations.

Hazardous Waste. A waste or combination of wastes that, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may: (i) cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or (ii) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of or otherwise managed.

Highwall. The unexcavated face of exposed waste and ore in an open pit mine (same as pit wall).

Homestead: A place of residence for one or more households, which includes a number of residential and non-residential structures, fruit trees, etc.

Host Population. People living in or around areas to which people physically displaced by a project will be resettled who, in turn, may be affected by the resettlement.

Household: A group of persons living together who share the same cooking and eating facilities, and form a basic socio-economic and decision making unit. One or more households often occupy a homestead.

Human Environment. Includes the natural and physical environment and the relationship of people with that environment. When economic or social effects and natural or physical environmental effects are interrelated, then the analysis must discuss all of these effects on the human environment

Humidity Cell. A geochemical test for obtaining bulk mineral reaction rates that simulate long-term weathering processes under controlled laboratory conditions.

Hydraulic. Conveyed or moved by means of water or other fluids, or pertaining to fluid in motion, or movement or action caused by water.

Hydraulic Conductivity. The capacity of a rocks or sediments to transmit water. Governed by the size and shape of pores, the interconnection between pores, and the physical properties of the fluid.

Hydraulic Gradient. In an aquifer, the rate of change of total head per unit of distance of flow at a given point and in a given direction.

Hydrogeology/Hydrogeologic. The branch of geology that deals with the occurrence, distribution, and flow of groundwater.

Impact. Influence or effect: a modification of the environment.

Impoundment. A body of water formed by the accumulation of water in a reservoir or other storage area.

Indirect Effect. Effects caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on water and air and other natural systems, including ecosystems

Infiltration. The movement of water or some other fluid into the soil through pores or other openings.

Intermittent Stream. A stream that runs water in most months, but does not contain water year-round.

Involuntary Resettlement: Resettlement is involuntary when it occurs without the informed consent of the displaced persons or if they give their consent without having the power to refuse resettlement.

Irretrievable. Applies to losses of production, harvest, or commitment of renewable natural resources. For example, some or all of the timber production from an area is irretrievably lost during the time an area is used as cropland. If the use changes, timber production can be resumed. The production lost is irretrievable, but the act is not irreversible.

Irreversible. Applies primarily to the use of nonrenewable resources, such as minerals or cultural resources, or to those factors that are renewable only over long time spans, such as soil productivity. Irreversible also includes loss of future options.

Issue. A point or matter of discussion, debate, or dispute about the potential environmental effects or impacts, of an action. Issues point to environmental effects and may drive the development of alternatives to the proposed action.

Land Use Plan. A set of decisions that establish management direction for land within an administrative area, as prescribed under an agency's the planning provisions

Leachate. A solution containing contaminants picked up as the liquid passes through soil or rock.

Lithology. The gross physical character or composition of a rock or rock formation.

Mass Balance. Calculations used to estimate the amount of mass flux into, out of, and stored within a confined volume (e.g., a pond or pit).

Migratory. Periodically moving from place to place.

Mineralized Zone, Mineralization. Process by which minerals are introduced into a rock, resulting in an economically valuable or potentially valuable deposit.

Mineral Reserve. 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 grade or quality that it has reasonable prospects for economic recovery.

Mitigation. Actions to avoid, minimize, reduce, eliminate, replace, or rectify the impact of a practice or activity.

Mixing Zone. An area where effluent mixes with receiving water.

Model, Modelling. A schematic or mathematic description of a system, theory, or phenomenon that accounts for its known or inferred properties and may be used for predictive analysis of a system.

Monitoring Well. A well used to track groundwater quality or quantity.

Neutralization. Reduction in acidity or alkalinity

Noxious Weeds. Introduced plants that are officially recognized as undesirable by the government.

Ore. A mineral or an aggregate of minerals from which a commodity can be profitably mined or extracted.

Overburden. Loose or consolidated rock material that overlies a mineral deposit and must be removed prior to mining.

Oxidation, Oxidize. The process of combining with oxygen; or the process by which electrons are removed from atoms or ions.

Paleontology. The science that deals with the life of past geological ages through the study of the fossil remains of organisms.

Particulate(s). Minute, separate particles, such as dust or other air pollutants.

Perennial Stream. A stream that flows all times of the year.

Permeability. The property or capacity of a porous rock, sediment, or soil for transmitting a fluid.

pH. The measure of the acidity or alkalinity of a solution in terms of hydrogen ion concentration.

Porosity. The ratio of the volume of all the pores in a material to the volume of the whole.

Potentiometric Surface. The surface to which water in an aquifer would rise by hydrostatic pressure.

Precipitate. To cause a solid substance to be separated from a solution.

Preferential Flowpath. The most likely direction of groundwater flow.

Proposed Action. A proposal for an agency to authorize, recommend, or implement an action to address a clear purpose and need. A proposal may be generated internally or externally.

Performance Standard 5 (formerly Operational Directive 4.30): IFC Policy and Performance Standards on Social and Environmental Sustainability – Performance Standard 5 – Land Acquisition and Involuntary Resettlement embodies the basic principles and procedures that underlie the World Bank Group approach to land acquisition and involuntary resettlement associated with its investment projects.

Physical Displacement: A loss of residential structures and related non-residential structures and physical assets because such structures / assets are located in the Mine Area.

Project: The proposed Akyem Project to construct and operate an open pit gold mine.

Project-Affected Household: All members of a household, whether related or not, operating as a single economic unit, who are affected by the Project.

Project-Affected Community: A community that is affected by the Project.

Project-Affected Person: Any person who, as a result of the Project, loses the right to own, use, or otherwise benefit from a built structure, land (residential, agricultural, or pasture), annual or perennial crops and trees, or any other fixed or moveable asset, either in full or in part, permanently or temporarily.

Pumpback System. A series of wells designed to capture groundwater and return it to some specific location.

Reasonably Foreseeable Action. Actions for which there are existing decisions, funding, formal proposals, or which are highly probable, based on known opportunities or trends.

Receptor. Someone or something that receives a stimulus, such as noise.

Reclamation. To return a disturbed area to an approved post-mining land use.

Recontouring, Regrading. Reshaping irregular piles or dumps of rock or earth to a desired shape or form.

Relocation: A compensation process through which physically displaced households are provided with a one-time lump-sum compensation payment for their existing residential structures and move from the Mine Area.

Replacement Cost: The amount of cash compensation sufficient to replace lost assets and cover transaction costs, without taking into account depreciation or salvage value.

Resettlement: A compensation process through which physically displaced households are provided with replacement plots and residential structures at one of two designated resettlement villages in the district. Resettlement includes initiatives to restore and improve the living standards of those being resettled.

Resettlement Action Plan (RAP): The document in which a project proponent specifies the procedures it will follow and the actions it will take to mitigate adverse effects, compensate losses, and provide development benefits to persons and communities affected by an investment project.

Resettlement Assistance: Support provided to people who are physically displaced by a project. Assistance may include transportation, food, shelter, and social services that are provided to affected people during their resettlement. Assistance may also include cash allowances that compensate affected people for the inconvenience associated with resettlement and defray the expenses of a transition to a new locale, such as moving expenses and lost work days.

Right-of-Way. Strip of land over which a power line, access road, or maintenance road has a legal right to pass.

Riparian. A type of ecological community that occurs adjacent to streams and rivers and is directly influenced by water. Riparian areas are characterized by certain types of vegetation, soils, hydrology, and fauna, and require free or unbound water or conditions more moist than normally found in the area.

Run-off. Precipitation that is not retained on the site where it falls, not absorbed by the soil; natural drainage away from an area.

Run-on. Precipitation that originates upgradient of a specific tract of land and flows onto the tract of land.

Safety Bench. Horizontal bench constructed in an open pit used by haul trucks to transport ore and waste rock. Benches also serve purpose of catching falling or sliding rocks and debris providing protection to workers and equipment in the pit.

Safety Berm. Rock or earthen barrier along a bench or road, designed to keep vehicles and workers away from a dangerous edge.

Salvaged. Recovered or saved, such as soil that is excavated and stored for future use in reclamation.

Scope. The extent of the analysis in a document.

Scoping (internal and external). The process by which an agency solicits internal and external input on the issues and effects that will be addressed, as well as the degree to which those issues and effects will be analyzed in a document. Scoping is one form of public involvement in the process. Scoping occurs early in the analysis process and generally extends through the development of alternatives (the public comment periods for EIS review are not scoping). Internal scoping is simply the use of staff to decide what needs to be analyzed in a document. External scoping, also known as formal scoping, involves notification and opportunities for feedback from other agencies, organizations and the public.

Sediment. Unconsolidated particles of rock / soil.

Seismicity. The likelihood of an area being subjected to earthquakes.

Slurry. A thin mixture of water and finely ground ore.

Soil Development. The development of an unconsolidated layer of weathered rock which lies upon bedrock and is a medium for plant growth.

Sorption, Sorbing. The process in which one substance takes up or holds another by either physical or chemical reaction.

Species. A group of individuals of common ancestry that closely resemble each other structurally and physiologically and in nature interbreed producing fertile offspring.

Stakeholder. One who has a share or interest in something.

Stockpiled. Set aside for future use.

Stool: A chieftom, in which traditional leaders are responsible for land allocation, along with broader responsibilities of ensuring good order and spiritual continuity across generations.

Sump. A collection point for drain water.

Tailings. The non-economic constituents of processed ore material that remain after the valuable minerals have been removed from raw materials.

Texture. The composition of soil in terms of the relative proportions of sand, silt, and clay, such as loam.

Tributary. A stream flowing into a larger stream or other body of water.

Upgradient. At a higher point of elevation in relation to any fixed point with regard to the direction of drainage or flow.

Vat Cyanide Leach Process. Recovery of gold and other metals by soaking a concentrate milled from ore in a cyanide solution contained in a cylindrical vertical vat.

Visual Contrast. Noticeable visual difference between the natural landscape and adjacent reclaimed areas.

Volcanic. Activities, structures, or rock types produced by a volcano.

Vulnerable: People who by virtue of gender, ethnicity, age, physical or mental disability, economic disadvantage, or social status may be more adversely affected by resettlement than others and who may be limited in their ability to claim or take advantage of resettlement assistance and related development benefits.

Waste-to-Ore Ratio. Number of units of waste rock which must be removed to allow mining of a unit of ore.

Waste Rock. Rock that is removed to access ore, but does not contain enough mineral to be processed at a profit.

Waste Rock Disposal Area Facility. Storage or disposal area for waste rock.

Water Balance. An account of all the inflows and outflows for a given basin or system with no net change in storage. Factors include precipitation, evapotranspiration, streamflow, water use, and any transfers of groundwater out of the basin.

Watershed. The entire land area that contributes water to a particular drainage system or stream.

Water Table. The level below ground surface at which the subsurface is saturated with water.

Wetlands. Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetland areas include marshes, shallow swamps, lakeshores, bogs, muskegs, wet meadows, estuaries, and riparian areas as wetlands.