APPENDIX B

Glossary - Selected Bibliography

GLOSSARY

This glossary is included as an aid to reader understanding of the statement. It includes technical words that may not be common in popular use and also more common words that, in this report, may be used in a more narrow, technical way.

AASHO classification (soil engineering). The official classification of soil materials and soil aggregate mixtures for highway construction used by the American Association of State Highway Officials.

Acre-foot. The quantity of a material that will cover 1 acre of land 1 foot deep.

Aestivate. To pass the summer in a dormant state. Summertime hibernation.

Agglomerate. To fuse into a mass.

Alkaline soil. Precisely, any soil horizon having a pH value greater than 7.0; practically, a soil having a pH above 7.3.

Alkali soil. 1: A soil with a high degree of alkalinity (pH of 8.5 or higher) or with a high exchangeable sodium content (15 percent or more of the exchange capacity) or both. 2: A soil that contains sufficient alkali (sodium) to interfere with the growth of most crop plants.

Alluvial soils. An azonal great soil group developed from transported and relatively recently deposited material (alluvium) characterized by a weak modification (or none) of the original material by soil-forming processes.

Alluvium. Clay, silt, sand, and gravel or other rock material transported by flowing water and deposited as sorted or semi-sorted sediments.

Ammonium nitrite fuel-oil prill. A globular, porous particle obtained by spraying ammonium nitrate and fuel oil in a rising current of warm air. Used in blasting.

Angle of repose. Angle between the horizontal and the maximum slope that a soil assumes through natural processes.

Animal unit month. A measure of forage or feed requirement to maintain one animal (cow or 5 sheep) for a period of 30 days. Abbreviated: AUM.

Annual plant. A plant that completes its life cycle and dies in one year or less.

Aquifer. A layer of rock, sand, or gravel that contains water and that will deliver it in usable quantities to wells.

Aquifer skeleton. The mineral framework of a water-bearing zone or aquifer.

Atmospheric stability. The degree of vertical mixing of the air. It is a measure of the potential ability of air to diffuse pollutants both laterally and vertically.

Available water-holding capacity (soils). The capacity to store water available for use by plants, usually expressed in linear depths of water per unit depth of soil.

Backfill. The process of filling, or the material used to fill, a surface mine pit.

Bedrock. The more or less solid rock in place either on or beneath the surface of the earth.

Belt conveyor. A moving, endless belt that rides on rollers and on which materials can be carried for various distances.

Belt line. A belt conveyor.

Bench. A division of a coalbed. A layer in a coalbed mined separately.

Biome. A major biotic unit consisting of plant and animal communities having similarities in form and environmental conditions.

Boxcut. The initial pit in a strip mine where no open side exists; this results in a highwall on both sides of the pit.

Breaks. Rough, broken topography--in many places the transition area between highlands and lowlands.

Browse. That part of leaf and twig growth of shrubs, woody vines, and trees available for animal consumption.

Btu. Abbreviation for the British thermal unit. Amount of heat needed to raise 1 pound of water 1 degree F (252 calories).

Burn area. Area of clinker.

Burnline. Rock outcrop of hard clinker produced by a burning coalbed.

Carbonaceous. Containing carbon. Shale or other rock containing small fragments of carbon distributed throughout.

Carnivorous. Flesh eating.

Carrying capacity. A maximum number of animals that can survive on a land area over the long term.

Channery. Soil mass containing between 15 and 90 percent by volume of fragments.

Claystone. Hardened clay.

Clinker. Natural baked shale--in the study area it normally overlies burned out coal seams and was formed by burning of the coal. Locally called scoria.

Coal. A solid, brittle, dark brown to black, combustible, carbonaceous rock formed by the partial to complete decomposition of vegetation.

Coal slack. Fine-grained coal resulting from weathering and exposure to air.

Coke. Coal from which volatile constituents have been driven off by heat, so that the fixed carbon and ash are fused together.

Colluvium. Loose, unconsolidated clay, silt, sand, and gravel at the foot of a slope, brought there by force of gravity.

Community. An aggregate of organisms which form a distinct ecological unit. Such a unit may be defined in terms of plants, animals, or both.

Concretion. An accumulation of mineral matter cemented around a center within a sedimentary host rock, commonly spheroidal or disk-shaped.

Contour furrows. Furrows plowed approximately on the contour on pasture or rangeland to prevent soil loss and increase infiltration. Also, furrows laid out approximately on the contour for irrigation purposes.

Corrosion (of rock). The solution of rocks and other materials by chemical action.

Coulee. A steep-walled valley or ravine varying widely in size and often having a stream at the bottom.

Crop out. To be exposed at the surface.

Cover, vegetative. All plants found on an area, irrespective of whether they have forage or other value. Syn.: plant cover.

Dip. The angle at which a bed or stream is inclined from the horizontal.

Discharge. The process by which water moves from an aquifer, or the amount of water that moves from an aquifer.

Dissolved solids. The total dissolved mineral constituents of water.

Diversion terrace. Channels across a hillside used to protect bottomland from hillside runoff or to protect against runoff from an unterraced area.

Dragline. A type of excavating equipment which casts a rope-hung bucket and collects dug material by pulling the bucket with a second rope.

Dry farming. Farming without irrigation.

Ecology. A study of animals and plants in their relation to each other and to their environment.

Ecosystem. Complex self-sustaining natural system which includes living and nonliving components of the environment and the interactions that bind them together. Its functioning involves the circulation of matter and energy between organisms and their environment.

Ecotone. Transition zone between two adjacent plant or animal communities.

Ecotype. A locally adapted population of a species which has a distinctive limit of tolerance to environmental factors.

Effluent. A liquid or gaseous product discharged from the ground, or a process.

Eolian soil material. Soil material accumulated through wind action.

Erodible. Susceptible to erosion. (Expressed by terms such as highly erodible, slightly erodible, etc.)

Exotic. Not native, usually from another continent.

Fauna. The animals of a particular period or region taken collectively.

Final highwall. The final face of exposed overburden and coal or ore in a surface mine.

Flow net. A graphic representation of the flow lines and equipotential lines used in the study of seepage.

Food chain. The pattern of energy or food transfer between a series of organisms interrelated in their feeding habits within an ecosystem. One organism is fed upon by another which in turn is fed upon by another, etc.

Forb. Any herbacious plant other than those that are grass or grass-like.

Formation. A distinctive group of rocks selected as a convenient unit for mapping, description, and reference.

Friable. Easy to break, crumbling naturally, poorly cemented so as to crumble.

Geomorphology. That branch of both physiography and geology that deals with the form of the earth, the general configuration of its surface, and the changes that take place in the evolution of landforms.

gpd. Gallons per day.

gpm. Gallons per minute.

Ground water. Atmospheric water which saturates rock openings at and beneath the water table. Also used to mean all water below the ground surface.

Habitat. A specific set of physical conditions that surround the 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.

Herbivorous. Plant eating.

Highwall. The unexcavated face of exposed overburden and coal in a strip mine pit.

Hydrophyte. A plant that grows in water on in wet or saturated soils.

Infrastructure. Those public services and facilities necessary for the existence of a town and normally supported by public funds, such as schools, roads, medical services and facilities.

Insectivorous. Insect eating.

Intermittent stream. A stream that flows only part of the time.

Invertebrate. An animal without a backbone. This group includes such animals as insects, clams, snails, worms, and others.

Isogram. A line connecting points of equal value with regard to certain variables.

Isopach. A line connecting points of equal or corresponding thickness.

Isopleth. A line connecting points of equal or corresponding values with regard to certain chemical elements.

Landform. A discernible natural landscape, such as a floodplain, stream terrace, plateau, valley, etc.

Lignite. A brownish-black coal in which the alteration of vegetable material has not progressed as far as subbituminous coal.

Limiting factor. A critical living or nonliving element of an ecosystem necessary for an organism to survive that is in the least supply.

Long ton. A unit of weight that equals 2,240 pounds.

Member. A division of a formation generally of distinct lithology.

Mesophyte. A plant that grows under intermediate moisture conditions.

Mg/l. Abbreviation for milligrams per liter, the unit of expression for the concentration of dissolved minerals in water.

Miscellaneous land type. Areas of land that have little or no natural soil or that are too nearly inaccessible for orderly examination or that occur where, for other reasons, it is not feasible to classify the soil.

Mixing height. Thickness of the mixing layer (see below).

Mixing layer. In air pollution terminology, the layer of air, usually a subinversion layer, within which pollutants are mixed by turbulance and diffusion.

Mollusks. An invertebrate group which includes snails, clams, chitins, and others.

Nonagglomerating. Will not agglomerate.

Noncoking . Will not coke.

Opencast method. A mining method which consists in removing the overlying rock or overburden, extracting the coal, and then replacing the overburden.

Overburden. Rock or unconsolidated material overlying a coalbed, excavated during strip mining.

Parting. A band of waste material dividing the coal layers.

Passerine. Small or medium sized, chiefly perching song birds, having grasping feet with the first toe directed backwards.

Perennial. Having a life cycle that lasts more than two years.

Perennial stream. A stream that flows all the time.

Permeability, soil. The quality of a soil horizon that enable water or air to move through it.

Physical properties (of soils). Those characteristics, processes, or reactions of a soil which are caused by physical forces and which can be described by, or expressed in, physical terms or equations.

Playa. A shallow central basin of a plain where water gathers after a rain and is evaporated.

Potentiometric surface. An imaginary surface that coincides with the static level of water in an aquifer.

Prill. A globular, porous particle obtained by spraying a solution of ammonium nitrate into a rising current of warm air.

Proximate analysis. The determination of the compounds in a coal.

R. Range, one of the north-south rows of townships in a U.S. public-land survey.

Rank. The place occupied by a coal in a classification. A term used to indicate the position of a coal in the series peat to anthracite.

Raptorial. An order of birds including all the birds of prey such as the eagle, hawk, owl, and vulture.

Recharge. The process by which water moves into an aquifer, or the amount of water that moves into an aquifer.

Reclamation. Restoration of mined or disturbed land; rehabilitation.

Rehabilitation. Restoration of mined or disturbed land; reclamation.

Reserves. Known deposits of coal that can be profitably mined. Tonnage generally known within 20 percent.

Resources. Includes reserves and other coal deposits that may become profitable to mine. Tonnage imperfectly known.

Riparian. Situated on or pertaining to the bank of a river, stream, or other body of water.

Road metal. Rock suitable for surfacing dirt and macadamized roads and for foundations for asphalt and concrete roadways.

Rough broken land. Land with very steep topography and numerous intermittent drainage channels but usually covered with vegetation.

Rs. Plural of range.

Saline-alkali soil. A soil containing sufficient exchangeable sodium to interfere with the growth of most crop plants and containing appreciable quantities of soluble salts.

Saline soil. A nonalkali soil containing sufficient soluble salts to impair its productivity but not containing excessive exchangeable sodium.

Sandstone. A cemented or compacted sedimentary rock composed usually of grains of quartz.

Scarified. The breaking with a machine of hard soil material or spoil in strip mine reclamation.

Scoria. Local term for natural baked shale--see "clinker."

Scoria land. Areas of slaglike clinkers, burned shale, and fine-grained sandstone; characteristic of burned-out coalbeds.

Sec. A parcel of land that is 1 square mile or 640 acres. Known as a section.

Secs. Plural of sec. or section.

Semiarid. A term applied to regions or climates where moisture is normally greater than under arid conditions but still definitely limits the growth of most crops.

Shale. A fine-grained sedimentary rock.

Shale parting. A layer of shale separating benches of coal.

Short ton. A unit of weight that equals 2,000 pounds.

Siltstone. A sedimentary rock composed of grains intermediate in size between clay and sand.

Slope wash. Soil and rock material that has been moved down a slope by gravity and running water and not concentrated in a channel.

Slurry. A mixture of fine coal in water. Commonly pumped through pipelines at processing plants or to consumption points.

Soil association. A group of defined and named soil units occurring together in an individual and characteristic pattern over a geographic region, comparable to plant associations in many ways.

Soil material. Soils leached free of soluble salts and capable of sustaining plant growth and recognized as such by standard authorities.

Soil series. A group of soils having horizons similar in characteristics and arrangement in the soil profile, except for texture of the surface portion.

Solute. A substance dissolved in a solution, as distinguished from the solvent.

Spoil. The overburden removed in strip mining. Debris or waste material from a strip mine.

Stagnation episode. Meterological conditions, generally temperature inversions, lasting from two to five days during which air pollutant concentrations increase, resulting in one or more of the following effects: reduced visibility, damage to vegetation and animals, coughing and eye irritation, increased morbidity, and increased mortality.

Subbituminous coal. Nonagglomerating coal having a heat value of 8,300 to 13,000 Btu on a moist, mineral-matter-free basis. Intermediate in rank between lignite and bituminous coal.

Succession. The progressive development of vegetation toward its highest ecological expression, the climax; replacement of one plant community by another.

T. Township, a tract of land that is bounded on the east and west by meridians six miles apart at its south border, has a north-south length of six miles, and forms one of the chief divisions of a U.S. public-land survey.

Temperature inversion. A layer in which temperature increases with altitude. The principal characteristic of an inversion layer is its marked static stability, within which very little turbulent exchange can occur.

Terrace. An embankment or combination of an embankment and channel constructed across a slope to control erosion by diverting or storing surface runoff instead of permitting it to flow uninterrupted down the slope.

Throwing radius. The radius through which a dragline can dig, rotate, and deposit material. It is dependent on the length of the dragline's boom.

Topsoil. As used for mined area spoil reclamation, topsoil refers to the A horizons, and those portions of the B and C horizons, that are favorable for the growth of plants. For the railroad right-of-way, it refers to the A horizons only.

Tps. Townships.

Transpiration. The process by which water moves from living plants to the atmosphere.

Ultimate analysis. The determination of the percentage of constituent elements of a chemical substance such as coal.

Unified Soil Classification System (engineering). A classification system based on the identification of soils according to their particle size, gradation, plasticity index, and liquid limit.

Unit train. A train made up entirely of coal cars carrying coal directly from the loading place to point of delivery.

Upland. An extensive region of highland in the interior of the country; higher land in contrast to valley, plain, or other low-lying land; a plateau.

Vertebrate. All animals having a segmented spinal column.

Water table. Generally considered to be near the top of the zone of saturation in an unconfined aquifer, but this water level in a well may fluctuate in response to several factors.

Wind rose. A diagram designed to show the distribution of wind direction recorded at a given location over a period of time.

Working pit. The place at a mine from which coal is actually being extracted.