

Appendix Y - Glossary of Mining Terms as used in this Report

Abutment - In coal mining, (1) the weight of the rocks above a narrow roadway is transferred to the solid coal along the sides, which act as abutments of the arch of strata spanning the roadway; and (2) the weight of the rocks over a longwall face is transferred to the front abutment, that is, the solid coal ahead of the face and the back abutment, that is, the settled packs behind the face.

Act - The Federal Mine Safety and Health Act of 1977.

Active workings - Any place in a coal mine where miners are normally required to work or travel.

Advance - Mining in the same direction, or order of sequence; first mining as distinguished from retreat.

Agent – Any person charged with responsibility for the operation of all or a part of a coal or other mine or the supervision of the miners in a coal or other mine.

Air split - The division of a current of air into two or more parts.

Air course - An entry or a set of entries separated from other entries by stoppings, overcasts, other ventilation control devices, or by solid blocks of coal or rock so that any mixing of air currents between each is limited to leakage. Also known as an airway.

AMS Operator - The person(s) designated by the mine operator, who is located on the surface of the mine and monitors the malfunction, alert, and alarm signals of the AMS and notifies appropriate personnel of these signals.

Angle of dip - The angle at which strata or mineral deposits are inclined to the horizontal plane.

Angle of draw - In coal mine subsidence, this angle is assumed to bisect the angle between the vertical and the angle of repose of the material and is 20° for flat seams. For dipping seams, the angle of break increases, being 35.8° from the vertical for a 40° dip. The main break occurs over the seam at an angle from the vertical equal to half the dip.

Angle of repose - The maximum angle from horizontal at which a given material will rest on a given surface without sliding or rolling.

Arching - Fracture processes around a mine opening, leading to stabilization by an arching effect.

Atmospheric Monitoring System (AMS) - A network consisting of hardware and software meeting the requirements of 30 CFR 75.351 and 75.1103–2 and capable of: measuring atmospheric parameters; transmitting the measurements to a designated surface location; providing alert and alarm signals; processing and cataloging atmospheric data; and, providing reports. Frequently used for early-warning fire detection and to monitor the operational status of mining equipment.

Azimuth - A surveying term that references the angle measured clockwise from any meridian (the established line of reference). The bearing is used to designate direction. The bearing of a line is the acute horizontal angle between the meridian and the line.

Back-Analysis - A process in which known failures or successes are evaluated to determine the relationship of engineering parameters to outcomes.

Barricading - Enclosing part of a mine to prevent inflow of noxious gasses from a mine fire or an explosion. If men are unable to escape, they retreat as far as possible, select some working place with plenty of space, short-circuit the air from this place, build a barricade, and remain behind it until rescued.

Barrier - Barrier pillars are solid blocks of coal left between two mines or sections of a mine to prevent accidents due to intrushes of water, gas, or from explosions or a mine fire; also used for a pillar left to protect active workings from a squeeze.

Beam - A bar or straight girder used to support a span of roof between two support props or walls.

Beam building - The creation of a strong, inflexible beam by bolting or otherwise fastening together several weaker layers. In coal mining this is the intended basis for roof bolting.

Bearing plate - A plate used to distribute a given load; in roof bolting, the plate used between the bolt head and the roof.

Bed - A stratum of coal or other sedimentary deposit.

Belt air course - The entry in which a belt is located and any adjacent entry(ies) not separated from the belt entry by permanent ventilation controls, including any entries in series with the belt entry, terminating at a return regulator, a section loading point, or the surface.

Belt conveyor - A looped belt on which coal or other materials can be carried and which is generally constructed of flame-resistant material or of reinforced rubber or rubber-like substance.

Bit - The hardened and strengthened device at the end of a drill rod that transmits the energy of breakage to the rock. The size of the bit determines the size of the hole. A bit may be either detachable from or integral with its supporting drill rod.

Bituminous coal – A middle rank coal (between sub-bituminous and anthracite) formed by additional pressure and heat on lignite. Usually has a high Btu value and may be referred to as "soft coal."

Bleeder entries - Special entries developed and maintained as part of the bleeder system and designed to continuously move air from pillared areas into a return air course or to the surface of the mine.

Bleeder system - a ventilation network used to ventilate pillared areas in underground coal mines and designed to continuously dilute and move air-methane mixtures and other gases,

dusts, and fumes from the worked-out area away from active workings and into a return air course or to the surface of the mine.

Borehole - Any deep or long drill-hole, usually associated with a diamond drill.

Bottom - Floor or underlying surface of an underground excavation.

Boss - Any member of the managerial ranks who is directly in charge of miners (e.g., “shift-boss,” “face-boss,” “fire-boss,” etc.).

Brattice or brattice cloth - Fire-resistant fabric or plastic partition used in a mine passage to confine the air and force it into the working place; also termed “curtain,” “rag,” “line brattice,” “line canvas,” or “line curtain.”

Bounce - A heavy sudden often noisy blow or thump; sudden spalling off of the sides of ribs and pillars due to the excessive pressure; any dull, hollow, or thumping sound produced by movement or fracturing of strata as a result of mining operations; also known as a bump.

Bump – see definition for “Bounce.”

Bump Prone Ground²⁸ – Strong, stiff roof and floor strata not prone to failing or heaving when subjected to high stress (e.g., deep overburden); also can refer to locations where bumps or bursts have historically occurred.

Burst - An explosive breaking of coal or rock in a mine due to pressure; the sudden and violent failure of overstressed rock resulting in the instantaneous release of large amounts of accumulated energy where coal or rock is suddenly expelled from failed pillars. In coal mines they may or may not be accompanied by a copious discharge of methane, carbon dioxide, or coal dust; also called outburst; bounce; bump; rock burst.

Can – A brand name type of floor-to-roof support constructed of prefabricated steel sheet metal cylinders filled with light-weight concrete.

Cap - A miner's safety helmet.

Certified - Describes a person who has passed an examination to do a required job.

Cleat - The vertical cleavage of coal seams. The main set of joints along which coal breaks when mined.

Coal - A solid, brittle, more or less distinctly stratified combustible carbonaceous rock, formed by partial to complete decomposition of vegetation; varies in color from dark brown to black; not fusible without decomposition and very insoluble.

Coal reserves - Measured tonnages of coal that have been calculated to occur in a coal seam within a particular property.

Coda Magnitude – The coda magnitude (M_C) is based on the length of the seismic signal and calibrated to provide similar results with the local magnitude (M_L) or Richter scale for naturally occurring earthquakes.

Competent rock - Rock which, because of its physical and geological characteristics, is capable of sustaining openings without any structural support except pillars and walls left during mining (stalls, light props, and roof bolts are not considered structural support).

Contact - The place or surface where two different kinds of rocks meet. Applies to sedimentary rocks, as the contact between a limestone and a sandstone, for example, and to metamorphic rocks; and it is especially applicable between igneous intrusions and their walls.

Continuous mining machine - A machine that removes coal from the face and loads that coal into cars without the use of cutting machines, drills, or explosives.

Contour - An imaginary line that connects all points on a surface having the same elevation.

Convergence – Reduction of entry height; closure between the mine floor and the mine roof.

Core sample – A cylinder sample generally 1-5" in diameter drilled out of an area to determine the geologic and chemical analysis of the overburden and coal.

Cover - The overburden of any deposit.

Crib - A roof support of prop timbers or ties, laid in alternate cross-layers, log-cabin style.

Cribbing - The construction of cribs or timbers laid at right angles to each other, sometimes filled with earth, as a roof support or as a support for machinery.

Crosscut - A passageway driven between parallel entries or air courses for ventilation purposes.

Curtain – see definition for “Brattice.”

Cycle mining - A system of mining in more than one working place at a time, that is, a continuous mining machine takes a lift from the face and moves to another face while permanent roof support is established in the previous working face.

Depth - The word alone generally denotes vertical depth below the surface. In the case of boreholes it may mean the distance reached from the beginning of the hole, the borehole depth, or the inclined depth.

Detectors - Specialized chemical or electronic instruments used to detect mine gases.

Development mining - Work undertaken to open up coal reserves prior to pillar recovery.

Dilute - To lower the concentration of a mixture; in this case the concentration of any hazardous gas in mine air by addition of fresh intake air.

Dip - The inclination of a geologic structure (bed, vein, fault, etc.) from the horizontal; dip is always measured downwards at right angles to the strike.

Double Difference Method – A technique to improve the precision of the location of seismic events by determining the relative location between multiple events. When combined with a known location, it can improve the accuracy of the locations.

Drainage - The process of removing surplus ground or surface water either by artificial means or by gravity flow.

Drift - A horizontal passage underground. A drift follows the vein, as distinguished from a crosscut that intersects it, or a level or gallery, which may do either.

Drift mine – An underground coal mine in which the entry or access is above water level and generally on the slope of a hill, driven horizontally into a coal seam.

Dump - To unload; specifically, a load of coal or waste; the mechanism for unloading, e.g. a car dump (sometimes called tipple); or, the pile created by such unloading, e.g. a waste dump (also called heap, pile, tip, spoil pike, etc.).

Entry - An underground horizontal or near-horizontal passage used for haulage, ventilation, or as a mainway; a coal heading; a working place where the coal is extracted from the seam in the initial mining; same as "gate" and "roadway," both British terms.

Extraction - The process of mining and removal of coal or ore from a mine.

Face – The exposed area of a coal bed from which coal is being extracted.

Face cleat - The principal cleavage plane or joint at right angles to the stratification of the coal seam.

Fall - A mass of roof rock or coal which has fallen in any part of a mine.

Fan signal - Automation device designed to give alarm if the main fan slows down or stops.

Fault - A slip-surface between two portions of the earth's surface that have moved relative to each other. A fault is a failure surface and is evidence of severe earth stresses.

Fault zone - A fault, instead of being a single clean fracture, may be a zone hundreds or thousands of feet wide. The fault zone consists of numerous interlacing small faults or a confused zone of gouge, breccia, or mylonite.

Feeder - A machine that feeds coal onto a conveyor belt evenly.

Floor - That part of any underground working upon which a person walks or upon which haulage equipment travels; simply the bottom or underlying surface of an underground excavation.

Formation – Any assemblage of rocks which have some character in common, whether of origin, age, or composition. Often, the word is loosely used to indicate anything that has been formed or brought into its present shape.

Fracture - A general term to include any kind of discontinuity in a body of rock if produced by mechanical failure, whether by shear stress or tensile stress. Fractures include faults, shears, joints, and planes of fracture cleavage.

Fresh Air Base – Mine rescue teams establish a fresh air base (FAB) under controlled ventilation at the entrance to unexplored areas. The FAB includes a hardwired communications system running to the surface command center. The FAB serves as a safe retreat and as a communication hub between the exploring teams and the command center.

Gob - The term applied to that part of the mine from which the coal pillars have been recovered and the rock that falls into the void; also called goaf. Also, refers to loose waste in a mine.

Grading - Digging up the bottom to give more headroom in roadways.

Ground control - Measures taken to prevent roof falls or coal bursts.

Ground pressure - The pressure to which a rock formation is subjected by the weight of the superimposed rock and rock material or by diastrophic forces created by movements in the rocks forming the earth's crust. Such pressures may be great enough to cause rocks having a low compressional strength to deform and be squeezed into and close a borehole or other underground opening not adequately strengthened by an artificial support, such as casing or timber.

Haulage - The horizontal transport of ore, coal, supplies, and waste.

Haulageway - Any underground entry or passageway that is designed for transport of mined material, personnel, or equipment, usually by the installation of track or belt conveyor.

Heaving - Applied to the rising of the bottom after removal of the coal.

Horizon - In geology, any given definite position or interval in the stratigraphic column or the scheme of stratigraphic classification; generally used in a relative sense.

Hydraulic - Of or pertaining to fluids in motion. Hydraulic cement has a composition which permits it to set quickly under water. Hydraulic jacks lift through the force transmitted to the movable part of the jack by a liquid. Hydraulic control refers to the mechanical control of various parts of machines, such as coal cutters, loaders, etc., through the operation or action of hydraulic cylinders.

Immediate roof - The roof strata immediately above the coalbed, requiring support during the excavation of coal.

Inby – Into the mine; in the direction of the working face.

In situ - In the natural or original position. Applied to a rock, soil, or fossil when occurring in the situation in which it was originally formed or deposited.

Intake air - Air that has not yet ventilated the last working place on any split of any working section, or any worked-out area, whether pillared or nonpillared.

Isopach - A line, on a map, drawn through points of equal thickness of a designated unit.

Jackpot - A cap-shaped unit designed for pre-stressing prop-type supports developed by New Concept Mining.

Joint - A divisional plane or surface that divides a rock and along which there has been no visible movement parallel to the plane or surface.

Lamp - The electric cap lamp worn for visibility.

Layout - The design or pattern of the main roadways and workings. The proper layout of mine workings is the responsibility of the manager aided by the planning department.

Lift - The amount of coal obtained from a continuous mining machine in one mining cycle.

Line Curtain - Fire-resistant fabric or plastic partition used in a mine passage to confine the air and force it into the working place; also termed "line brattice" or "line canvas."

Lithology - The character of a rock described in terms of its structure, color, mineral composition, grain size, and arrangement of its component parts; all those visible features that in the aggregate impart individuality of the rock. Lithology is the basis of correlation in coal mines and commonly is reliable over a distance of a few miles.

Loading point – The point where coal or ore is loaded onto conveyors.

Local Magnitude – The local magnitude (M_L) or Richter scale is a logarithmic scale originally devised by Charles Richter to quantify the intensity of California earthquakes and has been adopted for use around the world.

Longwall mining – One of three major underground coal mining methods currently in use. Employs a steel plow, or rotation drum, which is pulled mechanically back and forth across a face of coal that is usually several hundred feet long. The loosened coal falls onto a conveyor for removal from the mine.

Loose coal - Coal fragments larger in size than coal dust.

Main entry - A main haulage road. Where the coal has cleats, main entries are driven at right angles to the face cleats.

Main fan - A mechanical ventilator installed at the surface; operates by either exhausting or blowing to induce airflow through the mine.

Man trip - A carrier of mine personnel, by rail or rubber tire, to and from the work area.

Methane – A potentially explosive gas formed naturally from the decay of vegetative matter, similar to that which formed coal. Methane, which is the principal component of natural gas, is frequently encountered in underground coal mining operations and is kept within safe limits through the use of extensive mine ventilation systems.

Methane monitor - An electronic instrument often mounted on a piece of mining equipment that detects and measures the methane content of mine air.

Miner – Any individual working in a coal or other mine.

Mobile bridge continuous haulage system - A system of movable conveyors that carry coal from a continuous mining machine to the section belt allowing the machine to advance over short distances without interrupting the mining and loading operation.

Mobile Command Center Vehicle – Class A motor home equipped with communication equipment, conference facility, and office equipment maintained by MSHA’s Mine Emergency Operations unit.

MSHA - Mine Safety and Health Administration; the federal agency which regulates coal mine safety and health.

Operator - Any owner, lessee, or other person who operates, controls, or supervises a coal or other mine or any independent contractor performing services or construction at such mine.

Outburst Accident - coal or rock outburst that cause withdrawal of miners or which disrupts regular mining activity for more than one hour (even if no miners are injured).

Outby - Nearer to or toward the mine entrance, and hence farther from the working face; the opposite of inby.

Overburden – Layers of soil and rock covering a coal seam; also referred to as “depth of cover.”

Overcast - Enclosed airway which permits one air current to pass over another without interruption.

Pager Phone – A telephone system approved for use in coal mines and capable of broadcasting voice messages over a loud speaker.

Panel - A coal mining block that generally comprises one operating unit.

Parting - (1) A small joint in coal or rock; (2) a layer of rock in a coal seam; (3) a side track or turnout in a haulage road.

Percentage extraction - The proportion of a coal seam which is removed from the mine. The remainder may represent coal in pillars or coal which is too thin or inferior to mine or lost in mining. Shallow coal mines working under townships, reservoirs, etc., may extract 50%, or less, of the entire seam, the remainder being left as pillars to protect the surface. Under favorable conditions, longwall mining may extract from 80 to 95% of the entire seam. With pillar methods of working, the extraction ranges from 50 to 90% depending on local conditions.

Permissible - That which is allowable or permitted. It is most widely applied to mine equipment and explosives of all kinds which are similar in all respects to samples that have passed certain tests of the MSHA and can be used with safety in accordance with specified conditions where hazards from explosive gas or coal dust exist.

Permit – As it pertains to mining, a document issued by a regulatory agency that gives approval for mining operations to take place.

Pillar - An area of coal left to support the overlying strata in a mine; sometimes left permanently to support surface structures.

Pillared area - Describes that part of a mine from which the pillars have been removed; also known as robbed out area.

Pillar line - The line that roughly follows the rear edges of coal pillars that are being recovered during retreat mining; the line along which the roof of a coal mine is expected to break.

Pillar recovery - Any reduction in pillar size during retreat mining. Refers to the systematic removal of the coal pillars between rooms or chambers to regulate the subsidence of the roof; also termed “pillar robbing,” “bridging back” the pillar, “drawing” the pillar, or “pulling” the pillar.

Portal - The surface entrance to a mine.

Post - The vertical member of a timber set.

Prop - Coal mining term for any single post used as roof support. Props may be timber or steel; if steel--screwed, yieldable, or hydraulic.

Qualified Person - (1) An individual deemed qualified by MSHA and designated by the operator to make tests and examinations required by this 30 CFR part 75; and (2) An individual deemed, in accordance with minimum requirements established by MSHA, qualified by training, education, and experience, to perform electrical work, to maintain electrical equipment, and to conduct examinations and tests of all electrical equipment.

Rag – see definition for “Brattice.”

Recovery - The proportion or percentage of coal or ore mined from the original seam or deposit.

Regulator - Device (wall, door) used to control the volume of air in an air split.

Reserve – That portion of the identified coal resource that can be economically mined at the time of determination. The reserve is derived by applying a recovery factor to that component of the identified coal resource designated as the reserve base.

Resin bolting - A method of permanent roof support in which steel rods are grouted with resin.

Resources – Concentrations of coal in such forms that economic extraction is currently or may become feasible. Coal resources broken down by identified and undiscovered resources.

Identified coal resources are classified as demonstrated and inferred. Demonstrated resources are further broken down as measured and indicated. Undiscovered resources are broken down as hypothetical and speculative.

Retreat mining - A system of robbing pillars in which the robbing line, or line through the faces of the pillars being extracted, retreats from the boundary toward the shaft or mine mouth.

Return air - Air that has ventilated (or mixed with air that has ventilated) the last working place on any split of any working section, or any worked-out area, whether pillared or nonpillared.

Rib - The side of a pillar or the wall of an entry; the solid coal on the side of any underground passage.

Rider - A thin seam of coal overlying a thicker one.

Rob - To extract pillars of coal previously left for support.

Rock Dust - Pulverized limestone, dolomite, gypsum, anhydrite, shale, adobe, or other inert material, preferably light colored. Rock dust is applied to underground areas of coal mines to increase the incombustible content of mine dust so that it will not propagate an explosion.

RocProp - A type of hydraulically wedged standing roof support, registered trademark of Mine Support Products.

Roof - The stratum of rock or other material above a coal seam; the overhead surface of a coal working place; same as “back” or “top.”

Roof bolt - A long steel bolt driven into the roof of underground excavations to support the roof, preventing and limiting the extent of roof falls. The unit consists of the bolt (up to 4 feet long), steel plate, expansion shell, and pal nut. The use of roof bolts eliminates the need for timbering by fastening together, or “laminating,” several weaker layers of roof strata to build a “beam.”

Roof Coal – A layer of coal immediately above the mine opening as a result of leaving the upper horizon of the coalbed unmined, usually to protect weak shale in the immediate roof from weathering; also known as “head coal” or “top coal.”

Roof fall - A coal mine cave-in, especially in active areas such as entries.

Roof jack - A screw- or pump-type hydraulic extension post made of steel and used as temporary roof support.

Roof sag - The sinking, bending, or curving of the roof, especially in the middle, from weight or pressure.

Roof stress - Unbalanced internal forces in the roof or sides, created when coal is extracted.

Roof support – Posts, jacks, roof bolts and beams used to support the rock overlying a coal seam in an underground mine. A good roof support plan is part of mine safety and coal extraction.

Room and pillar mining – A method of underground mining in which approximately half of the coal is left in place to support the roof of the active mining area. Large "pillars" are left while "rooms" of coal are extracted.

Safety factor - The ratio of the ultimate breaking strength of the material to the force exerted against it.

Sandstone - A sedimentary rock consisting of quartz sand united by some cementing material, such as iron oxide or calcium carbonate.

Scaling - Removal of loose rock from the roof or walls. This work is dangerous and a long bar (called a scaling bar) is often used.

Scoop - A rubber tired-, battery- or diesel-powered piece of equipment designed for cleaning roadways and hauling supplies.

Seam - A stratum or bed of coal.

Section - A portion of the working area of a mine.

Self-contained breathing apparatus - A self-contained supply of oxygen used during rescue work from coal mine fires and explosions.

Self-contained self-rescuer (SCSR) – A type of closed-circuit, self-contained breathing apparatus approved by MSHA and NIOSH under 42 CFR part 84 for escape only from underground mines. The device is capable of sustaining life in atmospheres containing deficient oxygen.

Self-rescuer – A small filtering device carried by a coal miner underground, either on his belt or in his pocket, to provide him with immediate protection against carbon monoxide and smoke in case of a mine fire or explosion. It is a small canister with a mouthpiece directly attached to it. The wearer breathes through the mouth, the nose being closed by a clip. The canister contains a layer of fused calcium chloride that absorbs water vapor from the mine air. The device is used for escape purposes only and does not sustain life in atmospheres containing deficient oxygen. Filter self-rescuers approved by MSHA and NIOSH under 42 CFR part 84 provide at least one hour of protection against carbon monoxide.

Shaft - A primary vertical or non-vertical opening through mine strata used for ventilation or drainage and/or for hoisting of personnel or materials; connects the surface with underground workings.

Shale - A rock formed by consolidation of clay, mud, or silt, having a laminated structure and composed of minerals essentially unaltered since deposition.

Shift - The number of hours or the part of any day worked.

Shuttle car – A self-discharging vehicle, generally with rubber tires, used for receiving coal from the loading or mining machine and transferring it to an underground loading point, mine railway, or belt conveyor system.

Slabbing – A method of mining pillars in which successive lifts are cut from one side of the pillar.

Sloughing - The slow crumbling and falling away of material from roof, rib, and face.

Spad – A spad is a flat spike hammered into the mine ceiling from which is threaded a plumbline to serve as an underground survey station. A sight spad, is a station that allows a mine foreman to visually align entries or breaks from the main spad.

Span - The horizontal distance between the side supports or solid abutments.

Split - Any division or branch of the ventilating current or the workings ventilated by one branch. Also, to divide a pillar by driving one or more roads through it.

Squeeze - The settling, without breaking, of the roof and the gradual upheaval of the floor of a mine due to the weight of the overlying strata.

Step-Up Foreman – A crewmember who acts in a supervisory role during a foreman’s absence.

Strike - The direction of the line of intersection of a bed or vein with the horizontal plane. The strike of a bed is the direction of a straight line that connects two points of equal elevation on the bed.

Stump - Any small pillar.

Stopping – A permanent wall built across unused crosscuts or entries to separate air courses and prevent the air from short circuiting.

Subsidence – The gradual sinking, or sometimes abrupt collapse, of the rock and soil layers into an underground mine.

Sump - A place in a mine that is used as a collecting point for drainage water.

Support - The all-important function of keeping the mine workings open. As a verb, it refers to this function; as a noun it refers to all the equipment and materials--timber, roof bolts, concrete, steel, etc.--that are used to carry out this function.

Tailgate - A subsidiary gate road to a conveyor face as opposed to a main gate. The tailgate commonly acts as the return airway and supplies road to the face.

Tailpiece - Also known as foot section pulley. The pulley or roller in the tail or foot section of a belt conveyor around which the belt runs.

Timber - A collective term for underground wooden supports.

Time of Useful Consciousness – Also known as “**Effective Performance Time.**” These interchangeable terms describe the period of time between the interruption of the oxygen supply or exposure to an oxygen-poor environment and the time when a person is unable to perform duties effectively, such as putting on oxygen equipment or taking corrective action.

Ton – A short or net ton is equal to 2,000 pounds.

Top - A mine roof; same as “back.”

Tractor - A piece of self-propelled equipment that pulls trailers, skids, or personnel carriers. Also used for supplies.

Tram - Used in connection with moving self-propelled mining equipment (i.e., to tram or move a machine).

Transfer point - Location in the materials handling system, either haulage or hoisting, where bulk material is transferred between conveyances.

Underground mine – Also known as a "deep" mine. Usually located several hundred feet below the earth's surface, an underground mine's coal is removed mechanically and transferred by shuttle car or conveyor to the surface.

Velocity - Rate of airflow in lineal feet per minute.

Ventilation - The provision of a directed flow of fresh and return air along all underground roadways, traveling roads, workings, and service parts.

Violation - The breaking of any state or federal mining law.

Water Gauge (standard U-tube) - Instrument that measures differential pressures in inches of water.

Wedge - A piece of wood tapering to a thin edge and used for tightening in conventional timbering.

Weight - Fracturing and lowering of the roof strata at the face as a result of mining operations, as in “taking weight.”

Worked out area - An area where mining has been completed, whether pillared or nonpillared, excluding developing entries, return air courses, and intake air courses.

Working - When a coal seam is being squeezed by pressure from roof and floor, it emits creaking noises and is said to be “working.” This often serves as a warning to the miners that additional support is needed.

Working face - Any place in a coal mine in which work of extracting coal from its natural deposit in the earth is performed during the mining cycle.

Working place - The area of a coal mine in by the last open crosscut.

Workings - The entire system of openings in a mine for the purpose of exploitation.

Working section - All areas of the coal mine from the loading point of the section to and including the working faces.