

1501:14-6-01 **Permit application requirements for the beneficial use of lime mining wastes (LMW) within an industrial minerals permit.**

(A) General requirements.

- (1) This rule shall apply only to industrial mineral mining operations where calcined lime mining wastes (LMW) will be incorporated in final reclamation as a beneficial use and are in addition to requirements of ~~division (A) of section 1514.02 to division (F) of section 1514.021 and division (A) of section 1514.021 to division (I) of section 1514.02~~sections 1514.02 and 1514.021 of the Revised Code.
- (2) An application for a surface mining permit which will utilize LMW shall be deemed complete when it is received by the chief, unless the application fails to contain all substantial information required by Chapter 1514. of the Revised Code and the rules adopted pursuant thereto.
- (3) Each application shall describe and identify the lands subject to industrial mineral mining, the estimated life of those operations, and the size, sequence, and timing of the mining and reclamation. It shall also contain the total acreage in which LMW will be utilized and a narrative with scientific support of that beneficial use.
- (4) ~~Rule 1501:14-6-01 of the Administrative Code~~This rule does not authorize the use of LMW to create a new structure that rises above the approximate original elevation of the existing permit or amended area. New LMW placements shall be within a quarry excavation, unless approved as a soil amendment. The chief may grant a variance to this provision for new lime facilities for discreet and temporary beneficial applications such as visual barriers, berms or other uses. Temporary beneficial applications shall be for no more than five years unless extended by the chief based upon a demonstration by the permittee that more time is justified. When the chief terminates the temporary designation, the temporary storage sites shall be removed and used for the approved permanent beneficial use within one year. A longer time may be approved by the chief based upon a demonstration by the permittee. The affected acreage must be permitted and bonded.
- (5) ~~For existing surface mining permits which do not contain the required narrative and acreage information, hydro geologic, and LMW characterization, a "Request to Modify Form" (IM-13) and, if necessary, an Application to Amend (IM-12) shall be filed no less than ninety days after the effective date of this rule. The application shall be approved and issued within three hundred sixty five days of the date received by the division of mineral resources management.~~ New beneficial uses of LMW that began after October 8, 2001, will be characterized as a significant permit or a significant

amendment to a permit and shall follow the requirements of this rule.

(B) Description and characterization of ~~lime mining waste~~LMW proposed for beneficial use. For all proposed beneficial uses of LMW~~not subject to paragraph (B)(3) of rule 1501:14-6-01 and paragraph (B)(4) of rule 1501:14-5-01 of the Administrative Code~~, the applicant shall identify and describe the LMW according to paragraph (B)(1) of this rule and characterize the LMW using the parameters in paragraph (B)(2) of this rule 1501:14-6-01 of the Administrative Code.

(1) Identification and description. The applicant shall provide the following to identify and describe the ~~lime mining waste~~LMW:

(a) Generating process and facility site location;

(b) Types of LMW;

(c) Combustion process and fuel used;

(d) Amount of LMW to be used annually; and

(e) Mixing of types of LMW including weighted averages.

(2) Characterization. ~~The applicant shall analyze and characterize the lime mining waste by conducting leachate analysis for the parameters listed in paragraph (B)(3) of this rule utilizing the TCLP, USEPA Method 1311, USEPA Method 1312 or ASTM D 3987-85 method. The ASTM method shall be used for analysis of fluoride, chloride, sulfate, total dissolved solids, acidity, alkalinity, and pH. Additional parameters may be required to be analyzed at the discretion of the chief. The initial method chosen for each parameter shall be used in all subsequent sample analysis unless the chief approves an alternative method. The chief may approve another applicable EPA or approved test method provided the request is made in writing prior to submittal of analysis.~~

~~As an alternative, the applicant may collect and characterize representative insitu leachate samples from the LMW and analyze the samples for the parameters listed in paragraph (B)(3) of this rule. Additionally, waste characterization analysis shall be completed if the processes at the facility significantly change.~~

~~For an existing lime processing facility, the applicant shall provide representative waste characterization data. The chief may approve an alternate parameter list for the initial characterization. All subsequent annual~~

~~waste characterization samples shall be analyzed for the parameters listed in paragraph (B)(3) of this rule, or the alternate parameter list approved by the chief.~~

~~For a new lime processing facility, the applicant shall provide representative waste characterization data for the parameters listed in paragraph (B)(3) of this rule from a similar processing facility that uses similar raw material, combustion process and fuel. The applicant shall analyze the LMW to confirm or revise the waste characterization data within six months of start-up of the facility.~~

(a) Characterization data for a proposed new LMW processing facility. The applicant shall provide representative waste characterization data for the parameters listed in paragraph (B)(3) of this rule from a similar processing facility that uses similar raw materials, combustion processes and fuel. The applicant shall analyze the LMW to confirm or revise the waste characterization data within six months of start-up of the facility.

(b) Characterization for all proposed beneficial uses of LMW. The applicant shall analyze and characterize the LMW by conducting leachate analysis for the parameters listed in paragraph (B)(3) of this rule utilizing the USEPA method 1311, USEPA method 1312 or ASTM D 3987-06 method. The ASTM international method shall be used for analysis of fluoride, chloride, sulfate, total dissolved solids, acidity, alkalinity, and pH. The website for ASTM international is <http://www.astm.org>. USEPA methods 1311 and 1312 can be found in the U.S. environmental protection agency's publication SW-846, entitled "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," which is available at the website <http://www.epa.gov/osw/hazard/testmethods/sw846/index.htm>. As an alternative, the applicant may collect and characterize representative in-situ leachate samples from the LMW and analyze the samples for the parameters listed in paragraph (B)(3) of this rule. Additional parameters or an alternate parameter list may be required to be analyzed at the discretion of the chief. The initial method chosen for each parameter shall be used in all subsequent sample analysis unless the chief approves an alternative method. The chief may approve another applicable EPA or approved test method provided the applicant requests, in writing, the use of such test method prior to submittal of the analysis.

(c) Annual characterization data for all permitted beneficial uses of LMW. The permittee shall submit to the chief annual representative waste data. All annual waste characterization samples shall be analyzed for the

parameters listed in paragraph (B)(3) of this rule or an alternate parameter list approved by the chief. For a lime processing facility, the applicant shall analyze the LMW on an annual basis and whenever there are significant changes in the raw materials or combustion processes that are likely to impact characterization as determined by the chief.

(3) The following parameters shall be analyzed in accordance with the procedures described in paragraph (B)(2) of this rule:

- (a) Acidity;
- (b) Alkalinity;
- (c) Arsenic;
- (d) Barium;
- (e) Cadmium;
- (f) Chloride;
- (g) Chromium;
- (h) Copper;
- (i) Fluoride;
- (j) Iron;
- (k) Lead;
- (l) Manganese;
- (m) Mercury;
- (n) pH;
- (o) Selenium;

- (p) Sulfates;
- (q) Total dissolved solids;
- (r) Zinc;
- (s) Beryllium (analysis required only if plants fuel includes shredded tires);
- (t) Total organic carbon (analysis required only if plants fuel includes shredded tires);
- (u) Silver; and
- (v) Additional parameters that may be required to be analyzed at the discretion of the chief.

~~The facility must analyze the LMW on an annual basis or whenever there are significant changes in the feed materials or combustion processes that are likely to impact characterization as determined by the chief.~~

- (4) Additional requirements for agronomic use. For ~~lime mining waste~~LMW proposed for agronomic use within the permit area, the applicant shall analyze and characterize the ~~lime mining waste~~LMW by conducting analysis pursuant to paragraph (B)(2) of this rule for the parameters of paragraph (B)(3) of this rule and for the ~~additional~~ following additional parameters:

- (a) pH;
- (b) Soluble salts;
- (c) Phosphorus;
- (d) Potassium;
- (e) Calcium;
- (f) CEC (cation exchange capacity); and

(g) Boron.

(5) Additional requirements for use as a low permeability material. For ~~lime mining waste~~ LMW proposed to be used as a low permeability material, the ~~following additional information shall be provided~~ applicant shall analyze and characterize the LMW by conducting analysis pursuant to paragraph (B)(2) of this rule for the parameters of paragraph (B)(3) of this rule and shall also:

(a) Indicate the hydraulic conductivity in centimeters per second or feet per day. Indicate the method used to obtain the conductivity, and attach the appropriate laboratory reports;

(b) Describe the required volume, thickness (if layered), and areal extent of the LMW material;

(c) Submit or reference appropriately engineered designs and plans for the low-permeability project; and

(d) Submit a grain size distribution analysis for the LMW material.

(C) Description of hydrology and geology; general requirements.

Each application which will include LMW as a beneficial use as part of the reclamation shall contain a description of surface and ground water within the general area, and any water that will flow into or receive discharges of water from the permit area and any LMW beneficial use area proposed to be amended to the permit. The description shall be prepared in the manner required by paragraphs (D) 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 LMW beneficial use permit area and within the general area shall be provided to the chief. The permit shall not be approved by the chief until this information is made available in the application and deemed acceptable; and

(2) As a substitute for the background data required in paragraphs (D) to (F) of this rule, each application for a ~~lime mining waste~~ LMW beneficial use site on an existing operation already under permit under Chapter 1514. of the Revised Code on October 8, 2001, shall propose a plan for the collection of background data and information that is representative of the site's hydrological and geological characteristics prior to mining. The permit shall not be approved by the chief until this information is made available in the

application and deemed acceptable.

(D) Geology description.

- (1) Each application shall include geologic information in sufficient detail to assist in determining the probable impact of the operation upon the quality and quantity of surface and ground water in the permit and surrounding areas, including the extent to which surface and ground water monitoring is necessary; and whether the utilization of LMW as a component of the proposed reclamation has been designed to protect human health and the environment.
- (2) The description shall include a general statement of the geology within the proposed permit area and surrounding areas down to and including an identification of the deepest aquifer below the lowest elevation of the industrial mineral to be mined. It shall also include how the areal and structural geology may affect the occurrence, availability, movement, quantity, and quality of potentially affected surface and ground waters. It shall be based on:
 - (a) The cross sections, maps and plans required by paragraph (K) of this rule;
 - (b) The information obtained from test borings under paragraph (D)(2)(b)(3) of this rule; and
 - (c) Other sources approved by the chief based upon site-specific conditions.
- (3) Each application for a permit shall contain the results of test borings conducted on the area of land to be mined, when required. Test borings or core samples for the proposed LMW beneficial use area shall be collected and analyzed down to and including the stratum below the elevation of the industrial mineral to be mined. Individual drilling reports shall be furnished for each test boring or core sampling and shall contain the location of subsurface water if encountered.

(E) Ground water information.

- (1) The application shall contain a description of the ground water hydrology for the proposed permit and surrounding areas and the proposed LMW beneficial use ~~areas~~area, including, at a minimum:
 - (a) The depth below the surface and the horizontal extent of the confined and

unconfined aquifers;

- (b) The lithology and thickness of the aquifers;
 - (c) Known uses of the water and locations of existing water supply wells within one thousand feet of the proposed beneficial use area ~~in the aquifers and water table~~;
 - (d) The quality of subsurface water, if encountered;
 - (e) The depth to the water in the mineral deposit if the deposit is a water-bearing stratum, and each water-bearing stratum above and below the potentially affected water-bearing stratum;
 - (f) The approximate rate of discharge or usage of the water. ~~The and the existing groundwater flow conditions in the water bearing unit(s) in the area of the surface mining operation. For a new lime processing facility~~ LMW beneficial use involving surface mining operations for which a cone of depression was established as required by division (A) of section 1514.13 of the Revised Code, the applicant shall include a description of the cone of depression that was generated ~~as required by division (A) of section 1514.13 of the Revised Code; and~~
 - (g) The approximate regional potentiometric surface and regional flow paths of water bearing unit(s) in the area prior to the start of the surface mining operations.
- (2) The application shall contain a water supply inventory to include, at a minimum:
- (a) A list of existing water wells and public water supply wells on the proposed permit and surrounding areas within one thousand feet of the proposed LMW beneficial use area to describe the quality and quantity of the ground water. The chief may specify a greater distance based upon site-specific characteristics. Information shall include:
 - (i) Identification number of the 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 the owner of the well.
- (3) ~~Where~~If any of the information required in the water supply inventory of paragraph (E)(2)(a) of this rule is unobtainable, a statement to that effect shall be ~~made~~submitted, giving the reasons ~~therefor~~therefor. ~~A substitute description of baseline water quality shall be provided pursuant to paragraph (A)(6) of this rule.~~
- (4) The application shall contain the results of background water quality analyses and measurements of static water level or discharge of a representative number of monitoring points on the permit and surrounding areas.
- (a) Wells chosen for analysis and measurement shall, as a group, represent all known aquifers present in the permit and surrounding areas and shall, wherever possible, be those nearest to or on the proposed beneficial use area.
 - (b) Sampling for water quality analysis shall be conducted at a minimum one time prior to submission of an application for a permit or modification of a permit that utilizes LMW. For the purpose of ground water monitoring, at least six months of background water quality data must be collected prior to implementation of the post-reclamation ground water monitoring ~~program~~plan. This background ground water quality data shall be established in accordance with procedures contained in the post-reclamation ground water monitoring plan required under paragraph (G)(2) of this rule.
 - (c) The measurement of static water level or discharge shall be conducted for each well identified in paragraph (E)(4)(a) of this rule at a minimum one time prior to submission of an application for a permit or modification of a permit.
 - (d) Water samples collected at the sites prescribed in this rule shall be analyzed for the following parameters according to the methodology specified in 40 ~~CFR~~C.F.R. part 136:
 - (i) Acidity;

- (ii) Alkalinity;
- (iii) Arsenic;
- (iv) Barium;
- (v) Cadmium;
- (vi) Chloride;
- (vii) Chromium;
- (viii) Copper;
- (ix) Fluoride;
- (x) Iron;
- (xi) Lead;
- (xii) Manganese;
- (xiii) Mercury;
- (xiv) PH;
- (xv) Selenium;
- (xvi) Silver;
- (xvii) Sulfates;
- (xviii) Total dissolved solids;
- (xix) Zinc;
- (xx) Beryllium (analysis required only if plant fuel includes shredded tires;

(xxi) Total organic carbon (analysis required only if plant fuel includes shredded tires); and

(xxii) Additional parameters that may be required to be analyzed at the discretion of the chief.

~~(e) The results of water quality analyses and measurements prescribed in 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 shall be submitted with an application for a permit.

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

(F) Surface water information.

(1) In and within one thousand feet of the existing or proposed permit area, including the proposed LMW beneficial use area and surrounding areas, all surface water bodies shall be described. Surface water bodies that will receive discharges from the operation or whose water will come in contact with water from the operation shall be sampled. The surface water to be sampled shall include the receiving stream, waterway, or water body if such surface water is present. 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 this rule shall be analyzed according to the methodology specified in 40 C.F.R. part 136.

(a) Surface water information shall include the following water quality data to identify the characteristics of surface waters within the existing or proposed permit area, including the proposed LMW beneficial use area and surrounding areas:

(i) Acidity;

(ii) Alkalinity;

(iii) Arsenic;

- (iv) Barium;
- (v) Cadmium;
- (vi) Chromium;
- (vii) Cooper;
- (viii) Fluoride;
- (ix) Iron;
- (x) Lead;
- (xi) Manganese;
- (xii) Mercury;
- (xiii) PH;
- (xiv) Selenium;
- (xv) Silver;
- (xvi) Sulfates;
- (xvii) Total dissolved solids;
- (xviii) Zinc;
- (xix) Beryllium (analysis required only if plant fuel includes shredded tires);
- (xx) Total organic carbon (analysis required only if plant fuel includes shredded tires); and
- (xxi) Additional parameters that may be required to be analyzed at the discretion of the chief.

(3) Water quality and quantity data sufficient to identify seasonal variations 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.

(G) Ground water and surface water monitoring ~~plan~~plans.

The applicant shall prepare and submit ~~the~~ ground water and surface water monitoring ~~plan~~plans as described ~~under~~in this ~~section~~paragraph. Specifically, during the active operational monitoring period, the ground water and surface water monitoring plans as described in paragraphs (G)(1) and (G)(3) of this rule shall be implemented. During the five-year post-reclamation monitoring period, the ground water and surface water monitoring plans as described in paragraphs (G)(2) and (G)(4) of this rule shall be implemented.

(1) Ground water monitoring plan during active operation.

If the ground water flow conditions, as required by paragraph (E)(1)(f) of this rule, demonstrate that the existing or proposed LMW beneficial use area lies or will lie within the surface mine's cone of depression, the applicant shall submit a ground water monitoring plan that is capable of demonstrating the impact of the LMW on water within the cone of ~~influence~~depression during the active operational life of the facility~~period~~. Additional monitoring may be required if determined to be warranted by the chief. The plan shall, at a minimum, include:

- (a) A sufficient number of observation points to demonstrate that ground water beneath and within the immediate vicinity of the LMW beneficial use area is being captured by the dewatering system for the surface mine;
- (b) The collection of ~~the~~ water ~~levels~~level measurements on a quarterly basis, or an alternate schedule that is approved by the chief based upon a suitable justification by the applicant; and
- (c) The ground water level information shall be submitted to the chief, in a manner prescribed by the chief, within fifteen days following the end of the quarter in which the ground water levels were measured ~~in a manner prescribed by the chief~~.

(2) Ground water monitoring ~~program~~plan during the post-reclamation period.

The application shall include a post-reclamation ground water monitoring plan that is based upon the information required under paragraph (E) of this rule and ~~is based~~ upon the analysis of all baseline hydrologic, geological and other information in the permit application. The plan shall provide for the monitoring of parameters that relate to the suitability of the ground water for current and approved ~~post-mining~~post-mined land uses and for protection of human health and the environment as set forth in this rule. The ground water quality monitoring ~~system and program~~plan shall be maintained a minimum of five years ~~or~~ after reclamation.

(a) At a minimum, the monitoring parameters shall include:

(i) Alkalinity;

(ii) Chloride;

(iii) Lead;

(iv) Sulfate;

(v) Total dissolved solids; and

(vi) ~~The chief may require additional~~Additional parameters that the chief may require to be monitored based upon the waste characterization or leachate analysis and the background sampling of ground water. A comparison of leachate and background results to thirty times primary or secondary maximum contaminant level standards, and other geologic and hydrologic information shall determine the specific ground water quality indicator parameters to be included in the ~~groundwater monitoring~~ground water monitoring plan during the post-reclamation period.

(b) The ground water sampling frequency shall be quarterly. The chief may require a more frequent sampling ~~frequency~~ based on site-specific conditions. The chief may approve a ~~lesser frequency~~less frequent sampling based upon a suitable ~~demonstration~~justification by the applicant.

(c) The post-reclamation ground water monitoring plan shall also include:

(i) A description of and rationale for the monitoring points;

- (ii) The procedures for collecting representative ground water samples;
 - (iii) The procedures used for the collection of the background water quality data;
 - (iv) A description of how the representative ground water quality will be evaluated to determine the LMW is not causing impacts to human health and the environment; and
 - (v) The quality assurance/quality control procedures to be used to verify that the results are representative of the ground water quality.
- (c) A description and rationale for the monitoring points;
- (d) The procedures for collecting representative ground water samples;
- ~~(e) The procedures used for the collection of the background ground water quality data;~~
- ~~(f) A description of how the representative ground water quality will be evaluated to determine the LMW is not causing impacts to human health and the environment;~~
- ~~(g) The quality assurance/quality control procedures to be used to verify that the results are representative of the ground water quality;~~
- ~~(h)~~(d) The data resulting from this post-reclamation ground water monitoring shall be submitted to the chief, in a manner prescribed by the chief, within fifteen days following the end of the quarter in which the sample was collected and analyzed ~~in a manner prescribed by the chief~~.
- ~~(i)~~(e) The five-year post-reclamation monitoring period shall be initiated after the ground water levels have stabilized following the cessation of dewatering activities. The stabilization of ground water levels shall be determined by collection of water level measurements from the monitoring points used in the operational ground water monitoring program plan. The operator shall notify the chief, in writing, that the ground water levels have stabilized thirty days prior to implementing the ~~ground water quality monitoring program and the five-year post-reclamation monitoring program plan~~ for ground water. The bond for the LMW beneficial use area shall be held until the five-year post-reclamation monitoring period has been completed, and the applicant demonstrates water quality will protect human health and the environment.

(3) Surface water monitoring plan during active operation ~~life~~.

- (a) The application shall include a surface ~~water monitoring~~water monitoring plan based upon the analysis of the hydrologic, geologic and other information in the permit application. The plan shall, in accordance with a schedule approved by the chief, provide for the monitoring of parameters that relate to the suitability of the surface water for current and approved ~~five-year~~ post-mined land uses and for protection of human health and the environment as well as the effluent limitations set forth in 40 ~~CFR,C.F.R~~ in accordance with a schedule approved by the chief.
- (b) The plan shall identify the surface water quantity and quality parameters to be monitored, sampling frequency and site locations. During the period of active operation, samples shall be collected from the sump or the outfall on a quarterly basis. The chief may require more frequent sampling based on site-specific conditions. The chief may approve a ~~lesser frequency~~less frequent sampling based upon a suitable ~~demonstration~~justification by the applicant. The active operational surface ~~water monitoring~~water monitoring plan shall describe how the data may be used to determine the impacts upon the hydrologic systems during the active operation~~operational monitoring period~~ and the five-year ~~post-closure~~post-reclamation monitoring period. The surface water monitoring plan shall include:
- (i) A description of and rationale ~~offor~~ monitoring locations for the active operational monitoring period;
- (ii) A list of parameters to be monitored during the ~~operation~~active operational monitoring period. The parameter list shall, at a minimum, include:
- (a) Alkalinity;
- (b) Chloride;
- (c) Lead;
- (d) Sulfate; and
- (e) Total dissolved solids;:

- (iii) During ~~the active~~ operation, the point source discharge(s) shall be monitored in accordance with 40 ~~CFR~~C.F.R. parts 122 and 123, and as required by the "National Pollutant Discharge Elimination System" permitting authority-;
 - (iv) If the chief determines it is necessary, additional surface water parameters shall be monitored based on a comparison of waste characterization or leachate results to background sampling results, surface water quality standards, and other geologic and hydrologic information to determine the specific water quality parameters to be included in the surface water monitoring plan implemented during ~~operation~~the active operational monitoring period and during the five-year post-reclamation monitoring ~~program~~period. If prescribed by the chief, additional monitoring parameters beyond those required in paragraph (G)(3)(b)(ii) of this rule shall be analyzed on a quarterly basis-;
 - (v) A description ~~on~~of how the representative surface water quality data will be evaluated to determine the LMW is not causing impacts to human health and the environment-; and
 - (vi) A schedule providing for the data resulting from this monitoring to be submitted to the chief, in a manner prescribed by the chief, within fifteen days following the end of the quarter in which the sample was collected and analyzed ~~in a manner prescribed by the chief~~.
- (4) Surface water monitoring plan ~~for~~during the post-reclamation monitoring period.
- (a) The application shall include a post-reclamation monitoring plan based upon the analysis of the hydrologic, geologic, and other information in the permit application. The plan shall provide for the monitoring of parameters that relate to the suitability of the surface water for current and approved ~~five-year~~ post-mined land uses and for protection of human health and the environment.
 - (b) The plan shall identify the surface water quality parameters to be monitored, sampling ~~location~~locations and frequency. The frequency standard shall be quarterly; however the chief may increase the frequency based upon site-specific conditions or decrease the frequency based upon a suitable justification by the applicant. The collected data

and the surface ~~water monitoring~~water monitoring plan shall address potential impacts upon the hydrologic systems during the active ~~operation~~operational monitoring period and the five-year ~~post-closure~~post-reclamation monitoring period. The surface ~~water monitoring~~water monitoring plan shall include:

- (i) A description ~~of~~ and rationale ~~of~~for monitoring locations for the ~~post-closure~~post-reclamation monitoring period;
- (ii) A list of parameters to be monitored during the five-year ~~post-closure~~post-reclamation monitoring period. The parameter list shall at a minimum, include:
 - (a) Alkalinity;
 - (b) Chloride;
 - (c) Lead;
 - (d) Sulfate; and
 - (e) Total dissolved solids.;

~~If the chief determines it is necessary, additional surface water parameters shall be monitored based on a comparison of waste characterization or leachate results to background sampling results, surface water quality standards, and other geologic and hydrologic information to determine the specific water quality parameters to be included in the surface water monitoring plan implemented during operation and during the five year post reclamation monitoring program. If prescribed by the chief, additional monitoring parameters beyond those required in paragraph (G)(4)(b)(ii) of this rule shall be analyzed on a quarterly basis.~~

~~For the surface water monitoring program, the five year post-closure monitoring period shall be initiated after the dewatering activities have ceased and after surface water is in contact with the beneficially used LMW. During this monitoring period, the list of additional parameters, if prescribed by the chief, shall be used to evaluate surface water quality.~~

(iii) If the chief determines it is necessary, additional surface water parameters shall be monitored based on a comparison of waste characterization or leachate results to background sampling results, surface water quality standards, and other geologic and hydrologic information to determine the specific water quality parameters to be included in the surface water monitoring plan implemented during the active operational monitoring period and the five-year post-reclamation monitoring period. If prescribed by the chief, additional monitoring parameters beyond those required in paragraph (G)(4)(b)(ii) of this rule shall be analyzed on a quarterly basis;

(iv) For the surface water monitoring plan, the five-year post-reclamation monitoring period shall be initiated after the dewatering activities have ceased and after surface water is in contact with the beneficially used LMW. During this monitoring period, the list of additional parameters, if prescribed by the chief, shall be used to evaluate surface water quality;

~~(iii)~~(v) A description of how the representative surface water quality data will be evaluated to determine the LMW is/are not causing impacts to human health and the environment; and

~~(iv)~~(vi) The data resulting from this monitoring shall be submitted to the chief, in a manner prescribed by the chief, within fifteen days following the end of the quarter in which the sample was collected and analyzed in a manner prescribed by the chief.

(H) Alternative water supply information and corrective action plan.

The application shall identify the extent to which the proposed LMW beneficial use may result in contamination of a source of water that is used for domestic or other legitimate use. If contamination may result, ~~then~~ the description shall contain information on corrective action to be taken, including the suitability of alternative water sources.

(I) Supplemental information.

If the determination of the probable hydrologic impacts ~~required by paragraph (E)(2) of rule 1501:13-4-05 of the Administrative Code~~ indicates that adverse impacts on or off the proposed permit area may occur to the human health or the environment, ~~then~~ information supplemental to that required under paragraphs (D) to (F) of this rule shall be provided to evaluate such probable hydrologic impacts and to plan remedial and reclamation activities. Such supplemental information

may be based upon drilling, aquifer tests, hydro- geologic analysis of the water-bearing strata, flood flows, or analyses of other water quality or quantity characteristics.

(J) Land-use information.

The LMW beneficial use application shall contain a plan of mining and reclamation which describes the proposed land uses within the permit and any LMW beneficial use area proposed to be amended ~~are~~ to the permit, including plans for covering and capping the LMW.

(K) Maps: general requirements.

The permit application or amendment application shall include an application map or amendment map prepared by or under the direction of and certified by an engineer or a surveyor or jointly by an engineer and a surveyor, to the extent such joint certification is required by state law. The map(s) shall comply with the standards set forth in Chapter 1514. of Revised Code and division 1501:14 of the Administrative Code ~~with these additional requirements~~ and in addition shall contain:

- (1) The locations of water supply intakes for current users of surface water flowing into, out of, and within one thousand feet beyond the LMW beneficial use permit area, those surface waters which will receive discharges from affected areas in the proposed permit area or amended area, and the ~~location~~ locations of any discharges to any surface body of water on or adjacent to the land to be affected. A greater distance may be required by the chief based upon site-specific factors which result in a determination by the chief that impacts beyond one thousand feet may occur;
- (2) Any land within the proposed permit area or amended area which is within the boundaries of any units of the national system of trails or the wild and scenic rivers system, including study rivers designated under Section 5(a) of the Wild and Scenic Rivers Act or study rivers or study river corridors as established in any guidelines pursuant to that act;
- (3) The names, locations, and directions of flow of all perennial and intermittent streams within the permit area or amended area and within five hundred feet of the permit area or amended area;
- (4) The name of the drainage basin in which the permit area or amended area is located as listed in the "Gazetteer of Ohio Streams," published by the Ohio department of natural resources;

- (5) The drainage control system to include the location of:
 - (a) Each sediment control structure, discharge point and, if applicable, the OEPA pond identification number;
 - (b) Any diversions; and
 - (c) Any treatment facilities;
 - (6) The location or proposed location of LMW incorporated in final reclamation;
 - (7) Elevations and locations of test borings and core samplings;
 - (8) Location and extent of subsurface water, if encountered, within the proposed permit ~~and~~area or amended areas;
 - (9) Location of surface water bodies such as streams, lakes, ponds, springs, constructed or natural drains, and irrigation ditches within the proposed permit ~~and~~area or amended areas;
 - (10) Location and extent of existing areas of spoil piles, LMW, dams, embankments, other impoundments, and water treatment and air pollution control facilities within the proposed permit area ~~and~~or amended area;
 - (11) The location and start and end points of all submitted cross-sections. At least one transverse cross section and one longitudinal cross section must be provided showing elevation, final profile, saturated zone, drainage away from and reclaimed surface profiles of the LMW beneficial use ~~areas~~area; and
 - (12) Sufficient slope measurements, in degrees, to adequately represent the existing land surface configuration and final land configuration of the proposed permit area ~~and~~or amended area.
- (L) LMW beneficial use operations and reclamation plans.

The applicant shall provide maps, plans, cross-sections and a beneficial use narrative. The documents shall explain how the LMW will be stored, transported, placed, compacted, sloped, capped, resoiled and planted with a diverse vegetative cover. The documents shall also include the final location within the proposed permit area and amended area.

(M) For dates of federal rules and federal laws referenced in this rule, see rule 1501:14-1-16 of the Administrative Code.

Effective: 05/15/2015

Five Year Review (FYR) Dates: 02/26/2015 and 05/15/2020

CERTIFIED ELECTRONICALLY

Certification

05/04/2015

Date

Promulgated Under: 119.03
Statutory Authority: 1514.08, 1514.081
Rule Amplifies: 1514.02, 1514.081
Prior Effective Dates: 8/01/05