**Section 1780.22 Geologic Information**

a) Each application shall include geologic information in sufficient detail to assist in determining:

1) The probable hydrologic consequences of the operation upon the quality and quantity of surface and ground water in the permit and adjacent areas, including the extent to which surface and ground water monitoring is necessary;

2) All potentially acid- or toxic-forming strata down to and including the stratum immediately below the lowest coal seam to be mined; and

3) Whether required reclamation can be accomplished and whether the proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area.

b) Geologic information shall include, at a minimum:

1) A description of the geology of the proposed permit and adjacent areas down to and including the deeper of either the stratum immediately below the lowest coal seam to mined, or any aquifer below the lowest coal seam to be mined which may be adversely impacted by mining. The description shall include the areal and structural geology of the permit and adjacent areas, and other parameters which influence the required reclamation and the occurrence, availability, movement, quality and quantity of potentially impacted surface and ground waters. It shall be based on:

A) The cross-sections, maps and plans required by 62 Ill. Adm. Code 1779.25;

B) The information obtained under subsections (b)(2) and (c); and

C) Geologic literature and practices.

2) Analyses of samples collected from test borings, drill cores or fresh, unweathered, uncontaminated samples from rock outcrops from the permit area, down to and including the deeper of either the stratum immediately below the lowest coal seam to be mined or any aquifer below the lowest coal seam to be mined which may be adversely impacted by mining. The analyses shall result in the following:

A) Logs showing the lithologic characteristcs including physical properties and thickness of each stratum and location of ground water where occurring;

B) Chemical analyses identifying those strata that may contain acid- or toxic-forming or alkalinity-producing materials and to determine their content except that the Department may find that the analysis for alkalinity-producing materials is not necessary to assure protection to the hydrologic balance; and

C) Chemical analyses of the coal seam for acid- or toxic-forming materials, including total sulfur and pyritic sulfur, except that the Department may find that the analysis of pyritic sulfur is unnecessary to assure protection to the hydrologic balance.

c) If determined to be necessary to protect the hydrologic balance or to meet the performance standards of 62 Ill. Adm. Code 1816, the Department shall require the collection, analysis and description of geologic information in addition to that required by subsection (b).

d) An applicant may request the Department to waive in whole or in part the requirements of subsection (b)(2). The waiver shall be granted only if the Department finds in writing that the collection and analysis of such data is unnecessary because other equivalent information is available in a satisfactory form.

(Source: Added at 11 Ill. Reg. 8602, effective July 1, 1987)