

Glossary of Mining Terminology

After Damp- Gasses resulting from underground combustion, normally carbon monoxide. This is a loose term implying any fatal gas in a mine after an explosion or fire.

Air Shaft- A vertical opening into a mine for the passage of air.

Airway- Any passage in a mine along which an air current moves. Some passages are driven solely for air. Other passages, such as a main level, are all purpose, to move air, men, coal, and materials.

Anthracite- Coal of the highest metamorphic rank, in which the fixed carbon content is between 92 percent and 98 percent. It is hard, black, and has a semi-metallic lustre and semi- conchoidal fracture. It ignites with difficulty and burns with a short blue flame without smoke.

Bank and Bankhead- The building at the entrance to a mine into which the coal boxes are drawn and dumped into the mine screens, and from there to railway. The term is loosely described as all the surface buildings.

Balance- An inclined passage running up at right angles from a main level, into the coal seam, normally tracked with boxes drawn up by balance and lowered gravity. The term gradually means a pair of passages, connected at the top, one of which is upcast and the other is downcast for ventilation.

Barrier- The coal left at a mine or mine working.

Bearing In- Cutting a horizontal groove at the bottom or side of the coal face.

Bed- A separate stratum of coal or other natural deposit such as clay, rock or shale.

Bench- A horizontal section of coal seam included between parting of coal or shale.

Bituminous Coal - A coal that contains 15% to 20% volatile matter. It is dark brown to black in colour and burns with a smoky flame. It is intermediate between sub-bituminous and semi-bituminous coal.

Black Damp - Carbon dioxide gas, sometimes known as choke damp.

Blower - Gas discharged under pressure from a vein in a coal seam.

Boghead Coal - A sapropelic coal resembling cannel coal in its physical properties but containing algae, not spores. It rarely occurs in a pure state but rather in forms transitional to cannel coal. A source of both oil and gas.

Boom - A wooden support of the mine roof, like a building rafter, that is set horizontally.

Bootleg Coal - The mining and/or selling of coal from an area not owned by the miner or without the owner's permission.

Bord - A chamber excavated in coal, off a balance. In some coal fields, a bord is called a room.

Bore Hole - A hole of small diameter drilled or bored to explore the strata beneath, above, beside or ahead.

Box - A mine car or wagon into which coal is loaded at the face and from there is transported to the surface.

Brattice - A partition normally made of canvas, but sometimes made of wood, to make two airways where one existed before, and permit air to move in and out of the mine area.

Break through - As for cross heading.

British Thermal Unit (B.T.U.) - Heat needed to raise one pound of water by one degree F (252 calories).

Brusher - A workman (always an experienced miner) who keeps the roof, sides and pavement of a passage in good repair.

Butty - A miner's working partner - also known as "buddy".

Bullwheel - A wheel, operating freely, around which passes the rope in a balance - gravity - power system. Most are equipped with brakes.

Cage - The elevator that transports the men from the bankhead into the mine.

Cannel Coal - A compact, tough sapropelic coal that contains spores and is characterized by a dull, waxy lustre, conchoidal fracture and massiveness.

Carbon Ratio - Percentage of fixed carbon in coal.

Chainrunner - A workman who fastens and unfastens, as required, haulage cables to trips, and whose signals direct the haulage engineer operator to stop the trip. The chainrunner underground functions much as a guard brakeman on a railway.

Chamber - An excavation from which coal is taken, known also as a bord or room (in Great Britain, it is known as breast).

Checkweighman - The miners representative, chosen by ballot, who checks the weight of coal recovered in the miner's favour, when the coal boxes filled by the miners underground are weighed at the bankhead.

Chock - Chuck, pack - a hardwood block, two or more feet long, six inches or more square, used as a temporary roof support, normally in longwall operations and withdrawn as the wall advances or retreats. In some longwall operations, chocks are left to ease pressure of the crushed roof and prevent it spreading to the coal face.

Choke Damp - A loosely used term for carbon monoxide and carbon dioxide.

Cleat or Cleavage - The term applied to the natural forces, or planes of division, causing coal to break up into more or less rectangular blocks.

Coal - A solid, brittle, stratified, combustible rock-like material formed by decomposition of plant vegetation that has been submitted to compaction and induration.

Coal Analysis - The determination by chemical methods of the amounts of various components of coal.

Coal Ash- Noncombustible material in coal.

Coal Bank - Exposed seam of coal.

Coal Basin - A coal field with a synclinal basin structure.

Coal Bump - Sudden outbursts of coal and rock that occur when stresses in a coal pillar, left for support in underground workings, cause the pillar to rupture without warning, sending coal and rock flying with explosive force.

Coal Caking - Coal that softens and binds together when heated and produces a hard grey cellular coke.

Coal Carbonization - The heat treatment of coal in the absence of air at low temperatures (450 to 700 degrees C) or high temperatures (900 to 1200 degrees C).

Coal Classification - The grouping of coals according to a particular property such as degree of metamorphism (Rank), constituent plant materials (Type), or degree of impurity (Grade). Also, the grouping of coals according to percentage of volatile matter, coal caking properties and coking properties.

Coal Field - The coal deposit or bed, in total, in a given geographic locality.

Coal Gasification - Conversion of coal to gaseous fuel without leaving a combustible residue.

Coal Grade - A coal classification based on the degree of impurity, (i.e. quantity of inorganic material or ash left after burning).

Coal Hydrogeneration or Liquefaction - The conversion of coal into liquid hydrocarbons and related compounds by treating an oily paste of bituminous coal with hydrogen gas at elevated temperatures and pressures.

Coal Measures - A succession of coal seams in varying thickness and separated by other sedimentary rocks such as sandstone and/or shale.

Coal Measures - As for coal field.

Coal Rank - A coal classification based on degree of metamorphism.

Coal Seam or Bed - A stratum (layer) of coal.

Coke - A combustible material consisting of the fused coal ash and fixed carbon of bituminous coal, produced by driving off the coal's volatile matter.

Coking Coal - A bituminous coal containing 80-90% carbon and that is suitable for the production of coke.

Collier - An underground workman in a coal mine - a coal transporting ship.

Colliery - A coal mine inclusive of surface, plant and underground workings.

Compaction - A decrease in the volume of sediment as a result of compressive stress, usually resulting from continued deposits above, but also from drying and other causes.

Conglomerate - The rock strata lying beneath a coal measure.

Creep - A crush in which pillars are forced down into the floor, or up into the roof of a mine.

Crossheading - A narrow opening for ventilation driven through coal or rock separating two passages.

Cuddy - A weighted tram, to counterbalance a loaded tub and pull up the empty tub.

Cut - A groove excavated in the coal face in preparation for blasting.

Datal- Day wage work, minimum wage.

Deadwork-Work for which the miner is not paid.

Deep - Workings below the level of the pit bottom or main levels extending there from.

Dip - Technically, the angle that any inclined stratum makes with a horizontal line. Often loosely used to describe the seam dip or to follow the dip.

Downcast - The passage through which air is drawn through the mine.

Draegermen - A mine worker or official, engaged in mine rescue while wearing a self-contained breathing apparatus.

Drift - The passage through which air is drawn into the mine.

Drill - Any tool used for boring holes underground.

Drive – To excavate a passage.

Driver - A workman, usually a boy, who drives an underground work horse.

Drum - A revolving cylinder on a stationary hoisting or hauling engine, around which the hoisting or hauling cable is wound.

Entry - The main entrance and travelling passage of the mine.

Examiner - An official who patrols a mine section to examine the workings for accumulation of gas and other hazards.

Face - The end wall at the working extremity of any excavation in a mine. The place where a miner works in excavating coal and rock.

Fan - A machine used to force ventilation through a mine. It may be a blow or suction fan, located on the surface or underground.

Fault - A displacement of strata in which the coal on one side of the fossil is pushed above, or below, or aside from the corresponding coal on the other side.

Fire Clay - A geological formation, when found is usually immediately beneath a coal bed. Its heat resistant and easily processable qualities make it invaluable for use as a fire brick.

Fire Damp - Methane or any explosive gas underground.

Fissure - A separation of rock or coal across the seam.

Fixed Carbon - The part of carbon remaining when coal is heated in a closed vessel until the volatile matter is driven off. It is the non-volatile matter minus the ash.

Floor - The bottom of a mine excavation, normally in relation to the coal deposit, it is the upper surface of the stratum immediately underlying a coal seam.

Gob - The void resulting from excavation of coal and also meaning the area from where coal has been extracted and the roof has been allowed to fall in.

Head - A passage connecting other passages.

Head Frame - The metal frame erected over a shaft, which bears the hoisting wheels from which the cages are suspended.

High-Volatile Coals - Coals containing over 32 percent volatile matter.

High-Volatile "A" Bituminous Coal - A non-binding bituminous coal with less than 69% fixed carbon, more than 31% volatile matter and 14,000 or more B.T.U.

High-Volatile "B" Bituminous Coal - A non-binding bituminous coal having between 13,000 and 14,000 B.T.U.

High-Volatile "C" Bituminous Coal - A binding or non-weathering coal having between 11,000 and 13,000 B.T.U.

Hoist - An engine with a winding drum and rope which hauls or hoists a trip or cage.

Hydrocarbons - A large class of organic compounds containing only carbon and hydrogen, and occurring in coal, petroleum and natural gas.

Inbye - A term relative to position, meaning nearer to the coal face, and opposite to the term outbye. Sometimes it is used on the surface to mean that an individual is in the mine.

Induration - The process of hardening of sediments through cementation, pressure, heat, or other cause.

Intake - A level carrying air to the coal face. The intake for one coal face may be the return for another.

Lamp - The apparatus carried by all personnel underground to give light.

Lamp Cabin - The place where mine lamps are stored, repaired, charged with electricity or oil and issued to personnel before going underground.

Level - An excavation or passageway driven in the coal, establishing a base from which other workings begin. A colliery level does not mean a passageway excavated on a horizontal plane. A level is generally excavated in one or more slight inclines.

Lift - All the workings driven upwards from one level in a steep pitching seam.

Lignite - A brownish black coal that is intermediate between peat and sub-bituminous coal.

Loader - A miner's assistant who loads coal into boxes and generally assists the miner at the face.

Long Wall - A mining operation at a long coal face between parallel passages, the face being from 50 to 100+ feet, from which the coal is blasted, then loaded by hand onto mechanically shaken pans which move the coal to the pit boxes.

Low-Volatile Bituminous Coal - A non-binding bituminous coal with 78% to 86% fixed carbon and 14% to 22% volatile matter.

Manhole - A cubby hole inset in the side of a haulage passage such as the main slope or level, for personnel to stand in safety when coal boxes pass.

Manway - A passage in or into the mine used as a foot path.

Manager - The official in charge of a mine, surface and underground.

Medium-Volatile Bituminous Coal - A non-binding bituminous coal with 69-78% fixed carbon and 22-31% volatile matter.

Meta-Anthracite Coal - A non-binding anthracite coal that has 98% or more fixed carbon, and 2% or less volatile matter.

Metamorphism - The mineralogical and structural adjustment of solid rocks to physical and chemical conditions that have been imposed at depth below surface.

Miner - Technically a workman engaged in extracting coal at the coal face, but generally used to describe anyone who works underground.

Mouth - The opening at the surface of any passage into a mine.

Opening - Any excavation in or into a mine.

Operator - The person, company, corporation working a mine, or the individual at the controls of a machine.

Outcrop - That part of a geographical stratum that appears at the surface.

Outbye - A word relative to position, meaning farther from the coal face, opposite to inbye. It is loosely used at times by miners to signify the surface.

Overman - An underground official ranking below underground manager, in charge of a mine section, or, in some circumstances, in charge of a whole mine during the overmen's shift.

Parting - The layer of slate or stony coal that separates two benches of a coal seam.

Pavement - The bottom of the floor of any excavation.

Peat - An unconsolidated deposit of semi-carbonized plant remains of a water-saturated environment, such as a bog, and of persistently high moisture content (at least 75%). It is considered the early stage or rank in the development of coal.

Peat Coal - A coal transitional between peat and brown coal or lignite.

Piece Can - The underground workman's lunch container, usually made from sheet metal, with a tea can made from the same material.

Pillar - A column or body of coal left unmined to support the roof.

Pillard and Bord - The name used to describe a mining method (i.e. coal is extracted from the bords and left in the pillars). The latter's extraction is the final mining process.

Pit - A mine.

Plane - An incline on which a track is laid on which to lower or hoist coal.

Powder - Explosive chemical in powder form used at the coal face to blast.

Prop - A wooden upright post to support the roof.

Proximate Analysis - Determines percentages of moisture (water), volatile matter, fixed carbon and coal ash; also sulphur and heat value in B.T.U. are reported.

Pumpman - A workman who maintains and supervises a pump's operation.

Pump Way - The compartment of a shaft or slope down which pump rods and pipes extend; also called pump slope and pump shaft.

Punchers - Air-driven percussive pick machines.

Rake - Carries the men into and out of the mine.

Rib - The side of an excavation.

Roadway - See level.

Rob - To mine coal from pillars.

Rollerman - A workman who lubricates and maintains the rollers and pulleys over and through which haulage cables pass.

Roof - Strata immediately over a coal seam; rock or coal over head in any excavation.

Room and Pillar - A system of mining in which the distinguishing feature is the winning of fifty percent or more coal in the first working. The coal is mined in rooms separated by narrow ribs or pillars. The coal in the pillars may be won by subsequent workings. The rooms are driven parallel with one another, and the room faces may be extended, at right angles or at an angle to the dip. This method is applicable to flat deposits, such as coal, that occur in bedded deposits.

Sapropelic Coal - A coal derived from organic residues (finely divided plant material, spores, algae) in stagnant or standing bodies of water.

Seam - A strata of coal, also called a vein.

Sediment - Solid material, both mineral and organic, that has come to rest on the earth's surface either above or below sea level.

Semi-Anthracite - Coal intermediate between anthracite and semi-bituminous coal and having a fixed carbon content of between 85 percent and 92 percent. Physical properties resemble anthracite.

Semi-Bituminous Coal - Coal that ranks between bituminous and semi-anthracite. It is harder and more brittle than bituminous coal, has a high fuel ratio and burns without smoke.

Shaft - A vertical excavation connecting surface and mine workings.

Shaftman - A workman who patrols in a slowly moving cage in a mine shaft, and maintains the shaft by working through the cage side, or on its top, or suspended from the cage bottom.

Shift-The time during which workmen work, alternating with some other period.

Shooting - Blasting in a mine.

Shot - The explosive charge in the coal face.

Shotfirer - The official prior to detonating an explosive charge to blast coal, examines the area for gas, examines the preparations made for the blasting and when assured that all safety regulations have been complied with, detonates the shot.

Sinking - A passage driven on an incline down to coal workings in lower depths, comparable to an inside slope.

Slope - An entrance to a mine driven down through an inclined coal seam. An inside slope in a mine is a passage in the mine driven from one system of workings down through a seam, to bring up coal from a lower system of workings.

Slopeman - A workman who patrols and keeps in repair the mine's main and back slopes.

Splint - A hard variety of bituminous coal that ignites with difficulty, owing to its slaty structure, but makes a clear hot fire.

Spores - Parts of the reproductive organs of many plants that formed coal.

Stableman - A workman who cares for the horses and maintains the stable underground. In off-working days the stableman is responsible for watering the horses.

Store Keeper - A semi-clerical worker who supervises a storeroom of colliery tools and equipment, and who issues these items for use upon instruction of competent authority.

Stripping - Mining coal by first removing the covering strata down to the coal bed; open workings as in a quarry; sometimes used to describe a final mining operation drawing pillars. When all coal is removed the roof crashes down.

Sub-Bituminous Coal - A black coal that ranks between lignite and bituminous coals. It has higher carbon and lower moisture content than lignite.

Sub-Bituminous "A" Coal - A non-binding sub-bituminous coal having between 11,000 and 13,000 B.T.U.

Sub-Bituminous "B" Coal - A non-binding sub-bituminous coal having between 9,500 and 11,000 B.T.U.

Sub-Bituminous "C" Coal - A non-binding sub-bituminous coal having between 8,300 and 9,500 B.T.U.

Sulphur - Coal constituent usually in the form of pyrite.

Sump - A basin or collection place in a mine, into which water runs to be pumped out.

Trackman - A workman who keeps mine tracks in repair.

Trapper - Trapper boy, a boy stationed at an underground door, to open and close it when boxes pass, and thus control the air current.

Travelling Way - A passageway for men and horses in and out of the mine.

Trip - A number of boxes drawn by power, as for rake.

Tunnel - The passageway between two mines or systems of working, driven horizontally across the measures.

Ultimate Analysis - Determines percentages of chemical elements - carbon, hydrogen, oxygen, nitrogen and sulphur.

Upcast - The passage from and in a mine through which air passes.

Volatile Matter - Those substances in coal, other than moisture, that are given off as gas and vapour during combustion.

Workings - An excavation of a mine, as a whole, or that part of a mine in which mining operations are being done.