Ohio Administrative Code

Rule 1501:13-4-13 Underground mining permit application requirements for information on environmental resources.

Effective: February 14, 2022

(A) General requirements.

(1) This rule applies only to underground mining operations.

(2)

(a) Each application shall describe and identify the nature of cultural, historic and archeological resources listed or eligible for listing on the "National Register of Historic Places," administered by the national parks service, U.S. department of the interior, and known archeological sites within the proposed permit and adjacent areas. The description shall be based on all available information, including, but not limited to, information from the state historic preservation officer and from local archeological, historical, and cultural preservation agencies. The website for the "National Register of Historic Places" for Ohio sites is http://www.nationalregisterofhistoricplaces.com/oh/state.html.

(b) The chief may require the applicant to identify and evaluate important historical and archeological resources that may be eligible for listing on the "National Register of Historic Places," as referenced in paragraph (A)(2)(a) of this rule, through:

(i) Collection of additional information;

(ii) Conduct of field investigations; or

(iii) Other appropriate analyses.

(3) Each application shall describe and identify the lands subject to coal mining operations over the estimated life of those operations and the size, sequence, and timing of the subareas for which it is anticipated that individual permits for mining will be sought.

(B) Description of hydrology and geology: general requirements.

Each application shall contain a description of surface and ground water within the permit area, adjacent area, and general area, and any water which will flow into or receive discharges of water from the permit and adjacent area. The description shall be prepared in the manner required by paragraphs (B) to (G) of this rule and conform to the following:

(1) Information on hydrology, water quality and quantity, and geology related to hydrology of areas outside the proposed permit area and within the adjacent area shall be provided by the chief, to the extent that this data is available from an appropriate federal or state agency.

(2) If this information is not available from those agencies, the applicant may gather and submit this information to the chief as part of the permit application.

(3) The permit shall not be approved by the chief until this information is made available in the application.

(C) Geology description.

(1) Each application shall include geologic information in sufficient detail to assist in:

(a) Determining 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.

(b) Determining all potentially acid- or toxic-forming strata down to and including the stratum immediately below the lowest coal seam to be mined;

(c) Determining whether reclamation as required by these rules can be accomplished and whether the proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area; and

(d) Preparing the subsidence control plan required under paragraph (M) of rule 1501:13-4-14 of the

Administrative Code.

(2)

(a) The description shall include a general statement of the geology within the proposed permit and adjacent areas 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 affected by mining. It shall also include the areal and structural geology of the permit and adjacent areas, and the other parameters which influence the required reclamation, and shall show how the areal and structural geology may affect the occurrence, availability, movement, quantity, and quality of potentially affected surface and ground waters. It shall also be based on:

(i) The cross sections, maps and plans required by paragraph (B) of rule 1501:13-4-08 of the Administrative Code and paragraph (B) of rule 1501:13-4-08.1 of the Administrative Code;

(ii) The information obtained under paragraphs (C)(2)(c) to (C)(2)(f) of this rule; and

(iii) Geologic literature and practices.

(b) The geology for all areas proposed to be affected by underground mining surface operations, those surface lands overlying coal to be mined, and the coal to be mined shall be separately described.

Geology of all the strata to be affected by underground mining operations shall be described. The description shall include, at a minimum, the lithologic characteristics and physical and chemical properties of each stratum.

(c) For those areas to be affected by underground mining surface operations where removal of the overburden down to the level of the coal seam will occur, the geology of the strata down to and including the deeper of either the stratum immediately below any coal seam to be mined, or any aquifer below the lowest coal seam to be mined which may be adversely affected by mining shall be described. This description shall include the following data resulting from analyses of test borings or core samplings down to and including the stratum immediately below any coal seam to be mined:

(i) The location of areas where subsurface water will be exposed at the face-up area;

(ii) The logs of drill holes showing the lithologic characteristics of the strata to be affected;

(iii) The physical properties of each stratum within the overburden;

(iv) Chemical analyses of each stratum to be affected, including the stratum immediately below the lowest coal seam to be mined, to identify, at a minimum, those horizons which contain potential acid-forming, toxic-forming, or alkalinity-producing materials; and

(v) Analyses of the coal seam for acid- or toxic-forming materials, including, but not limited to, an analysis of the total sulfur and the sulfur present in pyrite, except that the chief may find that the analysis of sulfur present in pyrite is unnecessary.

(d) For lands within the permit and adjacent areas where the strata above the coal seam to be mined will not be removed, samples shall be collected and analyzed from test borings or drill cores to provide the following data:

(i) Logs of drill holes showing the lithologic characteristics, including physical properties and thickness of each stratum that may be affected and location of ground water where occurring;

(ii) Chemical analyses for acid- or toxic-forming or alkalinity-producing materials and their content in the strata immediately above and below the coal seam to be mined;

(iii) Chemical analyses of the coal seam for acid- or toxic-forming materials, including but not limited to an analysis of the total sulfur and the sulfur present in pyrite, except that the chief may find that the analysis of pyritic sulfur content is unnecessary; and

(iv) For standard room and pillar mining operations, the thickness and engineering properties of clays or soft rock such as clay shale, if any, in the stratum immediately above and below each coal seam to be mined.

(e) Each application shall contain the results from test holes bored or drilled on lands above the underground workings:

(i) At a minimum of three points, not in a straight line, spaced so as to indicate the strike and dip of the coal seam; and

(ii) At a minimum of one test hole per one hundred sixty acres.

(f) Additional test hole data or test holes may be required by the chief at specific sites when necessary to describe localized conditions or variations in geology which may affect the ability of the underground coal mining operation to be conducted in accordance with these rules.

(g) If more precise information than can be provided by drilling techniques is warranted by potentially adverse site conditions, the chief may require that the test hole information required in paragraph (C) of this rule be obtained by core drilling.

(3) Prior to submission of an application, an applicant may request that the requirements of paragraphs (C)(2)(c) to (C)(2)(e) of this rule be waived by the chief. The waiver may be granted only if the chief makes a written determination that the statement required is unnecessary because other equivalent information is accessible to him or her in a satisfactory form. If the chief grants a waiver, the waiver shall be submitted with the permit application.

(D) Ground water information.

(1) The application shall contain a description of the ground-water hydrology for the proposed permit and adjacent areas and the area above the underground workings, including, at a minimum:

(a) The depth below the surface and the horizontal extent of the water table and aquifers;

(b) The lithology and thickness of the aquifers;

(c) Known uses of the water in the aquifers and water table;

(d) The quality of subsurface water, if encountered;

(e) The depth to the water in the coal seam if the seam is a water-bearing stratum, and each water-bearing stratum above and potentially affected water-bearing stratum below the coal seam; and

(f) Additional information which describes the recharge and storage characteristics of aquifers, the approximate rate of discharge or usage, and the quality and quantity of ground water.

(2) The application shall contain a water supply inventory to include, at a minimum:

(a) A list of existing water wells on the proposed permit and adjacent areas to describe the quality and quantity of the ground water to include:

(i) The identification number of each well;

(ii) Surface elevation of the well;

(iii) Depth of the well in feet below the land surface;

(iv) Static water level of the well in feet below the land surface;

(v) The lithology of the aquifer in which each well is developed; and

(vi) Name of owner of the well;

(b) A list of existing springs on the proposed permit area and existing developed springs on the adjacent area to include:

(i) The identification number of each spring;

(ii) Name of owner of any spring that is developed for use as a water supply;

(iii) The surface elevation of the spring; and

(iv) The aquifer each spring flows from; and

(c) A list of the location and type of any public water supply sources on the permit and adjacent areas.

(3) Where information required in the water supply inventory of paragraph (D)(2) of this rule is unobtainable, a statement to that effect shall be made, giving the reasons therefor.

(4) The application shall contain the results of water quality analyses and measurements of static water level or discharge, conducted on at least ten (or all if less than ten) of the wells and springs identified in paragraphs (D)(2)(a) and (D)(2)(b) of this rule or twenty-five per cent of such wells and springs, whichever number is greater.

(a) Wells and springs chosen for analysis and measurement shall, as a group, represent all known aquifers present in the permit and adjacent areas.

(b) Sampling for water quality analysis shall be conducted at a minimum one time prior to submission of an application for a permit.

(c) The measurement of the static water level or discharge shall be conducted for each well and spring identified in paragraph (D)(4) of this rule at a minimum one time prior to submission of an application for a permit.

(d) Water samples collected at the sites prescribed in this paragraph shall be analyzed for the following parameters according to the methodology specified in 40 C.F.R. parts 136 and 434:

(i) pH in standard units;

(ii) Total acidity in milligrams per liter of $CaCO_3$;

(iii) Total alkalinity in milligrams per liter of $CaCO_3$;

(iv) Total manganese in milligrams per liter;

(v) Total iron in milligrams per liter;

(vi) Total hardness in milligrams per liter of $CaCO_3$;

(vii) Total dissolved solids or specific conductance corrected to twenty-five degrees centigrade;

(viii) Total aluminum in milligrams per liter;

(ix) Total sulfates in milligrams per liter; and

(x) Other such information as the chief determines relevant.

(e) The results of water quality analyses and measurements required in paragraph (D) of this rule shall be reported on a form to be provided by the chief.

(5) Water quality and quantity data sufficient to identify seasonal variations pursuant to paragraph (D)(6) or (D)(7) of this rule shall be submitted with an application for a permit.

(6) Identifying seasonal variations for ground water and surface water. For each application, the applicant shall submit three water samples from each required sampling site designated pursuant to paragraphs (D)(4) and (E)(1) of this rule. One sample shall be from the low flow period, one sample from the high flow period, and one sample from either of the intermediate flow periods, as established in the following table:

Low Flow	August 16 to October 31
Transition Flow	November 1 to November 15
Intermediate Flow	November 16 to January 31
Transition Flow	February 1 to February 14
High Flow	February 15 to April 30
Transition Flow	May 1 to May 15
Intermediate Flow	May 16 to July 31

Transition Flow	August 1 to August 15

(a) For samples submitted to meet the seasonal variations requirements, the period between consecutive samples shall be at least thirty days, but not more than eighteen months, and no sample shall be collected more than thirty-six months before the date of submission of the application to the chief. A sample that exceeds the eighteen month or thirty-six month time limit of this paragraph may be acceptable if the applicant submits the following information with the sample:

(i) The date and sampling site of the sample; and

(ii) A description of all land disturbance activities that existed at the time of the sample date or that have occurred since the sample date within the local watershed that could affect the quality and quantity of the surface water or ground water. The description shall include, but is not limited to, land disturbances such as mining operations, highway construction, cut and fill operations, building construction, and dam construction or demolition.

(iii) A sample that exceeds the eighteen month or thirty-six month time limit is acceptable only if the chief determines that it is still representative of the quality and quantity of the surface water or ground water at the time of submission of the application.

(b) The applicant is not required to collect samples from consecutive flow periods.

(c) The applicant may record a low flow sample as "no flow" if the applicant documents that the applicant made at least two attempts, at least thirty days apart, to collect a flow at that site during the low flow period.

(d) Transition flow periods. A sample obtained during a transition flow period may be used for either the preceding or succeeding flow period if the following conditions are met:

(i) The applicant submits documentation showing that the sample from the transition period accurately reflects the flow period for which the sample is submitted and the chief agrees with this assessment;

(ii) The sample obtained during a transition period is not used for both the preceding and succeeding flow periods;

(iii) At least one of the three required samples is obtained during a flow period other than a transition period; and

(iv) The applicant submits precipitation data for the local watershed for the thirty days prior to the sample date.

(e) Substitute sampling site for one sample. The applicant may request, in writing, that a sample obtained from a site other than a designated sampling site be substituted for one of the three designated site samples. A sample from a substitute site shall not be used as the earliest of the three samples from a designated sampling site. The chief shall review this request and determine whether the substitute sampling site and the data collected from the site are acceptable. In making the request, the applicant shall:

(i) Describe how the substitute sampling site adequately represents the original sampling site;

(ii) Demonstrate that the substitute sampling site is located in the same aquifer as the original sampling site;

(iii) Demonstrate that the geology of the groundwater recharge area of the substitute site, as well as the surface disturbance of the recharge area of the substitute site, are similar to that of the original site;

(iv) Demonstrate that the substitute sampling site represents and performs the same function as the original site;

(v) Demonstrate that the analysis of the water quality and quantity data from the substitute site accurately represents the quality and quantity of the water at the original site and explain any anomalies in water quality or quantity at the substitute site;

(vi) Demonstrate that the flow obtained at the substitute site was obtained during the flow period

missed at the original site;

(vii) Include precipitation data for the thirty days prior to the sample date at the substitute site;

(viii) Provide a description of the location of the substitute sampling site relative to the original sampling location. The description shall include bearing and distance measurements from the original sampling location to the substitute sampling location; and

(ix) Submit additional information if required by the chief to support the use of a substitute sample.

(f) The applicant may submit additional samples and other data related to seasonal variations beyond that submitted to meet the minimum requirements of paragraph (D)(6) of this rule.

(7) Water quality and quantity data collected and described other than as required by paragraph (D)(6) of this rule may be submitted to identify seasonal variations in ground water and surface water, provided the chief determines that the alternative data are sufficient to identify seasonal variations needed for the hydrologic assessments required by Chapter 1513. of the Revised Code and the rules adopted thereunder.

(E) Surface-water information.

(1) Within the proposed permit and adjacent areas, all surface-water bodies such as streams, lakes and impoundments and all discharges from the permit area into surface-water bodies shall be described and sampled for analysis under paragraph (E) of this rule. The description shall include the name of any watershed that will receive water discharges, the name, ownership and location of all surface-water bodies and the known uses of the water in these water bodies.

(2) Water samples collected under paragraph (E) of this rule shall be analyzed according to the methodology specified in 40 C.F.R. parts 136 and 434. Surface-water information shall include:

(a) Minimum, maximum, and average discharge conditions, which identify critical low flows and peak discharge rates of streams; and

(b) The following water quality data to identify the characteristics of surface waters within the proposed permit and adjacent areas:

(i) Total suspended solids in milligrams per liter;

(ii) Total acidity in milligrams per liter of $CaCO_3$;

(iii) Total alkalinity in milligrams per liter of $CaCO_3$;

(iv) pH in standard units;

(v) Total iron in milligrams per liter;

(vi) Total manganese in milligrams per liter;

(vii) Total dissolved solids or specific conductance corrected to twenty-five degrees centigrade;

(viii) Total aluminum in milligrams per liter;

(ix) Total sulfates in milligrams per liter; and

(x) Other such information as the chief determines relevant.

(3) Water quality and quantity data sufficient to identify seasonal variations pursuant to paragraph (D)(6) or (D(7) of this rule shall be submitted with an application for a permit.

(4) The results of water quality analyses and measurements prescribed in paragraph (E) of this rule shall be reported on a form to be provided by the chief.

(F) Alternative water supply information. The application shall identify the extent to which the proposed underground mining operations, including subsidence impacts, may proximately result in contamination, diminution, or interruption of an underground or surface source of water that is for domestic, agricultural, industrial, or other legitimate use. If contamination, diminution, or

interruption may result, then the description shall contain information on water availability and alternative sources of water, including the suitability of alternative water sources for existing premining uses and approved postmining land uses.

(G) Supplemental information. If the determination of the probable hydrologic consequences required by paragraph (E)(2) of rule 1501:13-4-14 of the Administrative Code indicates that adverse impacts on or off the proposed permit area may occur to the hydrologic balance, or that acid-forming or toxic-forming material is present that may result in the contamination of ground-water or surface-water supplies, then information supplemental to that required under paragraphs (D) and (E) of this rule shall be provided to evaluate such probable hydrologic consequences and to plan remedial and reclamation activities. Such supplemental information may be based upon drilling, aquifer tests, hydrogeologic analysis of the water-bearing strata, flood flows, or analyses of other water quality or quantity characteristics.

(H) Climatological information.

(1) If required by the chief, the application shall contain a statement of the climatological factors that are representative of the proposed permit and adjacent areas, including:

(a) The average seasonal precipitation;

(b) The average direction and velocity of prevailing winds; and

(c) Seasonal temperature ranges.

(2) The chief may request such additional data as deemed necessary to ensure compliance with the requirements of these rules.

(I) Land-use information.

(1) The application shall contain a statement of the condition, capability, and productivity of the land within the proposed permit area, including:

(a) A map and supporting narrative of the uses of the land existing at the time of the filing of the application. If the premining use of the land was changed within five years before the anticipated date of beginning the proposed operations, the historic use of the land shall also be described.

(b) A narrative of the land capability and productivity, which analyzes the land use described under paragraph (I)(1)(a) of this rule in conjunction with other environmental resources information required under these rules. The narrative shall provide analyses of:

(i) The capability of the land before any mining to support a variety of uses, giving consideration to soil and foundation characteristics, topography, vegetative cover and the hydrology of the area proposed to be affected by underground mining surface operations or facilities; and

(ii) The productivity of the area proposed to be affected by underground mining surface operations or facilities before mining, including appropriate classification as prime farmlands, as well as the average yield of food, fiber, forage or wood products from the land obtained under high levels of management. The productivity shall be determined by yield data or estimates for similar sites based on current data from the United States department of agriculture, state agricultural universities, or appropriate state natural resources or agricultural agencies.

(2) The application shall state whether the proposed permit area has been previously mined, and if so, the following information, if available:

(a) The type of mining method used;

(b) The coal seams or other mineral strata mined;

(c) The extent of coal or other minerals removed;

(d) The approximate dates of past mining; and

(e) The uses of the land preceding mining.

(3) The application shall contain a description of the existing land uses and land-use classifications

under local law, if any, of the proposed permit and adjacent areas.

(J) Prime farmland investigation.

(1) The applicant shall conduct a pre-application investigation of the area proposed to be affected by surface operations or facilities to determine whether lands within the area may be prime farmland. The chief, in consultation with the U.S. natural resources conservation service, shall determine the nature and extent of this investigation.

(2) Land shall not be considered prime farmland if the applicant can demonstrate that:

(a) The land has not been historically used for cropland; or

(b) On the basis of a soil survey of lands within the permit area, there are no soil map units that have been designated prime farmland by the U.S. natural resources conservation service.

(3) If the investigation establishes that the lands are not prime farmland, the applicant shall submit with the permit application a request for a negative determination which shows that the land for which the negative determination is sought meets one of the criteria of paragraph (J)(2) of this rule.

(4) If the investigation indicates that lands within the area proposed to be affected by surface operations and facilities may be prime farmlands, the applicant shall contact the U.S. natural resources conservation service to determine if a soil survey exists for those lands and whether the applicable soil map units have been designated as prime farmlands. If no soil survey has been made for these lands, the applicant shall cause a survey to be made that is of the detail of a second order soil survey used by the U.S. natural resources conservation service for operational conservation planning. This survey shall be used to identify and locate prime farmland soils.

(a) When a soil survey made pursuant to paragraph (J)(4) of this rule indicates that the land contains soil map units which have been designated as prime farmlands, the applicant shall submit an application, in accordance with the requirements of paragraph (F) of rule 1501:13-4-12 of the Administrative Code, for such designated land.

(b) When a soil survey made pursuant to paragraph (J)(4) of this rule indicates that the land contains soil map units which have not been designated as prime farmland after review by the U.S. natural resources conservation service, the applicant shall submit a request for negative determination for non-designated land with the permit application establishing compliance with paragraph (J)(2) of this rule.

(K) For dates of federal rules and federal laws referenced in this rule, see rule 1501:13-1-14 of the Administrative Code.